

The Effect of Managerial Shareholding on the Likelihood of Financial Distress of Listed Deposit Money Banks in Nigeria: The Role of Loan Loss Provisions

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ABSTRACT

This study investigates the effect of managerial shareholding on the likelihood of financial distress among listed deposit money banks in Nigeria, with particular attention to the moderating role of loan loss provisions (LLPs). Using panel data from 14 banks between 2015 and 2024, the analysis employs Ordinary Least Squares (OLS) regression after confirming model suitability through Hausman and Lagrangian Multiplier tests. Financial distress is measured using the Altman Z-score, while managerial shareholding and LLPs are derived from audited financial statements. Results reveal that managerial shareholding significantly increases the likelihood of distress, suggesting that higher insider ownership undermines financial stability. LLPs also exert a significant effect and moderate the relationship between managerial shareholding and distress. These findings support agency and stakeholder theories, underscoring the importance of governance and provisioning practices in strengthening bank resilience. The study recommends enhanced regulatory oversight and improved governance frameworks.

Keywords: Managerial Shareholding, Financial Distress, Loan Loss Provisions, Nigerian Banks

INTRODUCTION

Financial distress remains a major concern in the banking sector due to its potential to disrupt financial stability and economic growth. It is commonly defined as a situation in which firms are unable to meet their financial obligations, which may lead to insolvency or liquidation if not effectively managed (Borges, 2025). Following the 2008 global financial crisis, attention has increasingly focused on identifying governance and institutional factors that influence banks' vulnerability to distress (Akgun, 2024). This is particularly important in emerging economies where financial systems are often more fragile.

In Sub-Saharan Africa, financial distress in banks has been linked to macroeconomic instability, weak governance, and regulatory inefficiencies (Opoku et al., 2024). The Nigerian banking sector presents a notable case. Despite reforms such as the 2005 recapitalization exercise, the sector experienced significant instability during the 2009 banking crisis, which exposed issues such as poor governance, insider abuses, and inadequate loan provisioning (Sanusi, 2012). Although regulatory oversight has improved, Nigerian deposit money banks remain vulnerable to financial distress due to credit risk exposure and discretionary financial reporting practices.

Ownership structure is a critical governance mechanism that shapes managerial incentives, monitoring, and risk-taking behavior. In particular, managerial shareholding plays a dual role. It can align managers' interests with those of shareholders, thereby reducing agency conflicts, but it can also lead to managerial entrenchment when ownership becomes concentrated, encouraging opportunistic behavior and delayed recognition of financial distress (Shan et al., 2024). This duality makes managerial ownership an important factor in explaining the likelihood of financial distress in banks.

The relationship between managerial shareholding and financial distress is further influenced by loan loss provisions (LLPs). LLPs are reserves set aside to cover expected loan losses and are essential for credit risk

management in banks. However, they are also highly discretionary and can be used for earnings management or capital smoothing (Biswas et al., 2024). In Nigeria, banks often adjust provisions strategically, by under-provisioning during good periods and over-provisioning during downturns, thereby masking underlying financial conditions (Ozili, 2024). As such, LLPs can either enhance financial resilience or obscure early signs of distress, depending on how they are applied.

Despite existing studies on ownership structure and financial distress (Galdi et al., 2021; Wahba, 2024), there is limited evidence on how loan LLPs moderate this relationship, particularly in emerging economies like Nigeria. Prior studies have examined these variables independently, thereby overlooking their interactive effects (Shan et al., 2024; Akgun, 2024). This creates a gap in understanding how governance mechanisms and accounting discretion jointly shape financial outcomes in the banking sector. Thus, the problem addressed in this study is the persistent vulnerability of Nigerian deposit money banks to financial distress despite regulatory reforms. Issues such as rising non-performing loans, inadequate provisioning, and insider control continue to undermine financial stability (Umar et al., 2024). While managerial shareholding influences governance and decision-making, its interaction with LLPs in determining financial distress remains insufficiently explored.

Accordingly, the main objective of this study is to examine the effect of managerial shareholding on the likelihood of financial distress in Nigerian listed deposit money banks, with particular emphasis on the moderating role of LLPs. Specifically, the study seeks to: (i) evaluate the effect of managerial shareholding on the likelihood of financial distress; (ii) examine the effect of LLPs on the likelihood of financial distress; and (iii) investigate the moderating effect of LLPs on the relationship between managerial shareholding and the likelihood of financial distress. This study contributes to the literature by integrating managerial ownership and accounting discretion into a unified framework for analyzing financial distress. It also introduces a moderation perspective, providing deeper insights into how LLPs influence the governance–distress relationship. Furthermore, by focusing on the Nigerian banking sector, the study offers context-specific evidence that is relevant for regulators, policymakers, and practitioners in emerging economies.

Theory and Evidence

This study is anchored on agency theory, which provides a fundamental explanation for the relationship between managerial shareholding and the likelihood of financial distress. Agency theory posits that conflicts of interest arise between managers (agents) and shareholders (principals), primarily because managers may pursue personal objectives at the expense of shareholders' wealth (Jensen & Meckling, 1976). Within the banking context, managerial shareholding is expected to align the interests of managers with those of shareholders by linking managerial wealth to firm performance. However, the theory also recognizes that managerial ownership may produce contrasting outcomes depending on its concentration. While moderate ownership can strengthen alignment and monitoring, excessive ownership may result in managerial entrenchment, reducing external oversight and increasing the scope for opportunistic behavior. LLPs, due to their discretionary nature, provide a channel through which such agency conflicts may manifest, as managers can adjust provisions to influence reported earnings and obscure underlying financial conditions (Mnif & Imen, 2023). Thus, agency theory predicts that the relationship between managerial shareholding and financial distress is contingent on the balance between incentive alignment and managerial entrenchment, as well as the degree of accounting discretion available to managers.

Complementing this perspective, stakeholder theory emphasizes the broader responsibility of banks to multiple stakeholders, including depositors, regulators, and the public, whose interests extend beyond those of shareholders (Sharma & Singh, 2025). In the banking sector, where systemic risk is high, financial reporting practices such as loan loss provisioning carry significant implications for stakeholder confidence and financial stability. Stakeholder theory suggests that governance mechanisms should encourage transparency and accountability in order to safeguard the interests of diverse stakeholder groups. Consequently, banks with stronger governance structures are more likely to adopt prudent provisioning practices that enhance financial stability, whereas weak governance and dominant managerial control may encourage the opportunistic use of LLPs, thereby undermining stakeholder trust. From this perspective, LLPs function not only as risk management tools but also as signals of financial soundness and managerial accountability. The integration of agency and

stakeholder theories therefore provides a comprehensive framework for understanding how managerial shareholding and LLPs jointly influence the likelihood of financial distress in Nigerian listed deposit money banks.

The relationship between managerial shareholding and financial distress has generated mixed empirical evidence, reflecting differences in governance environments, ownership structures, and institutional settings. A common theme across the literature is that managerial ownership may either reduce or increase distress depending on its magnitude. Studies such as Shan et al. (2024) suggest that moderate levels of managerial ownership improve governance effectiveness by aligning managerial and shareholder interests, thereby reducing financial distress. In contrast, studies by Guizani and Abdalkrim (2023) and Metwally et al. (2025) report that higher managerial ownership is associated with weaker monitoring and a greater tendency to conceal early signs of financial problems. These contrasting findings indicate that managerial ownership does not exert a uniform effect across contexts. Rather, the benefits of ownership alignment appear to dominate in environments characterized by effective governance and strong monitoring mechanisms, while the entrenchment effect becomes more pronounced where governance structures are weak and managerial discretion is high. Given the governance challenges documented in the Nigerian banking sector, the latter effect may be more relevant, suggesting a significant relationship between managerial shareholding and financial distress.

The literature on LLPs similarly reveals a dual and context-dependent role. On one hand, LLPs are intended to absorb expected credit losses and strengthen banks' resilience against financial shocks. On the other hand, their discretionary nature creates opportunities for earnings management and capital manipulation. Studies such as Biswas et al. (2024) and Ozili (2024) found that banks frequently use LLPs for income smoothing and capital management, particularly in regulatory environments where monitoring is less stringent. However, these studies also acknowledge that prudent provisioning can improve financial stability by strengthening capital buffers and facilitating early recognition of credit deterioration. Evidence from African banking systems further suggests that inadequate or strategically timed provisioning contributes to financial distress because it distorts the true financial position of banks and delays corrective action (Ozili & Thankom, 2023). Collectively, these studies indicate that the effect of LLPs depends largely on whether they are used as prudential tools or as instruments of managerial discretion, thereby explaining the divergent findings reported in the literature.

Beyond their direct effects, an emerging stream of literature suggests that LLPs may shape the governance - distress relationship. The common argument is that managerial incentives influence how provisioning decisions are made and, consequently, how financial distress is recognized or concealed. Ozili (2024) observed that banks with stronger insider control are more likely to engage in opportunistic provisioning practices, particularly during periods of declining performance. Similarly, Shan et al. (2024) argued that managerial dominance can weaken board oversight and reduce the effectiveness of risk management mechanisms, including loan loss provisioning. Taken together, these studies suggest that LLPs may either amplify or mitigate the effects of managerial ownership depending on the governance environment. Where monitoring is weak, LLPs may facilitate earnings smoothing and delay the recognition of distress, thereby strengthening the adverse effects of managerial entrenchment. Conversely, where governance structures are strong, LLPs may enhance transparency and act as a stabilizing mechanism that reduces distress risk. Despite these insights, empirical evidence on the moderating role of LLPs remains limited, particularly in emerging economies such as Nigeria. This gap is important because it suggests that existing studies have yet to fully explain how managerial ownership and provisioning behavior interact to influence financial distress outcome.

In line with the foregoing discussion, this study formulates the following hypotheses:

H₀₁: Managerial shareholding has a significant effect on the likelihood of financial distress in Nigerian listed deposit money banks.

H₀₂: Loan loss provisions have a significant effect on the likelihood of financial distress in Nigerian listed deposit money banks.

H₀₃: Loan loss provisions significantly moderate the relationship between managerial shareholding and the likelihood of financial distress in Nigerian listed deposit money banks.

METHODS

This study adopts a quantitative research design to examine the effect of managerial shareholding on the likelihood of financial distress in Nigerian deposit money banks, with particular emphasis on the moderating role of LLPs. The choice of a quantitative approach is consistent with the nature of the study, which seeks to establish empirical relationships among measurable variables using statistical techniques (Creswell & Creswell, 2018). The study employs a panel data research design, which combines cross-sectional and time-series observations to provide more efficient estimates and control for unobserved heterogeneity across firms (Baltagi, 2005).

The population of the study comprises all listed deposit money banks in Nigeria. Specifically, the study focuses on the 14 deposit money banks listed on the Nigerian Exchange Group (NGX) as at the end of 2024. These banks were selected due to their compliance with uniform regulatory and reporting standards set by relevant authorities such as the Central Bank of Nigeria (CBN) and the Financial Reporting Council of Nigeria (FRCN), ensuring data consistency. Given the manageable population size, the study adopts a census sampling technique, which involves the inclusion of all population elements and eliminates sampling bias (Saunders et al., 2019).

The study covers a ten-year period from 2015 to 2024. This period is selected to capture significant regulatory and macroeconomic developments within the Nigerian banking sector, including the adoption of International Financial Reporting Standards 9 (IFRS 9), which introduced the expected credit loss model for loan loss provisioning. It also encompasses major economic events such as the 2016 recession and the COVID-19 pandemic, both of which had implications for banks' financial performance. The use of longitudinal data enhances the study's ability to analyze trends and dynamic relationships over time (Wooldridge, 2010).

The data for the study were obtained from secondary sources, primarily the audited annual reports and financial statements of the selected banks. Secondary data are appropriate for this type of research as they provide standardized, objective, and verifiable measures of financial and governance variables (Gujarati & Porter, 2009). The use of audited financial statements ensures reliability and aligns with established practices in financial distress and corporate governance research.

LLPs, which serve as both an explanatory and moderating variable, are measured as a ratio of provisions to total loans or total assets. This measure reflects the extent of provisioning relative to the loan portfolio and captures managerial discretion in financial reporting. In line with the study's framework, an interaction term between managerial shareholding and LLPs is included to examine the moderating effect of provisioning on the relationship between managerial ownership and financial distress.

The study controls for firm size, leverage, and profitability as key firm-specific characteristics that may influence financial distress. Firm size (FSZ) is typically measured as the natural logarithm of total assets, reflecting the scale of operations; leverage (LEV) is measured as the ratio of total debt to total assets, capturing financial risk; while profitability (PRO) is proxied by return on assets, indicating operational efficiency. These variables are widely recognized in the literature as important determinants of financial stability and are included to isolate the effect of managerial shareholding and LLPs on financial distress (Shan et al., 2024).

The study employs panel regression techniques for data analysis. Both fixed effects and random effects models are estimated to account for firm-specific heterogeneity. The Hausman specification test is conducted to determine the most appropriate model based on the consistency of the estimators (Hausman, 1978). The functional model is specified as:

$$FD_{it} = \alpha_0 + \beta_1 MSH_{it} + \beta_2 LLP_{it} + \beta_3 LLP * MSH_{it} + \beta_4 PRO_{it} + \beta_5 FSZ_{it} + \beta_6 LEV_{it} + \varepsilon_{it}$$

Where Financial Distress (FD) represents the dependent variable, MSH denotes managerial shareholding, LLP represents loan loss provisions, PRO represents Profitability, FSZ is the firm size, while LEV represents the leverage and the interaction term captures the moderating effect. The coefficients represent the magnitude and direction of the relationships, while ε is the error term.

Financial distress, the dependent variable, is measured using the Altman Z-score model, which combines profitability, leverage, liquidity, solvency, and activity ratios to provide a composite indicator of a firm's likelihood of distress (Altman, 1968). Although the Altman Z-score was originally developed for manufacturing firms, its application in the banking sector remains justified because it provides a comprehensive measure of financial health by combining indicators of profitability, liquidity, leverage, solvency, and operational efficiency into a single distress prediction model. Several studies have successfully adapted the model in banking research, particularly in emerging economies, because it serves as an effective early warning indicator of financial vulnerability and enables comparisons across institutions (Kebede et al., 2024; Daniel et al., 2024). Despite criticisms relating to the unique capital structure and regulatory environment of banks, the Altman Z-score remains a useful proxy for financial distress when used alongside bank-specific variables and appropriate robustness checks, as it captures the overall financial condition of banking institutions and facilitates empirical analysis of distress determinants.

The main independent variable, managerial shareholding, is measured as the proportion of shares held by executive directors and top management relative to total outstanding shares, reflecting the degree of insider ownership and control. LLPs, which serve as both an explanatory and moderating variable, are measured as the ratio of LLPs to total loans (TL), capturing the extent of provisioning and managerial discretion in credit risk reporting. The moderating effect is assessed through an interaction term between managerial shareholding and LLPs. In addition, the study includes firm size, leverage, and profitability as control variables. Firm size is measured as the natural logarithm of total assets, leverage is proxied by the ratio of total debt to total assets, and profitability is measured using return on assets (ROA). These variables are included because of their established influence on financial distress and firm performance in the banking sector

To ensure the validity and reliability of the results, diagnostic tests are conducted, including tests for multicollinearity, heteroskedasticity, and serial correlation. Where violations of classical assumptions are detected, appropriate corrections such as robust standard errors are applied (Wooldridge, 2010).

RESULTS AND DISCUSSION

This section presents the empirical results of the study and provides a comprehensive discussion of the findings. The analysis begins with descriptive statistics to summarize the key characteristics of the variables, followed by diagnostic and inferential analyses to test the study hypotheses. Specifically, the section reports descriptive statistics, normality and correlation analysis, multicollinearity and other diagnostic tests, and the regression results based on Ordinary Least Squares (OLS). The choice of OLS is justified based on the outcomes of the Hausman and Lagrangian Multiplier tests, which indicate that pooled regression is the most appropriate estimation technique for the dataset.

The descriptive statistics provide an overview of the distribution and central tendencies of the study variables, including financial distress (Altman Z-score), managerial shareholding, loan loss provisions, firm size, leverage, and profitability. The results are presented in Table 1.

Table 1: Descriptive Analysis

Variable	Mean	Std. Dev.	Minimum	Maximum
Financial Distress (Z)	2.145	0.873	0.921	4.102
Managerial Shareholding	0.182	0.097	0.021	0.451
Loan Loss Provisions	0.064	0.028	0.015	0.143
Firm Size	14.872	0.963	12.901	16.745
Leverage	0.812	0.074	0.621	0.921
Profitability (ROA)	0.021	0.013	-0.012	0.058

Source: Author's Computation (2026)

The results indicate that the average Altman Z-score of 2.145 suggests that, on average, Nigerian deposit money banks operate within a grey zone of financial health, implying moderate vulnerability to financial distress. The relatively wide range between the minimum (0.921) and maximum (4.102) values reflects variability in financial stability across banks. Managerial shareholding has a mean value of 18.2%, indicating a moderate level of insider ownership within the banking sector. The dispersion suggests that while some banks have minimal managerial ownership, others exhibit relatively high insider control, which may influence governance outcomes.

LLPs have a mean value of 6.4%, reflecting the extent to which banks set aside reserves for potential credit losses. The variation in LLPs indicates differences in provisioning behavior, which may be influenced by managerial discretion and risk exposure. Firm size shows relatively low variability, suggesting that the sampled banks are fairly comparable in scale. Leverage has a high mean value of 81.2%, consistent with the capital structure of banks, which rely heavily on debt financing. Profitability, measured by return on assets, shows a relatively low average of 2.1%, with some banks recording negative values, indicating periods of poor financial performance.

To ensure the appropriateness of the data for regression analysis, normality and correlation tests were conducted. The normality test examines whether the variables are approximately normally distributed, which is important for reliable statistical inference, while the correlation analysis evaluates the strength and direction of the relationships among the variables and provides preliminary insights into potential associations.

Table 2: Normality Test

Variable	Skewness	Kurtosis
Financial Distress (Z)	0.312	2.845
Managerial Shareholding	0.528	3.112
Loan Loss Provisions	0.674	3.298
Firm Size	-0.221	2.564
Leverage	-0.487	2.731
Profitability (ROA)	0.593	3.421

Source: Author's Computation (2026)

The results in Table 2 show that all variables exhibit skewness values within the acceptable threshold of ± 1 , indicating that the data are fairly symmetrical. Similarly, the kurtosis values are close to 3, suggesting that the variables follow a normal distribution. These results imply that the data do not suffer serious departures from normality and are suitable for regression analysis.

Next, the correlation analysis is conducted to examine the associations among the independent variables

Table 3: Correlation Analysis

Variables	Z-Score	MSH	LLP	FSZ	LEV	ROA
Financial Distress (Z)	1.000					
Managerial Shareholding	-0.284	1.000				
Loan Loss Provisions	-0.361	0.219	1.000			

Firm Size	0.402	-0.178	-0.095	1.000		
Leverage	-0.315	0.143	0.287	-0.221	1.000	
Profitability (ROA)	0.517	-0.204	-0.331	0.356	-0.298	1.000

Source: Author's Computation (2026)

The correlation results reveal several important relationships in table 3. Financial distress (Z-score) is negatively correlated with managerial shareholding (-0.284), suggesting that higher managerial ownership may be associated with increased distress risk, possibly due to entrenchment effects. LLPs also exhibit a negative relationship with financial distress (-0.361), indicating that higher provisioning may be linked to lower financial health, potentially reflecting higher credit risk exposure. Firm size shows a positive correlation with financial distress (0.402), implying that larger banks tend to be more financially stable. Profitability has the strongest positive correlation with financial distress (0.517), suggesting that more profitable banks are less likely to experience distress. Conversely, leverage is negatively correlated with financial distress (-0.315), indicating that higher debt levels may increase financial vulnerability.

Importantly, the correlation coefficients among the independent variables are generally low to moderate, with no value exceeding 0.8. This suggests the absence of strong multicollinearity among the explanatory variables, making them suitable for inclusion in the regression model.

To ensure the reliability of the regression estimates, diagnostic tests were conducted, including tests for multicollinearity, heteroscedasticity, and model specification. In addition, the Hausman and Lagrangian Multiplier (LM) tests were performed to determine the most appropriate estimation technique for the panel data.

Table 4: Multicollinearity Test

Variable	VIF	Tolerance
Managerial Shareholding	1.42	0.704
Loan Loss Provisions	1.58	0.633
Firm Size	1.36	0.735
Leverage	1.49	0.671
Profitability (ROA)	1.62	0.617
Mean VIF	1.49	

Source: Author's Computation (2026)

The results in Table 4 indicate that all the independent variables have Variance Inflation Factor (VIF) values well below the conventional threshold of 10, with a mean VIF of 1.49. Similarly, the tolerance values are all above 0.1, suggesting that multicollinearity is not a concern in the model. This implies that the explanatory variables are not highly correlated with one another, and the estimated coefficients are reliable and stable.

The Hausman and Breusch–Pagan Lagrangian Multiplier (LM) tests were conducted to determine the most appropriate estimation technique for the panel data. The Hausman test compares the fixed effects and random effects models, with the null hypothesis indicating that the random effects model is consistent and efficient. The result of the Hausman test produced a chi-square statistic of 4.27 with a probability value of 0.639, which is not statistically significant at the 5% level. This implies that the null hypothesis cannot be rejected, suggesting that the random effects model is preferred to the fixed effects model. However, to further ascertain whether a panel

model is required, the LM test was performed to compare the random effects model with pooled Ordinary Least Squares (OLS). The LM test yielded a chi-square statistic of 1.12 with a probability value of 0.289, indicating that the null hypothesis is of no panel effect and cannot be rejected. This suggests that there is no significant difference between the panel estimator and pooled OLS. Consequently, the results of both tests support the use of pooled OLS as the most appropriate estimation technique for this study. These results were not presented for brevity.

Following the diagnostic tests, Ordinary Least Squares (OLS) regression was employed to examine the effect of managerial shareholding and loan loss provisions on financial distress, as well as the moderating role of loan loss provisions. The results are presented in Table 5.

Table 5: OLS Regression Analysis

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	1.284	0.512	2.51	0.013
Managerial Shareholding (MSH)	-0.842	0.291	-2.89	0.005
Loan Loss Provisions (LLP)	-1.376	0.458	-3.01	0.003
MSH × LLP	0.965	0.372	2.59	0.011
Firm Size	0.214	0.076	2.82	0.006
Leverage	-1.158	0.439	-2.64	0.009
Profitability (ROA)	3.472	1.021	3.40	0.001
R-squared	0.621			
Adj. R-squared	0.593			
F-Statistic	21.47			0.000

Source: Author's Computation (2026)

The regression results indicate that the model is statistically significant, as evidenced by the F-statistic (21.47) with a probability value of 0.000. The adjusted R^2 of 0.593 suggests that approximately 59.3% of the variation in financial distress is explained by the independent and control variables included in the model.

Managerial shareholding (MSH) has a negative and statistically significant coefficient ($\beta = -0.842$, $p < 0.01$), indicating that higher managerial ownership is associated with a decrease in the Altman Z-score and, consequently, a higher likelihood of financial distress. Therefore, H_{01} is rejected. While agency theory suggests that managerial ownership can align the interests of managers and shareholders, the present finding indicates that the entrenchment effect outweighs the alignment effect within the Nigerian banking sector. This result differs from studies such as Shan et al. (2024), which found that managerial ownership improves governance effectiveness and reduces financial vulnerability. A plausible explanation for this divergence lies in differences in institutional quality and governance enforcement. In jurisdictions characterized by strong investor protection and effective monitoring mechanisms, managerial ownership may encourage long-term value creation. In contrast, the Nigerian banking environment has historically faced governance challenges, including insider-related lending, weak monitoring, and concentrated decision-making, which may allow managers with substantial ownership stakes to exercise disproportionate influence over strategic and reporting decisions. Consequently, managerial ownership may strengthen managerial discretion rather than managerial accountability. The findings therefore support the arguments of (Guizani & Abdalkrim, 2023; Metwally et al.,

2025), who reported that higher managerial control can weaken oversight and increase the tendency to conceal emerging financial problems. The result also suggests that ownership structures cannot be evaluated independently of the institutional environment within which they operate.

LLPs also exhibit a negative and significant relationship with financial distress ($\beta = -1.376$, $p < 0.01$), leading to the rejection of H_{02} . At first glance, this finding may appear counterintuitive because provisioning is generally intended to strengthen bank resilience against credit losses. However, the result becomes more understandable when considered within the context of banking operations. Higher provisions often reflect deteriorating asset quality and elevated credit risk rather than prudent risk management alone. Thus, the negative relationship may indicate that banks experiencing greater financial stress are compelled to recognize larger expected credit losses. This interpretation is consistent with the findings of (Ozili, 2024; Biswas et al., 2024), who argue that LLPs often reflect underlying risk conditions and managerial incentives simultaneously. The result also highlights a key distinction between developed and emerging banking systems. In many developed jurisdictions, strong supervisory frameworks ensure that provisions primarily serve prudential purposes. In contrast, emerging markets may experience greater variability in provisioning practices due to regulatory discretion, information asymmetry, and earnings management incentives. Consistent with (Ozili & Thankom, 2023), the findings suggest that LLPs may serve as indicators of latent financial weakness rather than merely protective buffers against future losses. From a stakeholder theory perspective, this underscores the importance of transparent provisioning practices for maintaining depositor and investor confidence.

The interaction term between managerial shareholding and LLPs is positive and statistically significant ($\beta = 0.965$, $p < 0.05$), resulting in the rejection of H_{03} . This finding suggests that loan loss provisions moderate the relationship between managerial ownership and financial distress by weakening the adverse effect of managerial shareholding. Unlike the direct effect of LLPs, which reflects underlying credit risk exposure, the interaction effect indicates that higher provisioning may constrain managerial opportunism and improve the recognition of emerging risks. This finding contributes to the literature by demonstrating that the consequences of managerial ownership depend partly on the quality of financial reporting mechanisms. While managerial ownership alone may encourage entrenchment, its adverse effects appear less severe when banks maintain stronger provisioning practices. This result is broadly consistent with (Ozili, 2024), who argues that provisioning decisions reflect managerial incentives and influence financial outcomes, and with (Shan et al., 2024), who emphasize the interaction between governance mechanisms and financial reporting practices. An alternative interpretation is that stringent provisioning requirements imposed under IFRS 9 and regulatory supervision may limit the ability of dominant managers to delay the recognition of credit losses. Consequently, LLPs may function as a governance-enhancing mechanism that offsets some of the risks associated with concentrated managerial ownership. This finding is particularly relevant in Nigeria, where regulatory reforms have increasingly focused on strengthening loan classification and provisioning standards following previous banking crises.

Among the control variables, firm size has a positive and significant effect on financial stability ($\beta = 0.214$, $p < 0.01$), while leverage has a negative and significant effect ($\beta = -1.158$, $p < 0.01$). Profitability also exhibits a positive and significant relationship with financial stability ($\beta = 3.472$, $p < 0.01$). These findings are generally consistent with prior studies that identify size and profitability as sources of resilience and leverage as a source of financial vulnerability (Abdulkadir et al., 2025; Shan et al., 2024). However, the Nigerian banking context again provides an important perspective. Larger banks in Nigeria typically benefit from stronger capitalization, greater diversification opportunities, and closer regulatory scrutiny, which may explain their lower likelihood of distress. Similarly, profitable banks possess greater capacity to absorb unexpected shocks and maintain adequate provisions. In contrast, high leverage remains a concern because excessive dependence on borrowed funds can magnify financial pressures during periods of economic uncertainty.

The interaction plot demonstrates that the relationship between managerial shareholding and financial distress varies according to the level of LLPs. This relationship is illustrated in Figure 1 below:

Moderating effect of loan loss provisions

The adverse effect of managerial shareholding on financial stability weakens at higher levels of loan loss provisions.



Figure 1: Interaction Effect Graph

At low levels of LLPs, increases in managerial shareholding are associated with a steeper decline in the Altman Z-score, indicating a higher likelihood of financial distress. However, at high levels of LLPs, the decline in the Z-score is less pronounced, suggesting that stronger provisioning practices weaken the adverse effect of managerial ownership on financial stability. This graphical evidence supports the positive and significant interaction coefficient reported and reinforces the argument that prudent provisioning can partially mitigate the risks associated with managerial entrenchment.

To address potential endogeneity arising from reverse causality and omitted variable bias, a dynamic panel regression model was estimated using the two-step System Generalized Method of Moments (System-GMM) estimator developed by Arellano and Bover (1995) and Blundell and Bond (1998). The inclusion of the lagged dependent variable accounts for the persistence of financial distress over time, while the GMM framework controls for potential endogeneity among the explanatory variables. The results are presented in Table 5:

Table 6: Dynamic Panel Regression

Variables	Coefficient	Std. Error	z-Statistic	Prob.
L.Financial Distress	0.421	0.117	3.60	0.000
Managerial Shareholding (MSH)	-0.764	0.248	-3.08	0.002
Loan Loss Provisions (LLP)	-1.214	0.411	-2.95	0.003
MSH × LLP	0.841	0.337	2.50	0.012
Firm Size	0.186	0.069	2.70	0.007
Leverage	-1.037	0.392	-2.65	0.008
Profitability (ROA)	3.118	0.944	3.30	0.001
AR(1) Test			-2.84	0.005
AR(2) Test			-1.21	0.226
Hansen J-Test			11.43	0.371

Number of Instrument			12	
Number of Groups			14	
Number of Observation			140	

The System-GMM results are broadly consistent with the OLS findings, indicating the robustness of the study's conclusions. Managerial shareholding remains negatively and significantly associated with financial distress ($\beta = -0.764$, $p < 0.01$), confirming that higher insider ownership increases the likelihood of financial distress. Similarly, LLPs continue to exhibit a significant negative effect on financial distress ($\beta = -1.214$, $p < 0.01$). The interaction term between managerial shareholding and LLPs remains positive and statistically significant ($\beta = 0.841$, $p < 0.05$), suggesting that prudent provisioning moderates the adverse impact of managerial ownership on financial stability. The diagnostic statistics further support the validity of the model. The significant AR(1) statistic and insignificant AR(2) statistic indicate the absence of second-order serial correlation, while the Hansen J-test statistic ($p = 0.371$) confirms the validity of the instruments used in the estimation. The consistency between the OLS and System-GMM results suggests that endogeneity does not materially affect the study's findings and provides additional confidence in the robustness of the reported relationships.

CONCLUSIONS AND RECOMMENDATIONS

This study examined the effect of managerial shareholding on the likelihood of financial distress in Nigerian listed deposit money banks, with a specific focus on the role of LLPs. The findings reveal that managerial shareholding significantly influences financial distress, with evidence suggesting that higher insider ownership may exacerbate financial vulnerability due to entrenchment effects. LLPs were also found to have a significant effect on financial distress, reflecting their dual role as both a risk management tool and a mechanism for managerial discretion. Importantly, the study established that LLPs significantly moderate the relationship between managerial shareholding and financial distress, indicating that prudent provisioning can mitigate the adverse effects of managerial dominance. Based on these findings, the study's recommendations are as follows:

- i. Regulators such as the Central Bank of Nigeria (CBN) and the Financial Reporting Council of Nigeria (FRCN) should strengthen oversight on managerial ownership structures in banks by introducing clear thresholds and enhanced disclosure requirements. This will help prevent excessive managerial control that may lead to entrenchment and opportunistic behavior, thereby reducing the likelihood of financial distress.
- ii. There is a need to enforce stricter guidelines on loan loss provisioning to minimize managerial discretion and earnings manipulation. Regulators should ensure full compliance with IFRS 9 and enhance monitoring mechanisms to promote timely and adequate recognition of credit losses, thereby improving transparency and the reliability of financial statements.
- iii. Bank boards and shareholders should strengthen internal governance mechanisms, particularly through effective audit and risk committees, to ensure that provisioning decisions are aligned with economic realities rather than managerial incentives. This will enhance accountability, improve risk management practices, and ultimately contribute to the financial stability of deposit money banks.

This study is subject to certain limitations that provide opportunities for future research. First, the study focuses only on listed deposit money banks in Nigeria, which may limit the generalizability of the findings to unlisted banks and other financial institutions. Secondly, the use of accounting-based measures such as the Altman Z-score and financial statement data may not fully capture market-based or macroeconomic dimensions of financial distress. Another limitation is that the study assumes a linear relationship between managerial shareholding and financial distress and does not examine the possibility of a non-linear or U-shaped relationship. Thus, the study may not fully capture situations where moderate levels of managerial ownership reduce financial distress through interest alignment, while very high ownership levels increase distress due to managerial entrenchment, as suggested by agency theory. Nevertheless, the study remains important because it provides empirical evidence

on the direct and moderating effects of managerial shareholding and LLPs in the Nigerian banking sector, thereby contributing to the limited literature on governance and financial distress in emerging economies. Future research could extend this study by incorporating additional governance and macroeconomic variables, employing alternative measures of financial distress such as market-based indicators, or conducting comparative analyses across different countries or financial sectors. Such extensions would provide a more comprehensive understanding of the determinants of financial distress and enhance the robustness of empirical findings.

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