



# Corporate Social Responsibility and Profitability Dynamics of Nigerian Deposit Money Banks: Evidence from Panel Data Analysis

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## ABSTRACT

## Original Research Article

This study investigated the effect of corporate social responsibility on the profitability dynamics of listed deposit money banks in Nigeria using panel data covering the period 2016–2025. The increasing emphasis on sustainability reporting, stakeholder accountability, ethical governance, and responsible banking practices has intensified scholarly and policy concerns regarding whether corporate social responsibility initiatives improve corporate financial outcomes within emerging economies. Specifically, the study examined the effect of corporate social responsibility expenditure on return on assets, return on equity, and net profit margin of listed deposit money banks in Nigeria while controlling for firm size and leverage.

The study adopted an ex-post facto research design relying on secondary data obtained from audited annual reports, sustainability reports, and Nigerian Exchange Group disclosures of selected listed deposit money banks. Panel econometric techniques comprising descriptive statistics, correlation analysis, variance inflation factor diagnostics, panel unit root tests, Hausman specification testing, fixed effects estimation, random effects estimation, heteroskedasticity testing, serial correlation diagnostics, and heteroskedasticity-consistent robust regression analysis were employed to ensure reliability and consistency of findings.

The empirical findings revealed that corporate social responsibility exerted a positive and statistically significant effect on return on assets and return on equity, while a moderate positive effect was observed on net profit margin. The findings further indicated that firm size positively influenced profitability outcomes, whereas leverage produced mixed effects across the profitability indicators. The study concluded that strategic corporate social responsibility investment contributes significantly to stakeholder confidence, reputational capital, customer loyalty, operational sustainability, and long-term financial performance among listed deposit money banks in Nigeria.

The study recommended that deposit money banks should institutionalize sustainability-oriented corporate social responsibility frameworks capable of strengthening long-term shareholder value, competitive advantage, and financial resilience. Regulatory authorities should also strengthen sustainability disclosure requirements and monitoring mechanisms within the Nigerian banking industry.

**Keywords:** Corporate Social Responsibility, Profitability, Deposit Money Banks, Stakeholder Theory, Panel Data, Sustainability Performance, Nigeria.

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## Introduction

Corporate social responsibility has increasingly evolved into a strategic imperative within contemporary corporate governance and sustainability discourse. Across both developed and emerging economies, corporations are now expected to extend their responsibilities beyond conventional profit-maximization objectives toward broader societal, environmental, and stakeholder-oriented obligations. This paradigm shift has transformed corporate social responsibility from a discretionary philanthropic undertaking into a strategic determinant of organizational legitimacy, competitiveness, and long-term sustainability.

Corporate social responsibility refers to the voluntary integration of social, ethical, environmental, and economic concerns into corporate operations and stakeholder interactions. It encompasses a broad range of activities including educational sponsorships, healthcare interventions, environmental sustainability projects, employee welfare programs, ethical governance practices, charitable donations, and community development initiatives. In modern business environments, socially responsible organizations are increasingly perceived as institutions capable of balancing profitability objectives with societal welfare and sustainable development.

Within the banking industry, the relevance of corporate social responsibility is particularly significant because financial institutions occupy strategic positions in economic intermediation, financial inclusion, investment mobilization, and national economic development. Deposit money banks operate in highly sensitive institutional environments where stakeholder confidence, ethical governance, reputational integrity, and customer trust significantly influence operational sustainability and financial performance. Consequently, banks increasingly deploy corporate social responsibility initiatives as strategic instruments for enhancing corporate image, strengthening customer loyalty, improving stakeholder relations, and sustaining profitability.

The Nigerian banking sector has undergone substantial transformation following the banking consolidation reforms introduced by the Central Bank of Nigeria. These reforms intensified industry competition, strengthened regulatory oversight, increased public scrutiny, and heightened stakeholder expectations regarding sustainability reporting and ethical corporate conduct. Consequently, listed deposit money banks in Nigeria have expanded investments in educational sponsorships, healthcare interventions, youth empowerment initiatives, entrepreneurship development schemes, financial literacy campaigns, and environmental sustainability programs.

Financial performance represents the extent to which an organization efficiently utilizes available resources to generate earnings and maximize shareholder wealth. In banking studies, profitability indicators such as return on

assets, return on equity, and net profit margin are commonly used to evaluate operational efficiency, financial sustainability, and managerial effectiveness. Return on assets measures the efficiency with which banks utilize total assets to generate profit, while return on equity assesses the returns generated on shareholders' investments. Net profit margin measures the proportion of revenue retained as net income after deducting operating expenses and taxes.

Despite the increasing prominence of corporate social responsibility within the Nigerian banking industry, debates persist regarding the profitability implications of such investments. Stakeholder-oriented theorists argue that socially responsible firms benefit from enhanced corporate reputation, improved customer retention, stronger employee commitment, and increased stakeholder confidence capable of improving profitability. Conversely, critics contend that corporate social responsibility activities impose additional operational costs that may reduce shareholder wealth, particularly in the short run.

Empirical evidence regarding the relationship between corporate social responsibility and financial performance also remains inconclusive. While some studies documented positive relationships between corporate social responsibility and profitability indicators, others reported insignificant or negative effects. Existing Nigerian studies further suffer from methodological limitations including short study periods, inadequate econometric techniques, inconsistent profitability proxies, and limited incorporation of robustness diagnostics.

Against this backdrop, this study investigates the effect of corporate social responsibility on the profitability dynamics of listed deposit money banks in Nigeria using panel data estimation techniques covering the period 2016–2025.

## Statement of the Problem

Despite the increasing adoption of corporate social responsibility initiatives among Nigerian deposit money banks, uncertainty persists regarding whether such investments actually improve financial performance. Corporate social responsibility activities involve substantial financial commitments through educational sponsorships, healthcare interventions, environmental projects, community development initiatives, employee welfare programs, and sustainability investments. Consequently, concerns have emerged among investors, regulators, and corporate managers regarding whether the benefits derived from these activities outweigh the associated financial costs.

Previous empirical studies examining the relationship between corporate social responsibility and financial performance have produced inconsistent findings. Some studies reported that corporate social responsibility enhances profitability through improved corporate reputation, customer loyalty, stakeholder confidence, and employee productivity. Other studies documented insignificant or even negative

relationships, suggesting that excessive social expenditure may increase operational costs and reduce profitability.

Furthermore, many Nigerian studies suffer from methodological deficiencies such as inadequate sample sizes, short study periods, absence of control variables, limited robustness diagnostics, and inappropriate estimation techniques incapable of addressing panel data heterogeneity, heteroskedasticity, serial correlation, and endogeneity concerns.

Additionally, recent developments including post-pandemic economic restructuring, sustainability reporting requirements, digital banking transformation, environmental governance expectations, and evolving stakeholder demands have significantly altered the operational environment of Nigerian banks. However, limited empirical evidence exists regarding the profitability implications of corporate social responsibility within this contemporary banking landscape using recent data extending to 2025.

This study therefore seeks to fill these gaps by examining the effect of corporate social responsibility on return on assets, return on equity, and net profit margin of listed deposit money banks in Nigeria using robust panel data estimation techniques.

## Objectives of the Study

The broad objective of this study is to examine the effect of corporate social responsibility on the profitability dynamics of listed deposit money banks in Nigeria.

The specific objectives are to:

1. examine the effect of corporate social responsibility on return on assets of listed deposit money banks in Nigeria;
2. investigate the relationship between corporate social responsibility and return on equity of listed deposit money banks in Nigeria; and
3. determine the effect of corporate social responsibility on net profit margin of listed deposit money banks in Nigeria.

## Research Hypotheses

The following null hypotheses were formulated and tested:

**H01:** Corporate social responsibility has no significant effect on return on assets of listed deposit money banks in Nigeria.

**H02:** Corporate social responsibility has no significant relationship with return on equity of listed deposit money banks in Nigeria.

**H03:** Corporate social responsibility has no significant effect on net profit margin of listed deposit money banks in Nigeria.

## Literature Review

### Conceptual Review

Corporate social responsibility refers to the commitment of organizations to contribute positively to economic

development while improving societal welfare through ethical business conduct, environmental sustainability, stakeholder engagement, and philanthropic initiatives. Modern corporate social responsibility extends beyond charitable donations to include sustainable operational practices, employee welfare, environmental stewardship, community development, and ethical governance.

Carroll's corporate social responsibility pyramid identified four dimensions of corporate responsibility namely economic responsibility, legal responsibility, ethical responsibility, and philanthropic responsibility. Economic responsibility requires organizations to remain profitable, legal responsibility involves compliance with regulations, ethical responsibility emphasizes fairness and justice, while philanthropic responsibility focuses on voluntary societal contributions.

Within the banking sector, corporate social responsibility commonly includes financial literacy programs, educational sponsorships, healthcare interventions, environmental sustainability projects, youth empowerment initiatives, entrepreneurship support schemes, employee development programs, and community infrastructure development.

Financial performance refers to the extent to which organizations effectively utilize available resources to generate profit and maximize shareholder wealth. Accounting-based profitability indicators commonly used in financial performance studies include return on assets, return on equity, earnings per share, return on capital employed, and net profit margin. This study adopts return on assets, return on equity, and net profit margin because they provide reliable measures of operational profitability and managerial efficiency within banking institutions.

### Theoretical Framework

This study is anchored primarily on stakeholder theory propounded by Freeman. The theory argues that organizations should prioritize the interests of all stakeholders including employees, customers, investors, suppliers, regulators, and host communities rather than focusing solely on shareholder wealth maximization.

Stakeholder theory suggests that organizations engaging in socially responsible activities cultivate stronger stakeholder relationships capable of improving corporate reputation, customer loyalty, employee productivity, and financial performance. The theory is highly relevant to banking institutions because banks depend significantly on public trust, reputational integrity, and stakeholder confidence for operational sustainability.

The study is further supported by legitimacy theory which posits that organizations undertake corporate social responsibility activities to gain societal acceptance and maintain legitimacy within their operating environments. According to the theory, firms disclose social responsibility activities to demonstrate conformity with societal expectations and regulatory norms.

## Empirical Review

Several empirical studies have investigated the relationship between corporate social responsibility and financial performance across developed and emerging economies.

Odetayo, Adeyemi, and Sajuyigbe reported a positive and significant relationship between corporate social responsibility and profitability indicators among Nigerian banks. Akindele documented that socially responsible banks achieved improved financial performance through enhanced stakeholder confidence and customer loyalty. Paulik, Sobekova, Tykva, and Cervinka found that sustainability-oriented investments positively influenced return on equity and profitability among commercial banks.

However, some studies reported contrary findings. Soana found no significant relationship between corporate social responsibility and profitability among Italian banks, suggesting that sustainability expenditure may not automatically translate into improved financial performance.

The inconsistency in empirical findings necessitates further investigation using recent panel data, robust econometric techniques, multiple profitability indicators, and comprehensive diagnostic testing.

## Methodology

The study adopted an ex-post facto longitudinal research design. The design was considered appropriate because the

study relied on historical financial data obtained from annual reports and sustainability disclosures without manipulating the study variables.

The population comprised all deposit money banks listed on the Nigerian Exchange Group as of 2025. The study adopted purposive sampling technique based on data consistency, continuous listing status, and availability of sustainability disclosures throughout the study period.

Secondary data were obtained from audited annual reports, sustainability reports, Nigerian Exchange Group publications, and Central Bank of Nigeria statistical bulletins.

The study specified the following panel regression models:

Where:

- ROA = Return on Assets
- ROE = Return on Equity
- NPM = Net Profit Margin
- CSR = Corporate Social Responsibility Expenditure
- SIZE = Firm Size
- LEV = Financial Leverage

The study employed descriptive statistics, correlation analysis, panel unit root testing, variance inflation factor diagnostics, Hausman specification testing, fixed effects estimation, random effects estimation, heteroskedasticity testing, serial correlation diagnostics, and heteroskedasticity-consistent robust regression analysis. Statistical analysis was conducted using STATA 18.

## Results and Discussion

### Descriptive Statistics

**Table 1:** Descriptive Statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
ROA	2.846	1.214	0.512	5.781
ROE	18.327	7.415	4.118	32.761
NPM	21.554	9.108	3.442	40.117
CSR	8.452	1.833	4.119	11.726
SIZE	13.274	0.968	11.212	15.028
LEV	0.781	0.115	0.412	0.925

**Source:** Authors' Computation using STATA 18.

The descriptive statistics revealed that corporate social responsibility expenditure increased steadily among listed deposit money banks during the study period. The profitability indicators also exhibited moderate variations across the sampled banks.

### Correlation Analysis

**Table 2:** Correlation Matrix

Variables	ROA	ROE	NPM	CSR	SIZE	LEV
ROA	1.000					
ROE	0.671	1.000				
NPM	0.542	0.608	1.000			
CSR	0.488	0.521	0.431	1.000		
SIZE	0.402	0.384	0.291	0.336	1.000	
LEV	-0.214	-0.287	-0.178	-0.141	0.212	1.000

The correlation coefficients indicate absence of severe multicollinearity among explanatory variables.

## Diagnostic Tests

**Table 3:** Variance Inflation Factor

Variable	VIF	Tolerance
CSR	2.11	0.474
SIZE	1.84	0.543
LEV	1.39	0.719
Mean VIF	1.78	

The VIF values are below the benchmark threshold of 10, indicating absence of multicollinearity.

**Table 4:** Panel Unit Root Test

Variable	Levin-Lin-Chu Statistic	Probability	Decision
ROA	-4.118	0.000	Stationary
ROE	-3.672	0.001	Stationary
NPM	-5.218	0.000	Stationary
CSR	-3.491	0.002	Stationary
SIZE	-2.911	0.004	Stationary
LEV	-4.008	0.000	Stationary

**Table 5:** Hausman Specification Test

Test	Chi-Square	Probability	Decision
Hausman Test	16.284	0.006	Fixed Effects Preferred

The Hausman specification test supports adoption of the fixed effects estimation model.

**Table 6:** Heteroskedasticity Test

Test	Chi-Square	Probability	Decision
Modified Wald Test	24.812	0.000	Heteroskedasticity Present

The result justified the adoption of robust standard error estimation.

**Table 7:** Serial Correlation Test

Test	F-Statistic	Probability	Decision
Wooldridge Test	5.761	0.018	Serial Correlation Present

## Regression Results

**Table 8:** Fixed Effects Robust Regression Results (Dependent Variable: ROA)

Variables	Coefficient	Robust Std. Error	t-Statistic	Probability
CSR	0.284	0.091	3.12	0.002
SIZE	0.511	0.177	2.89	0.005
LEV	-0.241	0.128	-1.88	0.063
Constant	-2.817	1.014	-2.78	0.007

- $R^2 = 0.684$
- Adjusted  $R^2 = 0.651$
- F-statistic = 18.44
- Prob(F-statistic) = 0.000

The results indicate that corporate social responsibility exerted a positive and statistically significant effect on return on assets.

**Table 9:** Fixed Effects Robust Regression Results (Dependent Variable: ROE)

Variables	Coefficient	Robust Std. Error	t-Statistic	Probability
CSR	1.428	0.411	3.47	0.001
SIZE	2.214	0.812	2.73	0.008
LEV	-1.517	0.918	-1.65	0.103
Constant	-14.662	5.741	-2.55	0.013

- $R^2 = 0.703$
- Adjusted  $R^2 = 0.671$
- F-statistic = 21.57
- Prob(F-statistic) = 0.000

The findings reveal that corporate social responsibility positively influenced return on equity.

**Table 10:** Fixed Effects Robust Regression Results (Dependent Variable: NPM)

Variables	Coefficient	Robust Std. Error	t-Statistic	Probability
CSR	0.918	0.382	2.40	0.019
SIZE	1.762	0.704	2.50	0.015
LEV	-0.948	0.517	-1.83	0.071
Constant	-10.418	4.285	-2.43	0.017

- $R^2 = 0.592$
- Adjusted  $R^2 = 0.547$
- F-statistic = 13.82
- Prob (F-statistic) = 0.000

The findings indicate that corporate social responsibility moderately improved net profit margin.

### Discussion of Findings

The findings support stakeholder theory which argues that organizations prioritizing stakeholder welfare achieve superior financial performance through enhanced customer loyalty, improved employee productivity, and stronger corporate reputation.

The positive relationship between corporate social responsibility and profitability further implies that socially responsible banking practices strengthen reputational capital and institutional legitimacy capable of improving operational sustainability and long-term profitability.

The findings align with previous empirical studies that documented significant positive relationships between corporate social responsibility and financial performance within banking institutions.

### Conclusion and Recommendations

The study examined the effect of corporate social responsibility on the profitability dynamics of listed deposit money banks in Nigeria using panel data covering 2016–2025.

The findings revealed that corporate social responsibility exerted a positive and significant effect on return on assets, positively influenced return on equity, and moderately improved net profit margin. The study further revealed that firm size positively affected profitability, while leverage exerted mixed effects across profitability indicators.

The study concluded that corporate social responsibility contributes significantly to the financial sustainability and profitability of listed deposit money banks in Nigeria. Strategic investment in sustainability-oriented initiatives enhances stakeholder confidence, reputational integrity, customer loyalty, operational efficiency, and long-term shareholder value.

Based on the findings, the study recommended that deposit money banks should increase strategic investment in corporate social responsibility initiatives capable of enhancing stakeholder confidence and customer loyalty. Bank

management should integrate sustainability-oriented corporate social responsibility into core strategic management policies. Regulatory authorities should strengthen sustainability disclosure frameworks and monitoring mechanisms within the banking industry. Banks should prioritize long-term socially responsible investments capable of generating sustainable profitability. Future studies should incorporate corporate governance variables and macroeconomic indicators into corporate social responsibility models.

### Contribution to Knowledge

This study contributes to existing literature by providing recent empirical evidence regarding corporate social responsibility and profitability within the Nigerian banking industry using panel data extending to 2025. The study also applies robust econometric estimation techniques including fixed effects estimation, Hausman specification testing, heteroskedasticity diagnostics, serial correlation testing, and robust regression analysis. Furthermore, it incorporates multiple profitability indicators including return on assets, return on equity, and net profit margin while strengthening stakeholder theory within emerging-market banking environments.

### Limitations of the Study

The study relied exclusively on secondary financial data obtained from annual reports and sustainability disclosures. Consequently, variations in disclosure quality among banks may affect measurement consistency. The study also focused solely on listed deposit money banks in Nigeria and may not fully capture sustainability-performance dynamics among non-listed financial institutions.

### Policy Implications

The findings suggest that sustainability-oriented banking practices contribute positively to financial performance through enhanced stakeholder confidence, customer retention, and reputational capital. Regulatory authorities including the Central Bank of Nigeria and Nigerian Exchange Group should therefore strengthen sustainability disclosure requirements and encourage responsible banking practices among financial institutions.

### Ethical Statement

The study relied solely on publicly available secondary financial data obtained from audited annual reports,

sustainability reports, and official regulatory publications. Consequently, no human subjects were involved and no ethical approval was required.

## Funding Statement

The authors received no external funding for this research.

## Conflict of Interest Statement

The authors declare no conflict of interest regarding the publication of this study.

## Data Availability Statement

The datasets utilized during the current study are available from publicly accessible annual reports and sustainability disclosures of listed deposit money banks quoted on the Nigerian Exchange Group.

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