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Moderating Effect of Foreign Exchange on the Relationship between Heterogeneous Ownership Structure and Financial Performance of Listed Industrial Goods Firms in Nigeria

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ABSTRACT

The study investigated the moderating effect of foreign exchange (FX) on ownership heterogeneity and the return on assets (ROA) of listed industrial goods firms in Nigeria. An ex-post facto research design was adopted to study the 13 industrial goods firms listed on the Nigeria Group Exchange (NGX) as at December 31, 2023. The multiple linear regression model as a tool for analysis was applied. The major results indicate that managerial ownership has a statistically significant and positive effect on ROA, hence evidence for agency theory' which argues that the interests of managers should be in line with enhancing shareholder value. The interaction term MOFX, however, is significant and negative, meaning foreign exchange fluctuations reduce the positive effect of managerial ownership. On the other hand, IOFX is significantly positive and implies that institutional investors reduce FX-related risk and enhance performance. The study recommends that Managerial ownership should align management interests with firm performance and thus acts as an incentive to strengthen foreign exchange risk management. This commitment towards governance ensures stability, where institutional investors are attracted to companies that practice disciplined risk-taking, eventually contributing to the firm's ability to withstand the impact of foreign exchange volatility.

Keywords: Ownership Heterogeneity Industrial Goods, Foreign Ownership, Ownership Concentration, Managerial Ownership, Institutional Ownership
JEL Classifications: G32, G34, F31, G15, L25, M41, M42

1. INTRODUCTION

Now, with the world economy becoming more interconnected, the emphasis in corporate finance and governance is on understanding the specific elements that affect firm performance in emerging economies, both internal governance procedures and external macroeconomic factors are having bigger impact on business successes; particularly in the industrial products sector. The distribution of equity among various stakeholders, such as governmental organizations, institutional investors, management owners, and foreign owners, is represented by the ownership structure, which is an essential internal variable for firm success and growth. This varied ownership structure usually affects business strategy, risk tolerance, financial transparency, and ultimately firm performance. In developing countries like Nigeria, the link between ownership heterogeneity and firm performance is complex and context-dependent. Factors such as weak governance, limited investor protection, and economic instability often distort the expected benefits of diverse ownership structures. Nigeria's industrial goods sector, containing vital companies that oversee infrastructure development, construction materials, and manufacturing, is the engine of Nigeria's economy Chete et al. (2014). These companies are highly vulnerable to macroeconomic shocks, especially in terms of exchange rate and can substantially

influence the behavior of investors, profit margins, and cost structures. The prolonged instability in the Nigerian foreign exchange market has witnessed numerous exchange rate regimes, speculative currency practices, and volatile fluctuations occasioned by exogenous factors including changes in monetary policy and world oil prices. Therefore, the ownership structure-performance relationship may be tremendously moderated by foreign exchange dynamics, but this is still hardly considered so far in the previous research.

Most controversial empirical studies have focused on the impact of heterogeneity of ownership on financial performance and include works by Berle and Means in 1932 and La Porta et al. in 1999. For example, foreign ownership may expose companies to foreign exchange risk and repatriation issues but could improve firm performance through knowledge spillovers and better governance. As in the present case, in some cases institutional shareholding may increase conflicts of interest or enhance performance by monitoring. These paradoxes show that in studying ownership-performance relationships, external moderating variables such as the state of the foreign exchange must be taken into account.

Despite many studies on ownership heterogeneity and financial performance, most studies have been performed in international contexts (Shahwan and Qamhawi, 2023; Sakawa and Watanabel, 2020; Clatworthy and Peel, 2010; Adiloğlu, 2013). However, few studies have been carried out in Nigeria (e.g., Orbunde et al., 2021; Suleiman and Nasamu, 2021; Okewale et al., 2020; Eluyela et al., 2020). Still, this Nigerian-based research entirely leaves out the moderating influence of fluctuations in foreign exchange rates on industrial goods firms' performance and ownership heterogeneity. More research is greatly needed since conclusions of existing literature are still ambiguous, inconclusive, and sometimes conflicting. The research thus examines the influence of exchange rate volatility on the relationship between various possession structures and financial performance of companies in the Nigeria industrial sector good sector.

2. LITERATURE REVIEW

2.1. Conceptual Review

2.1.1. Ownership structure

The concept is characterized by the allocation of equity in terms of capital, voting rights, and the identification of the equity owners. The references are based on Stanley (2015) and Saseela and Thirunavukkarasu (2017). It is the allocation of equity based on balloting rights, capital, and the identification of equity owners (Jensen and Meckling, 1976). Their study revealed the link between agency costs and equity, aiming to integrate these concepts into formulating a theory of corporate ownership structure.

2.1.2. Managerial ownership

Managerial ownership, also referred to as directors' or insider ownership, describes the situation where a company's shares are held by its managers or directors (Obigbemi, 2017). The term "director ownership" specifically points to the number of stocks owned by the directors and board members of a corporation, as outlined by McConnell and Servaes in 1990. It refers to ownership of stocks by company managers or executives. According to Holderness (2003), management ownership denotes the number of total stocks possessed by individuals within the company.

2.1.3. Ownership concentration

This is defined as the proportion of the biggest owner (Pedersen and Thomsen, 1999). Onuora et al. (2022) defines it as the percentage of a company's stocks owned by a small number of investors who also happen to have a controlling interest in the business. According to Florackis et al. (2009), this percentage represents the gross number of shares possessed by all shareholders with a holding of 5% or more.

2.1.4. Institutional ownership

This pertains share of a organization's ownership that is owned by significant monetary institutions, pension funds, or endowments (Onuora et al. 2022). Institutions often acquire substantial quantities of an organization's stock and may exercise significant influence on its management. Hence, institutional shareholders, who are often experts, use their skills to oversee management and ensure that their interests are in line with the organization's objectives (Onuora et al. 2022).

2.1.5. Foreign ownership

When fewer than 10% of the total assets are held by locals and the majority of the investors are foreign nationals, this is known as foreign equity ownership. According to Onuora et al. (2022), it also explains a business structure in which a foreign individual or individuals have the power to set the overall direction of the company or oversee its daily operations.

2.1.6. Foreign exchange

One way to quantify a firm's size is to look at the total assets it uses for running its business (Sari and Supadumi, 2014). The neoclassical theory of the company postulates that economies of scale play a significant role in deciding a business's profitability (Niresh and Velnampy, 2014). According to the conventional neoclassical theory of the business, which is based on the idea of scale efficiencies, a company's profitability is highly dependent on its size (Niresh and Velnampy, 2014). It demonstrates that larger organizations may create things at much reduced costs, which is counterintuitive to smaller firms. Foreign exchange and profitability are predicted to have a positive association according to this hypothesis.

2.1.7. Financial performance

This refers to the utilization of an organization's existing resources to generate income (Leah, 2008). One of the primary objectives of a business entity is to enhance its performance. Iswatia and Anshoria (2007) said that an organization's success is determined by its capacity to acquire and effectively utilize resources via various strategies in order to establish a competitive edge.

2.2. Theoretical Review

2.2.1 Stewardship theory

This theory, developed by Davis et al. (1997), aims to mitigate the conflicts between shareholders and managers, as proposed by agency theory. Donaldson and Davis (1991) argued that

senior executives of a company would seek to perform their duties and manage the firm's resources responsibly. They also suggested that to enhance organizational performance, a higher proportion of internal directors is preferable. For effective decision-making, the theory advocates consolidating the roles of CEO and board chairperson into a single position. Davis et al. (1997) emphasized the concept of stewardship, where management is driven not by personal gains but by a commitment to achieving the organization's goals. The theory's relevance to this research is clear, as it supports the view of top management as stewards, aligning their roles with organizational objectives. It also highlights the significance of ownership structures, as they empower stewards to exercise greater control and reduce monitoring costs. Stewards, concerned with maintaining their reputation, are motivated to work in a way that maximizes the firm's financial performance to preserve their standing. As decision-makers within the organization, they strive to be as effective as possible to safeguard their careers (Fama, 1980).

2.3. Empirical Review

Shahwan and Qamhawi (2023) assessed the impact possession of ownership on corporate performance of thirteen Egyptian Stock Exchange listed banks, between the periods 2016-2019. The study established various significant correlations. First, there was a considerable correlation between the OC and the (EVA). More specifically, concentration of ownership had a positive impact on EVA, whereas managerial, foreign, and government ownerships had negative impacts on EVA. EVA, on the other hand, was influenced positively by the existence of institutional ownership. The second finding to report is that the ownership composition was also significantly associated with (MVA). Orbunde et al. (2021) with the purpose of investigating the ways ownership possession affect the performance of the deposit money banks. As part of the selection process for the financial years 2011-2020, thirteen out of fifteen deposit money banks in Nigeria were chosen using the purposive sampling method. The investigation consisted of utilizing the E-views 10 program to perform panel regression estimates with fixed effects, as demonstrated by the Hausman test. According to the findings of the research, the capital sufficiency of these banks is greatly improved by their ownership by both management and institutional personnel.

Okewale et al. (2020) investigated ownership structure with executive ownership, employee ownership, and private ownership in relation to financial performance of over eighteen listed Nigerian food and beverage companies between the years 2010 and 2018. The study used data collected from public reports of ownership trends and ROE and tested hypotheses through pooled regression and fixed and random effects models of regression. Findings from the study showed that executive ownership had very little impact on ROE in contrast with employee and private ownership, which had rather significant effects on ROE. Hence, the study implied that the ownership structure matters in determining the financial performance of listed food and beverage firms in Nigeria.

Ismail and Mamuda (2020) looked at how ownership patterns affect the financial outcomes of Nigerian publicly traded financial institutions. The study analyzed financial records from 38 firms from 2010 to 2019. Adopting an ex-post-facto approach, the research employed descriptive statistics, correlation analysis, and panel data regression techniques. The findings indicated that ownership configuration positively influence financial outcomes, except for ownership concentration, which had a negative effect. The study recommended that financial firms in Nigeria increase executive ownership to incentivize management to enhance performance and maximize stakeholder value. Eluyela et al. (2020) examined the influence of institutional investor ownership on the financial performance of Nigerian deposit money banks between the years 2011 and 2018. Panel data analysis had shown a direct positive association between financial performance and institutional ownership. It is argued that the institutional shareholders be the target of bank management since their ownership significantly influences the growth and sustainability of the banks.

Many of the studies reviewed were situated in foreign countries that had their own environmental and cultural settings (Shahwan and Qamhawi, 2023; Sakawa and Watanabel, 2020; Clatworthy and Peel, 2010; Adiloğlu, 2013). Although some research was carried out in Nigeria (Orbunde et al., 2021; Suleiman and Nasamu, 2021; Okewale et al., 2020; Eluyela et al., 2020), being preoccupied with mediating foreign exchange rate fluctuation may have just blinded them from studying its moderating effect concerning industrial goods firms' performance and ownership heterogeneity.

3. METHODOLOGY

The study used the ex-post facto design to evaluate the causal association between variables of financial performance (dependent/outcome) and ownership heterogeneity (independent) while introducing foreign exchange as a moderating variable. The population for the study was all the listed industrial goods firms in Nigeria, numbering 13. Secondary data were obtained from accounting reports and annual accounts of the sampled firms for the period 2014-2023 Multiple Linear Regression is adopted as the statistical technique. Hence model is specified and estimated below.

$$ROA_{it} = ß_0 + ß_1 MO_{it-1} + ß_2 OC_{it} + ß_3 IO_{it} + ß_4 FO_{it+} ß_5 FX_{it} + ß_6 MOFX_{it} + ß_7 OCFX_{it} + ß_8 IOFX_{it} + ß_9 FOFX_{it} + \mu_{it}$$

Where:
ROA (Return on Assets) = Financial performance
MO = Managerial Ownership
OC = Ownership Concentration
IO = Institutional Ownership
FO = Foreign Exchange
FX = Foreign Exchange rate
$MOFX_i$ = MO and FX; OCFX= OC and FX; $IOFX_{it}$=IO and FX; and FOFX= FO and FX
ß = Constant
μ = Error term of company
it = Company i in time t.

Table 1: Variables measurement

Variables	Type	Definition/Measurements	Source
ROA	Dependent variable	Profit after tax to total Assets	Eissa et al. (2018)
MO	Independent variable	Percentage of shares owned by managers	Al-Sa'eed (2018)
OC		Percentage of firm equity held by large shareholders	Alkurdi et al. (2021); Onuora et al. (2022).
IO		Percentage of shares owned by institution	Kao et al. (2019)
FO		Percentage of shares owned by foreigners	Meng et al. (2019)
Foreign exchange (FX)	Moderating variable	Natural log of EXC	

Source: Researcher, 2025

Table 1 provides a summary of the proposed variables, their classifications, measurement methods and supporting literature/ sources.

4. DISCUSSION OF RESULTS

The Table 2 indicates a mean of 15.9% for ROA. It means that on average, in Nigeria the companies earned ₦15.92 of net income for every ₦100 of assets invested. This indicates a moderately efficient sector firms are fairly profitable relative to their assets. The lowest ROA of 1.25% shows very poor asset utilization. This firm likely struggles with, Low profit margins, High operational costs, Heavy dependence on imported materials and FX exposure, Weak governance or misaligned ownership interests. The highest ROA of 46.49% is exceptionally strong. The firm likely operates with high efficiency; has strong pricing power or cost control, may benefit from favorable ownership (e.g., high foreign or institutional investment). Is potentially less exposed or better hedged against FX volatility.

Again, the managerial ownership (MO) indicates the averaging of 7.05%, with notable variations. This ownership structure suggests that while most managers have some financial interest in the firms, they typically do not control a large portion of shares. The sector has 41% of OC. This implies a moderately high concentration of control. High OC often suggests that major shareholders have significant influence over decisions, including board appointments, dividends, and strategic direction. Standard Deviation is 11.31%. The variation in ownership concentration is noticeable but not extreme. Some firms are more dispersed, while others are more tightly controlled by a few entities or individuals. The highest ownership concentration is 57.08%, where a few shareholders effectively control the firm, possibly limiting minority shareholders' influence.

On average institutional ownership indicates the percentage value of 13.36%, which means that 13.36% of the firm is under institutional investors, showing that there is considerable variation in institutional ownership across firms. Some firms have heavy institutional presence, whereas others are still under the control of individual or insider ownership. Such variations offer a good setup for an empirical investigation, say, to test how institutional ownership affects Return on Assets (ROA) or interacts with foreign exchange exposure. The percentage of foreign ownership from the table is 10.06%, This indicates a reasonable but discriminating presence of foreign investors, with possible advantages in capital availability and governance. It does, however, also have dangers associated with currency fluctuation, particularly in an economy as volatile as Nigeria's. To understand how foreign capital affects company performance and interacts with FX constraints, FO can be a crucial component in your research.

Table 2: Descriptive statistics

Variable	Observation	Mean	Standard deviation	Min.	Max.
ROA	141	0.1592	0.1339	0.0125	0.4649
MO	141	0.0705	0.0594	0.0001	0.1856
OC	141	0.4097	0.1131	0.0708	0.5708
IO	141	0.1336	0.1089	0.0087	0.3649
FO	141	0.1006	0.0994	0.0000	0.3750
FX	141	0.3980	0.0534	0.0408	0.4704
MOFX	141	0.0283	0.0241	0.0001	0.0873
OCFX	141	0.2063	0.0544	0.0722	0.3329
IOFX	141	0.0630	0.0566	0.0035	0.2365
FOFX	141	0.0411	0.0412	0.0000	0.1529

The foreign exchange fluctuation (FX) indicator measures the level of exposure that Nigerian industrial goods firms face due to currency volatility. With an average exposure of 39.8%, FX risk remains important for their operations and profitability. This positions FX as an important moderator in the research on the different forms of ownership (foreign, managerial, institutional, or concentrated) and their impact on performance. Those firms which are highly exposed to FX risks need to control currency risks, and the type of ownership they have may dictate how well they manage such risks. Managerial Ownership interaction with Foreign Exchange Fluctuation indicates an average value of 2.83%, which shows that managerial stake in firms with FX exposure is modest but meaningful. Its influence on performance will reveal whether managers help shield firms from FX risk or if ownership concentration does not translate into better financial outcomes under exchange rate pressure.

A mean of 20.63% is once more displayed by the ownership concentration interaction with foreign exchange fluctuation variable, indicating that a significant number of companies in Nigeria's industrial products sector are under the control of large shareholders who are subject to FX volatility. For determining whether such ownership structures lessen or increase the effect of currency fluctuations on profitability, OCFX is therefore a crucial consideration. Institutional Ownership interaction with Foreign Exchange Fluctuation, or IOFX, is a variable that shows how much currency risk institutional owners face and how that affects business performance. With a mean of 6.30% for IOFX, whether this leads to better or worse financial outcomes depends on their engagement in corporate governance, risk oversight, and long-term strategy under fluctuating exchange rates.

The FOFX (Foreign Ownership interaction with Foreign Exchange Fluctuation) variable represents how foreign ownership interacts

with exchange rate volatility to influence firm performance. In Nigeria's industrial products industry, foreign investors own modest shares in companies that are subject to currency risk, with an average of 4.11%. Whether these investors enhance susceptibility as a result of external capital dynamics or improve FX resilience through improved governance will determine the real impact on ROA.

Table 3 illustrates the independent versus the dependent variable correlation matrix. The finding identifies that inverse association exist between MO and ROA with a correlation of −0.1373 that signifies an inverse connection between the two variables. A negative connection exists between MO and ROA. Besides, the finding also, indicate that institution ownership positively correlates with return on asset. The foreign exchange and return on asset positive correlation indicate the strength of relationship by the figure 0.0560. Moreover, foreign exchange also positively correlates with return on asset by the figure of 0.1564. Once again, the MOFX negatively correlate with figure −0.1518 with ROA. In addition, OCFX is negatively correlated with ROA by −0.0741. IOFX is negatively correlated with ROA. Finally, family ownership interaction with foreign exchange has positive correlated with ROA at a coefficient value of 0.0575.

Table 4 displayed outcome of multicollinearity result; the multicollinearity. The multicollinearity shows the result did not violate the rule of thumb. Which the variance inflation test is <10.

It was observed from the results in Table 5 that there is no issue of heteroscedasticity in the data, that there is homoscedasticity with the chi-square of 1.79 and probability of 0.1804. Thus, the regression output will be reliable and not provide misleading results.

Table 6 presents the Hausman specification result showing that the Chi-square value of 1.72 and prob. of 0.9952 shows that the result is in favor of random effect model.

As Table 7 indicates, the LM test shows the Chi-square of 0.00 and prob of 1.0000 is significantly higher than 0.05. Therefore, the OLS is the best model to be interpreted.

4.1. Regression Result

Model stated below with fit in values.

ROAit = −0.0389616+3.28218MOit+0.0324816OCit−0.1842752 IOit−0.2296909FOit+0.5492491FXit−9.026781MOit*FXit−0.15 28252OCit*FXit+0.5071856IOit*FXit+0.9279209FOit*FXit+εt

Table 8 indicates that R-squared = 0.5183, implies that approximately 52% of variance was caused by ownership heterogeneity. R-squared = 0.5183 implies that the model explains 52% of ROA's variance. The F-statistic F (9, 131) = 1.95 and P-value = 0.0399 is significant in the sense that the overall model is statistically significant and at least one of the independent variables does have a non-zero coefficient hence, the F-statistic guarantees that the independent variables collectively possess a significant association with the dependent variable, hence the appropriateness to use the regression model. The OLS result displayed that the coefficient for MO (Managerial Ownership) is 3.2822, with a prob. of 0.044, holding other variables constant. Consequently, they are encouraged to make decisions that will enhance performance, which raises ROA. This supports agency theory, which maintains that ownership by managers decreases agency cost and increases corporate efficiency. This finding is coherent with that of Orbunde et al. (2021), and Molla (2021) and opposed by that of Shahwan and Qamhawi (2023); Santoso and Santasyacitta (2020).

Furthermore, in respect to the coefficient of 0.0325, it suggests that an increase of one unit in ownership concentration results in an increase in ROA of 3.25% while keeping all other independent variables constant. Yet, the corresponding prob. of 0.765 is way higher than 0.05, pointing to the non-statistical significance of the result. This means that the variable ownership concentration does not have a statistically significant effect on the performance of the companies in this sample of industrial goods companies listed in Nigeria. This finding differs from that of Orbunde et al. (2021).

Institutional ownership has a coefficient of −0.1843, which means it would have effect of decreasing returns on assets (ROA) by a percentage of 18.43, all else held constant. Since the prob of 0.2150 is >0.05, the relationship is not statistically significant at the 5% level. A t-value of −1.25 also suggests that the evidence against the null hypothesis is weak. This may imply that institutional investors are not actively monitoring or influencing management, or they may be investing in poorly performing companies with the hope that the firms will perform well in the long run.

Coefficient of −0.2297 suggests that the foreign ownership impact variable decreases the Return on Assets (ROA) by 22.97% with every single increase. A t-value of −0.16 further corroborates that this weak explanatory power does not possess any statistical significance (P = 0.8730). This is an indicator that foreign investors

Table 3: Correlation matrix result

Variable	ROA	MO	OC	IO	FO	FX	MOFX	OCFX	IOFX	FOFX
ROA	1.0000									
MO	−0.1373	1.0000								
OC	−0.0190	0.1501	1.0000							
IO	0.0366	−0.1979	−0.3275	1.0000						
FO	0.0560	0.0935	−0.1477	0.2703	1.0000					
FX	0.1564	0.0339	0.0302	−0.0103	−0.0647	1.0000				
MOFX	−0.1518	0.9911	0.1633	−0.1917	0.1061	0.0809	1.0000			
OCFX	−0.0741	0.1062	0.2297	−0.0018	0.2118	0.0141	0.1394	1.0000		
IOFX	0.1504	−0.1438	−0.1350	0.6791	0.2342	0.0438	−0.1362	0.0972	1.0000	
FOFX	0.0575	0.0929	−0.1318	0.2636	0.9944	−0.0089	0.1136	0.2275	0.2321	1.0000

Table 4: VIF test

Variable	VIF	1/VIF
MO	2.22	0.1949
OC	1.25	0.2933
IO	2.15	0.6897
FO	3.41	0.4505
FX	1.43	0.4651
MOFX	1.45	0.5177
OCFX	1.21	0.7014
IOFX	1.93	0.8003
FOFX	5.13	0.8284
Mean VIF	2.24	

Table 5: Breusch-Pagan

ROA	Prob>Chi-square=0.1804
Chi-square (1)=1.79	

Table 6: Hausman Result

Chi-square (9)=1.72	P-value=0.9952

Table 7: The Lagrange multiplier (LM) test for return on asset

Components	Var	SD=sqrt (Var)
ROA	0.0179	0.1339
E	0.0176	0.1326
U	0.0000	0.0000
	Chi-square (01)=0.00	Prob=1.0000

Table 8: Ordinary least square (OLS) results

Variables	Coefficient	Standard Error	T-value	P>|z|
MO	3.2822	1.7545	1.9700	0.0440
OC	0.0325	0.1086	0.3000	0.7650
IO	−0.1843	0.1478	−1.2500	0.2150
FO	−0.2297	1.4299	−0.1600	0.8730
FX	0.5492	0.2457	2.2400	0.0270
MOFX	−9.0268	4.3565	−2.0700	0.0400
OCFX	−0.1528	0.2219	−0.6900	0.4920
IOFX	0.5072	0.2696	1.9900	0.0420
FOFX	0.9279	3.4554	0.2700	0.7890
_cons	−0.0390	0.1208	−0.3200	0.7480
R-squared=0.5183				
F (9, 131)=1.9500				
Prob>F = 0.0399				

are perceived as value-adders due to their expertise, ability to transfer technology, and better governance. In some developing countries, like Nigeria, the ownership advantage can be dissipated because of legislative restrictions or institutional flaws. These results contradict those of Ismail and Mamuda (2020) and Okewale et al. (2020).

The FX coefficient value of 0.5492 indicates a 54.92% rise in ROA. The statistical significance of this link indicates that the effect is unlikely to be the result of chance, as the prob value of (0.027) is <0.05. This finding suggests foreign exchange volatility and the performance of Nigerian listed industrial goods companies move together. Businesses who manage their foreign exchange risk or revenues well might use currency volatility to their advantage in nations that frequently experience currency devaluations or volatility. Not every company may be affected in the same way.

Managerial ownership (MO) and foreign exchange fluctuations (FX), as indicated by the coefficient of −9.0268. This implies that the beneficial impact of foreign exchange fluctuations on business performance diminishes and may even turn negative as managerial ownership rises. The effect is statistically significant at the 5% level since the P-value is 0.040, which is <0.05. This moderating influence is captured by this interaction term. It aligns with agency theory, which suggests that managerial ownership may not always align managers' interests with firm performance, especially under complex external pressures like FX risk. In this case, higher MO might dampen the firm's ability to respond positively to FX changes. This finding is in line with those of Orbunde et al. (2021) and Suleiman and Nasamu (2021) and in opposite with those of Okewale et al. (2020).

The coefficient of −0.1528 suggests that the interaction between ownership concentration (OC) and foreign exchange fluctuations (FX) has a negative effect on Return on Assets (ROA). However, the effect is not statistically significant, since the P-value is 0.4920 (>0.05). The negative coefficient implies that as ownership concentration increases, the positive influence that foreign exchange fluctuations may have on ROA diminishes slightly. However, because the result is not statistically significant, we cannot confidently conclude that the interaction between OC and FX has a reliable impact on firm performance. According to agency theory, centralized ownership is frequently thought to provide greater monitoring and control; nevertheless, this finding suggests that control has no bearing on how profitable businesses manage foreign exchange risk. This result contradicts that of Orbunde et al. (2021) and supports that of Alkurdi et al. (2021).

With a positive coefficient value of 0.5072, the relationship between foreign currency fluctuations (FX) and institutional ownership (IO) has a statistically significant positive impact on ROA at the 5% level (P = 0.042). According to this, organizations that have institutional ownership are better able to handle or profit from changes in foreign exchange, which raises profitability. Exchange rate volatility can be better managed by businesses with the support of institutional investors, who frequently contribute knowledge, improved risk management, and active monitoring. Institutional ownership improves businesses' ability to profitably manage foreign currency risks, according to the positive and statistically significant effect of IOFX. It's possible that institutional investors are strategically insuring higher profits despite exchange rate volatility. Molla (2021), and Orbunde et al. (2021) disagreed with this finding, whereas Suleiman and Nasamu (2021) concurred.

With a strong P-value (0.789 > 0.05), the coefficient value of 0.9279 suggests that the relationship between foreign ownership (FO) and foreign exchange fluctuations (FX) has a positive but statistically insignificant effect on Return on Assets (ROA). The relationship's positive direction implies that foreign ownership may mitigate or lessen the impact of exchange rate swings,

although the effect is not statistically significant. This result deviates from Okewale's et al. (2020) findings and is consistent with those of Santoso and Santasyacitta (2021).

5. CONCLUSION AND RECOMMENDATIONS

This study examined how foreign exchange (FX) fluctuations moderate the relationship between various forms of ownership heterogeneity on ROA of the listed industrial goods firms in Nigeria. The results show that ROA is significantly improved by managerial ownership (MO), suggesting that the agency theory is supported by improved business performance when managers own equity holdings. Additionally, ROA directly benefits from FX volatility. The fact that the interaction term MOFX is substantially negative, however, indicates that the performance-enhancing impact of management ownership is lessened by FX volatility. In a similar vein, IOFX is positively significant, suggesting that institutional investors may improve business performance by better managing FX risks. ROA was not significantly impacted by other ownership variables like OC, FO, or their corresponding interaction terms with FX (OCFX, FOFX), suggesting that they had minimal moderating effects when FX volatility was present.

In respect to the findings in the study into the role FX plays between ownership structures and firm performance-as gauged by ROA-in listed industrial goods firms in Nigeria, a fitting set of recommendations are made as follows:

i. Since managerial ownership exerts a positive influence on firm performance, industrial goods firms ought to promote managerial ownership while fortifying FX risk management capacity and attracting seasoned institutional investors so as to enhance resilience under FX volatility.
ii. Firms should encourage managers to participate in equity ownership. Nevertheless, since FX volatility undermines this effect, companies should also provide instruments or training to help their managers cope more effectively with currency risks.
iii. The impact of volatility on foreign exchange (FX) greatly enhances performance due to institutional ownership (IO). It is necessary for firms to have institutional investors which are professionally managed and built to endure external economic shocks, especially foreign exchange risks.
iv. Considering the great effect foreign exchange (FX) has on performance and its moderating influence, comprehensive practices for managing foreign exchange risks are required, including hedging and scenario analysis to maintain the desired stability in earnings and safeguard asset return.

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