FUDMA Journal of Accounting and Finance Research, 4(1). ISSN: 2992-4693 (Online); 2992-2704 (Print)

Impact of leverage, firm size on firm ownership of listed industrial goods firms in Nigeria

Muhammad Shehu Garba
Department of Accountancy, Yobe State Polytechnic, Geidam, Nigeria
Corresponding email: muhammadshehugarba@gmail.com
https://doi.org/10.33003/fujafr-2026.v4i1.294.118-130

Abstract
Purpose: This study examines the impact of leverage and firm size on firm ownership structure of listed industrial goods firms in Nigeria, with ownership measured using managerial ownership (MO), foreign ownership (FO), and institutional ownership (IO), while leverage (LEV) and firm size (FS) serve as the explanatory variables.
Methodology: The study employs secondary data extracted from the annual reports of industrial goods firms listed on the Nigerian Exchange Group, covering a 10-year period from 2013 to 2023, and utilizes descriptive statistics, correlation matrix, and regression analysis to evaluate the relationships among the variables.
Results and conclusion: The findings reveal that managerial ownership (MO) is positively correlated with leverage (LEV) and firm size (FS), foreign ownership (FO) is negatively correlated with leverage but positively correlated with firm size, and institutional ownership (IO) is negatively correlated with leverage but positively correlated with firm size,
Implication of findings: Indicate that larger firms tend to attract more foreign and institutional investors while higher leverage may discourage them. The study suggests that management should strategically manage ownership structures by promoting transparent governance practices and maintaining a balanced ownership distribution to enhance investor confidence and attract greater foreign and institutional investment.

Keywords: Industrial goods firms, Institutional ownership, Foreign ownership, Managerial ownership.

1. Introduction

The ownership structure of listed industrial goods firms in Nigeria is a multifaceted and critical aspect of corporate governance that significantly influences the financial performance and decision-making processes of these firms. This introduction will delve into the three main forms of ownership in Nigerian industrial goods firms, namely managerial ownership, foreign ownership, and institutional ownership. Managerial ownership is the proportion of shares held by company executives and directors (Nugraha et al, 2021). This form of ownership plays a crucial role in aligning the interests of managers with those of shareholders, thereby promoting better decision-making and enhancing financial performance. By having a personal stake in the company, managers are incentivized to focus on long-term growth and profitability, leading to improved corporate governance practices and a more efficient allocation of resources.

Foreign ownership, on the other hand, refers to the acquisition of shares in Nigerian industrial goods firms by foreign entities Tanko, (2020), this form of ownership brings in external expertise, capital, and global market access, contributing to the firm's growth and competitiveness. Foreign ownership can also facilitate the transfer of advanced technologies and management practices, further enhancing the firm's performance. However, it also raises questions about control and influence over strategic decisions within the company, as foreign investors may have different objectives and priorities than local shareholders.

Institutional ownership represents the ownership of shares by financial institutions, such as pension funds, mutual funds, and insurance companies Mishra, and Sinha, (2021). Institutional investors often have a long-term perspective and can influence corporate policies and governance practices. Their involvement can enhance transparency, accountability, and overall firm performance, as institutional investors typically prioritize good governance and risk management practices. Furthermore, institutional ownership can provide a stable source of capital, which is essential for the long-term growth and sustainability of industrial goods firms in Nigeria.

The interplay between these different forms of ownership in listed industrial goods firms in Nigeria is a complex and dynamic area of study. Understanding how leverage, firm size, and these ownership structures interact is essential for comprehensively analyzing the governance landscape of these firms. The impact of leverage on ownership structures, for instance, can influence the firm's financial risk exposure and its ability to access capital. Similarly, firm size can affect ownership structures, as larger firms may attract more institutional investors, while smaller firms may be more reliant on managerial and foreign ownership.

Leverage, which refers to the use of debt financing Rahman et al (2020), can have a significant impact on a firm's ownership structure. High levels of leverage can increase the risk of the firm, which may lead to a shift in the ownership structure as the firm seeks to raise additional capital to manage its debt obligations. In the case of managerial ownership, high levels of leverage may reduce the ability of managers to maintain their equity stake in the firm. As the firm seeks to raise capital, managers may be diluted or forced to sell their shares to external investors, reducing their ownership percentage. This can lead to a decrease in managerial ownership and potentially weaken the alignment between managers and shareholders. Foreign ownership may be influenced by the firm's leverage as well. Foreign investors may be more cautious about investing in highly leveraged firms, as they may perceive higher risk and greater uncertainty. Conversely, a firm with low leverage may be more attractive to foreign investors, as it may be seen as a more stable and less risky investment. Institutional ownership, on the other hand, may be less sensitive to a firm's leverage. Institutional investors often have the resources and expertise to analyze the firm's financial structure and may be more willing to invest in highly leveraged firms if they believe the firm's strategy and growth prospects justify the level of debt.

Firm size can also have a significant impact on a firm's ownership structure Natsir & Yusbardini, (2020). Larger firms may be more attractive to institutional investors and foreign investors, as they are often perceived as more stable and have greater access to resources and markets. Managerial ownership may be influenced by firm size as well. In larger firms, the equity stake of managers may be diluted as the firm issues more shares to raise capital for growth and expansion. This can lead to a decrease in managerial ownership as the firm grows in size. Conversely, smaller firms may be more attractive to managers, who may be able to maintain a larger equity stake in the firm. This can result in higher levels of managerial ownership in smaller firms (Arhinful et al, 2024). Institutional ownership may be more prevalent in larger firms, as these firms often have more resources, more established operations, and better access to capital markets. Institutional investors may be more willing to invest in larger firms, which they perceive as less risky and more likely to provide stable returns. Foreign ownership may also be influenced by firm size, as larger firms may be more attractive to foreign investors due to their greater market presence, brand recognition, and access to resources. Smaller firms, on the other hand, may be perceived as riskier and more difficult to monitor by foreign investors. (Lopez et al., 2024).

The impact of leverage and firm size on firm ownership of listed industrial goods firms in Nigeria presents several challenges that can affect the country's economic and financial landscape, including financial instability and risk. Highly leveraged firms face greater vulnerability to financial shocks and economic downturns due to their heavy debt burden. This increases the risk of default and financial instability within Nigeria's industrial goods sector, potentially impacting the broader economy. The sector's importance lies in its contribution to employment, tax revenue, and supporting other industries. Lack of long-term investment and innovation decreased managerial ownership, often due to high leverage or firm growth, can lead to a short-term focus on performance metrics rather than long-term strategic investments and innovation. This hinders the sector's competitiveness and growth potential, as firms may neglect research, modernization, and ambitious growth strategies, thus impeding adaptation to market changes and technological advancements.

Concentration on ownership and limited competition, dominance by a few highly leveraged or concentrated ownership firms can stifle competition, making it challenging for smaller, innovative firms to enter the market. This lack of competition harms consumer welfare, leading to higher prices, reduced product variety, and stifled economic development due to inefficient resource allocation and limited job creation.

Research on the relationship between leverage, firm size, and ownership can provide insights into potential vulnerabilities and help policymakers develop regulations and risk management mechanisms to mitigate systemic risks Öztekin, (2024). Policy Design, evidence-based research on ownership structures can inform the design of policies and regulations to promote a diverse and stable ownership landscape. Understanding the impact of leverage and firm size on ownership can guide policymakers in creating an enabling environment for sustainable growth, fostering competition, and protecting the rights of various stakeholders. Investor Decision-making: Investors, both domestic and international, rely on information about ownership structures to make informed investment decisions. Research on the impact of leverage and firm size on ownership can provide valuable insights for investors seeking to understand the risk-return profiles associated with different ownership configurations in Nigerian industrial goods firms.

2. Literature review

The study by Gupta, et al, (2020), examines the impact of foreign ownership on the leverage of Indian firms. The authors used a sample of 2,097 non-financial Indian firms listed on the Bombay Stock Exchange for the period 2008-2016. The paper also reviews theoretical arguments for both the positive and negative effects of foreign ownership on leverage. On the positive side, foreign investors may have better access to international capital markets and provide more monitoring of management, leading to higher leverage. Furthermore, the literature review highlights that the relationship between foreign ownership and leverage may be influenced by other firm-specific factors, such as profitability, growth opportunities, and asset tangibility. Managerial ownership and leverage have an interactive effect on dividend payouts. The positive relationship between managerial ownership and dividends is weaker when leverage is higher.

Nonetheless, the study by Prilianti, et al, (2020), The study examines the effect of institutional ownership, financial leverage, and liquidity on profit creation of companies listed on the Indonesia Stock Exchange. The sample consists of 52 manufacturing companies observed from 2015 to 2018. The study uses regression analysis to investigate the relationships between the independent variables (institutional ownership, financial leverage, liquidity) and the dependent variable of profit creation. Profit creation is measured using net profit margin as the key proxy.

Also, the study by Popoola, et al, (2016), on the interaction effect of institutional ownership and firm size on the relationship between managerial ownership and earnings management. The study examined how institutional ownership and firm size moderate the relationship between managerial ownership and earnings management. The sample consisted of 110 non-financial listed companies in Malaysia from 2009 to 2013. The authors used multiple regression analysis to test their hypotheses. Independent Variable, which is Managerial Ownership, measured as the percentage of shares owned by executive directors. Moderating Variables measured with Institutional Ownership as Percentage of shares owned by institutional investors. Firm Size Measured by the natural logarithm of total assets. The authors used multiple regression analysis to test the hypotheses. The regression model included the main effects of managerial ownership, institutional ownership, and firm size, as well as the interaction terms between Managerial ownership and institutional ownership Managerial ownership and firm size.

Furthermore, the study by Handriani & Robiyanto (2019) on the relationship between institutional ownership, independent board, board size, and firm performance in Indonesia. The study used a sample of 125 non-financial companies listed on the Indonesia Stock Exchange (IDX) for the period 2014-2016. Financial data and corporate governance information were obtained from the companies' annual reports. Dependent Variable: Firm Performance Measured using Return on Assets (ROA) and Tobin's Q. Independent Variables include. Institutional Ownership as Percentage of shares owned by institutional investors Independent Board as Percentage of independent directors on the board, Board Size as Number of directors on the board. The authors used panel data regression analysis to examine the relationship between the variables. They estimated the following regression models. The authors used the Fixed Effects (FE) and Random Effects (RE) models to estimate the regression equations. They conducted the Hausman test to determine the appropriate model between FE and RE.

Empirical review

Alabdulkarim et al. (2024), in their study titled *The impact of firm size on the relationship between leverage and firm performance: evidence from Saudi Arabia*, conducted in Saudi Arabia to examine how firm size influences the leverage-performance relationship, found that leverage has a significant negative impact on firm performance, and this adverse effect is more pronounced for smaller firms, a result they attributed to the higher bankruptcy risks, agency conflicts, and information asymmetry faced by smaller firms, which makes their performance more sensitive to increases in debt levels compared to larger firms. Again, the study by Gupta, et al, (2020), found a significant negative relationship between the level of foreign ownership and the leverage ratios of Indian firms. Higher levels of foreign ownership are associated with lower leverage levels. The negative relationship between foreign ownership and leverage is more pronounced for firms with higher growth opportunities, Lower asset tangibility. The negative effect of foreign ownership on leverage is also stronger for firms with higher profitability. The findings suggest foreign investors in India tend to prefer lower leverage, possibly due to Risk-averse investment behavior, Desire for greater financial discipline in investee firms the study provides new empirical evidence on the foreign ownership-leverage relationship in an emerging market context (India). The findings contribute to the ongoing debate on the impact of foreign ownership on corporate financial decisions.

Also, the study by Prilianti, et al. (2020), found institutional ownership to have a positive and significant effect on profit creation. Financial leverage has a negative and significant effect on profit creation. Liquidity has a positive and significant effect on profit creation. The results suggest that higher institutional ownership and liquidity levels, as well as lower financial leverage, lead to greater profit creation by the sample firms. The paper contributes to the understanding of how various corporate governance and financial factors influence the profitability performance of manufacturing companies in Indonesia.

Nonetheless, Pasali, & Chaudhary, (2020), Firm Size and Foreign Ownership Effects The study identified a non-linear (inverted U-shaped) relationship between firm size and the impact of foreign ownership on performance. The positive effects of foreign ownership on performance were strongest for medium-sized firms, and weaker for both small and large firms. The findings highlight the importance of considering firm size when examining the performance impacts of foreign ownership. Policymakers should account for firm size heterogeneity when designing policies related to foreign direct investment and ownership. This study provides evidence of a non-linear relationship between firm size and the effects of foreign ownership on firm performance, with medium-sized firms benefiting the most, especially in developed country contexts.

H1: There is no significant relationship between leverage on firm ownership, as measured by managerial ownership, foreign ownership and institutional ownership, among listed industrial goods firms in Nigeria.

H2: There is no significant relationship between firms Size on firm ownership, as measured by managerial ownership, foreign ownership and institutional ownership, among listed industrial goods firms in Nigeria.

Theoretical review

The once harmonious relationship between business management and owners underwent a significant shift with the emergence of agency theory, pioneered by Stephen Ross in 1973. This groundbreaking theory forever altered the dynamics of management and ownership interactions. Alongside Ross, Mitnick also introduced another influential theory, the institutional theory of agency, in the same year. The Agency Theory is a widely recognized and influential theoretical framework that explains the relationship between the principal (owner or shareholder) and the agent (manager or executive) within an organization, the Agency Theory is based on the premise that in modern corporations, there is a separation of ownership (held by the principal) and control (exercised by the agent), the theory suggests that the agent (manager) typically has more information and specialized knowledge about the organization's operations and performance than the principal (shareholder), leading to an information asymmetry, also the Agency theory suggests that various mechanisms, such as performance-based compensation, debt financing, and board of directors' oversight, can be used to align the interests of the agent and the principal, thereby reducing agency costs and improving organizational performance.

By adopting the Agency Theory as the theoretical framework, the research study can explore the influence of leverage on the ownership structure of listed industrial goods firms in Nigeria, as higher leverage may increase the monitoring role of creditors and align the interests of managers and shareholders. The impact of firm size on the ownership structure, as larger firms may have more complex agency relationships and potentially higher agency costs, which may be mitigated through various ownership structures.

3. Methodology

The study examines the impact of leverage, firm size on firm ownership of listed industrial goods firms in Nigeria. The dependent variable firm ownership is measured with managerial ownership (MO), foreign ownership (FO), and institution ownership (IO), while the independent variables are leverage (LEV) measured by the total debt to total assets ratio and firm size (FS) total number of employees in the organization. The data was extracted from the Nigerian exchange group (NGX) annual report of listed industrial goods firms in Nigeria, the study covers a period of 10 years (2013-2023). The study uses descriptive statistics, correlation matrix and regression analysis, to analyze the data. The selection of population size is based on the availability of data covering the period of the study.

Model specification

$MOit = \alpha_2 + \beta_{21}LEVit + \beta_{22}FSIZEit + \varepsilon_2 it$ ………………………………………………………….…………….. 1

$IOit = \alpha_1 + \beta_{11}LEVit + \beta_{12}FSIZEit + \varepsilon_1 it$ ………………………………………………...………………… 2

$FOit = \alpha_3 + \beta_{31}LEVit + \beta_{32}FSIZEit + \varepsilon_3 it$ ………………………………………………………………………. 3

Where:

Mo= managerial ownership

IO= institutional ownership

FO= foreign ownership

i = individual firm

t = time period (year)

α_1, α_2, α_3 = constant/intercept terms

β_{11}, β_{21}, β_{31} = coefficients for Leverage (LEV)

β_{12}, β_{22}, β_{32} = coefficients for Firm Size (FSIZE)

$\varepsilon_1 it$, $\varepsilon_2 it$, $\varepsilon_3 it$ = error terms.

4. Results and discussion

Descriptive statistics

Table 1: Descriptive statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
MO	110	0.201	0.270	0.000	0.911
FO	110	0.153	0.222	0.000	0.838
IO	110	0.425	0.267	0.000	0.945
LEV	110	0.148	0.165	0.000	0.764
FS	110	9.857	1.130	8.253	12.425

Source: STATA Output 14.0 Based on Data Generated from Annual Report of Sample firms (2013-2023).

Managerial Ownership (MO): The mean managerial ownership is 20.09%, indicating that, on average, managers hold about 20% of the shares in the sample firms. The wide range of values, from 0.01% to 91.13%, suggests that the level of managerial ownership varies significantly among the listed industrial goods firms in Nigeria.

Foreign Ownership (FO): The mean foreign ownership is 15.25%, implying that foreign investors, on average, hold about 15% of the shares in the sample firms. The range of foreign ownership, from 0% to 83.81%, indicates a diverse level of foreign investment in the industry.

Institutional Ownership (IO): The mean institutional ownership is 42.52%, suggesting that, on average, institutional investors hold a substantial portion (around 43%) of the shares in the sample firms. The wide range of values, from 0% to 94.54%, shows that the level of institutional investment varies greatly across the firms.

The mean leverage ratio, measured by the total debt to total assets ratio, is 14.76%. This suggests that, on average, the sample firms finance their assets with 14.76% debt. The range of leverage, from 0% to 76.37%, indicates that the sample firms exhibit a wide variation in their use of debt financing.

The mean firm size, measured by the total number of employees, is 9.86. This implies that the average firm size in the sample is relatively large. The range of firm size, from 8.25 to 12.42, suggests that the sample includes both smaller and larger industrial goods firms listed in Nigeria.

Table 2: Correlation matrix

Variables	MO	FO	IO	LEV	FS	VIF
MO	1.000					1.35
FO	-0.258	1.000				1.68
IO	-0.366	0.527	1.000			1.39
LEV	0.232	-0.277	-0.478	1.000		1.30
FS	0.126	0.122	0.193	-0.134	1.000	1.04

Source: STATA Output 14.0 Based on Data Generated from Annual Report of Sample Firms (2013-2023).

Managerial Ownership (MO) and Leverage (LEV): Managerial ownership has a positive correlation with leverage (LEV) with correlation coefficients of 0.232. This indicates that higher managerial ownership is associated with higher leverage. The positive correlation coefficient of 0.232 between managerial ownership and leverage suggests that firms with higher managerial ownership tend to have higher levels of leverage (debt financing). This relationship can be explained by the Agency Theory, which posits that managers with significant ownership stakes may have an incentive to take on more debt to increase their control and influence within the firm. Higher leverage can also serve as a monitoring mechanism, as increased debt financing can align the interests of managers (agents) and shareholders (principals) by reducing the available free cash flow that managers can use for their own benefit. This result is consistent with the works of Vo and Nguyen, (2014) and Sulong, et al, (2013) while the result deviate from the work of Sari Agustina, (2021) and Abobakr & Elgiziry, (2016).

Managerial Ownership (MO) and Firm Size (FS): Managerial ownership has a positive correlation with firm size. The positive correlation coefficient of 0.126 between managerial ownership and firm size indicates that larger firms tend to have higher levels of managerial ownership. This relationship can be attributed to the fact that larger firms often have more complex organizational structures and operations, which may require more specialized management expertise and decision-making authority. As firms grow in size, managers may be able to accumulate a larger ownership stake, either through stock-based compensation or direct purchases, to align their interests with those of the shareholders and to maintain their control over the firm's strategic direction. This result is consistent with the works of Ullah, et al (2021), Chou, et al, (2022) while the result deviate from the work of Nguyen and van (2022), Wecke, et al, (2020).

Foreign Ownership (FO) and Leverage (LEV): Foreign ownership has a negative correlation with leverage (LEV), with a correlation coefficient of -0.277. This suggests that firms with higher foreign ownership tend to have lower leverage. The negative correlation coefficient of -0.2769 between foreign ownership and leverage indicates that firms with higher levels of foreign ownership tend to have lower levels of debt financing (leverage). This relationship can be attributed to the risk aversion and monitoring preferences of foreign investors. Foreign investors, particularly institutional investors, may prefer lower-leverage firms to minimize their exposure to financial risks and to exert more effective monitoring over the firm's management and strategic decisions. Additionally, lower leverage may be perceived as a signal of financial stability and prudent management, which can attract further foreign investment and enhance the firm's reputation in the global capital markets. This result is in consistent with the works of Gupta et al, (2020) and Csermely and Vincze (2000). While the result deviates from the work of An, et al (2021) and Csermely and Vincze (2000).

Foreign Ownership (FO) and Firm Size (FS): Foreign ownership has a positive correlation with firm size (FS), the correlation coefficient between foreign ownership (FO) and firm size (FS) is 0.122. This positive correlation indicates that larger firms (as measured by the total number of employees) tend to have higher levels of foreign ownership. The positive correlation suggests that larger firms in the Nigerian industrial goods sector tend to have higher levels of foreign ownership. Larger firms often have more established business models, diversified operations, and better access to capital markets, which can be appealing to foreign investors seeking stability and growth opportunities. Foreign investors may view larger firms as more reliable and well-managed investment targets, with lower risk profiles and better growth prospects. This result is consistent with the works of Halkos, and Tzeremes, (2007) and Pasali, and Chaudhary, (2020). While the result deviate from the work of Dahlquist and Robertsson, (2001) and Adamu, et al, (2020).

Institutional Ownership (IO) and Leverage (LEV): Institutional ownership has a negative correlation with leverage (LEV), with a correlation coefficient of -0.477. This indicates that firms with higher institutional ownership tend to have lower leverage. The negative correlation coefficient of -0.477 between institutional ownership (IO) and leverage (LEV) indicates a moderately strong negative relationship between these two variables. In practical terms, this means that as institutional ownership in a firm increases, the level of leverage tends to decrease. Firms with higher institutional ownership are associated with lower levels of financial leverage, suggesting that institutional investors may prefer to invest in companies with lower debt levels. This negative correlation implies that there is an inverse relationship between institutional ownership and leverage, where an increase in institutional ownership is linked to a decrease in leverage within the context of the study. This result is consistent with the works of Perdana, (2019) and Ali, et al, (2022). While the result deviates from the work of An, et al, (2021) and Yuwono and Aurelia, (2021).

Institutional Ownership (IO) and Firm Size (FS): Institutional ownership has a positive correlation with firm size (FS), with a correlation coefficient of 0.193. This suggests that larger firms tend to have higher institutional ownership. The positive relationship between IO and FS may be attributed to the fact that institutional investors prefer to invest in larger firms due to their greater financial stability, market presence, and potential for higher returns. Additionally, larger firms may have more resources and better governance structures, which can attract institutional investors and contribute to their higher ownership levels. This result is consistent with the works of Ugo & Ebiaghan (2022) and Nashier and Gupta, (2016) Ugo and Ebiaghan (2022) Nashier and Gupta, (2016). while the result deviates from the work of Wahyudi (2018) and Suriawinata and Nurmalita (2022).

Table 3: Regression result

Variables	Coef	Robust Std Error	T	P>|t|	95% Conf. Interval	
mo	.0476824	. 057752	0.83	0.411	-.066829	.1621939
fo	-.1132445	.1095093	-1.03	0.303	-.3303811	.1038922
io	-.320761	.1355461	-2.37	0.020	-.589524	-.051998
lev	.1352774	.1626233	0.83	0.407	-.1871745	.4577293
fs	.0502047	.0321663	1.56	0.122	-.0135751	.1139846
_cons	-.1602468	.3000437	-0.53	0.594	-.755178	.4346845
R-Squared					0.8215	
Prob>F					0.0001	
VIF					1.35	
Heteroskedasticity					0.0000	
Hausman Test					0.0127	
Breusch and Pagan Lagrangian Multiplier test for Random Effects					0.0000	

Source: STATA Output 14.0 Based on Data Generated from Annual Report of Sample firms (2013-2023).

R-Squared: The R-squared value is 0.821, indicating that approximately 82.15% of the variance in the dependent variable is explained by the independent variables in the model. This suggests that the model has a good fit.

Prob>F: The overall significance of the model is 0.000, suggesting that the model as a whole is statistically significant. This means that the model is a good fit for the data and that the independent variables are collectively useful in predicting the dependent variable.

VIF: The Variance Inflation Factor (VIF) is 1.35, which is below the threshold of 10, indicating no issues of multicollinearity among the independent variables. Multicollinearity occurs when independent variables are highly correlated, which can lead to unreliable estimates of the coefficients.

Heteroskedasticity: The test for heteroskedasticity has a p-value of 0.000, indicating the presence of heteroskedasticity in the model. Heteroskedasticity occurs when the variance of the errors is not constant across all levels of the independent variables. This can lead to unreliable estimates of the standard errors and coefficients.

Hausman Test: The Hausman test has a p-value of 0.013, suggesting a significant difference between the fixed effects and random effects models. This means that a fixed effects model may be more appropriate than a random effects model for this data.

Breusch and Pagan Lagrangian Multiplier test for Random Effects: The p-value of 0.000 indicates that there is evidence of random effects in the model. Random effects occur when the independent variables have a different effect on the dependent variable for different units in the sample. This can lead to unreliable estimates of the coefficients if not accounted for in the model.

Managerial Ownership (MO) the coefficient for MO is 0.0476824, meaning that a one-unit increase in managerial ownership is associated with a 0.0476824 unit increase in the dependent variable (firm performance). The standard error for this coefficient is 0.057752, the t-value is 0.83, and the p-value is 0.411. The p-value of 0.411 is greater than the conventional significance level of 0.05, indicating that the relationship between managerial ownership is not statistically significant.

Foreign Ownership (FO) The coefficient for this variable is -0.113, with a standard error of 0.109. The t-value is -1.03, and the p-value is 0.303, indicating that this variable is not statistically significant at the conventional level of significance ($\alpha = 0.05$). This means that a one-unit increase in the fo variable is associated with a decrease of 0.113 units in the dependent variable, but this relationship is not statistically significant.

Institutional Ownership (IO) The coefficient is -0.321, with a standard error of 0.136. The t-value is -2.37, and the p-value is 0.020, suggesting that this variable is statistically significant. This means that a one-unit increase in the io variable is associated with a decrease of 0.321 units in the dependent variable, and this relationship is statistically significant.

Leverage (LEV) the coefficient is 0.135, with a standard error of 0.163. The t-value is 0.83, and the p-value is 0.407, indicating that this variable is not statistically significant. This means that a one-unit increase in the lev variable is associated with an increase of 0.135 units in the dependent variable, but this relationship is not statistically significant.

FS: The coefficient is 0.050, with a standard error of 0.032. The t-value is 1.56, and the p-value is 0.122, suggesting that this variable is not statistically significant. This means that a one-unit increase in the fs variable is associated with an increase of 0.050 units in the dependent variable, but this relationship is not statistically significant.

_cons: The constant term has a coefficient of -0.160, with a standard error of 0.300. The t-value is -0.53, and the p-value is 0.594, indicating that the constant term is not statistically significant. This constant term represents the expected value of the dependent variable when all independent variables are zero.

5. Conclusion

The analysis of the data reveals several important insights into the relationship between ownership structure, leverage, and firm size within the Nigerian industrial goods sector. Managerial ownership, foreign ownership, and institutional ownership play significant roles in shaping the financial structure and characteristics of firms in this sector.

Firstly, the positive correlation between managerial ownership and leverage suggests that managers with higher ownership stakes tend to favor debt financing, potentially driven by incentives to increase control or align their interests with shareholders. This finding aligns with the predictions of Agency Theory. Additionally, the positive correlation between managerial ownership and firm size indicates that larger firms tend to have higher levels of managerial ownership, possibly reflecting the complexity and specialization required in larger organizations.

Secondly, the negative correlation between foreign ownership and leverage implies that firms with higher foreign ownership tend to have lower levels of debt financing. This could be attributed to the risk aversion of foreign investors and their preference for stable, lower-leverage firms. Moreover, the positive correlation between foreign ownership and firm size suggests that larger firms attract more foreign investment, likely due to their perceived stability and growth potential.

Thirdly, the negative correlation between institutional ownership and leverage indicates that firms with higher institutional ownership tend to have lower leverage ratios. Institutional investors may favor lower-leverage firms due to risk considerations and may be more inclined to monitor and engage with companies that exhibit financial stability. Furthermore, the positive correlation between institutional ownership and firm size suggests that larger firms attract more institutional investment, possibly because of their stronger governance structures and market presence.

The regression analysis further confirms some of these relationships, showing statistically significant associations between institutional ownership and leverage, as well as between institutional ownership and firm size. However, foreign ownership, managerial ownership, and firm size do not appear to have statistically significant effects on leverage in the regression model.

Based on the findings, it is recommended that firms in the Nigerian industrial goods sector pay close attention to their ownership structures, particularly regarding managerial, foreign, and institutional ownership. Fostering transparent governance practices and maintaining a balance in ownership distribution may enhance investor confidence and attract foreign and institutional investment. Furthermore, while debt financing can be advantageous in certain situations, firms should carefully evaluate their leverage levels and consider the preferences of different investor types. Diversifying funding sources and maintaining prudent leverage ratios can help mitigate financial risks and improve access to capital markets.

Reference

Abobakr, M. G., & Elgiziry, K. (2016). The effect of board characteristics and ownership structure on the corporate financial leverage. *Accounting and Finance research*, *5*(1), 1-14.

Adamu, A. I., Ekundayo, O., & Bala, H. (2020). Does size of the firm matter in the relationship between foreign ownership and dividend policy?. *Malaysian Management Journal*, *24*, 1-18.

Alabdulkarim, N., Kalyanaraman, L., & Alhussayen, H. (2024). The impact of firm size on the relationship between leverage and firm performance: evidence from Saudi Arabia. *Humanities and Social Sciences Communications*, *11*(1), 1664.

Ali, J., Tahira, Y., Amir, M., Ullah, F., Tahir, M., Shah, W., ... & Tariq, S. (2022). Leverage, ownership structure and firm performance. *Journal of Financial Risk Management*, *11*(1), 41-65.

An, Z., Chen, C., Li, D., & Yin, C. (2021). Foreign institutional ownership and the speed of leverage adjustment: International evidence. *Journal of Corporate Finance*, *68*, 101966.

Arhinful, R., Mensah, L., Amin, H. I. M., & Obeng, H. A. (2024). The influence of cost of debt, cost of equity and weighted average cost of capital on dividend policy decision: Evidence from non-financial companies listed on the Frankfurt Stock Exchange. *Future Business Journal*, *10*(1), 99.

Chou, H. I., Chou, D. W., & Wang, J. (2022). The relationship between institutional ownership, managerial ownership, and firm performance: Evidence from Taiwan. Pacific-Basin Finance Journal, 72, 101748.

Csermely, Á., & Vincze, J. (2000). Leverage and foreign ownership in Hungary. *Russian & East European Finance and Trade*, *36*(3), 6-30.

Dahlquist, M., & Robertsson, G. (2001). Direct foreign ownership, institutional investors, and firm characteristics. *Journal of financial economics*, *59*(3), 413-440.

Gupta, S., Yadav, S. S., & Jain, P. K. (2020). Impact of foreign ownership on leverage: A study of Indian firms. *Global Business Review*, 0972150920927360.

Halkos, G. E., & Tzeremes, N. G. (2007). Productivity efficiency and firm size: An empirical analysis of foreign owned companies. International Business Review, 16(6), 713-731.

Handriani, E., & Robiyanto, R. (2019). Institutional ownership, independent board, the board size, and firm performance: Evidence from Indonesia. *Contaduría y administración*, *64*(3).

Lopez-de-Silanes, F., McCahery, J. A., & Pudschedl, P. C. (2024). Institutional investors and ESG preferences. *Corporate Governance: An International Review*, *32*(6), 1060-1086.

Mishra, A. K., & Sinha, A. K. (2021). Does institutional ownership affect firms' international investments? Empirical evidence from India. *Journal of Strategy and Management*, *14*(1), 50-63.

Nashier, T., & Gupta, A. (2016). The effect of institutional ownership on firm performance. *IUP Journal of Corporate Governance*, *15*(3).

Natsir, K., & Yusbardini, Y. (2020). The effect of capital structure and firm size on firm value through profitability as intervening variable. In *8th International Conference of Entrepreneurship and Business Management Untar (ICEBM 2019)* (pp. 218-224). Atlantis Press.

Nguyen, T. T., & van Dijk, M. A. (2022). Managerial ownership, firm size and firm performance: Evidence from Vietnamese listed firms. Accounting, Management and Information Technologies, 15, 100552.

Nugraha, N. M., Johanes, S. R., & Hendiarto, R. S. (2021). The effect of institutional ownership, managerial ownership, and company size to dividend policy. *International Journal of Trends in Accounting Research*, *2*(1), 87-96.

Öztekin, Ö. (2024). Corporate leverage: insights from international data. In *Oxford Research Encyclopedia of Economics and Finance*.

Pasali, S. S., & Chaudhary, A. (2020). Assessing the impact of foreign ownership on firm performance by size: Evidence from firms in developed and developing countries. *Transnational Corporations Journal*, *27*(2).

Perdana, A. A. (2019). The influence of institutional ownership, leverage, and audit committee on earnings management: Evidence of companies listed on the Indonesia stock exchange. *Journal of Accounting Research, Organization and Economics*, *2*(2), 97-112.

Popoola, O. M. J., Ratnawati, V., & Hamid, M. A. A. (2016). The interaction effect of institutional ownership and firm size on the relationship between managerial ownership and earnings management.

Prilianti, C., Mulyana, E. L. R., Dwiekaputra, F., Luison, J. R., & Hadianto, B. (2020). The effect of institutional ownership, financial leverage, and liquidity on the profits creation. *Asian Journal of Management Sciences & Education*, *9*(2), 63-70.

Rahman, M. M., Saima, F. N., & Jahan, K. (2020). The impact of financial leverage on firm's profitability: an empirical evidence from listed textile firms of Bangladesh. *Asian Journal of Business Environment*, *10*(2), 23-31.

Sari, S. N., & Agustina, L. (2021). Leverage as a Moderator of the Effect of Company Size, Managerial Ownership, and Conflict of Interest on Accounting Conservatism. *Accounting Analysis Journal*, *10*(1), 47-54.

Sulong, Z., Gardner, J. C., Hussin, A. H., Mohd Sanusi, Z., & Mcgowan, C. B. (2013). Managerial Ownership, leverage and audit quality impact on firm performance: evidence from the Malaysian ace market. *Accounting & Taxation*, *5*(1), 59-70.

Suriawinata, I. S., & Nurmalita, D. M. (2022). Ownership structure, firm value and the moderating effects of firm size: Empirical evidence from Indonesian consumer goods industry. *Jurnal Manajemen Dan Kewirausahaan*, *24*(1), 91-104.

Tanko, U. M. (2020). The moderating effect of profitability on the relationship between ownership structure and corporate tax avoidance in Nigeria listed consumers goods firms. *International Journal of Business and Technopreneurship*, *10*(2), 153-172.

Ugo, M. J., & Ebiaghan, O. F. (2022). Earning management, firm size and institutional ownership: evidence from Nigerian manufacturing firms. *Finance & Accounting Research Journal*, *4*(5), 310-323.

Ullah, I., Ahmad, S., & Mazzuca, M. (2021). Managerial ownership, firm size, and profitability: Evidence from non-financial firms listed on the Pakistan Stock Exchange. Managerial and Decision Economics, 42(1), 179-190.

Wahyudi, S. (2018). Analysis of effect of firm size, institutional ownership, profitability, and leverage on firm value with corporate social responsibility (csr) disclosure as intervening variables (study on banking companies listed on bei period 2012-2016). *Jurnal Bisnis Strategi*, *27*(2).

Wecke, L., Bischof, S., & Brettel, M. (2020). Managerial ownership and firm performance: The moderating role of growth stage. Journal of Business Economics, 90(1), 51-87.

Yuwono, W., & Aurelia, D. (2021). The effect of profitability, leverage, institutional ownership, managerial ownership, and dividend policy on firm value. *Journal of Global Business and Management Review*, *3*(1), 15-29.