

## **Ownership Structure and Performance of Quoted Industrial Goods Companies in Nigeria**

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### **ABSTRACT**

**This study examines the effects of ownership structure on performance of quoted industrial goods firms in Nigeria. The study relies on secondary data derived from various companies' financial statements and the Nigerian Exchange fact book to determine and measure the level of ownership holdings of various firms in corporate financial statements, applying an all-inclusive multivariate analysis. Samples of 10 industrial goods firms quoted in Nigeria Exchange Group were used for the period of ten years spanning 2015 to 2024. The study employed ex-post facto and longitudinal research design. The secondary sources of data were collected from annual reports of the selected industrial goods companies and five (5) specific objectives and hypotheses were subjected to some preliminary data tests using descriptive statistics, Pearson correlation analysis and variance Inflation Factor and were tested and analyzed using panel regression analysis. The empirical analysis using a total of 100 company-year observations, shows that foreign ownership has negative but significant effect on performance of quoted industrial goods companies in Nigeria which was statistically significant at 5% level of significance while a positive and significant effect were documented for family ownership at 95% confidence level. Institutional ownership and block ownership were found to have positive but insignificant effect on performance of quoted industrial goods companies in Nigeria. In line with the above findings, this study therefore recommends among others that, family members should be encouraged to have shareholding in their respective businesses as this helps in maintaining high performance of firms in Nigeria industrial goods sector while emphasis on foreign shareholding in the firms should be minimized since it was found to have negative and insignificant effect on performance of industrial goods firms in Nigeria.**

**Keywords:** Foreign, Institutional, family, block ownership, performance, and Nigeria industrial goods firms.

### **INTRODUCTION**

The separation between ownership and control has been identified as the main cause of the agency problem, resulting in a disparity between the interests of the agents and those of the

principals, and consequently, there is an impact on performance. Corporate governance mechanisms are the main ways of resolving the agency problem at all levels thus, every firm has several ways of building its ownership. Normally the type of ownership structure a firm decides to adopt is engineered by the vision of the company. Recently Aboud and Diab (2022) and Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) quoting Kumar (2013) argued that corporate governance is an important effort to ensure accountability and responsibility and a set of principles, which should be incorporated into every part of the organization. Recent changes in ownership patterns are also likely to increase the importance of understanding that the distributive consequences of ownership are highly intertwined. Even the first breed of researchers drew attention to the fact that firm performance is inversely affected as diffuseness of the ownership structure enhances. Succeeding studies by scholars have either supported or rejected this argument. Studies throughout the world have focused on different aspects of ownership and their effects on firm performance. Differing viewpoints on the ownership debate by varied researchers has created a dilemma as to which ownership group maximizes firm performance or not. Majority of the findings argued about owner controlled firm's performance being better than manager controlled ones, yet lacking statistical assertion for the same. This debate has so far, largely remained inconclusive with different researchers advocating varied viewpoints. So, we believe this study will provide another point of view to investors on what sort of ownership is likely to have a positive impact on the performance of the firms.

It is worthy to note that the connection between ownership structure and performance has been commonly examined and is an ongoing debate in the corporate finance literature and corporate world at large. Researchers have come up with varied assertions with regard to the relationship between ownership structure and firm performance. Studies show positive, negative as well as both positive and negative relationship at differing levels of equity holdings by managers. Some of the recent studies, showed a negative relationship between ownership structure and firm performance (Aboud & Diab, 2022; Aguilera, Duran, Heugens, Sauerwald, Turturea, & VanEssen, 2021; Cuervo-Cazurra, & Li, 2021; Zandil, Singh, Shafi & Syed, 2020).

In Nigeria, it has not been clearly established as to whether or not there is any relationship between ownership structure and financial performance of listed companies in Nigeria. The few existing empirical studies on the relationship between ownership structure and corporate governance have often produced mixed outcomes all through literature. Scholars like Aguilera, Duran, Heugens, Sauerwald, Turturea, and VanEssen, (2021); Cuervo-Cazurra, and Li, (2021); worldwide have recently investigated the impact of ownership structures on firm performance. It should be noted that most of these studies disaggregate the ownership structure to the managerial ownership, institutional ownership and foreign ownership, in their studies without giving recourse to other ownership structure variables like family ownership and block ownership structures as proxies for ownership structure that also affect the performance of the company.

Moreover, most of our literature review is based on prior studies conducted in developed countries like the US and UK with a few studies on Nigeria quoted firms to the best of researchers' knowledge. Some of the studies in Nigeria were done on other sector rather than industrial goods sector. Such studies include Aboud and Diab, (2022); Aguilera, et al., (2021); Cuervo-Cazurra, and Li, (2021); Odinakachukwu (2019); Ironkwe and Emefe (2019) that

examined the ownership structure and financial performance, Richard, Baah and Richard (2019), that conducted a study on determinants of profitability in different firms' ownership structures and how different ownership structures impact the profitability of listed consumer goods firms. Also, Alexandra, Belascu, Curea and Pentescu (2019) conducted a study on relationship between ownership concentration and corporate performance in the manufacturing sector in the European Union. With reference to the above, the researcher considered studying quoted industrial goods firms on Nigeria Exchange Limited (NEL) from 2015-2024 on the effect of ownership structure on performance of quoted industrial goods firms in Nigeria. The remainder of this paper is structured into five sections including this introduction, the next section provides the review of previous related literature, and this is followed by the research methodology. The results are then discussed and the final section presents the conclusions and recommendation.

## **THEORETICAL CONSTRUCTS AND HYPOTHESES DEVELOPMENT**

### **Firm Financial Performance and Corporate Ownership Structure**

Firm financial performance is used to describe the state of affairs of a firm. In analyzing a firm financial performance, emphasis should be made in formulating an adequate description of the concept of a firm's financial performance which uncovers the different dimensions upon which firm's financial performance should be evaluated. Financial performance is company's ability to generate new resources, from day-to-day operations, over a given period of time and performance is gauged by net income and cash from operations. Financial performance is a general measure of how well a firm generates revenues from its capital. Corporate ownership structure is seen as the classes or group of owners that exercise control over activities of a firm. Various scholars have different definition for corporate ownership structure.

### **Foreign Ownership and Firm Performance**

According to Usman and Ojo (2019), foreign ownership occurs when multinational corporations, which do business in more than one country, inject long-term investments in a foreign country, usually in the form of foreign direct investment or acquisition. Ioraver and Wilson (2011) examined the relationship between ownership structure and financial performance of listed companies in Nigeria. The results of their study showed that dominant shareholding, concentrated ownership, and foreign ownership structures have no significant effect on firm performance while insider ownership was inversely related to firm performance. However, there are some inconsistencies that existed in the literature, for that reason, the current study does not intend to propose any sign, rather we hypothesize that *there is significant effect between foreign ownership and financial performance (Hypothesis 1)*.

### **Managerial Ownership and Firm Performance**

Managerial ownership is one of the measurements of ownership structure. Many prior studies have come out with different definitions on managerial shareholding. For instance, Benjamin, Love and Dandago (2014), defines managerial shareholding as that percentage of shares owned by insiders and board members or insider ownership in a particular firm. Also, Gayan and Shanika (2016), sees managerial shareholding as a stake in a firm or company that is held by managers of that particular firm in a particular country. Managerial shareholding is not only meant to increase the return on equity and return of assets of a firm, but also to serve as incentives to managers to align managers' interests with those of the firm owners. Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) examined the dynamic association

between ownership structure and financial performance of Saudi non-financial listed firms covering 2010 to 2019. Further, the analysis from the present investigation strongly suggests that managerial shareholding is negatively related to financial performance. Galego, Mira, and Silva (2019), Hoang, Nguyen and Hu (2017) found a positive relationship between managerial ownership and firm performance. He and Kyaw (2018) found that managerial ownership was a positive predictor of performance but conversely performance did not predict ownership. Their results indicated a strong and robust positive effect of managerial ownership on company's financial performance. Managerial shareholding is measured by natural logarithm of equity held by managers as shareholders in a firm. (Helen & Bature, 2016). Nevertheless, considering the contradicting theoretical argument, this paper does not predict any sign for the effect of managerial ownership on financial performance but propose that *there is a significant relation between managerial ownership and financial performance (Hypothesis 2)*

### **Institutional Ownership and Firm Performance**

Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) quoting Feng (2010) viewed institutional ownership as the percentage of equity owned by the governmental institutions, financial institutions, corporate institutions, mutual funds, foreign financial institutions, foreign institutions, foreign mutual funds and other institutions. Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) quoting Demiralp, Ranjan, Frederik and Venkat (2011) defined institutional ownership as shares held by registered institutions such as insurance firms, investment companies, pension funds, banks, and money managers. Henry and Zheng (2007) examined the impact of institutional ownership on firm financial performance in the restaurant industry during the period 1999 to 2003. After considering the endogeneity of ownership structure, the result of their findings showed that there was a significant and positive relationship between institutional ownership and firm financial performance. Imad (2012) measured institutional ownership by dividing institutional ownerships of common stock over total common stock. As a matter of fact, drawing on the above discussion and prior studies' findings, this study does not wish to predict any sign for institutional ownership, instead we hypothesize that *there is a significant relationship between institutional ownership and financial performance (Hypothesis 3)*

### **Block Ownership and Firm Performance**

Block ownership is defined as the fraction of ownership holding or stake in a firm that is held by shareholders with the majority controlling interest or with large stake. In the same vein, block ownership composition also varies from author to author. Kamran, Sehrish, Saleem, Yasir and Shehzad (2012) defined block ownership as the portion of shares held by top shareholders of the firm. Genc and Angelo (2012) saw block ownership as the percentage of ownership shares of the largest shareholders. Lina, Mohammad, Nimer and Alnimer (2013) saw block ownership as the percentage of the largest and the second largest managerial block holders who own at least 10% of the total shares in a firm. Kirimi, Kariuki, and Ocharo, (2022) quoting Andrei, Rostislav and Natalya (2019) saw block ownership as the percentage of share held by the largest shareholder. Kirimi, Kariuki, and Ocharo, (2022) quoting Hamadi and Heinen (2009) examined the effect of very large controlling shareholders who are mostly organized in voting blocks and business groups on financial performance in a sample of Belgian firms. The findings of their study indicated a negative effect of large shareholders on firm financial performance for non-family firms. However, there are some inconsistencies that existed in the prior literature, for that reason, the current study does not intend to propose any sign for block

ownership, rather we hypothesize that *there is significant relation between block ownership and financial performance (Hypothesis 4)*

### Family Ownership and Firm Performance

Family ownership occurs when families or their relations own the largest proportion of the firm's share. Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) examined the dynamic association between ownership structure and financial performance of Saudi non-financial listed firms covering 2010 to 2019. Their result showed that family and government ownership positively impact the firms' financial performance. Ioraver and Wilson (2011) examined the relationship between ownership structure and financial performance of listed companies in Nigeria. The results of their study showed that family concentrated ownership structures have no significant effect on firm performance while insider ownership was inversely related to firm performance. Kirimi, Kariuki, and Ocharo, (2022) quoting Hamadi and Heinen (2009) examined the effect of very large controlling shareholders who are mostly organized in voting blocks and business groups on financial performance in a sample of Belgian firms. They used a non-parametric panel data analysis that does not impose functional restrictions on the relationship between ownership structure and financial performance. The findings of their study indicated a negative effect of large shareholders on firm financial performance for non-family firms. Zandi, Singh, Mohamad, and Ehsanullah et al (2020) quoting Harold et al., (2001) opined that the relationship between the shares owned by important shareholding families and shares owned by management found the fraction to be 0.67. This positive correlation explains why important family shareholders retain the influence to be represented on corporate boards. Although evidences from literature shows divergent views, this study expects that family ownership will impact positively on financial performance of quoted industrial goods firms because generally managers are profit seekers. The above scholars attempted to study effect of ownership structure on financial performance but none of them created a study in Nigeria using all industrial goods firms. The scholars also used foreign ownership, institutional ownership, and others to proxy ownership concentration but this study used block ownership and family ownership structure in addition to the previously used ones by prior studies and extended the study for a long period of time (10years) spanning from 2015 to 2024. Moreover, there is no indigenous study that has used block ownership structure and family ownership to measure ownership structure. This is the knowledge gap this study intends to address therefore contributing to the existing literature. Given the mixed results reported by the related literature reviewed on the association between ownership structure and firms' financial performance in various contexts and the study objectives, the study suggests the following hypothetical framework.



Source: Researchers' Theoretical Constructs (2025)

## **Theoretical Framework**

There are several theories that explain the relationship between ownership structure and firm financial performance in the literature of accounting. But we discussed only agency theory and anchor our work on it. Agency Theory was developed by Alchain and Demsetz in (1972) and was extended by Jensen and Meckling in (1976). Jensen and Meckling (1976) highlighted the existing rift between ownership and control, the situation that gave rise to the issue of agency theory. One of the most important assumptions of this theory is the focus on the conflict between the owners (represented by board of directors) and the agent (managers). This theory most commonly focuses on the contractual relationship between principals (shareholders) and agents (management) who have conflicting interests (Jensen & Meckling 1976), due to the separation of corporate ownership from control in modern corporations. This paper is hinged on agency theory because the relationship between ownership structure and management of firms is called agency relationship as owners of the firms are seen as principals who delegate authority to agents who are the board of directors who are fully involved in the activities of the firm. The separation of ownership from the day to day management of firms may lead to a possible conflict between owners and managers because both owners and managers have different objectives and this conflict may naturally reduce management incentives to maximize corporate efficiency. This study adopts agency theory because of its relevance in resolving conflict that may arise between managers (agent) and shareholders (principal) of the companies which captures the relationship between five independent variables (foreign ownership, managerial, institutional, block and family ownership) of the study and the dependent variable (Return on assets).

## **Empirical Studies**

Recently, Ibebuchi and Orjinta (2025) examined the effect of ownership structure on accounting conservatism of quoted consumer goods firms in Nigeria. The study relied on secondary data derived from companies' financial statements and Nigerian Exchange fact book for a data for a period of 12years spanning from 2012 to 2023. A sample of fifteen (15) consumer goods firms quoted in the Nigerian Exchange Group were used for the period under investigation. The study employed ex-post facto and longitudinal research design. The data collected were analyzed using descriptive statistics, Pearson correlation analysis and Variance Inflation Factor (VIF), the data were tested using panel regression analysis. The empirical analysis indicated that government ownership and family ownership have a direct and statistically significant effect on accounting conservatism of quoted consumer goods firms in Nigeria which was statistically significant at 5% level of significance respectively. Conversely, managerial ownership and foreign ownership has negative and insignificant effect on accounting conservatism of consumer goods firms in Nigeria. Based on the findings, we conclude that setting clear instructions and rules on the applications of accounting conservatism in accounting practices should be followed by the companies to limit overstatement of company's worth or value most especially in Nigeria as this will result in increase in stock value which ultimately increases the share ownership of various kinds of shareholders.

Aboud and Diab (2022) investigates the relationship between two characteristics of corporate governance (concentrated and state ownership) and firm financial performance by bringing new and extensive evidence from an emerging market. The final sample of this study is comprised of 234 firms with 2340 annual observation values. The study hypotheses are

examined using regression analysis of panel data. They found that concentrated ownership is positively and significantly related to firm performance. However, state ownership has a significant negative impact on firm performance. Their findings suggest that the reform of the Chinese stock market has significantly shaped the impact of ownership structure on corporate financial performance in a valuable way for effective capital allocation.

Ayman Hassan Bazhair and Mohammed Naif Alshareef (2022) examined the dynamic association between ownership structure and financial performance of Saudi non-financial listed firms covering 2010 to 2019. The paper employed the GMM framework and analysed the balanced panel data of 100 companies operating in the Saudi non-financial sector. The dynamic model specification signifies that Saudi firms gradually adjust to their optimum performance level due to changes in their ownership structure. Further, the analysis from the present investigation strongly suggests that managerial shareholding is negatively related to financial performance. However, family and government ownership positively impact the firms' financial performance. Their findings appear robust using different measures of financial performance such as ROA, ROE, ROCE, and ROS.

Kirimi, Kariuki and Ocharo (2022) examined the relationship between ownership structure and financial performance of commercial banks in Kenya for the period 2009–2020. The data were collected from audited financial statements of 39 commercial banks in Kenya. Regression results found strong evidence on ownership structures in explaining the differences in commercial banks' financial performance. The results established that the greatest influence of ownership structures was on net interest margin at 53.04% and return on assets at 31.37%. Influence of ownership structures was found to be low on return on equity at 3.32% and earnings per share at 2.13%. The results found a negative association between state ownership and net interest margin, negative association between management ownership and both net interest margin and earnings per share, negative association between institutional ownership and return on assets and a negative association between foreign ownership and earnings per share. Based on the findings, commercial banks should vary their ownership structures to boost financial performance.

Etale and Yalah (2022) investigated the ownership structure and financial performance of listed consumer goods sector firms in Nigeria for the period of 2011-2020. The data were gathered from the published financial statements of consumer goods sector firms with return on asset serving as dependent variable while controlling ownership and non-controlling ownership were used as explanatory variables, and analyzed through the descriptive statistics; correlation analysis, panel regression and fixed and random effect regression. The result revealed that ownership structure has robust relationship with financial performance. The study concluded that controlling ownership has positive and non-statistical significant with financial performance while non-controlling ownership has positive and statistical significant relationship with financial performance of listed consumer goods firms in Nigeria. The study recommended that firms listed under the sector should imbibe the corporate governance long run strategies to increase the organizational growth.

Ogabo, Ogar and Nuipoko (2021) examined the impact of ownership structure on firm performance of the United Kingdom's FTSE 350 companies from the 2008-2018 fiscal years. Specifically, the impact of managerial and institutional ownership on return on asset, return on

equity, and Tobin's Q as measures of performance were investigated. A panel data set of 48 companies with 432 observations was analyzed using descriptive statistics, correlation matrix, and regression analysis. The results revealed that there is a significant positive impact of managerial ownership on firm performance without any entrenchment effect at managerial ownership above 5%. The regression results showed that the control variables of the percentage of independent directors on the board increase firms' performance, while the percentage of women on the board as a control variable decreases firms' performance. These results are succinct contributions to the extant literature on the impact of ownership structure and performance.

Gabriel and Osazuwa (2020) investigated the impact of concentration of ownership structure on the financial performance of Nigerian manufacturing firms from 2009 to 2019, the data were gathered and regressed using the co integration test and GMM system. From the analysis output, the results revealed that government owned concentration, block ownership concentration, and institutional ownership concentration all have a significant impact (direct and vice versa) on the performance indicators (ROA, TOBIN Q) used in the study. Based on this, the study suggested that policy makers and governments to make balanced investments in all categories of investors, and it is advisable to create favorable policies to ensure growth among the few owners who are Controlling attracting skills and abilities and improving performance. The government also needs to maintain stakes in foreign and local businesses to increase shareholder trust. Alhassan and Mamuda (2020) explored the effect of ownership structure on the financial performance of quoted financial firms in Nigeria for the periods of 2010 to 2019. The study selected data from thirty eight financial firms listed in Nigeria. The data were regressed using the pooled General Least Square, Random and Fixed Effects regression model in testing the hypotheses of the study. From the analytical output, the study found that ownership structure has positive significant effect on financial performance of the quoted financial firms except ownership concentration having negative effect on financial performance. The study suggested that a financial firm needs to expand their managerial equity ownership.

Adamu and Haruna (2020) examined the relationship between ownership structure and performance of listed non-financial firms in Nigeria. Secondary data on managerial ownership, ownership concentration, foreign ownership, institutional ownership, Tobin q, return on assets, return on equities, and earnings per shares were collected from forty (40) sampled firms. The data were analyzed using canonical correlation and the findings showed that managerial and foreign ownerships are the dominant ownership structures while Tobin q, EPS, and ROA are the dominant performance measures. The study also found that ownership concentration, foreign ownership, and institutional ownership are positively correlated with firm performance, while managerial ownership is negatively correlated with firm performance. The study recommended that listed non-financial firms should encourage foreign investments in their firms and rewards performing managers with shares in the firm.

Suzana, Dolenc, Grum and Stubelj (2020) studies the relationship between ownership structure and performance of the Slovenian join stock companies, with special focus on the comparison of performance of state- and privately-owned joint stock companies and ownership concentration. The empirical analysis employs firm-level annual financial reports data and data on ownership structure of all Slovenian join stock companies for the 2005–2017 period. Using



panel regression analyses we find that Slovenian state-owned joint stock companies are less profitable than their privately-owned counterparts. In contrast, they do not observe statistically significant relationship between ownership concentration and firm performance.

### METHODOLOGY

In other to accomplish the aim of this paper, the study predominantly adopted ex-post facto research design and embraces the panel least regression so as to properly find out about the structures of ownership as well as financial performance in Nigeria for the period of 10-years (2013-2022), as it connects to the various industrial goods firms that are found to be quoted and actively traded on the Nigeria Exchange Group as at December 31st, 2022 which gave rise to our population of the study. The secondary data were obtained from the corporate annual report of the sampled firms on the Nigeria Exchange Limited for the period 2013-2022 financial year. The researcher utilizes only corporate annual reports because they are readily available and accessible. The sample of this study is basically made up of 10 industrial goods firms. The proposed analytical framework in figure 1 above shows the schematic diagram of the causal relations with that of the dependent variable that is represented by financial performance and explanatory variables (ownership structures) which consists of foreign ownership, managerial, institutional, block and family ownership. We anchored this study on Agency Theory. Also, the schematic framework culminates into the required model specifications. The model adopted in this study assumed a linear relationship between ownership structures and financial performance and panel least square was adopted for the purpose of hypothesis testing and was guided by the following linear model:

$$ROAS_{it} = \beta_0 + \beta_1 FOROWN_{it} + \beta_2 MANOWN_{it} + \beta_3 INSOWN_{it} + \beta_4 BLOWN_{it} + \beta_5 FAMOWN_{it} + \epsilon_{it} \dots \dots \dots 1$$

Where,

*ROAS stands for Return on assets a proxy for Financial Performance, measured as the ratio of earnings before interest and tax to average total asset, FOROWN represents foreign ownership measured as the percentage of shares held by foreigners. That is a percentage or stake in a firm that is held by large foreigners in a company, MANOWN connotes managerial ownership Measured as percentage of shares held by managers or directors, INSOWN stands for institutional ownership measured as the percentage of shares held by institutional investors such as large financial organizations, pension funds or endowments, BLOWN stands for block ownership measured as the proportion of ordinary shares held by substantial investors that must equal or exceed 5% of total ordinary shares i.e block shareholding and lastly FAMOWN which represents family ownership measured as that percentage of shares owned by insiders and family members or insider ownership in a particular firm.*

### ESTIMATION RESULTS AND DISCUSSION OF FINDINGS

The study investigated the empirical effect that exists between ownership structure and financial performance of quoted industrial goods firms in Nigeria for a period of 10 years spanning 2013 to 2022. The study carried out some preliminary data tests like descriptive statistics, correlations and variance inflation factor (VIF) analysis. The table below shows the descriptive statistics of the 12 selected deposit money banks that make up our sample.

**Table 4.1: Descriptive Statistics Analysis**

	<b>ROAS</b>	<b>FOROWN</b>	<b>MANOWN</b>	<b>INSOWN</b>	<b>BLOWN</b>	<b>FAMOWN</b>
<b>Mean</b>	0.160409	0.311528	0.168145	0.337478	0.515761	0.358220
<b>Median</b>	0.115000	0.243000	0.127000	0.230000	0.610000	0.330000
<b>Maximum</b>	0.803000	0.800000	0.690000	8.000000	0.840000	0.890000
<b>Minimum</b>	0.012000	0.010000	0.010000	0.000000	0.070000	0.000000
<b>Std. Dev.</b>	0.136440	0.249787	0.145201	0.654392	0.225245	0.239833
<b>Skewness</b>	1.549141	0.519157	1.124185	10.18896	-0.688683	0.225103
<b>Kurtosis</b>	5.907991	1.844658	3.912841	119.7615	2.146403	1.878054
<b>Jarque-Bera</b>	119.6194	15.98553	39.01094	93071.39	17.39568	9.682105
<b>Probability</b>	0.000000*	0.000338*	0.000000*	0.000000*	0.000167*	0.007899**
<b>Sum</b>	25.50500	49.53300	26.73500	53.65900	82.00600	56.95700
<b>Sum Sq. Dev.</b>	2.941294	9.858146	3.331144	67.66020	8.016149	9.088145
<b>Observations</b>	100	100	100	100	100	100

Source: researcher's summary of descriptive result (2024) using E-view 12

The researcher sought to establish the central tendency and distribution of ownership features and firm financial performance among the selected listed industrial goods firms in Nigeria. The result provides some insight into the nature of the selected quoted industrial goods firms from Nigeria Exchange limited that were used in the study. It was observed that over the period under review, the sampled firms have average positive return on assets of 0.160. The mean value of organization's financial performance is 0.160. It had a standard deviation of 0.136, a maximum absolute value of 0.803 and a minimum absolute of value of 0.0120 revealing a large range and by so doing presenting a significant extent of variability in the performance of the financial statements of the industrial goods firms in Nigeria. The large difference between the maximum and minimum ROAS, indicates that return on assets of the firms differs greatly among the firms selected and over the period under review, this shows that the firms are not homogenous. The mean value of foreign ownership (FOROWN) was 31.15% while the median value was 24.30. Also, the maximum percentage of foreign shareholding of the listed industrial goods companies in Nigeria was 80% shares, while the minimum was 1% shareholding. This implies that the average quoted industrial goods firms in Nigeria is 31% owned by foreign investors although the range of differences to extent of this ownership is very wide. Foreign shareholding has a standard deviation of 24.9. The managerial ownership shows a mean value of 16.81%, with maximum and minimum values of 69% and 1% respectively while the standard deviation is 1.145. This means an average of 16% (percent) of the shares of quoted industrial goods firms in Nigeria is held by the management; however there exists a significant range in the variance of the percentage in different firms. The mean value of managerial ownership is low on the average but may also be good in terms of reducing managerial entrenchment. Similarly, the institutional ownership has a mean value of 33.7%, indicating that nearly one fourth of the quoted industry is owned by institutions which is in agreement with the postulation that institutions possess the large funds required to make large share purchases in companies, or at least, more so than individuals. It has a standard deviation of .654, with minimum and maximum values of 0 and 8 respectively. The block ownership shows a mean value of 0.515, with maximum and minimum values of 0.840 and 0.070 respectively while the standard deviation is .225. This means an average of 51% (percent) of the shares of quoted industrial goods firms in Nigeria is held by shareholders with the majority controlling interest. Similarly, the mean value of FAMON was 35.8% while the median value was 0.33. The maximum percentage of family shareholding of the listed industrial goods companies in Nigeria was 89%

shares while the minimum was 0% shareholding. Family shareholding has a standard deviation of 0.239 indicating clustering of family shareholding for the distribution around the mean value. The Jacque-Bera statistic of 9.682 alongside its p-value 0.00 indicates that the data on family shareholding satisfy the normality test. The coefficient of skewness 0.225 implies that the data was positively skewed; hence most values were bunched to the right of the distribution.

### Pearson Correlation Matrix

Pearson's correlation matrix was applied to check the degree of association between ownership concentration and financial performance of quoted industrial goods firms in Nigeria so as to determine the nature or degree of association i.e. positive or negative correlation and the magnitude of the correlation between dependent variable and independent variables with other explanatory variables. Therefore, in examining the association among the variables, we employed the Pearson correlation coefficient (correlation matrix) and the result is presented in the table 4.2. below.

**Table 4.2: Correlation Analysis Result**

	ROAS	FOROWN	MANOWN	INSOWN	BLOWN	FAMOWN
ROAS	1.000000					
FOROWN	0.064947	1.000000				
MANOWN	0.141905	0.219398	1.000000			
INSOWN	-0.095195	-0.021536	-0.142659	1.000000		
BLOWN	0.144286	-0.249622	0.042215	-0.003126	1.000000	
FAMOWN	0.173338	-0.339721	0.035754	-0.205489	0.309532	1.000000

Source: researcher's summary of correlation result (2024) using E-view 12

The result of the correlation matrix coefficient showed mixed correlation. This association identified buttresses the point that our variables have a linear relationship with varying degrees of direction with some exhibiting inverse or direct relationship. Furthermore, the strength of the relationship between variables measured by the Pearson product-moment correlation showed that the association between the variables is relatively small and was below the threshold of 0.80, suggesting the absence of the problem of multicollinearity in the predictor variables. Multi-collinearity between explanatory variables may result to wrong signs or implausible magnitudes in the estimated model coefficient, and the bias of the standard errors of the coefficients, hence checking for it becomes imperative. The above results show that there exists a positive and mild association between financial performance, managerial ownership, family ownership and block ownership (ROAS/ MANOWN/FAMOWN and BLOWN = 0.141/0.144 and 0.173) respectively while a negative but very weak correlation was documented for financial performance and managerial ownership (ROAS and MANOWN = -0.095) respectively. It was discovered that another negative but strong association exists between foreign ownership and other explanatory variables while another negative and weak association was documented against managerial ownership and institutional ownership respectively. In checking for multicollinearity, the study noticed from the correlation table above that no two explanatory variables were perfectly or highly correlated which would have resulted into dropping of one of such explanatory variable. This thereby ruled out the case of having an outlier. This indicates the absence of multi-collinearity problem in the model used for the analysis.

## Regression Results

In order to examine the relationship between the dependent variable (ROAS) and the independent variables (FOROWN, MANOWN, INSOWN, FAMOWN and BLOWN) and to test the formulated hypotheses, we employed panel regression analysis since the data had both time series (2013-2022) and longitudinal properties (10 quoted industrial goods firms). However, the study takes into cognizance the non-homogeneity nature of the firms, hence the need for testing its effect on the data. This necessitates the use of hausman effect test to ascertain which effect to explain.

**Table 4.3.1: Hausman Effect Tests**

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	7.379811	5	0.1939

Source: Researcher's summary of Hausman effect analysis result (2024)

Hausman effect test above was conducted to decide which effect to adopt in interpretation of our regression result. That is whether fixed effect or random effect is to be used in interpreting the regression result or to ascertain that which is best to be adopted in the study since our data is a panel data with complete information. The Hausman test result above shows a chi-square statistics value of 7.379 and probability value 0.1939 which was greater than 5%, this means that there is heterogeneity in the collection of the firms' data. Since the Chi-square (Prob) value is more than 5%, hence we accept the random effect and interpret its regression while the fixed effect is rejected. Hausman test shows that the Random-effects estimation (REM) method is more appropriate than the Fixed effects (REM) for all the industrial goods firms in Nigeria; hence the results from REM is presented and interpreted.

**Table 4.3.2: Random Effect Regression Result**

Cross-section random effects test equation:				
Dependent Variable: ROAS				
Method: Panel Least Squares				
Date: 01/12/24 Time: 08:14				
Sample: 2013 2022				
Periods included: 10				
Cross-sections included: 10				
Total panel (balanced) observations: 100				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.140343	0.052199	2.688629	0.0081
FOROWN	-0.110276	0.076457	-2.442317	0.0515
MANOWN	-0.044176	0.105224	-0.419825	0.6753
INSOWN	0.006294	0.015698	0.400965	0.6891
BLOWN	0.014507	0.085681	0.169318	0.8658
FAMOWN	0.161318	0.076323	2.113633	0.0363
Effects Specification				
Cross-section fixed (dummy variables)				
Root MSE	0.113428	R-squared		0.606002
Mean dependent var	0.147704	Adjusted R-squared		0.505422

S.D. dependent var	0.136588	S.E. of regression	0.121753
Akaike info criterion	-1.251143	Sum squared resid	2.045687
Schwarz criterion	-0.845816	Log likelihood	120.4658
Hannan-Quinn criter.	-1.086544	F-statistic	3.042390
Durbin-Watson stat	2.166511	Prob(F-statistic)	0.000067

Source: Researcher's summary of regression result (2024).

The table 4.3.2 above shows the panel regression analysis of quoted industrial goods firms in Nigeria. From the result above, the study observed that the R. squared value was 0.6060 (61%) approximately and R-squared adjusted value was 0.5054 (51%) approximately. The value of R-squared which is the coefficient of determination stood at 61% which implies that 61% of the systematic variations in individual dependent variables were explained in the model while about 39% were unexplained thereby captured by the stochastic error term. Moreover, the F-statistics value of 3.042 and its probability value of 0.0000 shows that the overall ownership concentration model used for the analysis were statistically significant at 1% level. This confirms the appropriateness of our model used for the analysis. Moreover, the Durbin Watson statistic of 2.1665 showed that the model is well spread since the value is approximately 2 and that there have not been self or auto correlation problem and that error are independent of each other. Based on the regression result above, it was found that foreign ownership has a negative and statistically significant effect on performance of quoted industrial goods firms in Nigeria. By implication, this result implies that as foreign ownership or shareholding is increasing, performance is decreasing. This might be as a result of capital flight among foreign expatriates. The managerial ownership is insignificantly negatively related to performance. As management ownership increases, the desire to improve performance will decrease. In this vein, we find that managers with more stock ownership act more like shareholders, so the need to improve performance is reduced. As a result of this insignificant effect we documented, we accepted our second null hypothesis and therefore conclude that managerial ownership has negative but insignificant effect on performance of quoted industrial goods firms in Nigeria. Our regression result above suggests that institutional ownership has positive but insignificant effect on performance of quoted industrial goods firms in Nigeria having recorded a positive coefficient value of 0.0062 and probability value of 0.6891 ( $\beta_3 = 0.0062$ ,  $p = 0.6891$ ). We found that institutional ownership positively but insignificantly affect firm performance. This point out that, if institutional ownership is increasing, performance will rise. We found, in our models, that block ownership is positively related to performance, suggesting that as block ownership concentration increases, listed industrial goods firms exhibit a higher degree of performance. Based on the regression result above, it was found that family ownership has a positive and statistically significant effect on performance of quoted industrial goods firms in Nigeria. We therefore conclude that family ownership has positive and significant effect on performance of quoted industrial goods firms in Nigeria which was statistically significant at 5% level of significance.

### CONCLUSION AND RECOMMENDATIONS

Based on the above analysis, data collection, reviews of literature and interpretation of data, among the quoted industrial goods firms in the Nigerian Exchange Limited, there exists a negative effect between foreign and managerial ownership and firm performance while there is positive but no significant relationship between block and institutional ownership of industrial goods firms and performance. Although many literatures support the presence of

relationships between these variables (block and institutional ownership) and performance, for probable reasons, some of which have been stated above in the literature, while in our findings, a relationship between those variables is not traceable in the observations collected from the financial statements in the industry. We therefore conclude that the good firm performance leads to the increase in stock value which ultimately increases the share ownership of both kinds of shareholders. Consequently, based on the findings, the study recommends that in assessing the tendency of ownership structure and performance, there is need for: financial statements to include more detailed analysis of the structure of their foreign, block, family and institutional ownership and shareholding to provide more information for decision making for users of the accounting information such as researchers and potential investors.

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