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Ownership Structure, Firm Size and Corporate Value of Listed Deposit Money Banks in Nigeria

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Abstract: This study investigates the effect of ownership structure and firm size on corporate performance of listed deposit money banks in Nigeria, using Return on Assets (ROA) as an accounting-based proxy for internal corporate value/performance. Panel data covering twelve listed deposit money banks over the 2015–2024 period was analysed using an ex-post facto research design and secondary data sourced from audited annual reports, the Nigerian Exchange Group. Ownership structure was decomposed into ownership concentration, managerial ownership, institutional ownership, and foreign ownership, while firm size was introduced as a control variable. Descriptive statistics, correlation analysis, panel unit root tests, Pedroni panel cointegration tests, Error Correction Model (ECM), and Fully Modified Ordinary Least Squares (FMOLS) estimators were employed to capture both short-run dynamics and long-run relationships. Empirical findings revealed that ownership structure variables exert not statistically significant short-run effect on ROA, while firm size has a negative and significant short run impact on ROA. This indicates a negative and significant short-run impact, indicating possible scale-related inefficiencies. In the long-run, managerial ownership and institutional ownership exhibit positive and statistically significant effects on ROA, supporting agency theory predictions that enhanced managerial alignment and institutional monitoring improve operational efficiency. Ownership concentration, foreign ownership, and firm size remain statistically insignificant in the long-run. The study concludes that governance quality, rather than ownership concentration or asset size, is critical to sustaining corporate performance in Nigeria's banking sector. This study therefore recommends that listed deposit money banks (DMBs) should strengthen managerial and institutional equity participation to enhance long-term performance and financial stability.

INTRODUCTION

Corporate value represents the overall worth of a company as perceived by investors, creditors, and other stakeholders, capturing both market valuation and intrinsic performance. It embodies the wealth maximization objective of the firm and is reflected through profitability, shareholder returns, and market-based performance indicators. In the banking sector, corporate value is particularly important because it reflects not only financial performance but also market confidence, regulatory compliance, and resilience during periods of economic and financial shocks (Hidayat et al., 2025). Thus, corporate value is a multidimensional construct that captures both internal operational efficiency and external investor perception. Ownership structure plays a decisive role in shaping corporate value through its influence on monitoring mechanisms, agency costs, and strategic decision-making processes (Bunyaminu et al., 2025). However, empirical evidence remains mixed, as concentrated ownership may enhance monitoring and improve corporate value, while

dispersed ownership may dilute accountability and weaken governance effectiveness (Pacheco, 2022). In the banking industry, institutional ownership often provides stability and governance discipline, thereby exerting a positive influence on corporate value (Moudud Ul Huq et al., 2020). In this study, corporate value is operationalised using ROA as an accounting-based indicator of internal performance, given the focus on profitability and asset utilisation in banks.

In emerging markets, the interaction between ownership structure and corporate value becomes more complex due to weaker investor protection, evolving regulatory systems, and heightened macroeconomic volatility. Studies from Asia and Latin America consistently reveal that ownership concentration can either enhance or diminish corporate value depending on the balance between monitoring benefits and the risk of minority shareholder expropriation (Khan et al., 2024; Kim & Lee, 2023). For example, in several emerging Asian economies, institutional and foreign ownership have been found to significantly improve bank valuation by strengthening governance standards and attracting capital inflows, while excessive managerial ownership has sometimes resulted in entrenchment and reduced market performance (Waseem et al., 2023).

Within the contemporary global financial system, corporate value, particularly in the banking industry, remains a key indicator of economic stability, investor confidence, and sustainable growth. In developed economies, corporate value is widely regarded as a reflection of market expectations, financial performance, and managerial efficiency. It is commonly measured using market based indicators. One of such measures is Return on Assets (ROA). Evidence from the United States, the United Kingdom, and other advanced economies suggests that ownership structure defined by the distribution of equity among managers, institutional investors, foreign shareholders, and block holders plays a pivotal role in shaping corporate value (Basu & Das, 2023). Strong regulatory frameworks and transparent governance practices in these economies help mitigate agency conflicts between managers and shareholders, thereby aligning managerial decisions with the objective of maximizing shareholder wealth (Hu & Wang, 2024).

LITERATURE REVIEW

Conceptual Review

Corporate Value

Corporate value can be interpreted as a condition that describes the achievement of a company during its operational process. In addition, corporate value can also reflect the value of assets owned by a company such as securities (Anna & Sutrisno, 2023). Companies that experience an increase in corporate value are seen as an achievement that reflects increased prosperity for shareholders. Optimal corporate value, the prosperity of investors will also increase and will invite new investors to invest. In addition, high stock prices can also have a positive impact on high corporate value and increase business market confidence not only in the company's current performance, but also in the company's prospects in the future (Sutrisno, Trisnawati, & Jap, 2023). Information about corporate values is very important for investors to make decisions such as investing in stocks, because this information will help investors to know which stocks will grow and have good performance.

Seeing this business phenomenon, it is important for a company to optimize corporate value and make this a long-term goal for the company.

Return on Assets

Corporate value can be defined as a certain condition that has been achieved by a company as an image of public trust to the company after going through a process of activity for several years, which means since company established until now. Corporate value is an important concept for a company so maximizing corporate value is very important for a company, because by maximizing corporate value means also maximizing the company's main objectives. Basically, the value of a company is often linked to the stock price. Companies that have good prospects in the future can be seen from the success of the company with its stock price, with stock prices that are in a high position will lead to high corporate value (Mudjijah et al., 2019). Corporate value according to Indrayati (2020) is defined as market value. Corporate value can provide shareholders with prosperity if the company's share price increases. The higher the share price, the higher the level of the shareholder's prosperity. To achieve corporate values, investors generally hand over the professionals. Professionals can be positioned as managers or commissioners.

Return on Assets (ROA) is a comparison between the total net incomes after deducting taxes with the total assets themselves. Return on Assets measures the company's ability to generate profits by using the total assets owned by the company after adjusting for the costs to fund these assets (Sunaryo, 2021; Sari & Astini, 2020). In the view of Choiriyah et al. (2021) return on assets is a ratio that measures how efficient a company is in managing its assets to generate profits over a period. According to Choiriyah et al. (2021), ROA is the company's ability to generate net income based on the number of assets. Rosalina & Masditok (2018), the greater the ROA, the better the performance because the higher the rate of return. So that it can attract investors to place their investment in the company, stock prices and company values summarize investors' collective assessments of how well a company is doing, both in terms of current performance and prospects.

Eka and Siti (2022), Return on Assets is a proportion used to measure the capacity of the board to oversee capital placing resources into absolute resources in generating payments. This proportion shows how much net profit the company gets when it is estimated by the value of resources. Meanwhile, according to Wiratna Sujarweni (2017) is the proportion used to measure the capital capacity that is put into large resources and resources to create net profits. Return on Asset (ROA) is a ratio used to measure a company's ability to generate profits derived from investment activities. Or in other words, ROA is an indicator of a business unit to obtain a return on a number of assets owned by the business unit. This ratio is used to measure management's ability to earn overall profits. The larger the ROA, the greater the level of profit achieved by the company and the better the position of the company in terms of asset use (Arda, 2022).

Choiriyah et al. (2021) opined that Return on Assets is used to evaluate whether management has received a reasonable return from the assets under its control. This ratio is a useful measure if one wants to evaluate how well the company has used its funds. Monica and Hasanuh (2020) ROA (return on assets) is the ability of banking companies to generate profits with all assets owned by the company. Egam et al. (2017), Return on assets to see the amount of investment that has been invested in order to obtain the expected

profit, and the investment is a company asset. Return on Assets is the company's ability to earn profits from the assets owned by the company. Kasmir (2016) says ROA is a ratio that states the return on the number of assets utilized in the company.

In the Nigerian context, ownership structure has also been linked to accountability and control effectiveness, as dominant and institutional owners influence monitoring intensity, financial discipline, and governance outcomes in listed firms (Ogiriki & Buseri, 2024).

Ownership Structure

Ownership structure emerges as a crucial factor influencing the value of industrial goods firms, shaping their governance mechanisms, decision-making processes, and strategic orientation (Maulina, 2023). Ownership structure refers to the distribution of ownership right and control among various stakeholders, including shareholders, management and other interested parties (Onuora et al., 2022). Ownership structure encompasses various structures, ranging from concentrated ownership by founding families or institutional investors to dispersed ownership among a broad base of shareholders (Rilwan, et al., 2024). These varying ownership arrangements exert a profound influence on firm behavior and performance, affecting its risk profile, investment decisions and overall competitiveness in the market.

Ownership structure refers to the distribution of ownership rights and control among various stakeholders within a firm. It encompasses the ownership concentration, ownership identity (e.g., managerial, institutional, foreign), and governance mechanisms that shape decision-making processes and influence firm behavior. Sugosha & Artini, (2020) define ownership structure as the distribution of share ownership in a company. This definition highlights the importance of shareholding patterns in determining ownership structure. It encompasses the identification of individuals or entities that hold shares in a company and the proportion of ownership they possess. According to Adewumi et al. (2023), ownership structure is defined as the distribution of equity ownership among a company's shareholders. This definition aligns with the broader concept of equity ownership, encompassing both common and preferred stock.

Ownership structure is a number or proportion of stock ownership in an enterprise. The stock ownership structure consists of institutional, managerial, public, and familial ownership.

Sugosha and Artini (2020) opined that ownership structure is the distribution of share ownership in a company. The structure of corporate ownership consists of foreign ownership, managerial ownership and institutional ownership. Foreign ownership can be one of the supporting mechanisms of corporate governance because companies with foreign ownership will increase corporate market competition. Foreign investors can usually help improve management systems and easier access to resources so that it will support companies to improve company performance and obtain greater profits. Ownership structure describes the proportion of stock ownership/holding by stockholders. It determines the identity and voting capacity of stockholders (Jeroh, 2018). Ownership structure is deemed significant because the remunerations of management and other staff are mostly a function or outcome of the decisions of the owners of the firm, whereas staff

remunerations significantly influence the productivity and performance of a given workforce.

Firm Size

The size of the firm describes the size of a company indicated by total assets, total sales, average total sales and average total assets (Anasthasia, et al., 2019). The size of the firm is proxied by total assets. Total assets of a company have a strategic influence on the company's competition. Company size can describe the size of the company as indicated by total assets, sales and market capitalization. Firm size is important in increasing company profitability. Firm size is also one of the considerations used by investors in investing their funds because they view that large companies have stable performance and will provide large returns so that they will provide greater profits to investors. A large company size and a large number of total assets will make the company have a good reputation in the eyes of investors, so management will be more careful in managing its performance. With so large firm size is expected to increase the company's profitability. This is supported by research which states that firm size has an effect on profitability (Anna & Sutrisno, 2023).

According to Annisaa et al. (2019) a firm size is determined by the amount of assets it possesses at any time. Because it is anticipated that if a company's financial performance is strong, it will also be able to invest in other companies, a large firm size is thought of as an indication that indicates the amount of risk investors when investing in a firm. The size of the company is reflected in the size of the company's acquisition in making sales. The company's competition in the industry is strategically influenced by the company's main activity, namely sales. Company assets are needed in the sales process (Andhika & Muhyarsyah, 2021).

THEORETICAL REVIEW

Theoretical Framework

This study is underpinned by Agency Theory, which provides a theoretical explanation for how ownership arrangements influence firm outcomes in situations where control is separated from ownership. Agency theory argues that managers, acting as agents, may not always act in the best interests of shareholders due to self-interest, risk aversion, and information asymmetry, thereby creating agency costs that can impair firm performance. In deposit money banks, these agency challenges are amplified by complex operations, regulatory scrutiny, and the strategic discretion granted to management. Ownership structure therefore becomes a vital governance tool for curbing managerial opportunism and improving performance. Higher managerial ownership is expected to align managers' incentives with shareholders' objectives, while institutional ownership enhances monitoring through expertise and active oversight. Ownership concentration may strengthen control by dominant shareholders, whereas foreign ownership can introduce governance discipline through international standards and capital market pressure. Firm size is incorporated as a control variable to account for scale effects, recognizing that larger banks may benefit from economies of scale or suffer from increased coordination and agency costs. Accordingly, agency theory offers a coherent framework for analysing the influence of ownership

structure and firm size on the asset-based performance of listed deposit money banks in Nigeria.

Agency Theory

Agency theory which is propound by Jensen and Meckling (1976). Jensen & Meckling (1976) defines an agency relationship as a contract that involves one or more people (principal) with other parties (agent) doing something according to the principal's wishes. This contract includes the delegation of authority in making decisions from shareholders to the company. If the shareholder (principal) and company (agent) try to maximize their respective profits, it concludes that the agent will not always carry out the principal's wishes. Therefore, generally, the principal will pay for the supervision of the agent. The supervision fee is called the agency fee. The supervision referred to by Jensen and Meckling (1976) is the binding of agents, a systematic review of management requirements, financial audits, and specific restrictions on management decisions. In addition to supervision fees, costs included in agency costs are bonding costs and residual loss costs. Agency theory underlies the relationship between ownership structure and corporate value. The larger the shares, which concentrate on a few individuals, will cause these shareholders to have control or power to force the company to run optimally, both in operational, investment, and other corporate activities. It is because the company has a dependency on these concentrated shareholders. The manager who also owns shares in a company will maximize all his abilities and powers such as investment decisions, funding decisions, and so on to achieve the best company performance. If the company's performance has been able to meet the shareholders' expectations, they consider that the company's share price deserves a high value.

In support of the theory, Rilwan et al (2024) opined that agency theory is concerned with resolving two problems (problem of risk sharing and agency problem) that can occur in the agency relationship. Agency theory is a fundamental pillar in economic thought, it provides a conceptual framework to examine corporate governance relationships. It posits that within a firm; an inherent conflict of interest exists between shareholders (principals) and managers (agents). Shareholders, driven by the pursuit of financial returns, entrust managers with the responsibility of maximizing shareholder value.

Petrova &Andersson (2024) criticized that positive agency researchers have only concentrated on the agent side of the ‘principal and agent problem’ and opined that the problem may also happen from the principal side. He observed that this theory is unconcerned about the principles, who deceive, shirk and exploit the agents. Furthermore, he added that the agents are unknowingly dragged into work with the perilous working environment and without any scope for encroachment, where principals act as opportunist. He believed in another way that humans are noble and work ethically for the betterment of the firm.

In relevance of the theory, the agency theory predicts that ownership structure is a significant determinant of corporate value since share ownership structure is a mechanism to reduce agency cost. In addition, it is widely accepted that corporate ownership structure has the potential to limit the agency problem and therefore enhances firm value as a result of better monitoring of the agents by large shareholders who are also the principals.

Empirical Review

Zahedi et al. (2015) explored the relationship between ownership concentration and firm value in the Tehran Stock Exchange (TSE). The results of regression analysis in support of the hypothesis indicate firm value declines as ownership concentration increases when company's cash holding mounts. On the whole, the results of the study show that level of cash holdings which goes hand in hand with level of ownership concentration can reduce firm value.

Genc and Angelo (2015) investigated the ownership concentration as a governance mechanism, and its implications over firm value. We conduct an empirical analysis over all Italian listed firm in a four-year period (2006-2009). The results showed a positive relationship between ownership concentration and firm value except in 2008, when the results show a non-linear relationship, depicting that the financial crisis has enhanced the expropriation effects. Using panel data regression models, Vintilă and Gherghina (2015) concluded a negative influence of insider shareholdings and employees' organizations ownership on firm value. However, the results showed a lack of association between state shareholdings and firm value. There resulted a nonlinear relationship between the shareholdings of the companies from financial intermediation sector and firm value. Furthermore, the impact of ownership structure, 1 year lagged, on contemporaneous firm value was the same, although the magnitude of the influence was higher.

Jameel (2015) determined the role of ownership structure on a company's performance using 31 Palestinian companies listed at Palestine Exchange during 2008-2013. The study uses regression analysis method, the role of variables of ownership structure which includes ownership concentration and institutional ownership. The results show insignificant positive relationship between ownership concentration and ROA, ROE, while there is a significant positive relationship between ownership concentration and Tobin Q. The research also found that there is insignificant positive relationship between institutional ownership and ROA, ROE, while there is a significant positive relationship between institutional ownership and Tobin Q.

Younas et al. (2017) investigated the relationship between ownership concentration, firm growth and sustainability measures comparatively. The results showed that these relationships are not linear but are rather dependent on the prevalent form of ownership concentration (determined by country) and the scale (small, medium or large) of the firm. Approaches to sustainability appear to be influenced by not just the owners / investors but also by the type of control and broader contexts, explaining differing national trends.

Khadijat and Rodiat (2018) examined the effects of ownership structure on firm value of Nigerian deposit money banks. It also evaluated the relationship between ownership structure variables (concentrated, managerial and foreign) on firm value (Return on Equity and Return on Asset). The data obtained were subjected to System Generalised Moment Method. Findings reveal that only institutional ownership has positive and significant effect on financial performance while others have insignificant effect. This empirical study provided fruitful implications that there exists a significant effect between ownership structure and financial performance of Nigerian deposit money banks.

Abdullah et al (2019) investigate the impact of ownership concentration on the performance of the firms operating in the financial and logistics sector of Pakistan. Quantitative data descriptive statistics, correlation matrix and regression models were used

for data analysis. The study revealed that Ownership concentration has a significant negative impact on ROA, Family-based ownership concentration has a significant negative impact on ROA, and Nonfamily based ownership concentration have a significant positive impact on Tobin's Q and ROA. Findings of this study are consistent with the agency theory.

Sahrul (2020) examined and analyze mediating effect of firm's performance on the influence of intellectual capital and ownership structure on firm's value. Data was analysed using Eviews10. The results showed that the concentration of ownership had a positive effect on company performance while managerial ownership had no effect. Then directly managerial ownership and firm's performance have a positive effect on firm value, while ownership concentration has no effect on firm value. Firm performance mediates the relationship between concentration of ownership and firm value, but firm performance fails to mediate the relationship between managerial ownership and firm value.

Murtaza et al (2020) determines the role of ownership concentration and dividend policy on the firm performance of chemical sector firms of Pakistan. This study used the Generalized Least Squares Model. The research shows that ownership concentration is positively associated with firm performance. It is stated that a large number of shareholders can solve agency issues among managers and shareholders. Dividend policy has also a significant positive impact on firm performance. Leverage and tangibility likewise negatively affect firm performance.

METHODOLOGY

The study investigated ownership structure, firm size and corporate value of listed deposit money banks in Nigeria from 2015 – 2024. The study made use of ex-post facto research design. An ex-post facto investigation seeks to reveal possible relationships by observing an existing condition or a state of affairs and searching back in time for plausible contributing factors. Specifically, the nexus of this research design is on the premise that this study relied on historical data that was obtained from the database of the Nigeria exchange group, local financial regulators, the national bureau of statistics, and audited financials of banks.

Population

The population comprised 12 deposit money banks listed on the Nigerian Exchange limited (NGX) as at December 2024. Data covering a period of ten years (2015 – 2024) extracted from Central Bank of Nigeria statistical bulletin and audited annual reports and accounts were used. Descriptive and inferential (fully modified ordinary least square regression) statistics were used to analyze data at 0.05 level of significance.

Method of Data Analysis

The methods of data analysis employed in this study combine both descriptive and inferential statistical techniques. This ensures that the dataset is adequately summarized and that meaningful relationships between ownership structure, firm size, and corporate values of deposit money banks are empirically tested. The data analysis adopted for this research is descriptive and inferential analysis.

Model Specification

Model on ownership structure, Firm size and Return on Assets of Deposit Money Banks Listed in Nigeria:

The study of Almashaqbeh et al., (2023) is hereby adapted to examine the effect of ownership structure, firm size on return on assets of deposit money banks listed in Nigeria, the model is specified as follow:

$$ROA_{it} = f(OWC_{it}, MGO_{it}, ITO_{it}, FRO_{it}) \quad (3.1)$$

Introducing the control variable of firm size

$$ROA_{it} = f(OWC_{it}, MGO_{it}, ITO_{it}, FRO_{it}, FMZ_{it}) \quad (3.2)$$

To complete the specification of the econometric model, we consider the form of algebraic or linear relationship among the economic variables. The corresponding econometric model is specified in linear form:

$$ROA_{it} = \beta_0 + \beta_1 OWC_{it} + \beta_2 MGO_{it} + \beta_3 ITO_{it} + \beta_4 FRO_{it} + \beta_5 FMZ_{it} + \mu_t \quad (3.3)$$

Where:

ROA is Return on Assets

OWC is Ownership Concentration

MGO Managerial Ownership

ITO is Institutional ownership:

FRO is foreign ownership

FMZ is Firm Size

i = Individual bank

t = Time/year

β_0 = Intercept, which explains the average value of the dependent variable as the independent variables are held constant

$\beta_{1,2,3,4,5}$ = represent the coefficients (parameters) of the independent variables. They indicate the magnitude and direction of change in the dependent variable resulting from a one-unit change in each corresponding independent variable, holding other variables constant.

μ= Stochastic or error term

Upon confirmation of cointegration, the Fully Modified Ordinary Least Squares (FMOLS) estimator developed by Phillips and Hansen (1990) and extended to panel data by Pedroni (2000) is employed to estimate the long-run coefficients. The choice of FMOLS is justified because it corrects for endogeneity bias arising from the correlation between regressors and the error term, it adjusts for serial correlation. and it provides consistent and asymptotically efficient estimates in cointegrated panel settings. The long-run FMOLS model is expressed as:

$$ROA_{it} = \beta_0 + \beta_1 OWC_{it} + \beta_2 MGO_{it} + \beta_3 ITO_{it} + \beta_4 FRO_{it} + \beta_5 FMZ_{it} + \mu_t \quad (3.4)$$

While FMOLS provides long-run estimates, it does not capture short-run dynamics. Therefore, the Error Correction Model (ECM) is specified to examine short-run adjustments toward long-run equilibrium. The residuals obtained from the FMOLS long-run regression are used to construct the Error Correction Term (ECT). The short-run panel ECM is specified as:

$$\Delta ROA_{it} = \beta_0 + \beta_1 \Delta OWC_{it} + \beta_2 \Delta MGO_{it} + \beta_3 \Delta ITO_{it} + \beta_4 \Delta FRO_{it} + \beta_5 \Delta FMZ_{it} + \emptyset ECT_{it-1} + \mu_t \quad (3.5)$$

Measurement of Variables

In this sub-section, the variables used in the study are described, along with their respective measurements and sources. Table 3.2 presents overview of the variables. Consistent with prior Nigerian empirical studies, Return on Assets (ROA), measured as net income divided by total assets, is adopted as an accounting-based proxy for corporate value and profitability within ownership structure analyses (Salihu et al., 2024).

Table 1: Variables, Description, Measurement and Sources

Variables	Type	Measurements/Proxy	Source	Adopted From
Ownership Concentration (OC)	Independent	% of shares held by top 5 shareholders	Annual Reports and NGX	Sinebe (2024)
Managerial Ownership (MO)	Independent	% of shares held by directors/managers		Sinebe (2024), Ogiriki and Buseri (2024)
Institutional Ownership (IO)	Independent	% of shares held by institutional investors		Almashaqbeh et al., (2023), Ogiriki and Buseri (2024)
Foreign Ownership (FO)	Independent	% of shares held by foreign investors		Salihu et al. (2024)
Firm Size (FSZ)	Control	Natural log of total assets		Sinebe (2024)
ROA	Dependent	Net income / Total assets		Salihu et al. (2024)

Source: Author's Computation (2026)

Table 2: Data Analysis, Result and Discussion

	Mean	Maximum	Minimum	Std. Dev.	Jarque-Bera	Probability
ROA	0.059726	0.649525	-0.00841	0.110109	760.6946	0.000000
OWC	35.23706	100.0000	4.657500	31.77144	13.34283	0.001267
MGO	7.026973	14.72630	0.054000	4.222443	5.939400	0.051319
ITO	39.95090	100.0000	5.300000	24.54076	3.481733	0.175368
FRO	23.43808	95.00000	0.930000	21.75523	32.41886	0.000000
FMZ	21.15738	24.49148	18.14495	1.834662	8.444857	0.014663

Source: Author's Computation (2026)

Note: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ).

Table 2 presents the descriptive statistics of ownership structure, firm size and corporate value of listed deposit money banks in Nigeria. The corporate value was proxy by

Return on Assets (ROA). The ownership structure variables considered in this study include Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional Ownership (ITO), and Foreign Ownership (FRO), while Firm Size (FMZ) is included as a key control variable.

Return on Assets (ROA) has a mean value of 0.0597, depicting that Nigerian deposit money banks generate approximately 5.97% profit from their total assets on average. While the maximum ROA stands at 0.6495, the minimum value of –0.0084 indicates that some banks experienced losses during certain periods. The relatively high standard deviation of 0.1101 reflects fluctuations in asset efficiency across banks. The Jarque–Bera statistic (760.69, p = 0.0000) confirms that ROA is not normally distributed, implying wide profitability disparities within the banking sector.

Ownership concentration (OWC) records a mean value of 35.24%, implying that a high portion of bank ownership is held by dominant shareholders. The maximum value of 100% suggests cases of highly concentrated ownership, while the minimum of 4.66% reflects more dispersed ownership structures. The standard deviation of 31.77 indicates considerable variation in ownership concentration across banks. The Jarque–Bera statistic (13.34, p = 0.0013) suggests non-normality, highlighting heterogeneity in ownership control within the sector.

Managerial ownership (MGO) has a mean value of 7.03%, indicating that managers hold a relatively small but meaningful equity stake in Nigerian banks. The minimum (0.05%) and maximum (14.73%) values show wide differences in managerial participation in ownership. The standard deviation of 4.22 reflects moderate variability. The Jarque–Bera statistic (5.94, p = 0.0513) suggests that managerial ownership is approximately normally distributed at the 5% significance level, implying relatively stable managerial shareholding patterns.

Institutional ownership (ITO) records a mean value of 39.95%, indicating that institutional investors play a dominant role in the ownership structure of Nigerian deposit money banks. The maximum value of 100% reflects periods of full institutional dominance, while the minimum of 5.30% suggests limited institutional presence in some banks. The standard deviation of 24.54 shows high variation across banks. The Jarque–Bera statistic (3.48, p = 0.1754) indicates that ITO is normally distributed, depicting relative stability in institutional investment behavior.

Foreign ownership (FRO) has a mean value of 23.44%, indicating significant foreign investor participation in the Nigerian banking sector. The maximum value of 95% suggests strong foreign dominance in some banks, while the minimum of 0.93% reflects minimal foreign involvement in others. The standard deviation of 21.76 shows high variability. The Jarque–Bera statistic (32.42, p = 0.0000) indicates non-normal distribution, reflecting fluctuating foreign investment inflows over time.

Firm size (FMZ), measured as the logarithm of total assets, has a mean value of 21.16, depicting that the sampled banks are relatively large in scale. The narrow range between the minimum (18.14) and maximum (24.49) values indicate moderate differences in asset size across banks. The standard deviation of 1.83 confirms limited dispersion in firm size. The Jarque–Bera statistic (8.44, p = 0.0147) indicates non-normality, reflecting structural differences in bank size distribution.

Correlation Matrix

Table 2b: Correlation Matrix

	ROA	OWC	MGO	ITO	FRO	FMZ	VIF
ROA	1						
OWC	-0.142	1					1.073
MGO	-0.056	-0.246	1				1.298
ITO	0.467	0.246	-0.172	1			1.433
FRO	0.201	0.132	0.174	0.133	1.		1.195
FMZ	-0.438	0.404	0.148	-0.247	-0.202	1	1.689
							1.195

Source: Author's Computation (2026); Where: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ)

Table 2b presents the pairwise correlation coefficients among corporate value, performance indicators, ownership structure variables, firm size, and the variance inflation factor (VIF). The correlation analysis provides preliminary insights into the direction and strength of relationships among variables and also serves as an initial diagnostic test for multicollinearity. The Variance Inflation Factor (VIF) values further confirm the absence of multicollinearity in the model. All VIF values range between 1.073 and 1.689, with a mean VIF of 1.195, which is highly below the critical threshold of 10 suggested by Gujarati and Porter (2009) and even the more conservative threshold of 5 recommended by Hair et al. (2019). This implies that the explanatory variables do not exhibit high linear dependence and can be jointly included in the regression model without biasing the estimated coefficients.

Pre-Estimation Test

Stationarity Test

Table 3a: Panel Unit root Test

	Im, Pesaran and Shin W-stat			
	Level	First Diff.	Lag Selection	Integration
ROA	0.562	-4.752	2	I1
OWC	-0.499	-17.199	3	I1
MGO	-2.161	-7.647	2	I1
ITO	-0.950	-2.468	2	I1
FRO	1.562	-12.329	3	I1
FMZ	3.615	-3.525	2	I1

Source: Author's Computation (2026)

Note: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ)

Table 3a presents the results of the panel unit root test conducted using the Im, Pesaran and Shin (IPS) W-statistic to examine the stationarity properties of the variables employed in the study. The IPS test is suitable for panel data analysis because it allows for

heterogeneity across cross-sectional units, making it appropriate for listed deposit money banks with different operational characteristics (Im, Pesaran & Shin, 2003). The results show that at levels, the IPS statistics for Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional Ownership (ITO), Foreign Ownership (FRO), and Firm Size (FMZ) are not sufficiently significant to reject the null hypothesis of a unit root, indicating that the series are non-stationary at level.

However, after first differencing, all variables are significant IPS statistics, confirming stationarity at the 5% significance levels. Specifically, ROA (–4.752), OWC (–17.199), MGO (–7.647), ITO (–2.468), FRO (–12.329), and FMZ (–3.525) become stationary after first differencing. These results indicate that each variable is integrated of order one, I (1).

Overall, the IPS panel unit root results confirm that all variables are I (1), thereby satisfying the basic requirement for conducting panel cointegration analysis. According to Pedroni (2004) and Kao and Chiang (2000), when variables are integrated of the same order, long-run equilibrium relationships can be meaningfully examined using panel cointegration techniques. Consequently, the findings justify the application of long-run estimators such as FMOLS to analyze the relationship between ownership structure, firm size, and corporate value of listed deposit money banks in Nigeria.

Table 3b: Pedroni Residual Cointegration Test *on Ownership Structure*, *Firm Size and Return on Assets* of deposit money bank listed in Nigeria

	within-dimension		**between-dimension**	
	Statistic	**Prob.**	**Statistic**	**Prob.**
Panel v-Statistic	-2.927002	0.9983	-	-
Panel rho-Statistic	2.713588	0.9967	3.541219	0.9998
Panel PP-Statistic	-11.45677	0.0000	-13.06930	0.0000
Panel ADF-Statistic	-2.315903	0.0103	-2.650385	0.0040

Source: Author's Computation (2026)

Note: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ)

Table 3b reports the Pedroni residual cointegration test results for the relationship among ownership structure, firm size, and Return on Assets (ROA) of listed deposit money banks in Nigeria. The results indicate that although the panel v-statistic and panel rho-statistic under both within- and between-dimension frameworks are statistically insignificant, the panel PP-statistics (within-dimension: –11.4568; between-dimension: –13.0693) and panel ADF-statistics (within-dimension: –2.3159; between-dimension: –2.6504) are negative and statistically significant at the 1% and 5% levels. In line with Pedroni (2004), the rejection of the null hypothesis of no cointegration by these majority statistics confirms the existence of a long-run equilibrium relationship between ownership structure, firm size, and banks' profitability as measured by ROA. This finding implies that changes in ownership configuration and firm size have persistent long-run effects on asset-based performance of deposit money banks in Nigeria, thereby justifying the use of long-run estimators such as FMOLS for subsequent analysis.

Table 4a: Short Run Estimated Model on Ownership Structure, Firm Size on Return on Asset of Deposit Money Bank Listed in Nigeria

Dependent Variable: ROA				
Method: ERROR CORRECTION MODEL				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
ECT(-1)	-0.018857	0.007915	-2.382344	0.0198
D(ROA(-1))	-0.171892	0.105726	-1.625827	0.1083
D(OWC(-1))	-0.000532	0.001091	-0.487522	0.6273
D(MGO(-1))	-0.013948	0.031521	-0.442505	0.6594
D(ITO(-1))	0.000382	0.000959	0.397701	0.6920
D(FRO(-1))	0.000154	0.000714	0.215281	0.8301
D(FMZ(-1))	-0.055949	0.012777	-4.378806	0.0000

Source: Author's Computation (2026)

Note: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ)

Table 4a presents the short-run error correction model (ECM) results examining the impact of ownership structure and firm size on Return on Assets (ROA) of listed deposit money banks in Nigeria. The error correction term (ECT (–1)) is negative and statistically significant (coefficient = –0.018857, p = 0.0198), indicating the presence of a valid adjustment mechanism. This suggests that deviations from the long-run equilibrium between ROA, ownership structure, and firm size are corrected over time, with approximately 1.89% of disequilibrium adjusted each period, highlighting a gradual return to long-run equilibrium following short-term shocks.

In the short-run, the lagged dependent variable D(ROA(–1)) has a negative but statistically insignificant coefficient (–0.171892, p = 0.1083), depicting that past changes in ROA do not meaningfully influence current profitability. Similarly, changes in Ownership Concentration (D(OWC(–1)), coefficient = –0.000532, p = 0.6273) and Managerial Ownership (D(MGO(–1)), coefficient = –0.013948, p = 0.6594) have negative but insignificant short-run effects on ROA, implying that short-term variations in ownership structure do not highly affect asset-based performance of Nigerian banks.

Institutional Ownership (D(ITO(–1)), coefficient = 0.000382, p = 0.6920) and Foreign Ownership (D(FRO(–1)), coefficient = 0.000154, p = 0.8301) also exhibit positive but statistically insignificant effects on ROA. These findings indicate that short-run changes in institutional and foreign shareholding do not immediately translate into improvements in bank profitability, reflecting the long-term nature of ownership influence on performance.

Conversely, Firm Size (D(FMZ(–1))) shows a negative and statistically significant effect on ROA, with a coefficient of –0.055949 (p = 0.0000). This result suggests that increases in bank size may reduce short-run profitability, possibly due to operational inefficiencies or increased costs associated with larger institutions. Overall, the short-run ECM results imply that while ownership structure does not exert immediate influence on ROA, firm size has a significant short-term impact, and the significant error correction term confirms the existence of a gradual adjustment toward the long-run equilibrium established in the FMOLS estimates.

Table 4b: Long Run Estimated Model Ownership Structure, Firm Size on Return on Asset of Deposit Money Bank Listed in Nigeria

Dependent Variable: ROA				
Method: FULLY MODIFIED ORDINARY LEAST SQUARE				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.***
OWC	0.000259	0.002055	0.126149	0.9003
MGO	0.133241	0.032152	4.144071	0.0002
ITO	0.007536	0.001973	3.819904	0.0005
FRO	-0.000863	0.000966	-0.892818	0.3774
FMZ	-0.035309	0.023221	-1.520597	0.1364
Model Evaluation				
R-squared	0.810699			
Adjusted R-squared	0.742745			
Long-run variance	0.006660			
F-Statistics	10.32610 (0.0000)			
DIAGNOSTIC				
Normality Test	3.606 (0.848)			
Breusch-Pagan LM	49.66888 (0.293)			
Pesaran scaled LM	0.492144 (0.623)			

Source: Author's Computation (2026)

Note: Return on Assets (ROA), Ownership Concentration (OWC), Managerial Ownership (MGO), Institutional ownership (ITO), foreign ownership (FRO), Firm Size (FMZ)

The long-run estimated model in Table 4b examines the effect of ownership structure and firm size on the Return on Assets (ROA) of listed deposit money banks in Nigeria using the Fully Modified Ordinary Least Squares (FMOLS) method. The results indicate that Ownership Concentration (OWC) has a positive but statistically insignificant effect on ROA, with a coefficient of 0.000259 (p = 0.9003). This suggests that in the long-run, variations in the concentration of ownership do not meaningfully impact asset-based profitability, implying that other governance mechanisms may be more influential in shaping bank performance.

In contrast, Managerial Ownership (MGO) has a positive and statistically significant impact on ROA, with a coefficient of 0.133241 (p = 0.0002). This finding implies that an increase in managerial shareholding enhances bank profitability, likely through improved alignment of managers' interests with those of shareholders, consistent with agency theory predictions. Similarly, Institutional Ownership (ITO) positively influences ROA, with a coefficient of 0.007536 (p = 0.0005), depicting that institutional investors play a critical role in monitoring management and improving operational efficiency, thereby supporting long-term profitability.

On the other hand, Foreign Ownership (FRO) exhibits a negative but statistically insignificant effect on ROA, with a coefficient of –0.000863 (p = 0.3774), indicating that foreign participation does not significantly affect asset returns in the long-run. Likewise, Firm Size (FMZ) has a negative but insignificant impact on ROA, with a coefficient of –0.035309 (p = 0.1364), implying that increases in bank size do not automatically translate into higher profitability and may reflect diseconomies of scale or inefficiencies in large banks.

The model demonstrates a strong overall fit, with an R-squared of 0.8107 and an adjusted R-squared of 0.7427, indicating that approximately 81% of the variation in ROA is explained by the independent variables. The F-statistic of 10.32610 (p = 0.0000) confirms the joint significance of the regressors. Diagnostic tests show no evidence of normality violation (3.606, p = 0.848) or heteroskedasticity, as indicated by the Breusch-Pagan LM (49.6689, p = 0.293) and Pesaran scaled LM (0.4921, p = 0.623), depicting that the FMOLS estimates are reliable and robust for inference regarding the long-run relationship between ownership structure, firm size, and ROA of deposit money banks in Nigeria.

DISCUSSION OF FINDINGS

The empirical results of this study highlight the differential impacts of ownership structure and firm size on the profitability of Nigerian deposit money banks, as measured by Return on Assets (ROA). In the short-run, the error correction term (ECT) is negative and significant (–0.0189, p = 0.0198), indicating that deviations from long-run ROA equilibrium are corrected gradually over time. Among the explanatory variables, only firm size has a significant negative effect (–0.0559, p = 0.0000), depicting that larger banks may experience short-term inefficiencies in utilizing their assets. Other ownership variables ownership concentration, managerial ownership, institutional ownership, and foreign ownership are statistically insignificant in the short-run, highlighting that immediate changes in ownership structures have limited influence on profitability.

The long-run FMOLS results (Table 4b) present a clearer picture of the factors that shape sustainable bank profitability. Managerial ownership (0.1332, p = 0.0002) and institutional ownership (0.0075, p = 0.0005) positively and significantly affect ROA, confirming that active managerial participation and strong institutional oversight enhance long-term profitability. In contrast, firm size (–0.0353, p = 0.1364), foreign ownership (–0.0009, p = 0.3774), and ownership concentration are not statistically significant, indicating that governance quality rather than mere size or foreign participation is more critical for achieving long-run profitability. This aligns with Agency Theory, which emphasizes that mechanisms reducing principal-agent conflicts like managerial and institutional ownership are essential for firm performance.

Several studies support these findings. Lee and Ryu (2020) found that historical managerial ownership, rather than current levels, is crucial for firm value, consistent with the idea that long-term alignment between management and shareholders drives performance. Similarly, Gholamreza et al. (2020) and Asmaul (2020) provide evidence that managerial and institutional ownership positively influence firm performance, demonstrating the importance of governance in mitigating agency conflicts. Paramartha and Rasmini (2021) further show that risk management disclosures enhance the positive effect of ownership on firm value, reinforcing the idea that governance mechanisms improve asset utilization and profitability.

However, the results partially contradict some studies in the literature. For instance, Misheleiloen (2024) found that managerial ownership had a negative and insignificant effect on firm value, while Misheleiloen (2024) reported that managerial ownership negatively influenced firm value in certain contexts. Similarly, Indrayati (2020) and Listia et al. (2023) showed that managerial ownership does not always translate to improved corporate value

or profitability, especially when the ownership stakes are insufficient to align managers' incentives or when other mediating variables, such as profitability or CSR practices, dominate. These contradictions suggest that the relationship between managerial ownership and firm performance is sensitive to contextual factors like industry, firm size, and market development.

Overall, the findings highlight that in Nigerian deposit money banks, long-term profitability is strongly influenced by governance mechanisms rather than short-term fluctuations in ownership or size. While managerial and institutional ownership enhance ROA in the long-run, ownership concentration and foreign ownership play a less pronounced role. The negative short-run effect of firm size underscores that larger banks may face operational inefficiencies that temporarily depress asset returns, reinforcing the need for effective management practices and robust institutional oversight to ensure sustained profitability. These results contribute to understanding how ownership structure can be leveraged to optimize bank performance, consistent with both agency theory and empirical evidence from emerging markets.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study provides empirical evidence on the relationship between ownership structure, firm size, and corporate performance of listed deposit money banks in Nigeria. Using ROA as an accounting-based measure of internal corporate performance, the findings demonstrate that ownership structure does not exert immediate short-run influence on bank profitability, while firm size negatively affects short-run performance, reflecting potential inefficiencies associated with rapid balance sheet expansion.

In the long-run, managerial ownership and institutional ownership significantly enhance ROA, confirming that effective governance mechanisms play a critical role in improving asset utilisation and operational efficiency over time. In contrast, ownership concentration, foreign ownership, and firm size do not exhibit statistically significant long-run effects on performance. Overall, the study underscores that sustainable performance in Nigeria's banking sector is governance-driven rather than scale-driven. Aligning managerial incentives with shareholder interests and strengthening institutional oversight are more effective in enhancing long-term profitability than increasing ownership concentration or asset size. Policy-wise, regulators and bank boards should promote transparent ownership structures, encourage equity-based managerial participation, and enhance institutional investor engagement to foster long-term financial stability and resilience in the Nigerian banking industry.

The following recommendations were made based on the findings of the study

1. Regulatory authorities such as the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) should encourage greater managerial and institutional shareholding in deposit money banks, as long-run evidence indicates that these ownership forms enhance firm valuation. Policies that promote equity-based compensation for managers and incentives for institutional investors will help align managerial decisions with shareholders' wealth maximization and improve market confidence in listed banks.

2. Bank boards should adopt long-term governance strategies rather than short-term performance targets, since ownership variables show insignificant short-run effects but meaningful long-run implications for profitability. Emphasis should be placed on strengthening internal control systems and managerial accountability to allow ownership structure reforms to translate into improved asset utilization and operational efficiency over time.
3. Deposit money banks should strengthen managerial and institutional ownership participation, as these ownership types significantly improve return on assets in the long-run. Regulatory frameworks should support transparent ownership disclosure and board oversight mechanisms that empower institutional investors to actively monitor management and protect shareholders' interests.
4. Banks should pursue strategic expansion and scale optimization, given the strong positive long-run effect of firm size and ownership variables on profitability. Management should focus on sustainable growth strategies such as mergers, digital banking expansion, and branch rationalization to enhance earnings capacity without compromising operational efficiency.

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