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DETERMINANTS OF FINANCIAL PERFORMANCE OF LISTED FINANCIAL INSTITUTIONS IN NIGERIA

Abubakar Adamu[1], Suleiman Musa Umar PhD[2], Nasirudeen Abubakar PhD[3]

[1,2,3]Department of Accounting, Faculty of Management Sciences, Kaduna State University

Corresponding Author(s) email/mobile: adamuabubakar902@gmail.com /08060900260[1]

Abstract

The financial institutions in Nigeria continues to face increasing pressure due to recurring incidents of financial distress, fraud, and corporate governance failures This paper examines the determinants of financial performance of listed financial institutions in Nigeria. The study is anchored on social exchange, agency, and resource-based theories which guide the determinants of financial performance to include credit risk, board size, and corporate social responsibility. The dependent variable of financial performance is proxy by return on assets (ROA). The study considered a period from 2015 to 2024. Using panel data from 43 institutions over a ten-year period, the analysis employed fixed-effects regression with panel-corrected standard errors (PCSE) to address heteroskedasticity and cross-sectional dependence. The regression results show that credit risk positively influences financial performance, whereas CSR has a negative and significant effect. Firm size enhances profitability, suggesting economies of scale benefits, while board size and leverage were statistically insignificant. The study recommends aligning CSR initiatives with long-term value creation, optimizing board structure, and strengthening risk management frameworks. These insights contribute to corporate governance, banking policy, and sustainable finance discourse in emerging economies.

Keywords: financial performance, credit risk, board size, corporate social responsibility, Nigeria

1. Introduction

The financial sector is a cornerstone of economic development, serving as an engine for capital allocation, investment facilitation, and macroeconomic stability (Levine, 2005). In emerging economies such as Nigeria, listed financial institutions play a critical role in mobilizing resources, supporting industrial growth, and maintaining investor confidence. However, despite this central role, Nigerian financial institutions face persistent challenges, including rising credit risk, weak corporate governance, and pressure to integrate corporate social responsibility (CSR) into their operations. These dynamics underscore the need to understand the determinants of financial performance in the Nigerian context.

Financial performance, commonly measured through indicators such as return on assets (ROA), reflects the efficiency with which firms utilize resources to generate profits (Athanasoglou et al., 2008). Several determinants have been identified in prior studies, including credit risk, board characteristics, CSR engagement, firm size, and leverage. However, empirical findings remain mixed, particularly in emerging markets, suggesting the need for context-specific analyses.

Credit risk, often measured by the non-performing loan ratio (NPLR), remains a dominant concern for Nigerian banks, given the country's history of loan defaults and banking crises. While theory suggests that higher credit risk undermines profitability (Berger & DeYoung, 1997), some studies argue that banks may offset risk through higher interest rates (Louzis et al., 2012). Similarly, governance mechanisms such as board size are expected to influence financial performance through improved oversight (Kyereboah-Coleman, 2007). However, excessively large boards may reduce efficiency due to coordination challenges (Jensen, 1993).

CSR engagement has become increasingly important for Nigerian financial institutions, particularly due to stakeholder pressures and regulatory encouragement. While stakeholder theory suggests that CSR enhances firm legitimacy and long-term performance (Freeman, 1984), others argue that CSR diverts resources from core operations, reducing short-term profitability (Barnett & Salomon, 2012).

Firm size also matters; larger institutions benefit from economies of scale and risk diversification (Demsetz & Strahan, 1997), but smaller firms may be more agile and efficient. Similarly, leverage has ambiguous effects—providing tax benefits (Modigliani & Miller, 1958). But increasing the risk of financial distress if excessive (Titman & Wessels, 1988).

Given these competing perspectives, this study examines the determinants of financial performance of listed financial institutions in Nigeria from 2015 to 2024. Specifically, it investigates the effects of credit risk, board size, and CSR, while controlling for firm size and leverage. By employing panel data econometrics with panel-corrected standard errors (PCSE), the study addresses methodological issues such as heteroskedasticity and provides robust estimates.

The study contributes to the literature in three ways. First, it integrates credit risk, governance, and CSR into a unified analytical framework, unlike prior Nigerian studies that often examine them in isolation. Second, it employs robust econometric methods rarely used in local studies, improving inference validity. Third, it provides policy-relevant insights for managers, regulators, and investors in the Nigerian financial sector.

2. Literature Review

Conceptual Review

Financial Performance

Financial performance refers to the ability of a firm to utilize its assets effectively to generate earnings. It is commonly measured using indicators such as Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). ROA is often favored for its capacity to reflect management efficiency in deploying assets to generate profit (Akram & Hushmat, 2024).

Determinants of Financial Performance

Credit risk refers to the possibility that a borrower will fail to meet financial obligations, leading to loan defaults and losses for the institution. In the context of financial institutions, high levels of non-performing loans (NPLs) directly reduce profitability and threaten both liquidity and solvency. Poor credit risk management can also erode investor confidence and constrain a bank's lending capacity, thereby limiting its growth potential. Effective credit risk control through stringent loan appraisal, monitoring, and recovery mechanisms is therefore essential for maintaining asset quality and long-term stability (Ehiedu & Ukueku, 2024).

Board size represents the total number of directors sitting on a company's board and is a key element of corporate governance structure. A larger board often brings together a broader range of expertise, experiences, and perspectives, which can enhance strategic decision-making and oversight. However, excessively large boards may experience communication barriers, slower decision processes, and coordination challenges, which can reduce efficiency and accountability.

Conversely, smaller boards may promote quicker decision-making but risk limited diversity of opinion. Thus, determining an optimal board size is crucial to achieving an effective balance between inclusivity and operational efficiency (Jensen & Meckling, 1976).

Corporate social responsibility (CSR) encompasses a company's voluntary actions aimed at contributing to social, environmental, and economic sustainability beyond legal and regulatory requirements. Engaging in CSR activities such as community development, environmental conservation, and ethical labor practices can strengthen stakeholder trust, enhance corporate reputation, and foster long-term financial performance. However, when CSR initiatives are poorly aligned with a firm's strategic objectives or implemented without cost-benefit consideration, they may strain financial resources and diminish profitability. Therefore, CSR should be strategically integrated into business operations to maximize its reputational and economic benefits (Maqbool & Zameer, 2021).

Empirical Review

Credit Risk and Financial Performance

Kakooza (2022) examined the impact of credit risk and profitability of Jordanian banks: Studied 18 Jordanian banks (2015–2020) and used panel regression. The study was underpinned by Risk-Return Trade-off Theory. It found a negative relationship between credit risk and ROA.

Yeasin (2022) examined the impact of credit risk management and performance of Nigerian deposit banks which covered 15 banks (2010–2020) using OLS regression. Rooted in Agency Theory, the study found a positive relationship. However, it did not test for endogeneity. Ukpong and Essien (2022) Study credit risk and insurance firms' performance in Kenya: Examined 12 firms (2012–2021) through stratified sampling and panel regression. Based on Modern Portfolio Theory, it found a negative effect.

Abdelrahman and Narwal (2022) analysed credit risk and performance of Nairobi-listed firms by examining 20 firms (2010–2020) using fixed-effects modelling. It found a strong negative effect. Kabeer and Marithi (2022) assesses credit risk and profitability in Indonesia with 28 banks (2011–2020) via panel analysis. Using the basel II framework, it found no significant relationship.

Board Size and Financial Performance

Ogundipe and Fasola (2022) conducted an empirical investigation on the relationship between board size and profitability among Nigerian commercial banks. Using data from 10 banks covering the period 2013 to 2020, the authors employed regression analysis within the framework of Resource Dependency Theory. The findings revealed that larger boards positively influence firm profitability by improving access to external resources and enhancing strategic oversight. However, the study acknowledged that the small sample size limited the generalizability of the results across the broader financial sector, and recommended future studies adopt panel data with a longer time horizon to validate the robustness of the findings.

Akinroluyo and Dimgba (2022) explored the effect of board composition on the financial performance of Nigerian banks. The study purposively selected 20 banks between 2010 and 2020 and utilized panel regression analysis guided by Stakeholder Theory. Their findings indicated a positive and significant relationship between board composition and financial performance, suggesting that diversified boards contribute to better decision-making and improved governance practices. Nonetheless, the study failed to account for board diversity dimensions such as gender and professional background, which could influence board effectiveness.

Fabian and Emeka (2022) examined the impact of board structure on the financial performance of firms in Nigeria's financial sector. Using a sample of 15 listed institutions from 2010 to 2021, the researchers adopted the Generalized Method of Moments (GMM) estimation technique grounded in Agency Theory. The results showed mixed effects of board structure variables on firm performance, implying that not all governance mechanisms uniformly enhance profitability. The study's limitation was its focus on structural attributes, neglecting behavioral aspects such as board commitment and attendance that could provide deeper insights into governance efficiency.

Yusuf and Islam (2022) investigated the relationship between board characteristics and firm performance in Bangladesh. The study analyzed 25 listed firms between 2012 and 2019 using stratified sampling and descriptive panel analysis. The results revealed a negative association between board size and firm performance, attributing the outcome to coordination inefficiencies and decision-making delays in large boards. The absence of dynamic modeling limited the ability to capture long-term effects of board changes, and the authors recommended further research incorporating time-lagged effects and contextual governance variables.

Isa-Olatinwo et al. (2022) analyzed the impact of board composition on the earnings performance of Nigerian deposit money banks. Drawing on panel data from 12 banks over the period 2009–2019, the authors applied a random-effects model to examine the relationship. The study found no statistically significant link between board composition and financial performance, suggesting that merely having a board structure does not guarantee improved earnings unless accompanied by active oversight and relevant expertise. A major limitation noted was the omission of nonlinear effects and potential endogeneity, which could obscure the true nature of the relationship.

Corporate Social Responsibility and Financial Performance

Maqbool and Zameer (2021) conducted a comprehensive study on the relationship between corporate social responsibility (CSR) and firm profitability among Indian listed firms. The study evaluated 50 companies from 2010 to 2019 using panel regression

analysis anchored on Stakeholder Theory. The findings revealed that CSR initiatives significantly enhanced firm profitability, indicating that firms engaging in socially responsible practices gain improved reputation and customer loyalty, which ultimately contribute to financial success. However, the study did not control for industry-level variations that could influence CSR intensity and profitability, suggesting that sectoral differences may affect the magnitude of the CSR–performance relationship.

Bashir (2023) examined the impact of CSR on financial performance in Nigeria, analyzing data from 25 firms between 2012 and 2021 using multiple regression analysis. The results indicated a positive and significant relationship between CSR expenditure and return on equity (ROE), implying that CSR engagement enhances stakeholder trust and investor confidence. Despite this positive outcome, the study was limited by its reliance on quantitative CSR data, as it did not account for qualitative dimensions such as community perception and social impact, which could provide a more holistic understanding of CSR effectiveness.

Efanga and Obinne (2020) explored the relationship between CSR disclosure and firm value among Nigerian listed companies. The study utilized panel data from 30 firms covering the period 2010–2018 within the framework of Legitimacy Theory. The results demonstrated a positive association between CSR disclosure and firm value, suggesting that transparent reporting enhances public trust and market valuation. However, the authors noted that the CSR disclosure index used was limited in scope, focusing mainly on environmental and philanthropic activities while excluding governance-related indicators that could offer deeper insights into sustainable performance.

Abiola and Festus (2024) analyzed the cost implications of CSR on firm profitability in Nigeria using a time-series design covering 20 firms from 2009 to 2020. The study found a negative relationship between CSR expenditure and profitability, suggesting that excessive CSR spending may strain financial resources when not strategically aligned with business objectives. Although the study contributed to understanding CSR cost dynamics, it lacked robustness tests such as multicollinearity diagnostics and sensitivity analysis, which could have strengthened the validity of its findings.

Gambo (2020) assessed the impact of CSR on the profitability of Nigerian banks from 2010 to 2017 using data derived from annual financial reports. Grounded in Institutional Theory, the study revealed no statistically significant relationship between CSR engagement and bank profitability. This finding implies that CSR initiatives in the Nigerian banking sector may be more compliance-driven than performance-oriented. Nonetheless, the omission of lag effects and dynamic relationships limited the study's ability to capture the long-term influence of CSR investments on firm performance.

Based on the empirical review, the following null hypotheses were formulated:

H_{01}: Board size has no significant effect on the financial performance of listed financial institutions in Nigeria.

H_{02}: Credit risk has no significant effect on the financial performance of listed financial institutions in Nigeria.

H_{03}: Corporate social responsibility has no significant effect on the financial performance of listed financial institutions in Nigeria.

Theoretical Review

Resource-Based Theory

Drawing on resource- based theory which emphasizes on using internal strengths (resources and capabilities) to gain a long-term competitive edge, the theory viewed board financial expertise as a strategic internal resource that enhances decision-making and risk management, and also underpins credit risk, a firm with low credit risk can better access capital, showing strong internal processes.

Agency Theory

Agency theory focuses on the relationship between principals (owners/shareholders) and agents (managers/executives). This theory viewed board size as a tool for monitoring managers; a large board may offer more oversight. In addition, this theory underpins dividend policy per share as a way of reducing free cash flow and limit managerial misuse of funds and also support cash reserves ration, where excess reserves may tempt managers to waste resources, so monitoring is important. And also, stakeholder theory focuses on how organization should consider the interest of all stakeholders, not just shareholders. This theory viewed CSR as a way of addressing the interest of society, environment and community at large.

3. Research Methodology

This study adopted a correlational and ex post facto research design, consistent with the positivist paradigm. The correlational design is appropriate since the study seeks to examine the statistical association between credit risk, board size, corporate social responsibility (CSR), and financial performance of listed financial institutions in Nigeria without manipulating variables (Creswell & Creswell, 2018).

The ex post facto approach is suitable because the data were sourced from historical financial statements that cannot be altered (Saunders, Lewis, & Thornhill, 2019). The population comprises all 43 financial institutions listed on the Nigerian Exchange Group (NGX) as of 2024. These include deposit money banks, insurance companies, mortgage banks, and other financial service providers.

A purposive sampling technique was used to select financial institutions with complete and consistent annual reports covering the period 2015–2024. Firms with missing or incomplete data were excluded to ensure robustness. The final balanced panel dataset consists of 43 firms observed over 10 years, yielding 420 firm-year observations.

The model is specified as: $FP_{it}= \alpha+\beta1CR_{it}+\beta2BS_{it}+\beta3CSR_{it}+\beta4FS_{it}+\beta5LEV_{it}+ \epsilon it$

Where: FPit = Financial performance of bank *i* at time *t* (measured by ROA); CRit = Credit risk (measured by non-performing loans ratio); BSit = Board size (number of directors); CSRit = Corporate social responsibility (measured as CSR expenditure/total assets); FSit = Firm size; LEVit = Leverage; α = Constant term; ϵit = Error term.

4. Results and Discussion

Descriptive Statistics

Table 1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA (%)	420	1.35	0.99	0.50	4.98
NPLR (%)	420	5.29	2.36	2.33	14.83
Board Size	420	14.59	1.87	8	19
CSR Ratio (%)	420	2.43	0.63	0.12	2.97
Firm Size (Ln)	420	14.86	1.09	14.09	18.92
Leverage	420	0.88	0.18	0.22	1.48

Source: STATA OUTPUT (2025)

Table 1 presents the descriptive statistics of the study variables. The results show that the average return on assets (ROA) of listed financial institutions in Nigeria was 1.35%, with values ranging between 0.5% and 4.98%, indicating modest profitability across the industry. Credit risk, measured by non-performing loan ratio (NPLR), averaged 5.29%, but with some firms recording as high as 14.83%, which suggests that while credit risk is generally moderate, some institutions face significant asset quality challenges.

The average board size was approximately 15 members, with a minimum of 8 and a maximum of 19, reflecting compliance with corporate governance codes in Nigeria, which encourage relatively large boards to enhance oversight. In terms of corporate social responsibility (CSR), financial institutions committed an average of 2.43% of their profit before tax, although some invested almost nothing, while others approached nearly 3%, highlighting variability in CSR engagement.

Firm size, measured as the natural logarithm of total assets, had a mean value of 14.86, indicating a wide mix of both large and smaller-sized institutions within the sample. Lastly, leverage averaged 0.88, suggesting that, on average, debt was nearly equal to equity, with some firms being highly conservative (0.22) while others were considerably leveraged (1.48). These descriptive results imply that while Nigerian financial institutions show moderate profitability, they face uneven credit risk, vary significantly in size and governance structures, and demonstrate mixed commitment to CSR practices.

Table 2

Correlation Matrix of Study Variables (N = 420)

Variable	ROA	NPLR	Board Size	CSR Ratio	Firm Size	Leverage
ROA	1.0000					
NPLR	0.4988	1.0000				
Board Size	-0.3042	-0.2129	1.0000			
CSR Ratio	-0.5698	-0.5344	0.3211	1.0000		
Firm Size	0.5406	0.4950	-0.2834	-0.5674	1.0000	
Leverage	0.0109	0.0216	-0.0855	0.1680	0.0674	1.0000

Source: STATA OUTPUT (2025)

Table 2 presents the correlation coefficients among the study variables. Return on assets (ROA) is positively correlated with credit risk (NPLR) (r = 0.499) and firm size (r = 0.541), suggesting that larger firms and those with higher risk exposure tend to report relatively higher profitability. This may indicate that larger banks are better positioned to absorb risk and still generate positive returns. However, ROA is negatively correlated with board size (r = –0.304) and CSR ratio (r = –0.570). This implies that firms with larger boards may experience decision-making inefficiencies that reduce profitability, while excessive CSR expenditure might divert resources from profit-generating activities, thereby constraining financial performance.

NPLR shows a strong negative correlation with CSR ratio (r = –0.534), suggesting that banks with higher credit risk are less likely to commit resources to social responsibility initiatives, possibly due to profitability pressures. Similarly, firm size has a strong negative correlation with CSR ratio (r = –0.567), implying that larger banks may prioritize operational efficiency over CSR commitments.

Board size is positively related to CSR ratio (r = 0.321), indicating that bigger boards are more inclined to support CSR activities, possibly due to diverse perspectives and stakeholder pressures. Lastly, leverage shows weak correlations with all other variables, suggesting that the capital structure of the firms has limited direct influence on profitability and other governance indicators in the sample.

These correlations highlight possible trade-offs in financial institutions: while size and risk-taking appear to enhance profitability, governance (board size) and social responsibility (CSR) may constrain short-term returns. However, since correlation does not imply causation, regression analysis is required to establish the true direction and significance of these relationships.

Table 3
Variance Inflation Factor (VIF) Results

Variable	VIF	1/VIF
CSR Ratio	1.90	0.5272
Firm Size	1.66	0.6023
NPLR	1.53	0.6556
Board Size	1.15	0.8675
Leverage	1.10	0.9116
Mean VIF	1.47	

Source: STATA OUTPUT (2025)

Table 3 presents the Variance Inflation Factor (VIF) results used to test for multicollinearity among the explanatory variables. The findings reveal that all individual VIF values range between 1.10 and 1.90, while the mean VIF is 1.47, which is far below the common threshold of 10 recommended by Gujarati and Porter (2009) and also below the stricter threshold of 5 suggested by Hair et al. (2019).

This indicates that multicollinearity is not a concern in the dataset, as none of the independent variables are highly correlated with each other. Thus, the estimated regression coefficients are unlikely to be biased due to multicollinearity, and the model results can be considered stable and reliable (Wooldridge, 2016).

Table 4
Modified Wald Test for Groupwise Heteroskedasticity

Test	Null Hypothesis	Chi²(df)	Probability	Decision
Modified Wald Test	Variances are homoscedastic across panels ($\sigma_i^2 = \sigma^2$)	$\chi^2(43)$ = 3.1e+31	0.0000	Reject H_0

Source: STATA OUTPUT (2025)

The results of the Modified Wald test for groupwise heteroskedasticity indicate a chi-square value of 3.1e+31 with a probability of 0.0000. Since the p-value is less than 0.05, the null hypothesis of homoscedasticity (equal error variances across firms) is rejected. This implies that the dataset suffers from groupwise heteroskedasticity, meaning that the variance of the error terms is not constant across the financial institutions studied.

In practical terms, heteroskedasticity can lead to inefficient coefficient estimates and biased standard errors, which may distort statistical inferences in regression analysis (Wooldridge, 2016). Therefore, robust standard errors or feasible generalized least squares (FGLS) techniques should be considered to correct for heteroskedasticity when estimating the model parameters (Greene, 2018).

Table 5

Panel-Corrected Standard Errors (PCSE) Regression Results

Variable	Coefficient	Std. Error	Z-value	P-value	95% Confidence Interval	Decision
NPLR	0.0823	0.0406	2.03	0.042	[0.0028, 0.1619]	Significant
Board Size	-0.0497	0.0388	-1.28	0.201	[-0.1258, 0.0265]	Not significant
CSR Ratio	-0.4786	0.1241	-3.86	0.000	[-0.7218, -0.2354]	Significant
Firm Size	0.2213	0.0842	2.63	0.009	[0.0563, 0.3863]	Significant
Leverage	0.1793	0.4081	0.44	0.660	[-0.6206, 0.9792]	Not significant
Constant	-0.6400	1.3801	-0.46	0.643	[-3.3451, 2.0650]	Not significant

Source: STATA OUTPUT (2055)

Model Fit:

$R^2 = 0.4305$ → The model explains about 43% of the variation in financial performance (ROA).

Wald $\chi^2(5) = 89.35$, $p = 0.0000$ → The model is jointly significant.

The panel-corrected standard errors (PCSE) regression results reveal that the model is statistically significant overall (Wald $\chi^2 = 89.35$, $p < 0.001$), explaining about 43% of the variation in financial performance (ROA) among listed financial institutions in Nigeria.

Non-Performing Loan Ratio (NPLR) has a positive and significant effect on ROA ($\beta = 0.082$, $p = 0.042$), suggesting that higher loan defaults are paradoxically associated with slightly higher profitability. This counterintuitive result may reflect banks' ability to price risk through higher interest rates or aggressive loan recovery strategies (Berger & DeYoung, 1997).

Board Size shows a negative but insignificant relationship with ROA ($\beta = -0.050$, $p = 0.201$), implying that larger boards may not necessarily enhance financial performance, consistent with the argument that excessively large boards can suffer from coordination inefficiencies (Jensen, 1993).

Corporate Social Responsibility (CSR) ratio has a negative and highly significant effect on ROA ($\beta = -0.479$, $p < 0.001$), indicating that increased CSR expenditure may reduce short-term profitability, possibly due to high compliance and reputational costs (Barnett & Salomon, 2012).

Overall, the findings underscore that CSR costs, firm size, and credit risk management are key determinants of profitability in Nigeria's financial institutions, while board size and leverage do not exert a statistically significant influence.

5. Conclusion and Recommendations

The study examined the determinants of financial performance of listed financial institutions in Nigeria, focusing on credit risk, board size, corporate social responsibility (CSR), firm size, and leverage. The findings reveal that credit risk (NPLR) and firm size significantly enhance financial performance, while CSR expenditures negatively affect

profitability, indicating that social investments may impose short-term costs on banks. Board size and leverage were found to have no significant effect, suggesting that governance structure and capital mix do not necessarily drive profitability in this context.

Based on the findings, financial institutions should strengthen credit risk assessment frameworks to minimize non-performing loans while leveraging pricing strategies that maintain profitability. Boards should consider maintaining an optimal size that avoids inefficiencies while promoting effective oversight. CSR activities should be strategically aligned with long-term value creation rather than short-term financial performance, ensuring that social investments translate into reputational and operational benefits. Regulators should encourage financial institutions to adopt growth-enhancing strategies that exploit economies of scale without compromising risk management. Finally, managers should optimize capital structure decisions by integrating debt prudently, ensuring it contributes to growth without undermining profitability.

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