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Corporate governance mechanisms and performance of banks in Africa: Empirical evidence from Nigeria

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Abstract: The varied results in assessing corporate governance in banks may be attributable to the utilization of various measures considering endogeneity issues in different contexts. This study offers new insights to address the inconsistencies in the corporate governance literature concerning the effects of corporate governance mechanisms. Therefore, this study investigates how corporate governance affects the performance of selected Nigerian deposit money banks, one of Africa's largest economies. The research purposively selected ten (10) deposit money institutions. From 2013 to 2023, a ten-year span of business activities provided the secondary data used in the study. Subsequently, a post-estimation test and a panel estimation approach incorporating random effects, fixed effects, and pooled OLS were employed to analyze the data produced for the research. Both the fixed effect and random effect Hausman tests were run. The fixed effect model was thus chosen in light of the special circumstances that required the selection of either effect as per the Hausman test. The findings demonstrated that, throughout the study period, the performance of the deposit money institutions in Nigeria was positively impacted by board size (BOS), board composition (BOC), and directors' equity interest (DEI), in both substantial and minor ways. The study thus suggests that to fully realize the potential advantages of having a diverse board membership, attention should be directed towards alternative governance or support arrangements. Likewise, while board independence, competency, and diversity are more closely associated with bank performance, laws should emphasize these attributes rather than dictating DMOs' preferred board sizes.

Keywords: Board size, Board composition, Directors' equity interest, Deposit money bank, Financial Performance. **JEL Classification:** G32; M13.

1. Introduction

Corporate governance is the system by which companies are managed and guided. It includes a range of practices and policies that govern the interactions between a company's management, board of directors, shareholders, and other stakeholders. Good corporate governance is essential for upholding the integrity of financial markets, safeguarding investors, and promoting the economic well-being of nations [1]. In Nigeria, the banking segment plays a critical role in the economy, making corporate governance practices in this sector particularly important. Deposit money banks (DMBs), including commercial and merchant banks, are essential for mobilizing savings and directing them into productive investments. Consequently, the governance of these banks directly impacts their performance and economic growth. The factors influencing corporate governance in banks are diverse, including regulatory frameworks, board composition and diversity, ownership structure, risk management

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practices, and executive compensation [2, 3]. Each factor significantly affects governance outcomes and bank performance [4, 5].

The Nigerian banking sector has undergone significant reforms to enhance corporate governance, driven by past financial crises and scandals that revealed weaknesses in governance structures. For example, the 2009 banking crisis exposed major deficiencies in governance and risk management practices, prompting regulatory interventions and reforms [6]. Key aspects of commercial governance in the banking sector include the composition and operation of the board of directors, the role of regulatory bodies, the enforcement of ethical standards, and the execution of risk management frameworks. Aligning executive compensation with performance objectives is crucial for mitigating agency problems and ensuring management acts in shareholders' best interests [4]. Incentive-based compensation schemes can motivate executives to pursue long-term strategic goals that enhance bank performance [5]. Overall, effective governance practices ensure banks operate transparently and accountably, mitigating risks and improving operational efficiency.

The 2009 banking crisis underscored significant weaknesses in risk management practices, leading to regulatory reforms aimed at strengthening these frameworks [6]. Empirical evidence shows that banks with strong risk management practices tend to have lower levels of non-performing loans and higher profitability [7]. However, excessive risk-taking driven by short-term incentives can lead to financial instability. Studies indicate that balanced compensation structures, which reward long-term performance and include risk-adjusted metrics, are more effective in promoting sustainable bank performance [8]. The introduction of the Code of Corporate Governance for Banks and Discount Houses in Nigeria by the CBN in 2006, and its subsequent revisions, highlight the importance of robust regulatory oversight in promoting good governance [9]. Empirical evidence suggests that strong regulatory frameworks enhance transparency, reduce financial misconduct, and improve overall bank performance [10].

Given the banking industry's critical role in financial intermediation, risk management, and economic development, robust governance mechanisms are essential. Banks, entrusted with public funds, have operations that significantly impact the broader economy. Therefore, strong corporate governance in banks is fundamental to protecting depositors' interests, ensuring regulatory compliance, and preventing financial misconduct and crises [11]. The performance of deposit money banks in Nigeria is measured using financial indicators such as return on assets (ROA), return on equity (ROE), and net interest margin (NIM). ROA measures the net income generated per dollar of assets, indicating how efficiently a bank uses its assets to generate profit. ROE measures the net income as a percentage of shareholders' equity, reflecting the return on shareholders' investments [12]. These performance metrics are influenced by the quality of corporate governance practices in place. Studies have shown that banks with strong governance frameworks tend to exhibit better financial performance, higher profitability, and greater resilience to economic shocks [13]. Comprehension of the elements of corporate governance and their impact on bank performance is crucial for policymakers, regulators, and banking executives. This research study aimed to discover these determinants in the context of Nigerian deposit money banks, providing insights that can inform policy adjustments, enhance governance practices, and ultimately contribute to the stability and growth of Nigeria's banking sector. The hypothesis tested in this study is stated as: H_{01} : The determinants of corporate governance do not have a statistically significant effect on the performance of selected deposit money banks in Nigeria.

2. Literature Review

2.1. Concept of Corporate Governance

Becht, et al. [14] discuss resolving conflicts of interest between various business stakeholders and resolving collective action difficulties among scattered investors. To overcome agency difficulties, their definition places a strong emphasis on governance. Comparably, corporate governance is defined by Denis and McConnell [15] as a collection of institutional and market-based systems that encourage self-serving managers to maximize business value for shareholders. According to Gillan and Starks

[16] corporate governance is defined by the procedures, laws, and guidelines that specify how companies must be run. Their concept emphasizes the complete character of corporate governance by highlighting the internal and external variables that impact the interests of a company's stakeholders, which include shareholders, employees, consumers, and the community [17].

The concept of corporate governance by the Organization for Economic Co-operation and Development (OECD) [18] broadens its definition to encompass the interactions of a firm's shareholders, management, board, and other stakeholders. It focuses on the organizational structure that sets, monitors, and achieves company objectives. To promote good governance, the OECD emphasizes the significance of accountability, transparency, and stakeholder rights protection. Corporate governance is defined by Shleifer and Vishny [19] as the systems that guarantee investors who provide capital to companies get returns on their investments. The main focus of their viewpoint is to tackle agency issues that arise from the division of ownership and control. They emphasize that to prevent management opportunism and guarantee efficient corporate performance, managers' interests must be aligned with shareholders.

2.2. Concept of Performance

Performance, especially in the framework of organizations like banks, refers to how effectively an entity meets its objectives and achieves desired outcomes [20]. It incorporates various proportions, including financial performance, operational efficiency, customer satisfaction, and regulatory compliance. Key components of performance in the banking sector include:

- a) Financial Performance: This component evaluates an organization's profitability and financial health using measures including earnings per share (EPS), net interest margin (NIM), return on assets (ROA), and return on equity (ROE). A key indication for stakeholders, financial performance shows how well a business uses its resources to create profit [20].
- b) Operational Efficiency: The ability of an organization to efficiently manage its activities to reduce expenses and increase output is known as operational efficiency. Process efficiency indicators, productivity ratios, and the cost-to-income ratio are examples of metrics. Financial performance is frequently improved by increased operational efficiency [21].
- c) Customer satisfaction metrics assess how well a business's goods and services fulfill or surpass the expectations of its clients. According to Rust and Zahorik [22] a company's capacity to retain customer loyalty and draw in new business is critical to growing its market share and profitability [13].
- d) Respect for Regulatory Standards: To keep a business license to operate and stay out of trouble, it is imperative that employees follow all applicable laws and regulations. Additionally, it enhances the business's credibility and reputation [23].
- e) Innovation and Adaptability: Another crucial component of performance is the capacity for innovation and adaptation to shifting market conditions. The pace of developing new products, the uptake of new technologies, and the degree of adaptability to changes in the market can all be used to gauge this [24].
- f) Employee Performance and Satisfaction: The effectiveness of an organization as a whole is strongly impacted by employee performance and job satisfaction. According to Harter, et al. [25] metrics include employee engagement scores, productivity levels, and staff turnover rates.

2.3. Theoretical Review

This study is based on institutional theory. As articulated by DiMaggio and Powell [26] institutional theory examines how institutional structures, norms, and processes influence organizational behavior. It posits that organizations, including banks, operate within a broader social and regulatory context that shapes their practices and behaviors. A central concept in this theory is an institutional isomorphism, which describes the process by which organizations within the same field gradually become more alike due to various pressures.

DiMaggio and Powell [26] institutional theory offers a systematic framework for understanding how external pressures and professional norms impact corporate governance practices in Nigerian deposit money banks. These practices, shaped by coercive, mimetic, and normative isomorphism, enhance organizational performance, thereby promoting the stability and growth of the banking sector. Coercive Isomorphism: This stems from formal and informal pressures exerted on organizations by entities they depend on and by societal cultural expectations. For banks, this includes regulatory requirements from bodies like the Central Bank of Nigeria (CBN) and adherence to international standards such as Basel III.

Mimetic Isomorphism: This occurs when organizations imitate successful peers within their industry. Normative Isomorphism: This results from professionalization and the influence of industry standards and norms. These enhancements are evident in various forms, such as improved transparency and accountability, increased operational efficiency, and the promotion of professionalism and ethical standards.

2.4. Empirical Literature

Okunola and Johnson [27] examined the impact of corporate governance on Nigerian deposit money banks, focusing on the influence of board size and board tenure on profitability. Through a meticulously designed questionnaire, they found that a strong board of directors is linked to the success of financial institutions. The study also proved a significant correlation between corporate governance practices and the financial performance of Nigerian deposit money banks.

Saladin [28] explored the effect of high corporate governance ratings on bank profitability in Indonesia, using panel data, pooled regression, fixed effect regression, and random effect regression methodologies. The findings indicated that robust corporate governance is a crucial element of bank profitability. The study resolved that effective corporate governance, combined with superior credit risk management and appropriate business strategies, enhances bank profitability.

Agbaeze and Ogosi [29] investigated the influence of corporate governance on the profitability of Nigerian banks, employing correlation and multivariate analysis. They found a positive relationship between the profitability of Nigerian banks and corporate governance, as measured by the number of board members. Additionally, the study found a positive relationship between bank profitability and the number of employees. The research concluded that corporate governance, particularly the quantity of board memberships, significantly impacts the profitability of Nigerian banks.

Salma and Cesario [30] explored the influence of corporate governance on bank performance using data from Europe. Employing multiple correlation analyses, they found that both board size and gender diversity positively and significantly impact bank performance. Specifically, banks with larger boards and more female members tend to perform better. However, the study concluded that board composition and CEO duality do not significantly influence bank performance [31].

Ahmed [32] investigated the impact of corporate governance on the performance of banks in the Arabian Peninsula using multivariate analysis (OLS). The study found a notable relationship between corporate governance practices and the performance of financial institutions. It highlighted that board meetings and the age of the bank positively and significantly influence ROE. Conversely, board independence and bank size negatively and significantly affect ROA. Additionally, the study revealed that the age of the bank and the presence of board committees positively impact profit margins, while ownership concentration negatively affects profitability.

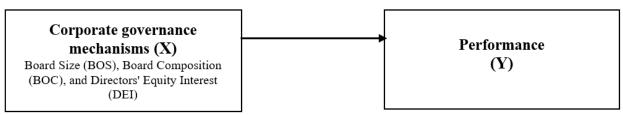


Figure 1. Conceptual Model.

3. Methodology

The performance of Nigerian deposit money banks was assessed in relation to corporate governance using pooled ordinary least squares (OLS) regression. Return on Assets (ROA), which was based on factors including Board Size (BOS), Board Composition (BOC), and Directors' Equity Interest (DEI), was used to evaluate the performance of the bank. Furthermore, the research included Return on Equity (ROE) as a metric for evaluating the performance of the board in creating profits from shareholders' equity. Number of new accounts (NNA), was used as a proxy to measure capacity building. NNA demonstrates the capacity of the board to attract new customers and expand market share. The mathematical specification of the model is presented below:

$$ROA = f(BOS, BOC, DEI, ROE, NNA)$$
 (1)

Where:

ROA: Return on Assets

BOS: Board Size

BOC: Board Composition

DEI: Directors' Equity Interest

ROE: Return on equity, a proxy for measuring board evaluation

NNA: Number of new accounts, a proxy for measuring capacity building

f = Functional Relation

Therefore, the econometrics specification of the equation 1 is presented below:

$$ROA_{it} = \beta_0 + \beta_3 BOS_{it} + \beta_4 BOC_{it} + \beta_5 DEI_{it} + ROE_{it} + NNA_{it} + e_{it}$$
(2)

Secondary data from bank audited financial reports covering a ten-year period, from 2013 to 2023, was used in the study. Ten Deposit Money Banks (DMBs) were selected at random from the greater number of DMBs in Nigeria by the research. The banks that were chosen are: First Bank Plc, Zenith Bank Plc, Heritage Bank Ltd, Guaranty Trust Bank Plc, Access Bank Plc, Ecobank Nigeria Plc, United Bank for Africa Plc, Wema Bank Plc, and Fidelity Bank Plc. These 10 publicly traded DMBs on the Nigerian Stock Exchange (NSE) provided audited financial statements for the same ten-year period, which served as the study's source of data.

4. Results and Discussion

The summary of descriptive statistics in Table 1 shows that the average Return on Assets (ROA) is 6.71. This indicates that the sampled Deposit Money Banks (DMBs) in the industry could generate an average of N6.71 on net investment, despite a significant variability in returns, with a standard deviation of 6.21%. The ROA ranged from a minimum of N3.04 to a maximum of N25.1, implying that for each naira capitalized, the industry could achieve a minutest gain of N3.04 and a maximum gain of N25.1. Regarding board size, the average number of board members across the firms is 7, with a range from a minutest of 3 to a maximum of 17, and a lower variability of 3.18. In terms of board composition (BOC), 45% of board members are female, while the remaining 55% are male. The Directors' Equity Interest (DEI) has an average value of 3.06, with minutest and maximum values of 1 and 2, respectively. The board evaluation measured by return on equity (ROE) has a mean value of 5.18, with minutest and

maximum values of 2 and 4 respectively. Finally, the capacity building measured by some new accounts (NNA) has an average of 4.94 with a minimum and maximum value of 2 and 3 respectively.

Table 1. Summary statistics of the variables.

Variable	Mean	Std. dev.	Min	Max	Obs.
ROA	6.71	6.21	3.04	25.1	100
BOS	7.23	3.07	3.18	17.0	100
BOC	4.52	2.33	2.03	3.01	100
DEI	3.06	0.49	1.09	2.85	100
ROE	5.18	2.70	2.65	4.11	100
NNA	4.94	3.11	2.11	3.07	100

Table 2.Correlation Matrix.

Variable	ROA	BOS	BOC	DEI	ROE	NNA
ROA	1.000					
BOS	0.3772	1.0000				
BOC	0.5033	0.0673	1.0000			
DEI	0.0682	0.07791	0.02117	1.0000		
ROE	0.1574	0.08941	0.02261	0.3118	1.0000	
NNA	0.2978	0.10974	0.05571	0.0330	0.0674	1.0000

The correlation matrix's results are shown in Table 2. A larger board is associated with a 37.72% rise in performance, according to the correlation coefficient of 0.3772 between board size and the DMOs' Return on Assets (ROA). About 50.3% of the connection may be attributed to the favourable link between performance and Board Composition (BOC) study. This implies that DMOs with a well-balanced board typically have higher performance levels. Furthermore, a 6.8% positive association between the performance of the listed DMOs in Nigeria and the analysis of Directors' Equity Interest (DEI) is found. Additionally, at a level of 15.7% and 29.8%, respectively, the examination of ROE and NNA revealed a favourable link with the performance of the Nigerian DMOs that were listed. All predictor factors had positive correlations with performance overall, suggesting that they all have a favourable impact on the DMOs' performance.

Table 3. Hausman test for fixed effect and random effect.

Variables	(b)	(B)	(b-B)
	Fixed	Random	Difference
BOS	0.0022917	0.0701927	-0.067901
BOC	0.0603554	0.0025015	0.0578539
DEI	0.0717123	0.0844701	-0.0127578
ROE	0.3209871	0.0366872	0.2842999
NNA	0.7753362	0.0834407	0.6918955
Chi ²	0.52		
Prob>chi ²	0.0146		

The fixed effect model is the most accurate in evaluating the primary influence of cooperative governance on the concert of deposit money banks in Nigeria, as demonstrated by Table 3's Hausman test results for both random and fixed effects, as well as the likelihood chi2 value of less than 0.05. If the probability is more than or equal to 0.05, or less than 0.05, depending on the situation, then either effect may be chosen. The fixed effect model is thus chosen for this investigation since the prob>chi2 is 0.015.

Table 4. Pooled OLS regression model.

Independent Variable	Pooled OLS	Fixed Effect	Random Effect
Constant	19.05 (0.001)	9.012 (0.006)	12.91 (0.031)
BOS	0.410 (0.062)	0.420 (0.001)	1.164 (0.031)
BOC	0.693 (0.133)	1.416 (0.062)	2.955 (0.134)
DEI	0.199 (0.006)	1.621 (0.011)	1.119 (0.001)
ROE	1.360 (0.052)	2.387 (0.004)	2.477 (0.005)
NNA	2.722 (0.001)	3.118(0.003)	1.469 (0.071)
R-Square	0.54	0.70	0.66
Adjusted R ²	0.51	0.67	0.58
F-statistic	8.71	67.75	49.88
Prob (F-statistic)	0.0005	0.0000	0.0000

The regression results of the fixed effect and pooled OLS, which were determined to be the best for the analysis, are shown in Table 4. The coefficient of determination (R2) shows that variations in the explanatory variables in the model account for 54% of the variation in DMOs performance (ROA), with the remaining 46% coming from factors not included in the model. Merely 30% of the variations in DMO performance may be attributed to variables other than the fixed effect, indicating a more efficient outcome of 70%. At the 1% level, the model has a high degree of statistical significance.

The fixed effect results indicated that the performance of DMOs (ROA) and board size (BOS), one of the explanatory variables, had a positive but negligible relationship (0.420%). This suggests that higher DMO performance in Nigeria is not always guaranteed by the size of the board. It is possible that there is an ideal board size beyond which adding members has no discernible impact on bank performance, despite the fact that a larger board is frequently linked to both more diversity and experience. It is necessary to carefully analyze a number of elements, including board dynamics, decision-making effectiveness, and the particular requirements of the bank, in order to determine this ideal size.

The Board of Directors (BOC) composition positively and marginally impacts the DMOs' return on assets (ROA). The negligible effect implies that just having diversity in the makeup of the board may not be enough to greatly affect bank performance, even though a varied and well-organized board is typically thought to bring a variety of perspectives and skills. Other elements might be more important, such as the standard of governance procedures, board dynamics, and decision-making procedures. The weak correlation emphasizes to bank management and stakeholders how important it is to prioritize board performance above board composition balance. Larger boards that can struggle with coordination and inefficiencies may not be as beneficial to banks as smaller, highly involved boards with distinct roles and duties. In addition, the weak correlation on board composition raises the possibility that other factors—like diversity, independence, and experience—may be more important in improving bank performance. The prioritization of these criteria in board selection and governance methods may be necessary for banks.

Furthermore, the outcome demonstrated a positive 1.621 Directors' Equity Interest (DEI) and a statistically significant (p_value 0.011) relationship with the DMOs performance (ROA). This result showed that during the research period, the company's profitability was mostly due to effective control of its manufacturing overhead costs, which accounted for around 16.2% of the total. Additionally, at the 5% level of significance, the board evaluation coefficient as determined by the return on equity (ROE) was positive 2.387 and statistically significant (p_value 0.004). Furthermore, the number of new accounts (NNA) as a measure of capacity building's coefficient is positive at 3.118 and statistically significant at 0.003 at the 5% significance level. This suggests that the capacity development of the board translates to efficient management of the DMOs that results in new account openings.

The study's conclusions had a profound impact on interest alignment: The strong and positive correlation implies that directors' interests are more closely aligned with shareholders' when they possess a larger equity stake in the bank. Better decision-making that supports the bank's long-term health and profitability may result from this alignment. The positive association between DEI and ROA

is also encouraging to investors. It implies that banks with large stock holdings by their directors are probably going to do better, which might make them safer and more rewarding investments. Incidentally, also, directors with equity stakes are likely to be more conservative and prudent in their risk management practices, knowing that poor performance will directly affect their personal financial outcomes. This can lead to more stable and sustainable banking operations.

5. Conclusion

This study offered new insights to address the inconsistencies in the corporate governance literature concerning the effects of corporate governance structures. The study's objective is to assess how cooperate governance affected Nigeria's deposit money banks' performance from 2013 to 2023. Pooled OLS, fixed effect, and random effect analyses were performed in the study. Nonetheless, both the random and fixed effect Hausman tests were run. Consequently, the fixed effect model was chosen in accordance with the special circumstances for the selection of either effect as required by the Hausman test. This study comes to the conclusion that the independent variables (BOS, BOC, DEI, ROE, and NNA) have significant and insignificant positive effects, respectively, on the performance of deposit money banks in Nigeria, based on the fixed effect findings. To maximize the possible advantages of varied board composition, the study suggests concentrating on alternative governance systems or support structures. Furthermore, as board independence, competency, and diversity are more closely associated with bank success, rules should emphasize these factors rather than dictating to DMOs the exact size of their boards.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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