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EFFECT OF BOARD SIZE AND BOARD COMPOSITION ON PROFITABILITY OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

Profitability is an important goal of deposit money banks and where they cannot make sufficient or no profit such banks are not able to cover various costs and survive in business because of their inability to meet maturing obligations. It leads to stunted growth because of unavailability of capital for expansion, research and development into modern technology. The objective of this study was to examine the effect of board size and board composition on profitability of deposit money banks in Nigeria. The research design was ex-post facto, and the population comprised of 29 DMBs listed on the Nigeria Exchange Group as at 31st December 2022. The sample included 12 banks which were selected based on specified criteria and secondary data were extracted from the annual reports and accounts of the sampled DMBs. Preliminary tests such as Ramsey reset test, Breuch-pagan lagrange multiplier test, Unit root test, Normality test and Hausman test were carried out. Random effect regression was used to analyse the data. The result shows that board size and board composition have positive significant effect on profitability of deposit money banks in Nigeria. The study recommends that the boards of banks should be robust, strong and with vast experience capable of making independent and fair judgments about the bank's problems aimed at improving profitability.

Key Words: Board Size, Board Composition, Profitability-Return on Assets, Return on Equity, Net interest Margin

Introduction

Corporate governance and profitability are interrelated because of the positive relationship that exists between the two concepts. Effective corporate governance, through attributes like board size, board composition, can enhance better decision-making and improved financial performance, ultimately increasing profitability. A good corporate governance system increases the profitability of companies, improves job performance and reduces risks (Vicente-Ramos et al., 2020). Effective corporate governance should enhance shareholders' value by ensuring the company is well managed, which means all the processes, policies, and procedures are implemented according to the five principles of good corporate governance: accountability, transparency, fairness, responsibility and ethical conduct (Pendong et al., 2022).

Good governance is essential for the overall financial wellbeing of any organization. It is critical in promoting and ensuring fairness, rule of law, it ensures that management and board of directors comply with best and sound practices in carrying out their duties through the establishment of principles and procedures (Oluwole, 2021). A good corporate governance system is needed that increases the profitability of companies, improves job performance and reduces risks (Vicente-Ramos et. al., 2020)

Profitability is an efficiency measurement that defines the health status of a firm in terms of revenue and profit. It is essential in determining a company's prospect, revenue recognition, overall health and its economic value (Olurin et. al., 2021). In determining whether to invest in a company, potential investors assess the company's profitability to establish resource utilization and management of its investment portfolio (Benjamin et al, 2019). Profitability is a very important goal of deposit money banks. It is essential for the purpose of maximizing shareholders wealth, paying corporation tax like any other company, paying interest to depositors, salaries to the staff, dividend to shareholders and meeting other expenses necessary to keep the bank in business (Olurin, et al., 2021).

In Nigeria, Deposit Money Banks (DMBs) play a very critical role in the smooth running of the financial system and the entire economy. In view of this, improving their performance is not only necessary but also important, especially with the history of financial crises experienced overtime because of poor corporate governance practices by banks and other financial and non-financial organizations. To assist in addressing the menace of poor corporate governance, the Nigerian Securities and Exchange Commission issued a code of best practices on corporate governance on board composition and other board characteristics. The code advocated for a blend of executive and non-executive directors and recommended for at least one-third of directors to be independent or non-executive of the entire membership and in any circumstance not less than two members**.** Orumwense and Orumwense (2023) argued that having a diverse, transparent and accountable board can positively affect organizational financial performance. Following this background, the study seeks to examine the effect of board size and board composition on profitability of deposit money banks in Nigeria.

Statement of the Research Problem

Profitability clearly demonstrates how efficiently the management of a firm is using available resources to exploit available market or marketing opportunities (Ibrahim & Mashor, 2022). Thus, shareholders and the management of banks are very much interested in carrying out a periodic evaluation of their activities to determine their banks' level of profit (Olabamiji & Suleiman, 2021). In Nigeria, the banking sector is an important part of the financial system and deposit money banks are the most relevant financial institutions to encourage and mobilize savings and channel savings into productive investment units (Alade & Tule, 2017).

The Failure of business organizations and indeed banks to make sufficient profit and their impact on the economy could be damaging and destabilizing (Olurin, et al., 2021). In the first instance, the banks would not be able to cover their various costs and survive in the business because of their inability to meet maturing obligations. The problem of growth is also imminent because of unavailability of capital in future for various purposes such as innovation, expansion, research and development in better technology and dynamic efficiency (Ozili & Ndah, 2021). It is in the light of these problems that the current study seeks to provide solutions.

Research Questions: The research questions are: To what extent does:

1. board size affect the profitability of deposit money banks in Nigeria?
2. board composition (non-executive directors) affect the profitability of deposit money banks in Nigeria?

Objectives of the Study: The objectives of the study are to:

1. examine the effect of board size on profitability of deposit money banks in Nigeria
2. determine the effect of board composition on profitability of deposit money banks in Nigeria

Statement of Hypothesis

To proffer useful answers to the research questions and realize the study objectives, two hypotheses are formulated, stated in the null and alternate form

$H_0 1$: Board size has no significant effect on profitability of deposit money banks in Nigeria

$H_0 2$: Board composition has no significant effect on profitability of deposit money banks in Nigeria

Literature Review

In this section, the concepts relevant to the study are reviewed. Also, a review of the theories and empirical studies is carried out.

Conceptual Review

The concepts relevant to the study are reviewed in this section. These are the concepts of board size, board composition and profitability

Board size: -is the number of directors that makes up the board of a bank or company. The focus is therefore to determine an optimal size of a board of directors especially in view of the tendency to exhibit a negative correlation with profitability

Board composition: - in this context is measured as the ratio of non-executive to executive board members. This is very important in trying to determine whether nonexecutive directors or executive directors are better equipped to monitor banks to achieve their objective.

Profitability: - Profit is the primary objective of all trading business organizations, and it helps organizations to cover various costs, such as operating costs, replacement costs, and costs related to other risks and uncertainties. It is the ultimate result or ‘output’ of business organization, and it has no future if it fails to make sufficient profits (Osisioma et al., 2015).

We have two different viewers of profit, accounting and economics profit. Accounting viewed profit as the difference between revenue and expenses over a period usually one year. It deals with the matching principle and profit in this context implies an excess of revenue over all paid costs. In economic terms, profit is viewed as a reward received by an entrepreneur by combining all the factors of production to serve the needs of individuals in an economy faced with uncertainties. It also includes the opportunity costs for taking one action versus another in the period and therefore an income that flow to investor. It is on this backdrop that Hicks (1946) defines profit as the maximum amount, which can be spent during a period if there is to be an expectation of maintaining intact the capital value of prospective receipts in money terms.

Profitability is, therefore, the ability of an enterprise to make a profit by using factors of production and capital regardless of their origin, being one of the most synthetic forms of expressing the efficiency of the entire economic and financial activity of the enterprise, respectively of all the production factors, from all the stages of the economic circuit (Gruian, 2010). There are various ways used in the measurement of profitability. These include calculating profitability ratios, undertaking breakeven analysis and determining return on assets and investments.

Theoretical Review

The Agency theory was propounded by Stephen Ross and Barry Mitnick in the mid-1970s. Stephen Ross and Barry Mitnick, however, approached the theory from different perspectives with Stephen focusing on the economic aspects as it affects the problem of incentives and Mitnick emphasizing the institutional and organizational aspects, including how institutions manage agency relationships. The fundamental concept of agency theory is the same as it focuses on the relationship between a principal and an agent and the potential for conflicts of interest. In view of this, shareholders appoint directors to monitor and control managerial decisions aimed at protecting their interest. The monitoring role is expected to be performed effectively through non-executive directors or independent directors, and this relates to the objective of the study. It is considered useful to the study because it provides a basis for explaining the effectiveness and efficiency of corporate owner’s strategy of using corporate governance as a tool for controlling managerial excesses and waste of bank resources with its attendant effect on profitability. With appropriate mechanisms the interest of individuals in an organization are harmonized towards enhancing profitability and survival.

Stakeholder Theory- The stakeholder theory was propounded by R. Edward Freeman in 1984. His book, Strategic Management: A Stakeholder Approach is widely considered as a foundational text in the field. Stakeholder theory posits that a business's success hinges on its relationships with various groups who have a stake in its operations, not just shareholders. It emphasizes that a company's actions should consider the interests of all stakeholders, including employees, customers, suppliers, communities, and the environment, not just profit maximization for shareholders. This is important for its sustainability while ensuring that the organization operates with integrity and fairness towards all stakeholders. It is argued that stakeholders rely on each other for the company’s success and their engagement, satisfaction contributes to the overall value of the company. The theory is applied to the current study in view of the composition of the board with a mirage of stakeholders that is not only limited to profit maximization for shareholders.

Review of Empirical Studies

Gwaison and Maimako (2021) “Effect of corporate governance on financial performance of commercial banks in Nigeria”. The aim of the study is to examine the effect of corporate governance on the financial performance of commercial banks in Nigeria. The survey research design was adopted by the study and secondary data collected from five (5) commercial banks selected from the Nigerian Stock Exchange listing for fourteen financial years (2003 – 2017). The panel Least Squares Regression Analysis was used to analyze collected data. The results show that while board size, board composition, board independence and board gender diversity had significant effects on financial performance (ROA) of commercial banks in Nigeria, audit committee had no significant effect on financial performance (ROA) of commercial banks in Nigeria. The study concludes that the weak corporate governance structure in Nigeria contributed immensely to crisis experienced in the Nigerian banking sector. The study recommends that banks should develop and implement strategic training for board members and senior bank managers.

Afriyie et al. (2021) examines corporate governance and its impact on the financial performance of commercial banks in Ghana. The study employs a sample of twenty commercial banks with one hundred and thirty-eight observations. Data was sourced from the audited financial statements of commercial banks through the Orbis database for seven years, from 2011 to 2017. The study employed return on assets (ROA) as a proxy for bank profitability. Also, the study uses the cost to income ratio, bank size, net interest margin, board composition, bank age, and board size as independent variables. A random-effect and linear regression were applied. The empirical findings reveal that board composition, bank size, and net interest margin significantly impacted bank profitability. However, the cost-to-income ratio and bank age had a significant negative impact on bank profitability. On the other hand, board size had no significant impact on bank profitability. The study recommends that bank owners should appoint experts and an adequate number of independent directors to help reduce conflict of interest and make effective decisions. Furthermore, banks should implement efficient cost-saving mechanisms to cut their overhead costs as enormous overhead costs reduce bank profitability.

Musah and Adutwumwaa (2021) "Effect of corporate governance on financial performance of rural banks in Ghana''. The purpose of the research was to examine the effect of corporate governance on 30 rural banks in Ghana for a period of 10 years spanning from 2010-2020. Data was obtained from the financial statement of the banks, and the study used STATA, correlation, descriptive statistics and regression analysis to analyze the data. Board size, board independence, gender diversity and CEO duality were adopted as independent variables with ROA and ROE as proxies for financial performance. The findings revealed a positive but insignificant effect of CEO duality on both ROA and ROE. The study further revealed a positive association between board size and both ROA and ROE but with that of ROA statistically insignificant. Board independence was found to be a significant determinant of rural bank financial performance. The study, however, reported a negative association between gender diversity on the boards of rural banks and both ROA and ROE, the associations were statistically significant. The study advocated for formulation of an appropriate corporate governance framework for rural banks in Ghana and enlightenment of managers of these banks on appropriate structures that would enhance their profitability and ultimately financial performance.

Ozioko et al. (2021) 'Relevance of board characteristics on profitability index of banks in Nigeria'. Three banks which are considered as market leaders going by their market capitalization were used for the study. Ten years data starting from 2009 sourced from the annual reports and accounts of the banks were used for the study. Data analysis was done using the Ordinary Linear Regression (OLS) Technique. The results revealed a negative and insignificant effect between board audit committee and ROA. Similarly, board composition had negative and insignificant effect on ROA. The study concluded that corporate governance indicators have a negative effect on profitability of listed banks. The study recommends that banks should operate with small number of board size because large board size may negatively affect performance. The study also recommends that new code of corporate governance for Nigerian banks should not emphasize increase in the number of non-executive directors in banks to avoid poor performance.

Nwankwo and Uguru (2022) examined the impact of board characteristics on profitability of listed service firms in Nigeria. The ex-post-facto design was adopted in the study with secondary data sourced from annual accounts and reports of twenty (20) service firms listed on the Nigerian Stock Exchange (NSE) for a period of ten (10) years; 2011-2020. The ordinary least square panel and regression analysis techniques with Generalized Method of Moment (GMM) analysis were used to analyze the data. The study found that board size and board composition have significant positive effects on the profitability of service firms while board gender had an insignificant negative effect on the profitability of service firms. The study recommended that for increase in the size of board of service firms in line with the requirements of Nigeria Securities and Exchange Commission corporate governance Code of a minimum of five and maximum of fifteen members.

Adebayo et al., (2022) “Effect of board characteristics on financial performance of listed Nigerian deposit money bank’. The study examined the effect of board composition on the financial performance of listed commercial banks in Nigeria. The specific objectives of the study were: to assess the influence of CEO duality on the financial performance of commercial banks in Nigeria; to examine the influence of board gender on the financial performance of commercial banks in Nigeria; and to determine the influence of board size on the financial performance of commercial banks in Nigeria. A total of eight commercial banks were used as sample size for the study. The study covered a five-year period (i.e., 2016-2020). The study used secondary data to reach study findings. Data collected from the study were analyzed using multiple regression technique processed on SPSS. The result shows that board size have significant influence on the financial performance of commercial banks in Nigeria. That is to say that CEO duality and board gender have no significant effect on the financial performance of commercial banks in Nigeria. The study therefore recommends a majority of board members to be female to provide some additional skills and perspectives that may not be possible with all-male boards

James and Ajayi (2023) examined the relationship between board characteristics and profitability of deposit money banks in Nigeria. Data used for the research were secondary and are generated from the corporate governance section of Nigeria Deposit Insurance Corporation (NDIC) Reports. Profitability which is the Dependent Variable was proxied by Return on Asset (ROA); while Board Size, Board Independence, Gender Diversity and Board Meeting are Independent Variables. The study used panel data analysis to analyze the data collected. The study revealed that board size and gender diversity have a negative relationship with Return on Asset and that board independence and board meetings have a positive relationship with return on asset. The goodness of fit of the model affirmed the relationship between board characteristics and profitability to be significant. Therefore, this study recommends that Deposit Money Banks should further strengthen the independence of their boards and take their board meetings as a matter of importance since they have positive relationship with their profitability.

Ogan et al. (2024) examines the effect of board size composition on the financial performance of deposit money banks quoted on the Nigeria Stock Exchange (NSE) from (2014- 2018). The study used ex-post facto research design. Ten quoted deposit money banks were used, and purposive sampling technique was adopted. Regression of Ordinary Least Square (OLS) was used to analyze the data collected. The study revealed that board size composition (BSCP) and board size characteristics (BSCH) both have strong positive effect on the financial performance of deposit money banks in Nigeria. The study therefore concludes that the more the members have with five years of experience and above with professional certification the more efficient financial performance. The study therefore recommends that the board should be dominated with members with a minimum of five years' experience and professional certification in relevant discipline relating to the sector

George et al. (2024) 'Board composition and profitability of commercial banks in Nigeria'. The aim of the study was to examine the impact of board composition on the profitability of commercial banks in Nigeria. The study adopted ex-post facto research design with secondary data obtained from the audited annual report of 13 out of 14 commercial banks quoted on the Nigerian Exchange Group between the life span of 2013- 2022. Regression analysis was used to analyze the data collected for the study and the study revealed and concluded that Board composition has a positive and insignificant impact on the profitability of commercial banks in Nigeria ($\beta = 0.003$, p-value = 0.326). The study recommends that commercial banks should carefully monitor all fundamentals that indicate profitability issues, and not merely focus on firm attributes, since the firm's attributes do not completely isolate firms from profitability threats. It also recommends that commercial banks should equally compose their board based on proficiency and skill requirements, among others rather than size.

Obalemo (2025) 'Influence of board composition on the financial performance of deposit money banks in Nigeria'. The primary objectives of the study were to determine the extent to which board size influences financial performance of deposit money banks, evaluate the impact of non-executive directors on financial performance of deposit money banks, and to investigate the effect of board diversity on the financial performance of deposit money banks. The study used five banks, and secondary data was extracted from the annual financial reports of the selected banks. The study adopted the ex-post facto design. The method of data analysis was linear regression with the application of the ordinary least squares (OLS) techniques using E-view version. The outcome of the study revealed that board size have significant positive effect on financial performance of selected money deposit banks in Nigeria, non-executive directors has no significant positive effect on the financial performance of selected money deposit banks, and board diversity has significant association on the financial performance of deposit money bank in Nigeria. The study recommended, amongst others, that deposit money banks should increase the size of the board especially by electing more foreign directors and female who could bring diverse experience and expertise which the domestic directors may not possess

Methodology

The study adopts ex-post facto design to examine the effect of board size and board composition on the profitability of deposit money banks in Nigeria. It is basically used when impact analysis is to be performed on existing data (Shama, 2019). To this end, the data used in the study are obtained from the annual reports of the banks under study. The population of this study was twenty-nine (29) deposit money banks licensed by the Central Bank of Nigeria as of December 31, 2022. Out of this number, 12 deposit money banks were selected using the purposive sampling method, a non-probability technique. The criteria for selection of banks in the sample size were banks that are listed on the Nigerian Exchange Group as of 31st December 2022, banks that scaled through the consolidation and have continued to operate in Nigeria from 2006 to 31st December 2022 and banks in existence throughout the period of the study. The random effect regression method was used in testing the hypotheses. The variables used include the dependent variables (Profitability: Return on asset, Return on equity, Net interest margin, Earnings per share, Profit after tax) and independent variables (board size, board composition). Bank Size and Bank Age are the control variables. Their measurements are as follows:

Table 1: Measurements

Variable	Type	Measurement
Return on Asset	Dependent	Net Income/ Total assets *100
Return on Equity	Dependent	Net Income/ Shareholders equity *100
Net interest Margin	Dependent	Interest Income-Interest Expense/Interest Income *100
Earnings per Share	Dependent	Net Income-Preferred Dividend/End of Common Shares Outstanding
Profit after tax	Dependent	Net Profit before Tax-Total Tax Expense
Board Size	Independent	Total number of directors of a banks board
Board Composition	Independent	Ratio of non-executive to executive board members
Bank size	Control	Total assets of a bank
Bank age	Control	Number of years of incorporation of the bank

Source: Authors compilation, 2025

Using multiple regression analysis, five models were constructed for the study as follows:

$$ROA = b_0 + b_1BDS + b_2BDC + b_3BSZ + b_4BAG + U_t \qquad (1)$$

$$ROE = \beta_0 + \beta_1BDS + \beta_2BDC + \beta_3BSZ + \beta_4BAG + U_t \qquad (2)$$

$$NIM = \lambda_0 + \lambda_1BDS + \lambda_2BDC + \lambda_3BSZ + \lambda_4BAG + U_t \qquad (3)$$

$$EPS = \delta_0 + \delta_1BDS + \delta_2BDC + \delta_3BSZ + \delta_4BAG + U_t \qquad (4)$$

$$PAT = \delta_0 + \delta_1BDS + \delta_2BDC + \delta_3BSZ + \delta_4BAG + U_t \qquad (5)$$

Where,

ROA = Return on assets

ROE = Return on equity

NIM= Net interest margin

EPS=Earnings per share

PAT=Profit after tax

BDS = Board size

BDC = Board composition

BSZ = Bank Size

BAG = Bank Age

$b_0, \beta_0, \lambda_0, \delta_0$ = Regression Intercepts.

b_{1-2} $\beta_1 - \beta_2$, $\lambda_1 - \lambda_2$, δ_{1-2}= Régression coefficients

U_t = Stochastic error term

A priori expectation

$b_1 - b_2, \beta_1 - \beta_2, \lambda_1 - \lambda_2, \delta_1 - \delta_2 > 0$

X_1 = Board size; *a priori* expectation is positive

X_2 = Board composition; *a priori* expectation is positive

BSZ= Natural log of total assets is a proxy for Bank size

BAG = Bank age of incorporation

In other words, board size, and board composition are expected to have a positive effect on profitability of deposit money banks in Nigeria

4.0 Data Presentation and Analysis

The data analysis is done in stages. First, the preliminary analysis is followed by the test of hypotheses.

4.1 Preliminary Analysis

Table 2: Ramsey Reset Test

Model	Df	T	f	P-value
Model 1	200	1.609580	2.590746	0.1386
Model 2	201	0.601698	0.362040	0.5596
Model 3	200	1.807204	1.880392	0.1186
Model 4	200	0.641865	0.411991	0.5954
Model 5	200	0.788749	0.622125	0.4486

Source: Authors computation using E-views; version 10.0

Interpretation: From the Ramsey RESET Test in Table 2 the p-value for Model 1, Model 2, Model 3, Model 4 and Model 5 are 0.1386, 0.5596, 0.1186, 0.5954 and 0.4486 respectively.

Decision: The respective p-values were greater than 0.05, indicating that the model is correctly specified and linear.

Table 3: Breusch-Pagan Lagrange Multiplier test.

Model	Statistics	Df	P-value
Model 1	1.207722	66	0.1650
Model 2	1.189435	66	0.2491
Model 3	1.116563	66	0.2964
Model 4	2.632317	66	0.0980
Model 5	1.405449	66	0.2610

Source: Authors computation using E-views; version 10.0

Interpretation: Based on the result in Table 3, the p-value of Model 1, 2, 3, 4 and 5 were 0.1650, 0.2491,0.2964,0.0980 and 0.2610>0.05, indicating that there is absence of heteroskedasticity, thus our result can be used for policy making.

Decision: There is no heteroskedasticity

Table 4: Unit Root Test

Variables	Statistics	P-Value	Order of Integration
ROA	-3.34070	0.0004	1(0)
ROE	-3.49830	0.0000	1(0)
NIM	-4.67473	0.0000	1(0)
EPS	-10.6105	0.0012	1(1)
PAT	-2.33785	0.0097	1(0)
BDS	-4.58605	0.0000	1(1)
BDC	-2.00901	0.0223	1(0)
BSZ	-3.08230	0.0002	1(1)
BAG	-4.07260	0.0000	1(1)

Source: Authors computation using E-views; version 10.0

Interpretation: ROA, ROE, NIM, PAT and BDC were stationary at level 1(0), while EPS, BDC, FSZ and FAG are stationary at first difference 1(1).

Decision: The data for ROA, ROE, NIM, PAT and BDC are stationary at level 1 and EPS, BDS, BSZ and BAG at first difference.

Table 5a-Normality test on Testable Variables

Variables	BDS	BDC	BSZ	BAG
Mean	13.45813	8.024631	76410442	44.53202
Median	14.00000	8.000000	9.070000	30.00000
Maximum	21.00000	15.00000	1.09E+10	128.0000
Minimum	5.000000	3.000000	2.980000	7.000000
Std. Dev.	3.164151	2.149000	7.96E+08	32.53334
Skewness	-0.197398	0.760105	12.58608	1.256509
Kurtosis	2.898446	4.766943	168.2746	3.291095
Jarque-Bera	1.405580	1. 395522	2.364049	1.413332
Probability	0.495202	0.451891	0.098510	0.210910
Sum	2732.000	1629.000	1.55E+10	9040.000
Sum Sq. Dev.	2022.394	932.8768	1.28E+20	213800.5
Observations	203	203	203	203

Source : Authors computation using E-views; version 10.0

Interpretation: From Table 5a, the p-value for the Jarque-Bera statistics for BDS, BDC, BSZ, BAG are 0.49, 0.46,0.10,0.21 respectively.

Decision: This implies that the data are normally distributed which indicates that the data can further be processed for policy decision

b. Proxies of the Study

Table 5b-Jarque-Bera Statistic of the proxies of the study

Variables	ROA	ROE	NIM	EPS	PAT
Mean	1.436946	8.074286	59.90532	1.493695	19.65759
Median	1.470000	11.95000	60.58000	0.880000	19.38000
Maximum	9.540000	122.8000	83.67000	8.300000	127.1900
Minimum	-20.23000	-394.3200	28.19000	-23.24000	-338.9100
Std. Dev.	2.607412	38.20834	10.91737	2.705004	36.35910
Skewness	-3.527928	-7.050355	-0.214636	-3.219483	-4.964365
Kurtosis	28.33521	70.33097	2.525173	36.68218	49.97468
Jarque-Bera	1.850275	2.0027.28	3.465678	1.946576	1.949815
Probability	0.458190	0.1891021	0.176782	0.2901067	0.134901
Sum	291.7000	1639.080	12160.78	303.2200	3990.490
Sum Sq. Dev.	1373.317	294895.2	24076.16	1478.043	267040.8
Observations	203	203	203	203	203

Source: Authors computation using E-views; version 10.0

Interpretation: From Table 5b, the p-value for the Jarque-Bera statistics for ROA, ROE, NIM, EPS and PAT are 0.46,0.19,0.18, 0.29 and 0.13 respectively. They are all greater than 0.05 thus the data are normally distributed

Decision: This implies that the data are normally distributed which indicates that the data can further be processed for policy decision

Table 6-Hausman Test

Model	Chi-Sq. Statistics	Df	P-value
Model 1	13.723438	8	0.0834
Model 2	13.938688	8	0.0832
Model 3	14.815062	8	0.0628
Model 4	43.668228	8	0.0000
Model 5	15.351947	8	0.1187

Source: Authors computation using E-views; version 10.0

Interpretation: Based on the result presented in Table 6, the p-value for Model 1, Model 2, Model 3 and Model 5 were greater than 0.05 indicating that the random effects regression method is more appropriate. However, the p-value for model 4 was less than 0.05 suggesting that the fixed effects regression method is preferred.

Decision: The Random effect was used for the testing of hypothesis in Model 1, Model 2, Model 3 and Model 5 while the fixed effect was used for testing hypothesis in model 4.

4.3 Test of Hypotheses

The hypotheses were tested as follows:

H1: board size has no significant effect on the profitability of deposit money banks in Nigeria

H2: board composition has no significant effect on the profitability of deposit money banks in Nigeria

Table 7. Test of hypothesis: Random effect

	Coeff	T	P-value.	Coeff	T	P-value.	Coeff	t	P-value.	Coeff	t	P-value.	Coeff	t	P-value.
BDS	0.077797	3.720282	0.0002	-0.040779	-5.026098	0.0000	0.379253	3.947640	0.0005	-0.134656	-3.336058	0.0001	-0.158845	0.0157	0.0157
BDC	0.145625	2.271566	0.0062	0.367192	4.143562	0.0000	-0.720175	-4.189856	0.0000	0.258392	2.666924	0.0001	1.233883	0.0013	0.0013
FSZ	7.54E-11	0.328536	0.7429	-2.06E-10	-0.057421	0.9543	1.42E-09	1.751694	0.0814	1.42E-10	7.675671	0.0000	9.13E-10	0.7784	0.7784
FAG	-0.004877	-0.536496	0.5922	-0.014040	-0.159886	0.8731	-0.002263	-0.039636	0.9684	0.003677	0.372417	0.7100	-0.100792	0.3709	0.3709
R^2	0.74723			0.732157			0.644140			0.759577			0.733258		
F	2.202127			9.805715			11.119815			7.536263			20.834254		
P-value	0.001559			0.000000			0.000000			0.00000			0.00000		
Durbin-Watson stat	2.534676			1.869276			2.114800			2.033965			2.483840		

Source: Authors' computation using E-views; version 10.0

a. **Interpretation**: The interpretation is on hypothesis basis.

H1: the average p- value of BDS is 0.0033 <0.05. We reject the null hypothesis and accept the alternate hypothesis

H2: the average p-value of BDC is 0.0015 < 0.05. We reject the null hypothesis and accept the alternate hypothesis

b. **Decision:** The decision is also based on hypothesis as follows**:**

H1: Board size has significant effect on the profitability of deposit money banks in Nigeria

H2: Board composition has significant effect on the profitability of deposit money banks in Nigeria

4. Discussion of Findings

4.1 Board Size and Profitability of Deposit Money Banks in Nigeria

In hypothesis one, we rejected the null hypothesis and accepted the alternate hypothesis which states that board size has significant effect on the profitability of deposit money banks in Nigeria. In other words, board size has a lot of contribution to profit and the more robust it is, the higher the profit. This result aligns with Gwaison and Maimako (2021) who found a positive and significant effect of board size on firm profitability. Similarly, the result of the study by Adebayo et al. (2022) shows a significant and positive effect of board size on financial performance of deposit money banks in Nigeria. In the same vein, the outcome of the study by Musah and Adutwumwa (2021) shows that board size had positive relationship with both ROA and ROE but with that of ROA statistically insignificant. The result of the study is also in sync with Obalemo (2025) where board size revealed a significant positive effect on financial performance.

On the contrary, the outcome of the study by James & Ajayi (2023) shows a negative and insignificant relationship between board size and financial performance proxied by ROA. The result of this study complements the agency, and stakeholder theories that are rooted in the fact that larger board size boosts the firm performance by superior monitoring and pooling of resources by a larger group of people. The implication of this finding on the industry is that board size must be robust enough and with the necessary linkages to external resources. The ultimate impact of a sizeable and robust board on the economy is the positive effect that it has on profitability. The aftermath is that the banks can effectively perform their very important role of mopping funds from surplus units to deficit units thus stabilizing the economy.

4.2 Board Composition and Profitability of Deposit Money Banks in Nigeria

In hypothesis two, we rejected the null hypothesis and accepted the alternate hypothesis which states that board composition has significant effect on the profitability of deposit money banks in Nigeria. This suggests that board composition has great impact on the profitability of deposit money banks in Nigeria. This result is in tandem with Ogan et al. (2024) where board size and board composition exhibited strong and positive effect on financial performance of deposit money banks in Nigeria. The result also holds true for Afriyie, Aidoo, and Agboga (2021) who found significant impact of board composition on bank profitability. The result also aligns with the work of

Nwankwo and Uguru (2022) who found positive impact of board size and board composition on service firms' profitability. Contrary to the results of the study, the outcome of the work by George et al. (2024) show that board composition has a positive insignificant impact on profitability of deposit money banks. Similarly, Ozioko, Onyekwelu and Ugwu (2021) also found positive and insignificant relationship between board composition and return on assets of banks. The result of the study gives credence to the agency, and stakeholders theories. The agency theory holds true when the number of non-executive directors dominates the composition of the board with the stakeholder theory advocating for a shift in the traditional role of directors as defenders of shareholders wealth to an all-inclusive party interest to the organization. It is argued by Fama and Jensen (1983) that the presence of non-executive directors is capable of leading to straightened and more effective decision-making in the firm.

The implication of this finding on the industry is that when a board of directors has a poor framework and composition it affects its efficiency in the decision-making process and ultimately overall firm performance. However, when the board of directors is properly composed and well-structured with experienced professionals with deep insights on technical and operational issues it will be able to tackle challenging industry issues. The impact of this on the economy is that it enhances the overall basic functions of supervision and monitoring, avoiding opportunistic behavior on the part of executives and providing intelligence to decision makers aimed at improving business management and ultimately boosting profitability.

Conclusion and Recommendation

The study examined the effect of board size and board composition on the profitability of deposit money banks in Nigeria using sample of 12 banks over a period of 17years from 2006 to 2022. The panel regression technique was used to examine the models for the study with the random for the analysis of data. From the discussion and findings, it has been concluded that board size and board composition have contributed significantly to profitability of deposit money banks in Nigeria.

It is recommended that the boards of banks should be robust enough and with the necessary links to external resources. The board of directors should be strong and with vast experience capable of making independent and fair judgements about the bank's problems aimed at improving profitability. It is also recommended that deposit money banks should have a significant mix of non-executive directors on their boards to enhance their profitability.

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