



Moderating Role of Agency Costs on The Relationship Between Ownership Structure and Firms' Value of Listed Agricultural Firms in Nigeria

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Abstract

This study examines the moderating role of agency costs on the relationship between ownership structure and firm value of listed agricultural firms in Nigeria for the period 2015–2024. The study adopts a correlational research design using secondary data obtained from the annual reports of five listed agricultural firms on the Nigerian Exchange Group. Ownership structure was proxied by managerial ownership, institutional ownership, and foreign ownership, while firm value was measured using Tobin's Q. Agency cost, measured by asset utilization ratio, served as the moderating variable. Data were analyzed using multiple regression techniques with the aid of STATA 13. The findings reveal that foreign ownership has a positive and significant effect on firm value, while managerial and institutional ownership show no significant direct effects. However, agency costs significantly moderate the relationship between ownership structure and firm value positively in the case of institutional ownership but negatively in the case of foreign ownership. The moderating effect between agency costs and managerial ownership was statistically insignificant. The study concludes that ownership structure influences firm value differently depending on the type of ownership and the level of agency costs. It recommends that agricultural firms strengthen institutional investor participation through improved governance mechanisms and that policymakers encourage foreign investment while implementing frameworks to mitigate agency-related inefficiencies. The study contributes to corporate governance literature by providing sector-specific evidence on how ownership configurations and agency dynamics jointly shape firm value in emerging economies like Nigeria.

Keywords: *Ownership Structure, Agency Costs, Firm Value, Institutional Ownership, Foreign Ownership, Agricultural Firms, Nigeria.*

1.0 INTRODUCTION

The agricultural sector is a vital component of Nigeria's economy and faces distinct challenges, including inefficient management practices and varying levels of ownership concentration, which can significantly influence firm performance and market valuation. Ownership structure refers to how equity is distributed among various stakeholders, comprising individual shareholders, institutional investors, and managerial ownership. Each type of ownership carries its own implications for agency costs, which are costs incurred due to conflicts of interest between stakeholders, especially between owners (principals) and managers (agents) (Oyedokun et al., 2020) (Aluoch, 2021). The presence of agency costs can create barriers to achieving optimal firm value, as they may lead to inefficiencies and suboptimal decision-making by management. In the context of the agricultural sector, where transparency and effective governance often lag behind corporate standards in other industries, these agency costs can be particularly pronounced (Aluoch, 2021).

The agricultural sector in Nigeria plays a crucial role in the nation's economy, providing livelihoods for numerous citizens and serving as a foundation for food security. Despite the immense potential of this sector, many agricultural firms struggle to realize their full market value due to a complex interplay of variables, particularly ownership structure

and agency costs. The prevailing issue lies in the insufficient understanding of how different ownership configurations influence firm value and the pivotal role agency costs play as a moderating factor in this relationship.

Existing literature suggests that ownership structure significantly affects firm financial performance; however, findings have been mixed. For instance, concentrated ownership can lead to alignment of interests between managers and shareholders potentially reducing agency costs and enhancing firm value while excessive managerial ownership may engender entrenchment behaviors that mitigate these benefits Alabdullah (2018). This contradiction highlights a gap in the application of agency theory within the context of Nigerian agricultural firms, where agency costs can be exacerbated by non-ideal governance structures, such as lack of transparency and accountability in managerial decisions (Oyedokun et al., 2020). Moreover, the role of agency costs as moderators in the ownership structure-value relationship emphasizes the necessity of governance frameworks that adequately address the conflicts inherent in principal-agent relationships. In Nigeria, where institutional ownership is often limited and family-run businesses prevail, agency costs associated with inefficiencies can hinder firm performance and reduce perceived market value (Oyedokun et al., 2020). This scenario is particularly alarming for agricultural firms, as they are typically affected by fluctuating market conditions and require efficient management practices to thrive in competitive environments.

Previous studies have produced inconsistent results on the effect of ownership structure on firm value. For example, while foreign ownership has been found to enhance value in some contexts, institutional and managerial ownership show conflicting or insignificant effects (Mukaria et al., 2020; Tanko, 2020). This inconsistency highlights the need for a contextual analysis within Nigeria's agricultural sector. Similarly, existing literature in Nigeria largely examines direct relationships between ownership structure and performance without considering the moderating influence of agency costs, despite theoretical indications that agency costs can amplify or weaken this relationship (Perera & Buvanendra, 2022). This oversight limits understanding of how internal inefficiencies affect ownership-value dynamics.

Investigating the interplay between ownership structure, agency costs, and firm value among Nigerian agricultural firms is essential to uncovering tailored governance solutions that can enhance their performance. This study seeks to address this problem by empirically examining these relationships, thereby contributing to the understanding of how agricultural firms can better align managerial incentives with shareholder interests and ultimately increase their market valuations.

- i. Does managerial ownership determine the firm's value of listed agricultural firms in Nigeria
- ii. Does institutional ownership influence the firm's value of listed agricultural firms in Nigeria
- iii. To what extent does foreign ownership effects the firm's value of listed agricultural firms in Nigeria
- iv. Does agency costs moderate the relationship between ownership structure and firm's value of listed agricultural firms in Nigeria

The research hypothesis raised for this study is as follows.

H₀₁: There is no significant relationship between managerial ownership and firm's value of listed agricultural firms in Nigeria.

H₀₂: There is no significant relationship between institutional ownership and firm's value of listed agricultural firms in Nigeria.

H₀₃: There is no significant relationship between foreign ownership and firm's value of listed agricultural firms in Nigeria.

H₀₄: Agency costs does not significantly moderate the relationship between ownership structure and firm's value of listed agricultural firms in Nigeria.

2.0 LITRETURE REVIEW

2.1 Conceptual Review

2.1.1 Managerial Ownership

Managerial ownership refers to the equity stake held by managers of a firm, which can significantly impact the dynamics of corporate governance, firm value, and agency costs. According to agency theory, the alignment of interests between managers (agents) and shareholders (principals) is crucial for maximizing firm value. When managers own a substantial portion of a company's shares, their interests may closely mirror those of shareholders, potentially reducing agency conflicts and enhancing firm value. However, the relationship between managerial ownership and firm value is complex and can exhibit both positive and negative dynamics influenced by agency costs.

2.1.2 Concept of Institutional Ownership

Institutional ownership refers to the percentage of a company's equity held by institutional investors, such as mutual funds, insurance companies, pension funds, and banks. This form of ownership plays a critical role in shaping corporate governance, management practices, and firm value while also serving as a significant factor in agency cost management. The relationship between institutional ownership, agency costs, and firm value presents a complex interplay influenced

by various stakeholder interests and governance mechanisms. A considerable body of research supports the notion that institutional ownership positively impacts firm value. Institutional investors are often characterized by their capacity to monitor management more effectively than individual shareholders due to their resources, expertise, and investment horizon Elyasiani & Jia (2010) (Andriani, 2021; This enhanced oversight contributes to reduced agency costs, enabling the alignment of managerial actions with shareholder interests. For instance, higher institutional ownership correlates with better corporate governance practices, which can drive improved financial performance and ultimately enhance firm value (Andriani, 2021; Silalahi & Lestari, 2023).

2.1.3 Concept of Foreign Ownership

Foreign ownership refers to the stake held in a domestic company by foreign investors, which can significantly influence corporate governance dynamics, firm value, and agency costs. The relationship between foreign ownership, firm value, and agency costs is complex and can vary depending on various factors, including the nature of the investment and the regulatory environment. Foreign ownership can lead to enhanced firm value. This positive effect is often attributed to the influx of capital and increased access to advanced technologies, management practices, and global markets that foreign investors typically bring to domestic firms Perera & Buvanendra (2022).

2.1.4 Concept of Agency Costs

Agency costs represent the costs associated with conflicts of interest between the stakeholders of a firm, primarily between shareholders (principals) and management (agents). These costs arise from the separation of ownership and control, where managers may pursue their interests at the expense of shareholder value. The ownership structure of a firm significantly influences the level of agency costs and, consequently, firm value, invoking complex dynamics that are critical for understanding corporate governance. The ownership structure of a firm typically comprises various types of shareholders, including managerial ownership, institutional ownership, and external block holders. Each type plays a distinct role in mitigating agency costs. For instance, studies have shown that managerial ownership can potentially align the interests of management with those of shareholders, which may reduce agency costs and enhance firm value (Nobanee et al., 2017); However, excessive managerial ownership can lead to entrenchment, where managers prioritize their interests over those of the shareholders, thereby increasing agency costs and negatively impacting firm performance (Ang et al., 2000).

2.1.5 Concept of Firms' Value

The notion of firm value is central to corporate finance and governance, and its determination is significantly influenced by ownership structure and the associated agency costs. Agency costs arise from the conflicts of interest that exist when the interests of the principals (shareholders) diverge from those of the agents (management). Understanding how ownership structure interacts with agency costs provides valuable insights into the mechanisms that can enhance or diminish firm value. The concept of firm value is a multifaceted construct that encompasses various dimensions, including market performance and financial health. It is significantly influenced by ownership structure and the associated agency costs arising from the conflicts of interest between the owners (shareholders) and managers (agents). Understanding the relationship between these elements is essential for grasping how firms can optimize their value in competitive markets. Firm value is intricately linked to agency costs and ownership structure. High agency costs can result in inefficient operations that detract from firm performance, while ownership structure significantly influences these costs and the overall valuation of the firm. Concentrated ownership can reduce agency costs through enhanced monitoring, but excessive concentration may lead to entrenchment effects that harm value creation. Furthermore, robust corporate governance plays a foundational role in moderating these relationships, allowing firms to minimize agency costs and optimize their value in the marketplace.

Conceptual Framework

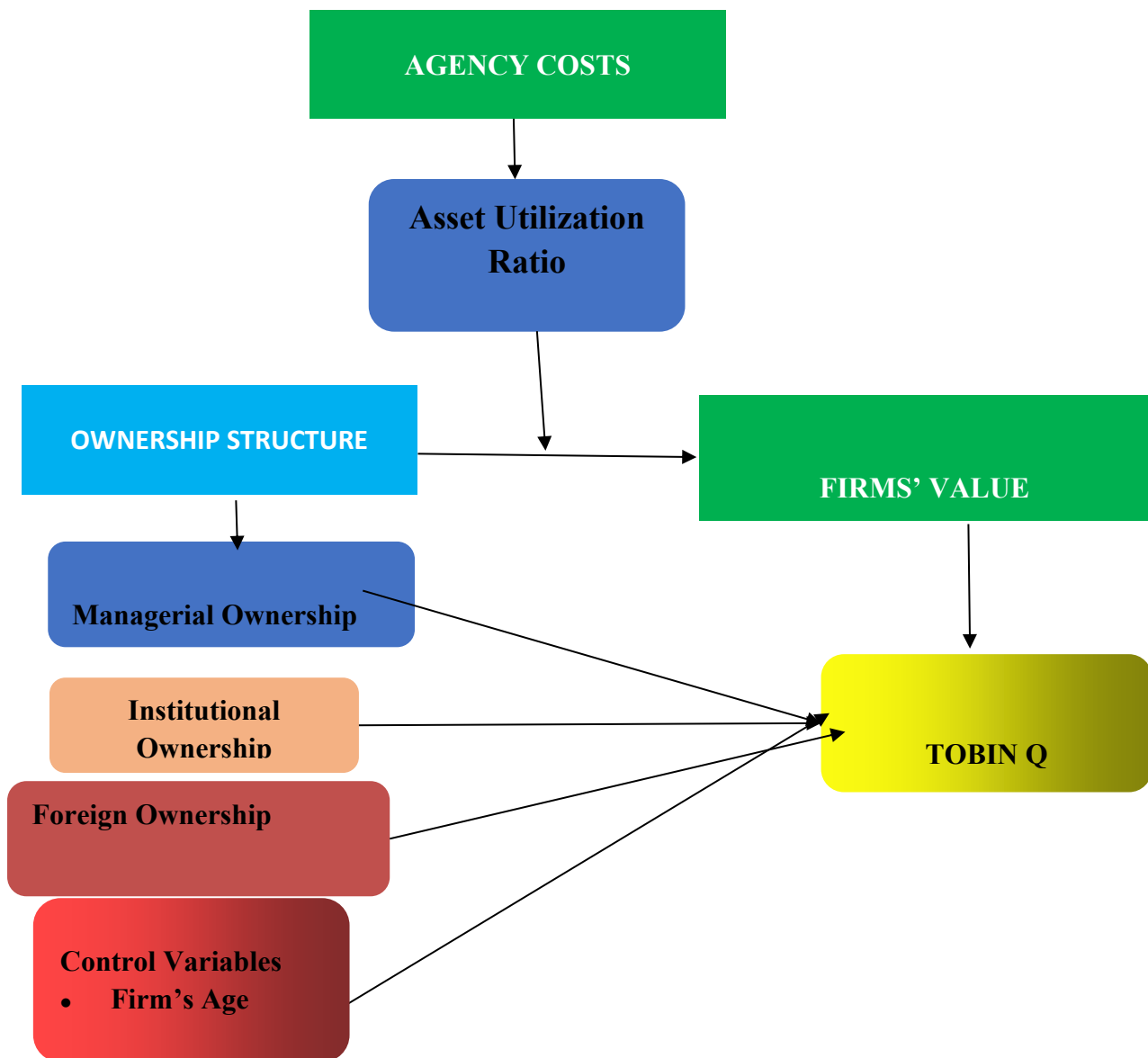


Figure 2.1: Conceptual Framework

The Figure above examines how ownership structure influences firm value (measured by Tobin's Q) in Nigerian agricultural firms, with agency costs acting as a moderating factor. The model identifies three key ownership types: managerial, institutional, and foreign, each impacting firm governance differently. Managerial ownership may align interests but risk entrenchment, institutional ownership typically enhances monitoring, while foreign ownership brings expertise but potential conflicts. The framework proposes that concentrated ownership generally boosts firm value through better oversight, but this relationship depends on agency costs, represented here by asset utilization efficiency. High agency costs (poor asset utilization) could weaken the positive effects of good ownership structures, while low costs may amplify them. Control variables like firm size and leverage are included to account for external influences on firm value.

The theoretical foundation combines Agency Theory, which highlights conflicts between managers and shareholders, with Stewardship Theory's emphasis on alignment of interests. The model suggests that optimal ownership structures coupled with efficient asset utilization should maximize firm value in Nigeria's agricultural sector. This framework provides a basis for empirical testing that could yield practical insights for investors assessing governance quality, managers seeking to improve operational efficiency, and policymakers aiming to enhance sector-specific corporate

governance standards. The ultimate goal is to understand how agricultural firms can structure ownership and control agency costs to achieve sustainable growth in Nigeria's challenging economic environment.

2.2. Theoretical Framework

The two theories underpinning this study are agency theory and stewardship theory.

Agency theory provides a robust framework for understanding the complexities of corporate governance, agency costs, and their influence on firm value. Ownership structure is a pivotal factor in this dynamic, with concentrated ownership often leading to reduced agency costs and enhanced firm value, while dispersed ownership may increase agency problems. Effective governance mechanisms are essential for aligning stakeholder interests and mitigating agency costs, thereby ultimately optimizing corporate performance. As firms continue to navigate these challenges, the principles of agency theory will remain vital in promoting sound governance and achieving sustainable value creation.

Stewardship theory presents a counter-narrative to agency theory, which predominantly views managers as self-serving agents whose interests often conflict with those of the owners. Established by Davis, Schoorman, and Donaldson in 1997, stewardship theory is grounded in the belief that managers, when positioned in a nurturing environment, will act in the best interests of the firm and its stakeholders, aligning their goals with the organization's objectives rather than pursuing opportunistic behaviors Slyke (2006).

2.3 Empirical Review

Ahmed et al., (2023) explores the moderating effect of agency cost on the association between capital structure and firm performance. A panel econometric method, namely a fixed-effect regression model, was used to evaluate the above description. This investigation uses secondary data collected from published annual reports of manufacturing firms listed on Tehran Stock Exchange (TSE) during 2011–2019. Empirical results show that capital structure is negatively related to firm performance. Agency cost also has a negative impact on corporate performance; however, in the case of ROA and EPS, the relationship is positive. Interestingly, the findings illustrate that increasing the level of debt can reduce agency costs and enhance firm performance. Moreover, robust correlations are revealing that agency cost significantly affects the relationship between capital structure and corporate performance. These findings provide proof to support the assumptions of agency theory, which explains the association between capital structure and performance of firms. This study provides new perspectives on the relationship between capital structure and firm performance by using data from listed manufacturing firms in Iran; hence, these new insights from a developing market improve the understanding of capital structure in Asian and Middle Eastern markets.

Ilugbo et al, (2024) investigated the moderating effect of International Financial Reporting Standards (IFRS) on the relationship between corporate governance, specifically ownership structure, and financial reporting quality in listed non-finance firms in Nigeria. Utilizing an ex-post facto research design, the study drew its data from 67 non-finance firms listed on the Nigerian Exchange Group over a ten-year period (2012-2021). The study employs purposive sampling and hierarchical regression analysis to explore the complex connection between IFRS adoption and ownership structures, revealing that IFRS plays a significant role in enhancing the quality of financial reporting. The findings indicate that while ownership concentration may weaken financial reporting quality in the absence of IFRS, the adoption of IFRS significantly moderates this effect, leading to improved transparency and reduced earnings manipulation. This study contributes to the existing literature by providing empirical evidence from a less developed market context, emphasizing the critical interaction between global accounting standards and corporate governance mechanisms. The study concludes that robust enforcement of IFRS compliance, combined with targeted capacity building for financial professionals, is essential to ensure high-quality financial reporting in Nigeria. Key implications include the need for enhanced regulatory oversight and collaboration between regulatory bodies and professional accounting organizations to foster consistent adherence to IFRS, thereby improving the reliability of financial statements and boosting investor confidence.

Gap from the Literature

The reviewed studies reveal significant theoretical and contextual limitations. Mukaria et al. (2020) and Tanko (2020) both employ narrow theoretical frameworks focused solely on Agency Theory, failing to incorporate complementary perspectives like Stewardship Theory or Institutional Theory that could better explain contradictory findings, particularly regarding managerial ownership's effects. Contextually, these studies exhibit limited generalizability - Mukaria et al.'s Nairobi-based findings may not apply to Nigeria's agricultural sector with its unique ownership patterns, while Tanko's exclusive focus on consumer goods firms ignores sector-specific tax avoidance dynamics in manufacturing or financial services. Both studies also suffer from measurement limitations, with Mukaria et al. using a single agency cost proxy (discretionary expenses) and Tanko relying solely on GAAP effective tax rates, overlooking alternative metrics that could provide more comprehensive insights.

3.0 METHODOLOGY

The study employs correlation research design to investigate the moderating effects of agency costs on the relationship between ownership structure (managerial ownership, institutional ownership and foreign ownership) on firm’s value of listed agricultural firms in Nigeria. This design is chosen because the aim of correlation research design is to investigate the relationships between variables and to observe the impact of the independent variable(s) on the dependent variable, so as to establish the causal relationship or otherwise among the variables. The population of the study comprises of the five (5) agriculture firms listed on the Nigerian Exchange as at 31st March, 2025, namely Ellah Plc, FTN Cocoa Processor Plc, Livestock Feeds Plc, okomu Oil Palm Plc and Presco Plc. Expectedly, they are to provide mandatory information disclosure regulation as stipulated by the International Accounting Standard Board (IASB) as well as listing requirement of the Nigerian Exchange Group. Table 1 is the tabular presentation of the population.

Table 1: Listed Agricultural Firms in Nigeria

Company	Ticker	Sector	Date Listed	Date Incorporated
ELLAH LAKES PLC.	ELLAHLAKES	AGRICULTURE	-	July 2, 1980
FTN COCOA PROCESSORS PLC[RST]	FTNCOCOA	AGRICULTURE	-	August 26, 1991
LIVESTOCK FEEDS PLC.	LIVESTOCK	AGRICULTURE	April 1, 1978	March 20, 1963
OKOMU OIL PALM PLC.	OKOMUOIL	AGRICULTURE	September 9, 1997	December 3, 1979
PRESKO PLC	PRESKO	AGRICULTURE	October 10, 2002	September 24, 1991

Source: Nigerian Exchange Group (2025)

The study employed secondary data which were sourced from annual report and accounts of the selected companies and publication of the Nigeria Exchange Group (NXG) for the periods of 2015-2024 accounting years. The data used for computing dependent variable (Tobin Q), independent variables (managerial ownership, institutional ownership and foreign ownership) moderating variable (agency costs) were extracted the financial statements of the annual reports and accounts of sample listed agricultural firms in Nigeria. The use of panel secondary data in this study is based on the fact that the data used are cross-sectional and time series. In analysing the collected data, multiple regression analysis was used. The technique was made possible with the use of the STATA 13 package. The normality test, multicollinearity and heteroskedasticity tests were also carried out to further improve the validity of the result.

Model Specification

In order to test the hypotheses formulated in this study and to achieve the objectives of the research, the following model which was adapted from Kimathi Mukaria et al. (2020), was used;

$$FV = \beta_0 + \beta_1 MGO_{it} + \beta_2 INO_{it} + \beta_3 FON_{it} + \beta_4 FS_{it} + \beta_5 LEV_{it} + \epsilon \dots \dots \dots (i)$$

$$FV = \beta_0 + \beta_1 MGO_{it} + \beta_2 INO_{it} + \beta_3 FON_{it} + \beta_4 MGO_{it} * AGC_{it} + \beta_5 INO_{it} * AGC_{it} + \beta_6 FON_{it} * AGC_{it} + \beta_7 AGE_{it} + \epsilon \dots \dots \dots (i)$$

Where:

FV_{it} = Tobin Q in *i* year *t*

β_0 = Constant

β_{1-8} = Slope of independent variables

MGO_{it} = Managerial Ownership for company in *i* year *t*

ION_{it} = Institutional Ownership for company in *i* year *t*

FON_{it} = Foreign Ownership for company in *i* year *t*

AGC_{it} = Agency Costs for company in *i* year *t*

AGE_{it} = Age company in *i* year *t*

ϵ_i = error term.

The model is considered appropriate because the independent variables can best explain the variation of the dependent variable (Howitt & Cramer, 2005) Second, recognizing whether the independent variables are still significant while the other independent variables and moderating variables are controlled or held constant (Omar, 2007). The use of panel data in this study helps in bringing out the effects that purely time series or purely cross-sectional data alone may not.

SECTION FOUR RESULTS AND DISCUSSION OF FINDINGS

The characteristics and explanations of the dependent, independent, and control variables are compiled in Table 4.1. This includes the minimum, maximum, mean, and standard deviation values for each variable.

Table 4.1: Summary of Descriptive Statistics

Variables	Mean	Std. Dev.	Maximum	Minimum	Obs.
FV	7.412824	1.228459	10.81	3.15	50
MGO	0.1048824	0.0743432	0.49	0.1	50
ION	0.0741176	0.1083965	0.72	0.1	50
FON	0.5276471	0.224711	0.98	0.8	50
MOG *AGC	0.0147159	0.019048	0.1372	0.0002	50
ION*AGC	0.0115271	0.0227245	0.1428	0.0002	50
FON*AGC	0.07106	0.0770352	0.3864	0.0015	50
AGE	49.26471	12.49215	62	34	50

Source: The output produced by using the STATA 13 software.

Note: FV = Firms Value; MGO = Managerial Ownership; ION = Institutional Ownership; FON = Foreign Ownership, MGO*AGC = Interaction term Managerial Ownership and Agency Costs; ION*AGC = Interaction term Institutional Ownership and Agency Costs; FON*AGC = Interaction term Foreign Ownership and Agency Costs; AGE = Firm Age

Table 1 above shows that Firm value (FV) shows a relatively high average (7.41) with moderate variability, indicating generally strong market perceptions but some dispersion across firms. Ownership structures vary significantly: foreign ownership (FON) dominates (mean = 52.76%), while managerial (MGO) and institutional ownership (ION) are notably low (10.49% and 7.41%, respectively). This suggests that foreign investors play a pivotal role, whereas local managerial and institutional influence is limited. The interaction terms (e.g., MGO×AGC, ION×AGC) have low means, implying that agency costs may not strongly moderate the impact of managerial or institutional ownership on firm value. However, the higher mean and variability of FON×AGC hint that foreign ownership's effect on firm value could be more sensitive to agency costs. The data also highlights the maturity of the firms, with an average age of 49.26 years, which may reflect stable but potentially rigid governance practices. The low standard deviations for MGO and ION suggest consistent patterns of minimal insider and institutional stakes, while the higher variability in FON and ION points to divergent ownership strategies across firms. These findings set the stage for further regression analysis to test whether agency costs significantly moderate the relationship between ownership types (especially foreign ownership) and firm value. The preliminary trends suggest that foreign ownership, due to its prevalence and interaction with agency costs, may be a critical area for deeper investigation.

4.2 Correlation Matrix

The degree of association that exists between a study's dependent and independent variables, as well as between the independent variables themselves, may be seen via the use of a correlation matrix. This is because an excessive correlation may lead to multicollinearity, which in turn can lead to findings and conclusions that are incorrect.

Table 4.2: Variables' Correlation Matrix

	FV	MGO	ION	FON	MOG *AGC	ION*AGC	FON*AGC	AGE
FV	1							
MGO	0.0833	1						
ION	0.1583	-0.0601	1					
FON	-0.0837	0.0720	-0.4344	1				
MOG *AGC	-0.0522	0.3879	0.0304	-0.0940	1			
ION*AGC	0.1494	-0.0333	0.7296	-0.3136	0.3506	1		
FON*AGC	-0.2619	-0.0155	-0.0935	0.3493	0.6081	0.2687	1	
AGE	0.2078	-0.0307	0.1168	-0.1853	0.0902	0.1087	-0.0830	1

Source: The output produced by using the STATA 13 software.

Note: *FV* = Firms Value; *MGO* = Managerial Ownership; *ION* = Institutional Ownership; *FON* = Foreign Ownership; *MGO*AGC* = Interaction term Managerial Ownership and Agency Costs; *ION*AGC* = Interaction term Institutional Ownership and Agency Costs; *FON*AGC* = Interaction term Foreign Ownership and Agency Costs; *AGE* = Firm Age

Table 4.2 above shows the descriptive statistics provide a snapshot of the ownership structures and firm values among Nigerian agricultural firms. The average firm value (FV) of 7.41, with a standard deviation of 1.23, suggests that these firms are generally perceived as valuable in the market, though there is some variation. The ownership data reveals a striking dominance of foreign investors (FON), who hold an average of 52.76% of shares, compared to much lower levels of managerial (MGO) and institutional ownership (ION) at 10.49% and 7.41%, respectively. This imbalance highlights the outsized role of foreign capital in these firms, which could have significant implications for corporate governance and strategic decision-making. The low levels of managerial and institutional ownership may indicate weaker alignment between insiders and shareholders, potentially exacerbating agency problems.

The interaction terms between ownership types and agency costs (AGC) offer further insights. The very low means for $MGO \times AGC$ (0.015) and $ION \times AGC$ (0.012) suggest that agency costs may not significantly alter the relationship between these ownership types and firm value. In contrast, the higher mean for $FON \times AGC$ (0.071) and its substantial variability imply that foreign ownership's impact on firm value is more sensitive to agency costs. This finding underscores the need to examine how foreign investors navigate agency-related challenges, such as monitoring costs or conflicts of interest, in this sector. The variability in these interactions also hints at divergent strategies among firms, with some potentially managing agency costs more effectively than others.

Finally, the firms' average age of 39.26 years points to a mature sector with established practices, which could influence both governance and performance. The relatively low standard deviations for MGO and ION suggest consistent patterns of limited insider and institutional influence across firms, while the higher variability in FON and ION reflects diverse ownership strategies. These descriptive results lay the groundwork for deeper analysis, particularly in exploring how agency costs moderate the relationship between foreign ownership and firm value. The preliminary trends emphasize the importance of foreign investors in shaping firm outcomes and suggest that their role, combined with agency dynamics, could be a critical driver of performance in Nigeria's agricultural sector.

4.3 Diagnostic Test

Based on the assumptions of regressions concerning panel data, which require the model to be fit and unbiased for valid interpretations and conclusions, this study, therefore, carried out multicollinearity and heteroskedasticity tests.

Multicollinearity Test

The Variance Inflation Factor (VIF) and Tolerance values provide insights into the potential multicollinearity among the independent variables in a regression model. Multicollinearity occurs when independent variables are highly correlated with each other, which can inflate the variance of the regression coefficients and make them unstable.

Table 4.3: Results of Multicollinearity Test

Variables	VIF	Tolerance
MGO	3.16	0.316468
ION	3.10	0.322828
FON	3.04	0.329101
MOG *AGC	2.83	0.352847
ION*AGC	1.91	0.523461
FON*AGC	1.57	0.635290
AGE	1.07	0.935768
Mean VIF	2.38	

Source: The output produced by using the STATA 13 software.

Table 4.2 above shows that the multicollinearity test results indicate no severe collinearity issues among the explanatory variables, as all Variance Inflation Factor (VIF) values are well below the critical threshold of 10 (with the highest being 3.16 for MGO) and tolerance values are comfortably above 0.1. The mean VIF of 2.38 further confirms that multicollinearity is not a concern in the model. Specifically, the interaction terms ($MGO \times AGC$, $ION \times AGC$, $FON \times AGC$) show particularly low VIFs (ranging from 1.57 to 2.83), suggesting that these moderated variables do not introduce redundancy. This clean diagnostic ensures that the regression estimates for ownership variables (MGO, ION, FON), agency cost interactions, and the control variable (AGE) will be reliable and interpretable in subsequent analyses.

Heteroskedasticity Test

The study carried out a heteroskedasticity test as one of the assumptions of multiple regression which state that the variance of the errors must be constant. If the errors do not have a constant variance, they are said to be heteroskedastic (Gujarati & Porter 2009). However, the Breusch-Pagan/Cook-Weisberg test was employed to test the presence of heteroskedasticity. Based on the result from table 4.4 which showed the p-value is greater than 5%. Therefore, there is no evidence for the presence of heteroskedasticity.

Table 4.4: Breusch-Pagan / Cook-Weisbergtest for Heteroskedasticity

Test	Chi-square	Prob>chi2
Breusch-Pagan / Cook-Weisberg	5.49	0.7192

Source: The output produced by using the STATA 13 software

Regression Results

To accomplish the study's objectives, pooled ordinary least squares was utilised and the results were presented in the table 4.4

Table 4.4. Results of Multiple Regression Analysis

Model Summary			
No. of Observation	50		
F-statistic	5.10		
Prob. > F	0.0000		
R-square	0.1805		
Adj. R-squared	0.1451		
Variables	Coefficient	t-statistic	Sig.
MGO	0.3776423	0.26	0.798
ION	-0.6482168	-0.48	0.634
FON	1.128334	2.10	0.037
MOG *AGC	8.394903	1.03	0.305
ION*AGC	17.57583	2.60	0.010
FON*AGC	-7.841919	-3.97	0.000
AGE	0.0162756	2.25	0.026
(Constant)	6.255195	12.79	0.000

Source: Output generated using STATA 13 Software.

Note: FV = Firms Value; MGO = Managerial Ownership; ION = Institutional Ownership; FON = Foreign Ownership, MGO*AGC = Interaction term Managerial Ownership and Agency Costs; ION*AGC = Interaction term Institutional Ownership and Agency Costs; FON*AGC = Interaction term Foreign Ownership and Agency Costs; AGE = Firm Age

The regression results reveal that foreign ownership (FON) has a significant positive effect on firm value (coefficient=1.128, p=0.037), while institutional ownership (ION) shows a negative but insignificant relationship. Notably, the interaction terms demonstrate contrasting moderating effects of agency costs: ION*AGC significantly enhances firm value (coefficient=17.576, p=0.010), whereas FON*AGC significantly reduces it (coefficient=-7.842, p=0.000), suggesting agency costs amplify institutional ownership's benefits but diminish foreign ownership's advantages. Firm age (AGE) also positively influences firm value (coefficient=0.016, p=0.026). The model explains 18.05% of variance in firm value ($R^2=0.1805$) and is statistically significant overall (F-statistic=5.10, p=0.000), though managerial ownership (MGO) and its interaction with agency costs show no significant effects. These findings highlight the nuanced role of ownership structures and agency costs in shaping firm performance.

4.4 Test of Hypothesis

This section presents the findings of the hypothesis tests outlined in chapter one, based on the multiple regression analysis conducted.

Hypothesis One: Managerial ownership has no significant relationship with firm value in listed agricultural firms in Nigeria. The results in Table 4.4 show no statistically significant relationship between managerial ownership (MGO) and firm value (p = 0.798). Thus, the null hypothesis is accepted.

Hypothesis Two: Institutional ownership has no significant relationship with firm value in listed agricultural firms in Nigeria. The analysis reveals a negative but statistically insignificant relationship (p = 0.634), supporting the acceptance of the null hypothesis.

Hypothesis Three: Foreign ownership has no significant relationship with firm value in listed agricultural firms in Nigeria. Contrary to this hypothesis, Table 4.4 indicates a positive and statistically significant relationship (coefficient = 1.128, $p = 0.037$), leading to the rejection of the null hypothesis.

Hypothesis Four: Agency costs do not significantly moderate the relationship between ownership structures (managerial, institutional, and foreign) and firm value in listed agricultural firms in Nigeria. The results show divergent effects:

The interaction between institutional ownership and agency costs (ION*AGC) has a positive and significant effect ($p = 0.010$), rejecting the null hypothesis.

The interaction between foreign ownership and agency costs (FON*AGC) has a negative and significant effect ($p = 0.000$), also rejecting the null hypothesis.

The interaction involving managerial ownership (MGO*AGC) is insignificant ($p = 0.305$), supporting the null hypothesis for this specific relationship.

These findings underscore the nuanced role of ownership structures and agency costs in influencing firm value within Nigeria's agricultural sector.

4.5 Discussion of Findings

Managerial Ownership and Firm Value

Managerial ownership has a positive statistically insignificant relationship with firm value of listed agricultural firms in Nigeria (coefficient = 0.378, $p = 0.798$). The result proves to be consistent with the findings of Mukaria et al. (2020) who found positive insignificant relationship between managerial ownership and firms value. Meanwhile, the study contradicts the findings of Tanko, (2020) who found insignificant relationship between managerial ownership and firms value. The findings imply that simply increasing managerial ownership stakes may not automatically translate to improved firm performance in this sector. Instead, firms might benefit more from exploring alternative governance mechanisms or combining ownership incentives with other performance-linked compensation structures.

Institutional Ownership and Firm Value

The result revealed a negative and insignificant coefficient for institutional ownership (-0.648, $p = 0.634$) implies no direct impact on firm value of listed agricultural firms in Nigeria. The result proves to be consistent with the findings of Ahmed et al., (2023) who found negative insignificant relationship between institutional ownership and firms value. Meanwhile, the study contradicts the findings of Tanko, (2020) who found positive significant relationship between institutional ownership and firms value. This result imply that policymakers and firm managers should not assume institutional ownership alone will enhance firm value in Nigeria's agricultural sector. Instead, they may need to consider complementary governance mechanisms, such as stronger board oversight or improved disclosure practices, to ensure effective monitoring.

Foreign Ownership and Firm Value

Foreign ownership shows a significant positive effect on firm value (coefficient = 1.128, $p = 0.037$), indicating that foreign investors contribute to improved governance and strategic direction. The result found to be consistent with the study of Ilugbo et al, (2024) who found positive significant relationship between foreign Ownership and firms value. Meanwhile, the study contradicts the findings of Mukaria et al., (2020) who found negative insignificant relationship between foreign ownership and firms value. This finding supports policies that encourage foreign direct investment (FDI) in agriculture, such as tax incentives or eased regulatory restrictions, to attract capital and expertise.

Managerial Ownership, Agency Costs and Firm Value

Interaction of managerial ownership and agency costs (MGO*AGC) has a positive coefficient (8.395) and is statistically insignificant ($p = 0.305$). This means that the moderation of agency costs on the relationship between managerial ownership and firm value of listed agricultural firms in Nigeria has no significant effect. This suggests that the combination of managerial ownership and agency costs does not influence firm value. This result may indicate that managerial ownership levels are either too low to impact governance meaningfully or that agency-related inefficiencies in these firms are not mitigated by managerial stakes alone. For practitioners, this implies that relying solely on managerial ownership as a governance mechanism may be ineffective, and firms should consider complementary strategies.

Institutional Ownership, Agency costs and Firm Value

The interaction of institutional ownership and agency costs is significantly positive (coefficient = 17.576, $p = 0.010$) with value of listed agricultural firms in Nigeria, highlighting the importance of institutional alignment in realizing growth potential. This means that agency costs positively moderate the relationship between institutional ownership and firm

value of listed agricultural firms in Nigeria. The finding implies that institutional investors actively monitor and mitigate agency-related inefficiencies, thereby strengthening their positive impact on firm performance.

Institutional Ownership, Agency Costs and Firm Value

Interaction of foreign ownership and agency costs (FON*AGC) shows a negative coefficient of -7.842, and p-value of 0.000. Agency costs negatively moderate the relationship between foreign ownership and firm value of listed agricultural firms in Nigeria. This indicates that foreign ownership may sometimes hinder value realization from growth opportunities. The result implies that foreign ownership's benefits such as technology transfer or market access may be outweighed by inefficiencies when agency costs are high, potentially due to conflicts of interest or difficulties in overseeing distant operations.

5.0 CONCLUSION AND RECOMMENDATION

5.1 Conclusion

This study examined the relationship between ownership structure, agency costs, and firm value in listed agricultural firms in Nigeria, offering several key insights. First, while foreign ownership demonstrated a significant positive effect on firm value, managerial and institutional ownership showed no direct significant impact. However, agency costs played a critical moderating role: institutional ownership became more valuable in high agency cost environments, enhancing governance and performance, whereas foreign ownership's benefits diminished under similar conditions, likely due to monitoring challenges or misaligned incentives. Managerial ownership, whether alone or interacting with agency costs, had no meaningful influence, suggesting that alternative governance mechanisms may be more effective in this sector.

These findings highlight the nuanced role of ownership structures in Nigeria's agricultural sector. Policymakers should encourage foreign investment but implement safeguards to mitigate agency-related inefficiencies, while firms should prioritize institutional investors as active monitors. For managerial ownership, complementary strategies such as performance-linked incentives—may be more effective than equity-based alignment alone. Future research could explore nonlinear ownership thresholds or sector-specific governance frameworks to further refine these relationships. Overall, the study underscores the importance of tailored governance approaches to maximize firm value in emerging agribusiness markets.

The following recommendations are made to enhance firm value in Nigeria's agricultural sector:

Managerial ownership showed no significant impact on firm value; agricultural firms should reconsider relying solely on managerial equity stakes as a governance tool. Instead, they should adopt hybrid incentive structures combining performance-based bonuses, profit-sharing schemes, and strict board oversight to better align managerial interests with shareholder value. Regulatory bodies like the Securities and Exchange Commission (SEC) could encourage this shift by revising corporate governance codes to emphasize diversified compensation mechanisms for agricultural firms, rather than focusing predominantly on ownership concentration.

The negative relationship between institutional ownership and firm value suggests current institutional investor engagement is ineffective. To address this, policymakers should create enabling environments for more active institutional participation through revised investment guidelines that mandate minimum governance engagement standards. Agricultural firms could proactively attract quality institutional investors by improving disclosure practices and establishing investor relations desks specifically tasked with facilitating strategic dialogues about long-term value creation, particularly in managing sector-specific risks like climate vulnerability and commodity price fluctuations.

The significant positive effect of foreign ownership underscores its potential as a driver of firm value, though the negative interaction with agency costs presents a caveat. To maximize benefits, the Nigerian Exchange Group should work with agribusiness regulators to develop a Foreign Direct Investment (FDI) framework for agriculture, featuring standardized contracts that balance investor protections with local value retention. Firms should pair foreign investment with robust governance safeguards like mandatory joint venture knowledge-transfer clauses and capped profit repatriation limits to prevent the erosion of value during high agency cost periods.

Given agency costs' divergent moderating effects - strengthening institutional ownership's impact while weakening foreign ownership's benefits - a tiered governance approach is recommended. For institutional investors, firms could implement "agency cost transparency benchmarks" that trigger enhanced investor oversight rights when certain inefficiency thresholds are breached. For foreign investors, firms should establish ex-ante risk-sharing agreements and adaptive governance structures that automatically adjust control mechanisms during periods of operational stress. Researchers should further investigate optimal agency cost mitigation strategies through longitudinal studies tracking governance adaptations in high-performing agribusinesses across emerging markets.

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