Managerial Ownership Structure and Return on Asset of Quoted Consumer firms in Nigeria: Review of the Board Size Moderating Relationship

Dr. Omale Sunday
Department of Accounting
Confluence University of Science and technology, Osara, Kogi State
E-Mail: sundaysuccess13@gmail.com

Dr. Madu Ikemefuna
Department of Business Administration,
Federal University Gashua, Yobe State
E-Mail: mriyke3@gmail.com

Dr. Embugus Abraham
Department of Business Administration,
Federal University, Lafia, Nasarawa State
abrahamembugus1@gmail.com

Abstract
Managerial ownership is the proportion of shares held by managers of the firm. Objectively, the study find out the effect of managerial ownership on return on asset of quoted consumer goods firms in Nigeria with the moderating effect of board size on managerial ownership and return on asset of quoted consumer goods firms in Nigeria. The population comprised all the 21 quoted consumer goods manufacturing firms in Nigeria while the filtering technique was used to arrive at a sample size of seventeen (17) consumer goods manufacturing firms in Nigeria. The hypotheses were tested using a robust fixed effect regression model after conducting some diagnostics tests. The result shows that managerial ownership has a t-value of 0.32 and a beta coefficient of 0.02, with a p-value of 0.75 which is not significant at all levels of significance because is greater than 5% level of significant. The findings reviewed that an increase in managerial ownership will result in an increase in return on assets of quoted consumer goods manufacturing firms in Nigeria by .02. Therefore, it implies that board size does not significantly moderates the relationship between managerial ownership and return on assets but changes the direction of the relationships.

Key Words: *Shareholders, Economic Incentives and Equity Capital*

Introduction

Ownership structure is the distribution of equity capital as well as the identity of the equity owners. These structures are of major importance in corporate governance because they determine the spurs of managers and the economic efficiency of the corporations they manage. Commonly, the interest of managers and shareholders are not always the same which result in problems that reduce a firm's value and financial performance (Tatiana & Stela, 2013). The ownership structure of firms is vital as it is an internal mechanism of corporate governance. Shareholders are always regarded as the corporate owners, while directors are agents or representatives of shareholders who are supposed to allocate business resources in a way to increase the firm's wealth (Benjamin, Love & Kabiru, 2014). Due to the separation between ownership and management of a business, the level of motivation with which a business owner (principal) is likely to pursue the interest of a

business and that of the management (agent) are not the same. The principal has a clear motive to strive for the performance of the firm, in that failure to do so implies a certain loss of invested capital and accumulated interest (Balatbat, Taylor & Walter, 2004) . For the agent, there is no such emotional connection with the business and so he or she can easily switch loyalty to another principal. Thus, any measure aimed at bridging the gap between corporate ownership and control is likely to enhance the performance of the firm. Long *et al*. (2013) argued that the nature of ownership of a firm influences the firm's performance, in emerging economies such as Nigeria where it is contended that ownership is less dispersed and control is not fully separated from ownership.

Managerial ownership is the proportion of shares held by managers of the firm. The affiliation between managerial ownership and firm financial performance can be looked at in two ways. First, managers who have a stake (shares) in the firm always want to perform better by monitoring their investment in other to yield higher returns than non-manager owners who seek after their benefits. Secondly, as managers' equity ownership further increases, the efficiency of the managers is improved as they are involved in the day-to-day activities of the firm which in turn increases the performance of the firm (Beyer *et al*., 2011). On the issues of managerial ownership, there are two opposing views: incentive and entrenchment effect as stated by Beyer *et al.* (2011). From the incentive effect, managerial ownership is supposed to have a positive relationship with firm financial performance because of the remuneration attached to managers' performance. On the other hand, the entrenchment effect is a situation where the manager is powerful enough to use his discretion, which usually leads to protecting his interests rather than pursuing the goals of institutional owners, concentrated owners, foreign owners and government owners (Beyer *et al*., 2011).

Furthermore, it is important to explore the applicability of the ownership structure mechanism through managerial ownership structure perspective to foster financial performance. More especially because of the place of importance occupied by the consumer goods manufacturing sector in the economic life of any nation including Nigeria, it is not only of utmost importance to safeguard the continued existence of the sector, but also to see to its viability.

Statement of Problem

Choice of ownership structure is fundamentally critical to the consumer goods manufacturing sector in Nigeria. In a highly dispersed ownership structure, owners are more likely to lose controlling power over the companies to managers and thus fail to monitor them effectively and managers may have more room to act in their self-interest thereby affecting the performance of the firm. Most of the studies like Saidu and Gidado (2018)**;** Lawal *et al*. (2018); Ironkwe and Emefe (2019); Samuel *et al.* (2018); and Khadijat and Rodiat (2018) conducted in Nigeria combined the data for both pre and post IFRS implementation together which may likely affect their findings. The empirical works have also shown that most of the studies like Angsoyiri (2021), Falade *et al.*(2021), Harit *et al.*(2021), Ogabo *et al.*(2021) and Musa (2022) carried out in recent times of 2021/2022 regarding managerial ownership and financial performance of quoted, share ownership concentration, institutional ownership, foreign ownership, government ownership consumer goods manufacturing firms in Nigeria and other countries of the world were not current in their data used for the analysis as most of their data were within 2019 and below

except studies by Ali *et al.*(2021) and Yuliana *et al.*(2021) whose data covered up to 2020. More so, from the empirical review, no study has introduced the board size to moderate the relationship between managerial ownership structure and return on asset of quoted consumer firms in Nigeria. The board size is used as a moderator because sufficient board size will be able to provide adequate strategic decisions for the organization to enhance organizational performance. From the financial statements of some manufacturing companies, as seen in Nascon Allied Industries PLC, which recorded 37% of its asset return in 2015 but decreased to 13% in 2017. Nigerian Flourmill PLC recorded an asset return of 13% in 2014 and further decreased to 1% in 2018. Cutix PLC recorded 19% of its return on assets in 2017 and further decreased to 8% in 2018 as a result of a poor economic downturn.

Objectives of the Study

1. Find out the effect of managerial ownership on return on asset of quoted consumer goods firms in Nigeria;
2. Determine the moderating effect of board size on managerial ownership and return on asset of quoted consumer goods firms in Nigeria;

Research Hypotheses

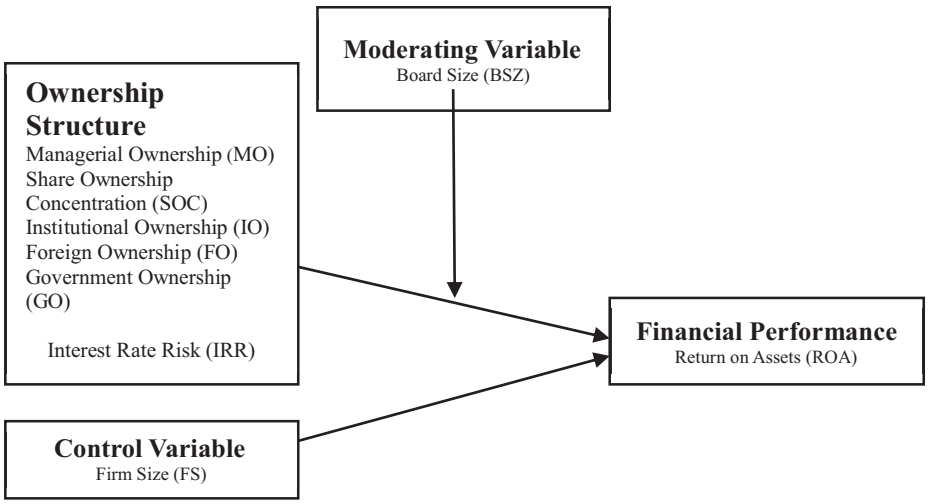
1. Ho: Managerial ownership has no significant effect on return on asset of quoted consumer goods firms in Nigeria.
2. Ho: Board size has no significant moderating effect on managerial ownership and return on assets of quoted consumer goods manufacturing firms.

Review of the related literature

Conceptual Framework

The conceptual framework for this study is made up of ownership structure (proxies by managerial ownership, share ownership concentration, institutional ownership, foreign ownership and government ownership) and the financial performance is proxied by return on assets (ROA). Board size is used as a moderating variable while the firm size is used as a control variable.

Figure 1: Conceptual Framework of the Study



Source: *Researcher's Conceptualization (2021)*

Managerial Ownership and Financial Performance

Kamardin (2014), *managerial ownership* refers to the percentage of shareholdings of executive directors at year-end with direct and indirect holdings. Mueller and Spitz (2006), viewed managerial ownership as a situation where the manager owns shares in the firm they manage, in other words, they serve as managers of the firm and as well as the company's shareholders. The definitions above look at the possession of shares from an insider perspective which is not different from the shares held by those at the helm of affairs, (the managers of the firm). Lawal *et al*. (2018). defined managerial ownership as an ownership fraction or stake in a firm that is held by managers. Li and Sun (2014), defined managerial ownership as the ratio of equity owned by directors. Managerial ownership is not only meant to increase the equity of the organization but also to serve as incentives to managers to align manager's interests with those of the interests of the organization. The opposing effect of managers becoming owners is that they also gain voting power as they will be involved in the manipulation of results to make it look like the firm is operating better (Krivogorsky, 2006).

Ogabo *et al* (2021), managerial ownership refers to the percentage of shares owned by the managers in a corporation. Proxies for managerial ownership have either been the number of shares held by the Executive Directors (ED) or the number of shares held by the Managing Director (MD). Managerial ownership can provide a direct economic incentive for managers to engage in active monitoring and also align ownership and control through meaningful directors' stock ownership. Jensen and Meckling (1976); Morck et al. (1988); McConnell and Servaes (1995); Balatbat et al. (2004) and Bolton (2012) all share a consensus on the opinion that shares held by managers help to align their interests with that of the shareholders, or more broadly speaking managerial shares are internal corporate governance mechanism. The above scholarship is in agreement over the significant impact of shares ownership by managers on firms' performance indices.

When managerial shareholding increases, the tendency that managers would bear the costs of diverting the firm's resources becomes higher, and this becomes a disincentive to managers. Managerial ownership is not only intended to enlarge the capital of the company but also to serve as inducements to managers to support manager's interests with the interests and needs of the Organization (Fich *et al*., 2015). In the context of this study, managerial ownership means the number of shares either in naira amount or units of shares held in the organization by those who manage the affairs of that organization where they act as an agent of the shareholders. Managerial ownership is represented by the natural logarithm of equity shares held by managers as shareholders of the firm to the total shares of the firm. The definition of managerial ownership by Lawal *et al*. (2018) which states that managerial ownership is the ownership fraction or stake in a firm that is held by managers is adopted for this study because it analyzes the percentage of shares held by managers who are also the agent of shareholders.

Board Size (The moderating variable) and Financial Performance

Board size refers to the total number of directors (executive and non-executive directors) on the board of an organization for a particular financial year. Adediran *et al.* (2019) defined board size as the total number of members of a firm's board of directors (BOD). The size of the board is the most important factor to be considered in a firm. The board of directors is considered an institution to mitigate the effect of agency problems between the

owners and managers (Drakos & Bekiris, 2010). Board of directors are supposed to be large decision-making groups, size may affect the decision-making process and effectiveness of the board (Dwivedi & Jain, 2005). The board size should not be very large that it costs a huge financial burden which is higher than the agency cost nor the board should be too small that it may lead to biased decisions or weak decisions. Non-executive directors take the efforts and measures to ensure that the organization is running effectively and they monitor the performance of the management to retain the firm's reputation in the market (Fama & Jensen, 1983). Talking about the board size, two schools of thought exist, one says that a smaller board size contributes more and better in the best interest of the organization, (Pfeffer, 1972), whereas another school of thought is of the view that a large board size provides the better results and it improves the performance of the organization. As it brings out better and more information from the board members and the decision-making is more effective and well-informed (Klein, 1998). Larger board size can lead to better decision making which further results in better performance of the firm (Dalton *et al*., 1998). Board size can be a determine factor of firms financial performance. If the board size of a firm is large, it can accommodate large numbers of directors with different skills and expertise which in turns enhances financial performance. On the other hand, firms with small board size may not accommodate good numbers of directors that have different skills and expertise which in turns may affect financial performance negatively. Therefore, board size is chosen for this study because of its relevant in moderating the relationship between ownership structure and financial performance of consumer goods manufacturing firms in Nigeria.

Theoretical Framework

Stewardship Theory

Stewardship theory was introduced by Donaldson and Davis (1991) to understand the existing relationships between ownership and management of the company. Managers determine the firm and it excites the personalization of the success or failure of the firm (Davis *et al*., 1997). Bathula (2008) expressed that the stewardship perspective views directors and managers as stewards of the firm. As expert decision-makers, managers and directors protect their reputation, by that, they operate the firm in a manner which maximizes financial performance especially shareholder returns as firm performance directly impacts the perception of managers' performance (Bathula, 2008). This theory proposed the stewardship relationship between the ownership (shareholders) of the firm and the management (directors) of the firm. Stewardship is an alternative to agency theory in terms of managerial motivation (Abid *et al*., 2014). Stewardship has its roots in sociology and psychology, which resulted in that this theory describes a more humanistic model compared to the economic view of the agency theory (Madison *et al*., 2016). The stewardship theory can be divided into two branches. In the first branch, the goals of the principal and that of the agent conflict. However, this branch assumes that the agent will be motivated to act in the interest of the principals because this might lead to opportunities for desired personal outcomes. So, even when the interest of the agent and the principal are not aligned, the agent acts according to the interest of the principal (van Puyvelde *et al*., 2012).

The stewardship theory portrays managers as stewards who are intrinsically motivated to serve the firm and are collectively oriented (Madison et al., 2016; van Puyvelde *et al*., 2012). Governance mechanisms that empower steward behaviour facilitate alignment of

interest, which in turn results in pro-organizational behaviour and will increase firm performance (Davis*et al*., 1997; Madison *et al*., 2016). The stewardship theory's primary weakness is that it ignores human nature's intrinsic behaviour by putting more power and trust in managers, which, in practice, is questionable.

Stulz's Integrated Theory

Stulz's Integrated Theory was developed by Stulz (1988) to explain how ownership structures influence a firm's performance. The theory is hanged on the ground that controlling shareholders have a chance and tendency to selfishly use their powers to gain self-interests at the neglect of the outside shareholders. The theory postulates that management or board-owned equity has an aggressive takeover bid by investors who desire to control such a firm. On the reverse, where management owns few shares, an aggressive takeover is seldom. It, therefore, means that there exists a curvilinear function between insider share ownership and firm value. This theory also posits that an increase in board shareholding is likely to improve firm financial performance, given that the board and management would work extra hard to rule out a chance of a hostile takeover (Malla, 2013).

It can be argued that insiders or majority shareholders in a firm can transfer the value from external investors to themselves thus creating a conflict between them and the minority shareholders. This conflict however is limited by the amount of equity that majority shareholders can raise from external investors. This affects the decisions to be made in corporate firms. These decisions will be influenced by the ownership stakes in the firm thus affecting the firm performance. At the international level ownership concentration inversely limits a country and multinationals to benefit from financial globalization thus affecting their financial performance (Stanley, 2015). The theory only focuses on the controlling shareholders tending self-interest but does look at the area of controlling shareholders adding their experience and wealth toward the success of the firm.

Empirical Review

Managerial Ownership and Financial Performance

Ogabo *et al.* (2021), examined the impact of ownership structure on firm performance in the United Kingdom for the period 2008-2018 fiscal years. A panel data set of 48 companies was analyzed using descriptive statistics, correlation matrix, and regression analysis. Their results revealed that there is a significant positive relationship between managerial ownership and firm performance. Their result also showed that institutional ownership has no significant impact on firms' performance. More so, their regression results showed that the control variables of the percentage of independent directors on the board are positively related to firms' performance, while the percentage of women on the board as a control variable is negatively related to firms' performance. Their study recommends more corporate governance codes or outright regulations should be made to increase the ratio of independent directors on the board. Though the study used an appropriate statistical tool to analyze their panel data, the study was carried out in another environment outside Nigeria in the past and their findings cannot be generalized due to environmental differences.

Falade *et al.* (2021), examined the mediating effect of dividend payment policy on the relationship between managerial ownership and firm value of listed manufacturing

companies in Nigeria. Their study focused on ten manufacturing firms that are listed on Nigeria Stock Exchange (NSE) from 2010 to 2019 using the panel pool technique and Hausman's test. The findings from their study established that there was a partial mediation of managerial ownership, dividend payout and leverage ratio on firm value. In addition, managerial ownership (20.8%) had an inverse and significant effect on firm value; while, dividend payout ratio and leverage ratio had a direct and significant effect on it with each contributing 15.2% and 3.8% to it respectively. On mediation, the finding discovered that dividend payout through managerial ownership indirectly contributed 33.1% to managerial ownership. Their study concluded that managerial ownership and dividend payment policy partly contributed to firm value with dividend payment policy playing an indirect role through an increase in managerial ownership. The study recommends that organizations should endeavour to review their dividend payment policy and ensure that dividends accrue to the firms' coffer are paid as when due. Also, managers of listed firms are strongly advised to take more long-term loans on intending capital projects. The study used appropriate statistical tools of analysis to examine their panel data but the study combined data from both pre (2010-2011) and post (2012-2018) IFRS implementation in Nigeria which affect the reliability of their findings.

Muntahanah et *al.* (2021), examined the effect of family ownership and corporate governance on firm performance. They obtained data from 244 companies for the period 2008-2018 and their data were analyzed using multiple regression. Their inferential analysis results using a multiple regression model test show that family ownership significantly reduces company performance. However, corporate governance proxied by the board of directors, managerial risk profile, and independent commissioners significantly moderate the relationship between family ownership and company performance. Besides, the managerial risk profile and independent commissioners strengthened while the board of commissioners' presence weakened the effect of family ownership on performance. Their study recommends that independent commissioners should conduct their function as a supervisory board that controls the company activities, so that company performance can increase. This study was carried out in another environment outside Nigeria in the past and their findings cannot be generalized due to environmental differences.

Joel *et al.* (2020), examined the effect of the ownership structure and its dimensions such as managerial ownership, employee ownership and private ownership on the financial performance of eighteen food and beverage quoted firms on the Nigerian Stock Exchange (NSE) for the period 2010-2018. Their study sample included all eighteen (18) food and beverage manufacturing companies. The data collected were analyzed using pooled regression, fixed and random effect regression. Their result showed that managerial ownership had an insignificant (positive) effect on return on equity, Employee ownership had a significant positive effect on return on equity and Private ownership had a significant positive effect on return on equity. Their study recommends that private ownership should be increased against concentrated ownership for better performance. It also recommends that Stock Exchange Commission as a regulatory body should encourage potential managers to invest more in any company in the food and beverage industry to enable them to manage the firm well as their funds are invested in the firm. Finally, the study recommends that Stock Exchange Commission should ensure that potential private investors are encouraged to invest more as private ownership impact the financial performance of food and beverage firms in Nigeria. The study combined data from both

pre (2010-2011) and post (2012-2018) IFRS implementation in Nigeria which affects the reliability of their findings.

Alhassan and Mamuda (2020), assessed the effect of ownership structure on the financial performance of quoted consumer goods manufacturing firms. Their study used an ex post facto design and their data were collected from the financial statements of 38 financial firms quoted on the Nigerian Stock Exchange (NSE) for the periods 2010 to 2019. The data collected were analyzed through pooled General Least Square, Random and Fixed Effects regression models. The study found that managerial ownership and institution ownership has a positive significant effect on financial performance of the quoted financial firms while ownership concentration has a negative effect on financial performance of quoted consumer goods manufacturing firms. The study recommends that to improve financial performance, financial firms in Nigeria should increase managerial equity ownership of the firms which can induce the executive managers to maximize their performance and provide more financial benefits to stakeholders. The study used an appropriate statistical tool to analyze their data but combined data from both pre (2010-2011) and post (2012-2019) IFRS implementation in Nigeria which affect the reliability of their findings.

Shan (2019), investigated the relationship between managerial ownership, board independence and firm performance. Their study used a data set consisting of 9,302 firm-year observations of Australian listed companies during 2005-2015 and a three-stage least squares simultaneous equation model to test the bi-directional relationships. The result of their findings indicates that both managerial ownership and board independence inversely affect firm performance and vice versa. In addition, board independence is negatively correlated with managerial ownership and vice versa. The study recommends moderate percentages of managerial ownership in Australian listed companies. Even though the study was carried out in 2019, their data covered only up to 2015, which affect the currency of their study. More so, the study was carried out in another environment outside Nigeria in the past which cannot be generalized because of environmental differences and also the need to update the data up to the current period in Nigeria.

Ogaluzor and Omesi (2019), examined the ownership structure and financial performance of the listed goods manufacturing company. They sampled twenty (20) manufacturing firms quoted on the floor of the Nigerian Stock Exchange for 2016 and the data were obtained from the published annual reports of the firms. Ownership structure was viewed from the dimensions of share ownership concentration and managerial share ownership and return on asset was used as performance measurement. A Generalized Least Square (GLS) regression technique was used for data analysis. The study found that there is a significant negative relationship between ownership concentration and financial performance. The study also found that there is an insignificant positive relationship between managerial share ownership and financial performance. The study recommends that the current policy inclination towards share ownership diffusion by the regulatory authority in Nigeria should be entrenched since it appears to enhance businesses' efforts at maximizing their financial performance. It was also stated that caution needs to be applied as this policy may not suit some other sectors. Also, an equity compensation plans should be explored by consumer goods manufacturing companies in Nigeria as this is expected to resolve the principal-agent conflict. They used appropriate statistical tools of

analysis to examine their panel data. Also, their study was carried out in 2019 and their data only cover 2016 which affects the currency of their study. In addition, their study only covered a single period which affects the generality of their findings.

Saidu and Gidado (2018), investigated managerial ownership and financial performance of quoted manufacturing firms in Nigeria. The study sampled ten (10) manufacturing firms quoted on the floor of the Nigerian Stock Exchange from the period of 2007-2016. The technique of analysis adopted for the study was correlation and ordinary least square regression techniques and used return on asset (ROA) as a performance measuring tool. The study found that managerial ownership impact negatively on the financial performance of manufacturing firms listed on the Nigerian Stock Exchange as managers of firms sometimes manipulate the accounting numbers in the financial statement to have a private gain. The study then recommends that the board of directors in the Nigerian manufacturing firms should ensure that the shareholding of the insider managers is not too high and the proportion of their shareholding should be minimized in other to better the performance of manufacturing firms listed in Nigeria. The study used a weaker statistical tool of ordinary least square regression technique to analyze their panel data. Also, the study combined data from both pre (2007-2011) and post (2012-2016) IFRS implementation in Nigeria which affect the reliability of their findings. Also, even though their study was carried out in 2018 their data covered only up to 2016 which affect the currency of their study.

Lawal *et al.* (2018), examined the effect of ownership structure on financial performance of insurance firms in Nigeria. They sampled 28 insurance firms listed on the Nigerian Stock Exchange for the period 2011-2016. Ownership structure was viewed from the dimension of managerial ownership, institutional ownership and ownership concentration. Data were subjected to pooled general least square, fixed effects and random effects regression model. Ownership structure proxy by managerial ownership, institutional ownership, and ownership concentration was adopted as independent variables. Firm financial performance as the dependent variable was proxy by Book value per share. The study found ownership structure has a significant positive effect on financial performance of the listed insurance firms except for concentrated ownership with a negative effect. However, in respect of the size and growth of the firms, which form the control variables of their study, there was mixed evidence of their effects on financial performance. The study recommends that to enhance their financial performance, insurance firms in Nigeria should increase management equity holding in the firms as this can stimulate the managers to maximize their efficiency and create more wealth for stakeholders. The study used an appropriate statistical tool of analysis to analyze their panel data but the study combined data from both pre (2011) and post (2012-2016) IFRS implementation in Nigeria which may affect their findings. Also, even though their study was carried out in 2018 their data covered only up to 2016 which affect the currency of their study.

Naveeda *et al.* (2018), examined ownership structure and firm Performance. Their sample includes 75 firms listed on Pakistan Stock Exchange from 2009 to 2013. Their study used Pooled OLS regression, fixed effects, and random effects models for their data analysis and their study founds mixed results in different methods. Their study found no strong evidence for managerial ownership as a significant determinant of corporate performance for the given sample of Pakistani firms. Their study recommends that since managerial

ownership has no positive effect on financial performance, it might not be needed in the Parkistan firms. Their study was carried out in 2018 and the data used was from 2009 to 2013; this affects the currency of their results. More so, their study was carried out in another environment outside Nigeria in the past and their findings cannot be generalized due to environmental differences.

Berķe-Berga *et al.* (2017), examined the relationship between managerial ownership and firm performance, using regression analysis. They sampled 52 listed companies on Nasdaq Riga, Nasdaq Tallinn and Nasdaq Vilnius stock exchanges, in Baltics from 2010 -2015. The results reveal that there is a significant positive relationship between managerial ownership and internal performance measure (ROA). Their study recommends that the shareholding of the insider managers should be encouraged to be on the high side as compared to other shareholdings. They used appropriate statistical tools of analysis to examine their panel data. But, their study was carried out in 2017 and their data was supposed to cover up to 2016 but it only covered 2015 which does not enhance the currency of their study.

Methodology

The study used an *ex post facto* design and the parameters like return on asset share ownership concentration while board size moderating share ownership concentration and return on asset of firms in the consumer goods sector quoted in Nigeria were used. Data were extracted from the financial statements of the sampled quoted firms from the consumer goods sector for the periods under review. The descriptive statistics and Shapiro-Wilk Normality Test were used while diagnostic tests of Pearson correlation matrix, Variance Inflator Factor test, Heteroskedasticity Breusch-Pagan test, Breusch-Pagan Lagrangian Multiplier test and Hausman Specification Test were used. The model was estimated using a robust fixed effect model.

Table 1: Variables Measurement and Justification

Variable	Acronym	Type of variable	Measurement	Justification
Return on Assets	ROA	Dependent	Profit after tax divided by total assets.	Ogabo, *et al*. (2021); Oyedokun *et al.*(2020)*;*Ogaluzor and Omesi (2019); Ironkwe and Emefe (2019);
Managerial Ownership	MO	Independent	This is a proportion of shares held by managers and executive directors divided by the total number of shares.	Ogabo, et al., (2021); Ismail *et al.* (2020); Oyedokun *et al.*(2020)*;* Saidu and Gidado (2018); Samuel *et al.* (2018).
Board Size	BSZ	Moderator	The total number of directors on the board of a firm.	Drakos and Bekiris (2010); Dwivedi and Jain (2005)
Firm Size	FZ	Control	Natural log of total assets.	Isaac *et al*. (2017)

Source: *Researcher's compilation, 2024*

Justification of Methods

The Pearson correlation was used to check for the multi collinearity problem in the model. Descriptive statistics are also used to test for the distribution pattern of the series. The Shapiro-Wilk test is used to test for the normality of the series, the variance of the data

was checked by the heteroskedasticity white test while the Hausman specification test was used to choose between fixed effect (FE) and random effect (RE) regression models.

Data Analysis

The data analysis was carried out using Descriptive Statistics, Shapiro-Wilk normality test, Pearson correlation, Variance Inflator F actor, Heteroskadasticity test, Breusch-Pagan Lagrangian Multiplier test, Hausman Specification test and Fixed Effect Regression model.

Descriptive Statistics

Table 2: Descriptive statistics that summarize the entire data set.

Variable	Obs	Mean	Std. Dev.	Min.	Max
ROA	166	4.59	7.88	-25.69	26.49
MO	165	7.52	16.44	0.0009	74.74
BSZ	166	10.61	2.95	4	17
FZ	166	7.59	0.80	5.04	8.85

Source: *Researcher's Computation (2024) Using Stata 15*

The above table shows that the return on assets (ROA) has a minimum value of -25.69, a maximum value of 26.49 and a mean value of 4.59 which is within the minimum and maximum values indicating a good spread within the period studied. The table also reveals that (ROA) has a standard deviation of 7.88 which is more than the mean, which implies that it had strong growth for the period under review. Equally, the table also shows that managerial ownership (MO) has a minimum value of 0.0009, a maximum value of 74.74 and a mean value of 7.52 is within the minimum and maximum values indicating a good spread within the period studied. The table also reveals that (MO) has a standard deviation of 16.44 which is more than the mean, which implies that it had strong growth for the period under review. Shows that the board size (BSZ) has a minimum value of 4, a maximum value of 17 and a mean value of 10.61 which is within the minimum and maximum values indicating a good spread within the period studied. The table also reveals that BSZ has a standard deviation of 2.95 which is less than the mean, which implies that it had a slow growth for the period under review. The table shows that the firm size (FZ) has a minimum value of 5.04, a maximum value of 8.85 and a mean value of 7.59 within the minimum and maximum values indicating a good spread within the period studied. Finally, the table also reveals that FZ has a standard deviation of 0.80 which is less than the mean, which implies that it had a slow growth for the period under review.

Table 3: Variance Inflator Factor (VIF) Results

Variable	VIF	I/VIF
MO	1.13	0.89
BSZ	1.78	0.56
FZ	2.36	0.42
Mean VIF	1.76	

Source: *Researcher's Computation using STATA 15 software*

The decision rule is that if the VIF and I/VIF values are up to 10 and above and 1 and above respectively there is a problem of multicolinearity in the model otherwise no problem of multicolinearity. In a bid to further test the absence of multicolinearity problem among the exogenous variables, colinearity diagnostics tests were observed as the Variance Inflation Factors (VIF) and the Inverse Variance Inflation Factors (1/VIF) values portray no multicolinearity problem in the data as their values are less than 10 and 1 respectively (Gujarati, 2003). This, point to the fact that the variables are well selected and fit in the same regression model because the multicolinearity problem is absent in the model which is one of the requirements for regression analysis.

Heteroskedasticity Breusch-Pagan Test

Heteroskedasticity Breusch-Pagan tests whether or not the estimated variance of the residuals from regression is dependent on the values of the independent variables.

Table 4: below shows the diagnostic test results using Heteroskedasticity Breusch-Pagan

Type of test	Chi2 (1)	Prob > Chi2
Heteroskedasticity Breusch-Pagan	0.02	0.89

Source: *Researcher's Computation (2024) Using Stata 15*

The decision rule is that if the probability Chi2 value is equal to or less than 5%, there is constant variance of residual in the model otherwise there is no constant variance of residual in the model. The Heteroskedasticity Breusch-Pagan is a statistical test that establishes whether or not the residual variance of a variable in a regression model is constant or not constant over time. The table revealed the null hypothesis that there is no constant variance in the model is accepted. This is because the Chi2- the value of 0.02 and a probability value of 0.89for the model is not statistically significant at any level of significance (p-value > 0.05). This means that there is an absence of heteroskedasticity in the model and fulfils one of the assumptions of linear regression.

Constant Variance Model Vs Random Effects Model

The first stage of the panel data analysis involves determining the best panel approach to be used. The decision to use the constant variance model or random effect model is by conducting the Breusch-Pagan Lagrangian Multiplier test for random effects. The Lagrangian Mutiplier test examines the present of unobserved effects in the random effect model. If the calculated value of the test exceeds the critical value (in other words significant of chi-square), null hypothesis is rejected and the random effects model of panel data is chosen or vice versa.

Breusch-Pagan Lagrangian Multiplier Test

Table 5: Presents the result of the Breusch-Pagan Lagrangian Multiplier test conducted

Type of test	Chi2	P-Chi2
ROA	20.28	0.00

Source: *Researcher's Computation (2024) Using Stata 15*

The above table shows that the calculated Breusch-Pagan Lagrangian Multiplier test with chibar2 value of (20.28) and the corresponding probability of (0.00) is more than the critical value for all the models (P =0.000),thus the null hypothesis is rejected. The significance of the chi-square of the Lagrangian Multiplier test signifies that the variance

of the random effect model is not zero (0). Hence, Random Effect Regression Model (REM) is more suitable than of Constant Variance Model.

Hausman Specification Test

Table 6: below is the result of a Hausman specification test conducted to determine which of the model, fixed effect or Random effect would be used for estimation.

Type of test	Chi2	P-Chi2
Hausman Test	225.71	0.02

Source: *Researcher's Computation (2024) Using Stata 15*

The decision rule is that if the probability P-value is equal to or less than 5%, the null hypothesis which states that the difference in coefficient is not systematic is rejected indicating that the fixed effect estimation is the appropriate model, if otherwise random effect is supported. The result from the table depicts a probability > chi2 of 0.02, a value that is less than 0.05. This result implies that the null hypothesis which states that the difference in coefficient is not systematic is rejected; indicating that the fixed effect estimation is the appropriate model for this study.

Model One (Without Moderation)

Table 7: The Robust Fixed Effect Regression Result (Model One)

Variables	Coefficient	t-values	p-values
Constants	26.11	1.52	0.13
MO	0.02	0.32	0.75
BSZ	.54	1.31	0.19
FZ	-1.86	-0.84	0.41
R-Squared	0.58		
F- Statistics	123.37		
Prob>F	0.003		

Dependent Variable: ROA

Source: *Researcher's Computation (2024) Using Stata 15*

Results from the above table revealed an overall coefficient of determination (R-sq) of 0.58 which means that the proxies (MO) of the independent variable controlled by firm size (FZ) and the variable of the moderator (Board Size) without moderating have 58% combined effect on the systematic changes in the dependent variable (ROA) during the period under review. The F-statistics of 123.37 and the corresponding prob. > of 0.003 indicates that the model is fit and reliable for decision making. This indicates that the explanatory powers of ownership structure (MO) with a control variable of firm size and the moderator variable of the board size used for the study are suitable for the study.

Model Two (With the Moderator)

The study analyzed the data using the moderator; based on the moderated data, the researcher subjected the data to the normality test and the Hausman test shows that the fixed effect model is appropriate for the second model as presented below. The results of the robust fixed effect regression model of the study from which the hypotheses are tested.

Table 8: Results of robust fixed effect model regression (Model Two)

Variables	Coefficients	t-Value	Prob.
MO	1.77	1.42	0.159
BSZ*MO	-0.13	-1.44	0.154
FZ	-1.61	-0.72	0.474
CONS.	28.23	1.54	0.129
R.sq	0.48		
F-Statistic	2.90		
Prob> F	0.0031		

Dependent Variable: ROA

Source: *Researcher's Computation (2024) Using Stata 15*

Results from above table reveal an overall coefficient of determination (R-sq) of 0.48 which means that the proxies (MO) of the independent variable and control variable (FZ) moderated by board size used in this study have an approximately 48% combined effect on the systematic changes in the dependent variable (ROA) during the period under review. The F-statistics of 2.90 and the corresponding prob. > f of 0.0031 indicates that the model is fit and reliable for decision making. This indicates that the explanatory powers of ownership structure (MO) moderated by board size used for the study are suitable for the study of the moderating effect of board size on the relationship between ownership structure and financial performance of quoted consumer goods manufacturing firms in Nigeria.

Test of Hypothesis

In examining the Managerial Ownership Structure and Return on Asset of Quoted Consumer firms in Nigeria: Review of the Board Size Moderating Relationship, the hypothesis was tested using a robust fixed effect regression model.

Based on Model One (Without the Moderator)

H_0: Managerial ownership has no significant effect on return on asset of quoted consumer goods firms in Nigeria.

The result shows that managerial ownership has a t-value of 0.32 and a beta coefficient of 0.02, with a p-value of 0.75 which is not significant at all levels of significance because is greater than 5% level of significant. This means that managerial ownership has an insignificant effect on return on assets of quoted consumer goods manufacturing firms in Nigeria and, therefore, the null hypothesis one is accepted.

Based on Model Two (With the Moderator)

Board size has no significant moderating effect on managerial ownership and return on assets of quoted consumer goods manufacturing firms.

The result of the explanatory powers of managerial ownership in explaining return on assets, when moderated with the board size. The question is whether the managerial ownership and return on assets of quoted consumer goods manufacturing firms in Nigeria have improved when moderated with board size? In addressing this question, the beta coefficient of managerial ownership when moderated with board size, reveals a negative beta coefficient value of -.13; a t-value of -1.44 with a p-value of 0.154. This implies that managerial ownership with the interaction of board size has negatively statistically insignificant at all levels of significance, in explaining the return on assets of quoted

consumer goods manufacturing firms in Nigeria. As observed from the above table, the result of managerial ownership without moderation is not significant at all levels of significance while the indirect relationship of managerial ownership as moderated by board size also has a negative insignificant effect on return on assets. This, therefore, implies that board size does not significantly moderates the relationship between managerial ownership and return on assets but changes the direction of the relationships. This result gives the basis for accepting the null hypothesis which states that board size has no significant moderating effect on managerial ownership and return on assets of quoted consumer goods manufacturing firms in Nigeria.

Discussion of Findings

This study reveals that managerial ownership has an insignificant positive effect on return on assets of quoted consumer goods manufacturing firms in Nigeria. This implies that an increase in managerial ownership will result in an increase in return on assets of quoted consumer goods manufacturing firms in Nigeria by .02. This finding is in agreement with the researcher's a-priori expectation and also in line with the stewardship theory that portrays managers as stewards who are intrinsically motivated to serve the firm and, therefore, enhance organizational performance and Stulz's theory which emphasized that the concentration of control does not favour performance and therefore suggested the dilution of ownership to various classes of shareholders to enhance performance. This finding is also in line with the empirical findings of Joel *et al*. (2020) and Ogaluzor and Omesi (2019). However, the finding is not in line with the empirical finding of Alhassan and Mamuda (2020); Berḳe-Berga *et al.* (2017); Falade *et al.*(2021); Ogabo *et al.*(2021) and Samuel *et al.* (2018).

Conclusion

The study established that it is vital for the management of consumer goods firms in Nigeria to hold a reasonable percentage of shares to enhance the financial performance of their firms in Nigeria. If managers hold a reasonable percentage of shareholding in their firms, there will be commitment and dedication to managing the affairs of the organization and in turn, increase financial performance. The study also established that the over-concentration of shares in the hands of a few individuals in consumer goods firms in Nigeria will make them manage the firm in their favour to the detriment of other shareholders which in turn affect the financial performance of consumer good firms in Nigeria.

Recommendations

The board of directors of consumer goods firms in Nigeria should mandate the management of their firms to hold a reasonable percentage of shares of at least 10% to make them more committed and enhance the financial performance of their firms in Nigeria.

The board size should not be considered when making decisions regarding managerial ownership and return on assets as it does not moderate the relationship between managerial ownership and return on assets of quoted consumer goods manufacturing firms in Nigeria.

Contribution to Knowledge

The study was able to establish that board size does not moderate the relationship between managerial ownership and return on assets of consumer goods manufacturing firms in Nigeria.

Suggestions for Further Studies

(1) A study should be carried out regarding the moderating effect of firm size on ownership structure and financial performance of quoted consumer goods manufacturing firms in Nigeria.

(2) A study should also be carried out regarding the moderating effect of firm age on ownership structure and financial performance of quoted financial firms in Nigeria.

(3) A study should further be carried out regarding the moderating effect of firm leverage on ownership structure and financial performance of quoted non-financial firms in Nigeria.

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