The Role of Corporate Governance, Internal Control System on Firms' Financial Performance

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ABSTRACT

The paper is centered on corporate governance, internal control system, and their impact on financial performance of listed manufacturing firms in Nigeria from 2015 to 2024. The population consists of all the 67 manufacturing firms listed on the Nigerian Exchange (NGX) Group that cuts across 7 sectors which include oil and gas, conglomerates, agriculture, consumable goods, industrial goods, healthcare and natural resources. Given the stratified sector, twenty-three (23) listed firms which represent 30% of the population were proportionally selected by ensuring that each sub-sector have equal chance of being represented in proportion of their sizes. While the data were regressed, the study employed a random regression model in arriving at the findings. The study findings reveal that board size is negative and insignificant on financial performance. However, both board composition and audit committee size were positive on financial performance, though audit committee size was insignificant. Therefore, the study recommends that companies should prioritize Board Composition by ensuring that their boards consist of a significant proportion of independent directors. Independent directors can provide better oversight, reduce conflicts of interest, and bring diverse perspectives to strategic decision-making, which can ultimately improve financial performance.

Keywords: corporate governance, internal control system, financial performance, listed manufacturing firms, Nigeria

INTRODUCTION

Corporate governance (CG) has become an essential factor that allows management to make prompt and effective decisions. Efficient and appropriate supervision in an indispensable manner increases medium– to–long term corporate values, creating, maintaining, and improving companies' success and financial performance (Bhagat & Bolton, 2018; Ciftci et al., 2019; Danoshana & Ravivathani, 2019; Fooladi & Chaleshtori, 2021). CG aims to ensure a transparent and balanced economic development where the shareholders' interests are safeguarded, leading to a sustainable corporation and minimal operation risks (Arslan & Alqatan, 2020).

Corporate Governance comprises a set of internal controls such as policies, approved rules, and procedures used by firms' managers to ensure that their firms are functioning efficiently according to the predetermined objectives of the firm (Al–Zwyalif, 2018; Mihaela & Iulian, 2022). After the financial crisis, such controls were created mainly in the European Union and the US, as new regulations to improve entities' internal controls (Mihaela & Iulian, 2022). However, the lack of efficient corporate governance and internal controls makes firms vulnerable to risks, including improper recording of accounting transactions, losses and uncertainty risks. Carrying out control and technological innovations is vital to the development and survival of frauds and unauthorized transactions, impacting firms' competitiveness and financial performance (Bhagat & Bolton, 2018; Bhatt & Bhatt, 2017; Ducassy & Guyot, 2017; Pillai & Al–Malkawi, 2018).

The lack of good Corporate Governance caused several corporations around the world to fail in the last decade, making it very clear that firms are required to modify their CG to improve transparency and guarantee the reliance of shareholders on the board of directors' management (Michelberger, 2016). Therefore, new efforts are needed

to improve CG to protect shareholders' interests and stabilise the market economy (Gupta et al., 2018). Although CG codices are practised largely in several countries, they are not legally bonded. They merely represent more or fewer recommendations for good Corporate Governance (Arora & Sharma, 2016; Naimah, 2017). However, recent years have seen the increased interest in employing CG in public companies to regulate stakeholder–management relations and optimize firms' managerial systems (Almaqtari et al., 2020; Rashid et al., 2020).

Generally, some review papers provide a comprehensive analysis of the roles of good corporate governance and internal control systems to the success and sustainability of firms. Specifically, several essential subtopics are critically reviewed, including the corporate governance, board principles, theories in CG, internal control system, financial performance, board and audit characteristics, and their importance to the success of firms. Additionally, the recent empirical studies that investigated the roles of good CG and internal controls, the board and CEO characteristics towards the success of firms are presented with several practical examples. The review shows several theoretical and practical contributions that will attract both academicians and firms.

This study focused on role of Corporate Governance and Internal Control System on Firms Financial Performance, while the specific objectives are:

i. To examine the effect of board size on financial performance of listed manufacturing firms.
ii. To investigate the effect of board composition on financial performance of listed manufacturing firms.
iii. To evaluate the effect of audit committee size on financial performance of listed manufacturing firms.

In line with specific objectives, the following hypotheses were formulated and stated in null form:

H_{01}: Board size does not have a significant impact on financial performance of listed manufacturing firms in Nigeria.

H_{02}: Board composition does not have a significant impact on financial performance of listed manufacturing firms in Nigeria.

H_{03}: Audit Committee Size does not have a significant impact on financial performance of listed manufacturing firms in Nigeria.

LITERATURE REVIEW

Conceptual Review

Financial Performance

Financial performance is a key attribute that denotes the success of good CG and the overall good performance of firms (Bhagat & Bolton, 2008; Michelberger, 2016). Performance is derived from 'parfourmen', which means to carry out, do or render, which refers to executing, performing, accomplishing, and fulfilling a given task measured against present standards completeness, accuracy, cost, and speed. In general, the term performance is employed to conducts of tasks (activities) of a firm over time, concerning projected or past cost–efficacy, accountability, and responsibility (the quality of results refers to as performance) (Echekoba & Ananwude, 2016). Performance denotes success, compliance, and conditions (Bhagat & Bolton, 2018; Danoshana & Ravivathani, 2019; Fooladi & Chaleshtori, 2021).

Financial performance is the performance level of a firm (business) over a stipulated time expressed in terms of overall profits and losses. Evaluating a firm's financial performance allows decision–makers to judge the results of business strategies and activities in objective monetary terms. Financial performance can be used to measure the firm's operations and policies in financial terms; in which these outcomes reflect the firm's investment and return on assets, added value, and other associated measures such as those related to the comparison of similar firms across the same industry (Arora & Sharma, 2016; Bhagat & Bolton, 2018; Bhatt & Bhatt, 2017; Ciftci et al., 2019; Dabor et al., 2015; Ducassy & Guyot, 2017; Hazaea, Tabash, et al., 2020; Latif et al., 2018; Naimah, 2017; Pillai & Al–Malkawi, 2018). The results of the financial performance aid managers to make effective decisions and provide an overall picture of the way the firm is functioning over a period of time with respect to other firms in a similar industry (Chen et al., 2020; Gal & Akisik, 2020; Haron et al., 2020).

Corporate Governance

Corporate governance has grown to be an important mechanism for improving firms' performance aspired by the latest worldwide financial crisis, which underpinned the significance of good Corporate Governance structures and practices (Ahmed et al., 2020; Coleman & Wu, 2020; Hazaea, Tabash, et al., 2020). The structure of good corporate governance plays a vital role in enhancing firms' performance and sustainability in the long term (Aslam & Haron, 2020; Ghadamyari & Abadi, 2020; Warrad & Khaddam, 2020). Therefore, CG refers to the process carried out by the board of directors for the benefit of the firm's stakeholders, to provide authority, direction, oversight to the management, and to govern, establish and manage relationships between internal and external stakeholders (Ahmed et al., 2020; Bhagat & Bolton, 2018; Bunget et al., 2020; Ducassy & Guyot, 2017; Huy et al., 2020; Pillai & Al–Malkawi, 2018; Rashid et al., 2020).

Good corporate governance enhances the organization's image, boosts shareholders' confidence, and reduces the risk of fraud practices. Good CG comprises several interrelated components such as the board of directors, management, internal and external audits, audit committee, and the internal control system as key components that aid in detecting irregularities at the early stages of projects (Arora & Sharma, 2016; Bhagat & Bolton, 2018; Dabor et al., 2015; Ducassy & Guyot, 2017; Latif et al., 2018; Naimah, 2017; Pillai & Al– Malkawi, 2018).

Although corporate governance varies between companies in different countries, its crucial goals are the same: to attain profitability, high performance and monitor managers to ensure the shareholders' interests. It is noteworthy that weak or inappropriate CG could lead to frauds, abuses, and poor performances (Bunget et al., 2020; Rashid et al., 2020). Corporate governance involves the customs, laws, and processes that are designed to aid a corporation achieve corporate goals (Almaqtari et al., 2020; Bunget et al., 2020; Rashid et al., 2020). In particular, an internal controls mechanism is used to eliminate or reduce the issues of principal agents (conflicts and mismanagement), namely the management, stakeholders, regulators, the board of directors, employees, suppliers, constituents, partners, general community, and consumers (Ramdani & Witteloostuijn, 2020).

Internal Control Systems (ICSs)

The internal control system is part of good CG used to observe activities and provide corrective actions to ensure the accomplishment of firms' objectives. The internal control system is defined as a process that influences an entity's board of directors, management, and other personnel. It provides significant assurances to achieve the goals of a firm in terms of operations' effectiveness, reliable audit quality, and relevant rules, policies, and regulations (Napitupulu, 2020). The board of directors with the subcommittees such as audit are responsible for the activities and functions of firms. For example, the audit committee is responsible for providing corporate assurance relevant to standards, regulations, and laws that is to maintain efficient control against employee conflict of interests and fraud (Gal & Akisik, 2020; Hillman et al., 2019; Li et al., 2020; Mihaela & Iulian, 2022; Yusoff & Alhaji, 2022).

Al–Zwyalif (2015) argued that good CG could not exist without an internal control system. Thus, there is an immense realization that good CG must be embedded with efficient internal controls. Internal control system impacts the overall governance of the organization and the financial performance. Thus, the views of the independent auditors on firm financial performance are vital for the stakeholders to determine the market value, create trust and confidence, and ensures high performance in the firms (Gal & Akisik, 2020). Asare and Wright (2022) pointed out that internal controls in CG mechanisms make their financial statements more trustworthy. Kim et al. (2021) showed that corporations without internal control systems are weak and borne to fail.

Firms without efficient internal controls are riskier and are not performing well compared to their counterparts which confirms the essential role implied by several researchers to direct attention towards investigating the disclosure and importance of internal controls for the survival and success of firms (Aboagye–Otchere et al., 2022; Abor, 2017). Indeed, the internal controls concept has gained tremendous traction among public firms to overcome the incompetent risk management of failed organisations (Branson & Hancock, 2020). Several businesses collapsed, especially during the economic crisis in 2008 that is linked mainly to inadequate inclusion of the mechanisms and risk management of internal control systems (McConnell, 2019). Internal controls provide diagnoses for threats in an organisation and explore alternative solutions, and alleviates the risks. Therefore, the internal control system is paramount in any dynamic business environment to achieve stated business objectives, ensure adherence to regulations, prevent fraud and errors and safeguard firm resources a (Gordon et al., 2019).

Empirical Review

Corporate Governance, Internal Control, and Financial Performance

Empirically, numerous research has been carried out to investigate the relationship between CG and financial performance while considering internal controls, the board size, board composition, and audit committee size. The empirical studies have obtained mixed results, which suggest that there may be no link between CG and financial performance. For example, Okiro (2015) found a significant and positive linkage between CG and company performance. Ahmad and Yameen (2015) investigated the effect of CG practices on wealthy shareholders and organizations' financial performance. The findings revealed that the CG procedures have positive influences on the wealth of shareholders and the financial performance of firms.

Contrasting to the above, Amba (2019) argued a negative association between CG and financial performance. Similar findings were also reported in studies by Guo and Kga (2022), who found a negative linkage between CG with firms' value. Apart from that, a study by Paul et al. (2015) showed no evidence of a relationship between CG and banks' financial performance. Similarly, Latief et al. (2019) found no significant impact between CG and firm performance. In addition, Makki and Lodhi (2018) found that CG practices do not improve financial performance consistently.

Other studies have stressed the importance of CG variables, such as a study by Al–Sahafi et al., (2015) that showed the size and independence of the board of directors have a positive effect on the financial performance of the banks. El–Chaarani (2019) revealed that the independent board has a positive impact on Lebanese banks' performance.

Kumar and Nihalani (2019) examined the impact of CG on the Indian banks and revealed that the board of directors play a significant impact on firm performance. Meanwhile, the meetings of boards have a negative impact. Similarly, studies such as Ali (2018), Handa (2018), Iqbal et al., (2019), Paniagua et al., (2018), and Zulfiqar and Malik (2019) examined the CG variables. They reported mixed results with the significant findings that the board of directors impact the financial performance.

Chaudhry et al., (2020) analysed the impact of financial, experiential, and monitoring of audit committee on the firms' financial performance using a quantitative method to gather data from 50 non– financial firms in Pakistan. The analysis was carried out using e–views. The results indicated that the audit committee experiential has a positive impact on assets, return on equity, and firms' net profit.

Empirically, several studies have investigated the relationship between the internal control system and financial performance. For example, Al–Thuneibat et al., (2015) revealed that internal controls and their elements (reliability of financial reporting) have a positive impact on return on equity and assets of Saudi Shareholding Companies. Shokoohi et al. (2015) argued that an internal control system is vital to ensure effective performance. The study revealed a positive and significant relationship between internal control systems (control activities, control environment, internal auditing, risk evaluation, and communication and information) and financial performance among Nigerian Telecommunication Companies.

Li (2020) empirically investigated the impact of internal control as a moderating parameter on the earnings of management methods and the financial performance using Chinese listed firms between 2007 and 2015, combining 15,769 firm–year observations. The empirical findings indicated that internal controls significantly impacted the relations between financial performance earning management (accrual and real earnings).

Gal and Akisik (2020) investigated the relationship between internal control, integrated reports over external assurance, and financial reporting on market value in firms in North America from 2011 to 2016. The findings revealed that the internal controls (auditing, reporting, financial position) and integrated reporting significantly enhance the firms' effectiveness and the quality of information of the financial statements and thus on the firm value.

Lai et al. (2020) investigated whether the internal control quality impacts the relationship between investment efficiency and material weaknesses and found that internal controls are significant for the success of firms. Magu and Kibati (2016) used control environment and control activities to establish the impact of internal control

system on the financial performance of KFA Ltd with a target population of 78 managers and adopted the Census design. After the analysis of the data using descriptive and inferential statistics, the findings showed a significant and positive relationship between internal control systems and the financial performance of KFA Ltd.

However, internal controls are required to imply further effectiveness in enhancing earning quality. The board size refers to the directors' headcount who has a seat on the corporate board. It is one of the essential characteristics of the board dynamics with tactical influence on the independence of the board and overall quality of CG. The size of the board is a crucial attribute to achieve the effectiveness of the board and improve company performance, particularly from the dependent resource perspectives, which give more attention to the board's ability to co–opt scarce resources from a variety of external sources (Muchemwa et al., 2016; Rwakihembo et al., 2020; Topal & Dogan, 2019).

Meanwhile, Dalton et al. (2015) argued that a large board provides larger expertise and knowledge and that only a few directors are responsible for the decision–making processes. Other studies reported mixed findings on the impact of board size on financial performance and indicated that a large board is useful to provide a better exchange of skills and knowledge, especially in complex firms (Gafoor et al., 2018; Jackling & Johl, 2019; Merendino & Melville, 2019; Mishra, 2020; Mohapatra, 2017; Pucheta–Martínez & Gallego– Álvarez, 2020; Ujunwa, 2022; Yasser et al., 2017).

An effective audit committee ensures that the management properly develops and adhere to the internal controls. The procedures are in place to evaluate the practices of management and internal control to improve the overall financial performance of the firms and boost investors' confidence (Sharhan & Bora, 2020). The audit committee has four characteristics: financial expertise, independence, meetings, and size (Chaudhry et al., 2020; Chou & Buchdadi, 2017; Sterin, 2020).

Theoretical Review

Agency Theory

Agency theory represents the leading fundamental theory, is a dominant theory influencing the CG structure, and attracts much of the research on CG (Haron et al., 2020). First expanded by the roots of the economic theory of Alchian and Demsetz (1972) and then reintroduced by Jensen and Mechling (1976), the agency theory is vital as it allows contractual linkage between the shareholders and the managers of the firm (Nasieku et al., 2014). Based on the agency theory, three firms' problems or issues were identified. The effort problem (focuses on whether managers make an effort to manage corporation to maximise the wealth of shareholders), differential risk problem (concerns on the different views of managers and principal), and the assets' situation (concerns on insiders who control corporate assets) (Patrick et al., 2015).

Agency theory recommended that CG mechanisms are required to minimise these problems and conflicts to align executives' financial interests with those of stakeholders by fixing the benefits and compensations of stakeholders, appointing an independent board of directors for checking managerial behaviour as to reduce agency cost (Bhagat & Bolton, 2018; Bhatt & Bhatt, 2017; Danoshana & Ravivathani, 2019; Fooladi & Chaleshtori, 2021).

From the perspective of agency theory, CG is a mechanism in which the board directors of the CG have a crucial role in monitoring managers to ratify their decisions, minimizes issues between agents and shareholders to achieve the firms' objectives. This role has been investigated by several researchers such as (Ahmed et al., 2020; Arora & Sharma, 2016; Bhagat & Bolton, 2018; Dabor et al., 2015; Ducassy & Guyot, 2017; Hazaea, Tabash, et al., 2020; Latif et al., 2018; Naimah, 2017; Pillai & Al–Malkawi, 2018).

Resource Dependence Theory (RDT)

RDT was first introduced by Pfeffer (1973) and Pfeffer and Salancik (1978) into the research of CG (Hillman et al., 2019; Pfeffer & Salancik, 2003). RDT stresses the essential role of the board of directors, especially the independent boards, to provide access to resources, improves organisational functions and linkage with the external environment, and enhance the company's performance (Davis & Cobb, 2020; Drees & Heugens, 2018; Hillman et al., 2019; Yusoff & Alhaji, 2022). Therefore, RDT suggests that there is a need to provide

environmental linkage between firms and outside resources. The boards of directors must absorb critical elements of the environmental uncertainties into a firm to reduce transaction costs associated with environmental interdependency (Ahmed et al., 2022).

Resource dependence theory is important to organisations to allow improvements in the quality of the directors' advice. The independent board of directors can hire other resourceful experts, especially those with excellent skills and specialities, for the board structure and role (Clarke, 2019; Cuervo–Cazurra et al., 2019; Rubino & Napoli, 2020; Zona et al., 2018). Resource dependence theory provides justifications for creating a linkage between organizations and their external environments through the essential roles of the independent board (Yusoff & Alhaji, 2022).

METHODOLOGY

The study adopted ex-post facto research design and content analysis to generate quantitative data from the annual reports of selected firms in order to achieve the stated objectives.

The population consist of all the 67 manufacturing firms listed on the Nigerian Exchange (NGX) Group as at the year ended 2024. On the Nigeria Stock Exchange, manufacturing firms cut across 7 sectors which are; oil and gas, conglomerates, agriculture, consumable goods, industrial goods, healthcare and natural resources. The environmental and social effects which the industrial operations of these manufacturing firms have on the environment have made them a subject of focus. Twenty-three firms (23) which represent 30% of the population were proportionally selected from the stratified sector to ensure each sub-sector have equal chance of being represented in proportion of their sizes.

The annual reports were obtained from the website of these firms and the Nigerian Exchange Limited factbook. Data gathered were analyzed using descriptive and inferential statistics. The descriptive statistics showed the mean, median, standard deviation, skewness and kurtosis and others. In order to test for multicollinearity of the data collected, heteroskedasticity test were conducted. Hausman Specification, LM test and Shapiro-Wilk test for data normality were also used to test the validity and reliability of the data before regression analysis was conducted.

Table 1 Distribution of selected listed manufacturing companies in Nigeria

Classification of Company	Total	Sample Size (30%)
Consumer goods	21	7
Industrial goods	14	5
Conglomerates	6	2
Healthcare	10	4
Agriculture	4	1
Oil and gas	8	3
Natural Resources	4	1
Total	67	23

Source: Author's compilation, 2025.

The period 2015 to 2024 was chosen for this study. The published financial statements of the pharmaceutical companies under review were used to ascertain the board size, board composition and audit committee size and the performance of manufacturing companies' proxy by Return on Capital Employed (ROCE).

Model Specification

The specified model for the study is simply a simple regression model which is in line with the works of other scholars. This simple regression model is stated thus:

Model 1: $ROCE = \alpha_0 + a_1 BSIZE + \mu$

Model 2: $ROCE = \alpha_0 + a_1 BCOM + \mu$

Model 3: $ROCE = \alpha_0 + a_1 AUDSIZ + \mu$

Where: ROCE =Return on Capital Employed; BSIZE=Board Size; BCOM =Board Composition; AUDSIZ=Audit Committee Size; α_0=Unknown constant to be estimated; a_1=Unknown coefficient to be estimated; μ=Error term.

Table 2 Variable Measurement, Definition and Sources

Variable	Type	Definition	Measurement	Sources
ROCE	Dependent	Return on Capital Employed: A financial performance metric that measures the profitability relative to capital employed.	ROCE = Net Income / Total Capital Employed	(Brealey & Myers, 2019)
BSIZE	Independent	Board Size: The total number of members on a company's board of directors.	Number of directors on the board	(Lipy & Klein, 2016)
BCOM	Independent	Board Composition: The proportion of independent directors on the board, indicating governance quality.	Number of independent directors' dividend by board size	(Adams & Ferreira, 2017)
AUDSIZ	Independent	Audit Committee Size: The number of members in the audit committee, which oversees financial reporting and compliance.	Number of members in the audit committee	(DeZoort et al., 2022; Carcello & Neal, 2023)

Source: Author's Compilation, 2026

RESULTS AND DISCUSSION

Table 3 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROCE	230	.003	1.243	-15.896	4.272
BSIZE	230	9.474	2.938	5	14
BCOM	230	1.293	.676	.238	3.974
AUDSIZE	230	10.57	24.6	.02	251.15

Source: STATA 16.0 Output file 2026 (Appendix)

The descriptive statistics of the study provide insights into the central tendency and variability of the key variables. The Return on Capital Employed (ROCE) has a mean value of 0.003 with a high standard deviation of 1.243, indicating substantial variability in the financial performance across firms, with values ranging from a minimum of -15.896 to a maximum of 4.272.

Board Size (BSIZE) has a mean of 9.474 and a standard deviation of 2.938, suggesting moderate variation in the size of boards across the sample, with values ranging between 5 and 14 members. Board Composition (BCOM) shows a mean of 1.293 with a standard deviation of 0.676, indicating considerable variability in the proportion of independent directors, ranging from 0.238 to 3.974. The Audit Committee Size (AUDSIZE) has a mean of 10.57, but it's extremely high standard deviation of 24.6, coupled with a wide range from 0.02 to 251.15, suggests significant outliers or extreme values, which may reflect large audit committees in some firms.

Table 4 Pairwise Correlations

Variables	ROCE	BSIZE	BCOM	AUDSIZE
ROCE	1.000			
BSIZE	-0.075	1.000		
	(0.258)			
BCOM	0.143*	0.015	1.000	
	(0.030)	(0.824)		

AUDSIZE	-0.006	-0.043	-0.020	1.000
	(0.931)	(0.514)	(0.759)	
** Shows significance at p<0.05*				

Source: STATA 16.0 Output file 2026 (Appendix)

The pairwise correlation results reveal the relationships between ROCE, Board Size (BSIZE), Board Composition (BCOM), and Audit Committee Size (AUDSIZE). ROCE is weakly negatively correlated with BSIZE (-0.075), but the relationship is not statistically significant (p = 0.258), suggesting that board size does not have a meaningful direct impact on financial performance in this study. There is a statistically significant positive correlation between ROCE and BCOM (0.143, p = 0.030), indicating that a higher proportion of independent directors on the board is associated with better financial performance. However, the correlations between ROCE and AUDSIZE (-0.006) and between BSIZE and AUDSIZE (-0.043) are very weak and not statistically significant (p = 0.931 and p = 0.514, respectively), suggesting that the size of the audit committee does not exhibit a meaningful relationship with either ROCE or Board Size.

Table 5 Shapiro-Wilk W test for Normal Data

Variable	Obs	W	V	z	Prob>z
Residuals	230	0.267	123.515	11.160	0.000

Source: STATA 16.0 Output file 2026 (Appendix)

The Shapiro-Wilk W test for normality conducted on the residuals of the model indicates a significant departure from normality. The test statistic W = 0.26722 with a corresponding z = 11.160 and p-value = 0.00000 strongly rejects the null hypothesis of normality, suggesting that the residuals do not follow a normal distribution. The low W value (which ranges from 0 to 1, with values closer to 1 indicating normality) confirms that the residuals are significantly non-normal. This result implies that the assumptions of normality for the residuals are violated, which may impact the validity of statistical inference, such as hypothesis tests and confidence intervals, in the regression model.

Table 6 Variance inflation factor

Variable	VIF	1/VIF
AUDSIZE	1.002	.998
BSIZE	1.002	.998
BCOM	1.001	.999
Mean VIF	1.002	.

Source: STATA 16.0 Output file 2026 (Appendix*)*

The Variance Inflation Factor (VIF) results indicate that multicollinearity is not a concern in the study. All VIF values for the independent variables (AUDSIZE, BSIZE, and BCOM) are very low, with values close to 1. Specifically, AUDSIZE has a VIF of 1.002, BSIZE has a VIF of 1.002, and BCOM has a VIF of 1.001, all of which are significantly below the commonly accepted threshold of 10 for multicollinearity problems (O'Brien, 2007).

The Mean VIF of 1.002 further confirms that there is no significant inflation in the variance of the regression coefficients due to multicollinearity. This suggests that the independent variables are not highly correlated with each other and that the regression model can produce reliable coefficient estimates without the risk of multicollinearity bias.

Table 7 Breusch-Pagan / Cook-Weisberg test for Heteroskedasticity

Chi2(1)	**Prob>chi2**
193.75	0.0000

Source: STATA 16.0 Output file 2026 (Appendix)

The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity in the study reveals a significant violation of the assumption of constant variance. The test statistic chi2(1) = 193.75 with a p-value of 0.0000 strongly rejects the null hypothesis of constant variance (homoskedasticity), indicating the presence of heteroskedasticity in the model.

This suggests that the variance of the residuals is not constant across all levels of the fitted values of ROCE, meaning that the model may suffer from issues where the variability of the residuals increases or decreases systematically with the fitted values. Heteroskedasticity can lead to inefficient estimates and biased statistical tests, which may distort inference and make hypothesis testing less reliable. According to the rule of thumb, if the p-value from the test is less than 0.05, it indicates significant heteroskedasticity (Greene, 2018).

Table 8 Hausman (1978) Specification Test

	Coef.
Chi-square test value	2.069
P-value	.558

Source: STATA 16.0 Output file 2026 (Appendix)

The results of the Hausman (1978) specification test suggest that there is no significant difference between the fixed effects and random effects models in the study. The chi-square test value of 2.069 with a pvalue of 0.558 is greater than the commonly used significance level of 0.05, indicating that we fail to reject the null hypothesis. This means that the random effects model is preferred over the fixed effects model because there is no significant evidence to suggest that the fixed effects model is more appropriate.

The Hausman test essentially checks whether the estimators from the fixed and random effects models are systematically different; when the p-value is high, as in this case, it suggests that the random effects model provides consistent and efficient estimates. Therefore, the random effects model is deemed suitable for the study.

Table 9 Linear Regression (Robust)

Roce	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Bsize	-.033	.028	-1.18	.241	-.087	.022	
Bcom	.264	.121	2.19	.029	.027	.502	**
Audsize	0	.003	-0.09	.926	-.007	.006	
Constant	-.026	.319	-0.08	.934	-.654	.601	
Mean dependent var	0.003		SD dependent var		1.243		
R-squared	0.260		Number of obs		230		
F-test	2.040		Prob > F		0.009		
Akaike crit. (AIC)	753.744		Bayesian crit. (BIC)		767.497		
*** p<.01, ** p<.05, * p<.1							

Source: STATA 16.0 Output file 2026 (Appendix)

With an R-squared value of 0.26, the model explains 26% of the variation in Return on Capital Employed (ROCE). While this is a more reasonable proportion of explained variance compared to the previous result, it still suggests that over 70% of the variability in financial performance is unexplained by the current set of independent variables (Board Size, Board Composition, and Audit Committee Size).

This indicates that other factors, potentially unobserved or not included in the model, may be influencing ROCE. The F-test statistic of 2.040 with a p-value of 0.109 remains non-significant at the 5% level, suggesting that the overall model does not provide a strong fit for the data, despite the moderate Rsquared. The Akaike Information Criterion (AIC) of 753.744 and Bayesian Information Criterion (BIC) of 767.497 also suggest that the model might not be the best possible fit, with lower AIC and BIC values typically indicating better models.

DISCUSSION OF FINDINGS

Effect of Board Size (BSIZE) on Financial Performance (ROCE)

The results indicate that Board Size (BSIZE) has a negative but statistically insignificant effect on ROCE ($p = 0.241$), suggesting that increasing the number of board members does not significantly improve financial performance in this study. This finding is consistent with recent research showing that larger boards may be associated with reduced firm performance due to coordination difficulties, communication inefficiencies, and slower decision-making processes.

Lawal et al. (2024) found a negative significant effect of board size on performance in Nigerian banks, suggesting that larger boards might be inefficient in certain contexts. However, other studies argue that larger boards can bring more expertise and resources, leading to better decision-making and enhanced firm performance. Cersosimo (2025) showed that larger board sizes positively affect financial performance in Italian firms, emphasizing the value of diversity in decision-making.

Effect of Board Composition (BCOM) on Financial Performance (ROCE)

The positive and statistically significant effect of Board Composition (BCOM) on ROCE ($p = 0.029$) suggests that a higher proportion of independent directors on the board is beneficial to firm performance. This aligns with agency theory, which emphasizes that independent directors reduce agency costs and improve firm oversight, thus enhancing performance. Recent studies support this conclusion, with Brimah et al. (2024) finding that board composition positively influences financial performance among Nigerian banks due to the enhanced monitoring provided by independent directors.

Similarly, Adams and Ferreira (2007) found that firms with a greater proportion of independent directors tend to experience higher profitability due to better governance. However, some studies have reported mixed results, suggesting that the impact of independent directors on performance may depend on factors such as the level of their involvement or industry-specific characteristics. Nwdighoha (2024) observed no significant relationship between board independence and performance in certain Nigerian firms, suggesting that other governance mechanisms could play a more critical role in performance.

Effect of Audit Committee Size (AUDSIZE) on Financial Performance (ROCE)

The study found that Audit Committee Size (AUDSIZE) does not significantly affect ROCE ($p = 0.926$), suggesting that simply increasing the number of audit committee members does not necessarily lead to better financial performance. This result aligns with recent studies that argue the effectiveness of audit committees depends more on the quality and independence of members rather than their size.

Sarker and Hossain (2023) found that audit committee size did not significantly influence firm performance, highlighting that the expertise and active involvement of committee members are more crucial than the committee's size. Similarly, Bazhair (2022) argued that a larger audit committee may even negatively affect performance if the members lack financial expertise or if there is redundancy in their roles. On the other hand, other studies have shown that audit committees with appropriate expertise and independence can enhance financial performance by ensuring better oversight of financial reporting and compliance. For example, Xie et al. (2023) found that a well-functioning audit committee improved financial performance due to its role in monitoring financial integrity.

CONCLUSION AND RECOMMENDATIONS

The study aimed to examine the impact of corporate governance variables—Board Size (BSIZE), Board Composition (BCOM), and Audit Committee Size (AUDSIZE)—on the Return on Capital Employed (ROCE), a key measure of financial performance. The findings indicate that Board Composition has a statistically significant positive impact on ROCE, suggesting that firms with a higher proportion of independent directors on their boards tend to experience better financial performance. This supports the agency theory, which advocates that independent directors reduce agency costs and improve decision-making and oversight. However, the study found that Board Size and Audit Committee Size do not significantly influence ROCE, indicating that merely

increasing the number of board members or audit committee members may not necessarily improve financial performance.

These findings suggest that the quality of governance mechanisms, such as the expertise and independence of board members, is more crucial than their quantity. Additionally, the model's explanatory power was moderate, with an R-squared value of 0.26, indicating that other unobserved factors likely influence financial performance. This points to the need for further research to explore additional governance mechanisms or other firm-specific variables that might affect ROCE.

Based on the findings, several recommendations can be made for firms looking to enhance their financial performance through corporate governance improvements. First, companies should prioritize Board Composition by ensuring that their boards consist of a significant proportion of independent directors. Independent directors can provide better oversight, reduce conflicts of interest, and bring diverse perspectives to strategic decision-making, which can ultimately improve financial performance.

Second, although Board Size and Audit Committee Size did not show significant effects in this study, firms should still aim for an optimal board size that encourages effective decision-making while avoiding inefficiencies. Too large a board can result in coordination problems and slower decision-making processes, as suggested by the negative relationship found in some previous studies.

Third, firms should focus on improving the effectiveness of their Audit Committees by ensuring that committee members have relevant expertise, especially in financial oversight and compliance, rather than simply increasing the number of members. Additionally, future research should consider the inclusion of other governance factors, such as CEO duality, ownership structure, and firm-specific characteristics like size and industry, which may provide a more comprehensive understanding of the factors influencing ROCE. Expanding the model to account for these additional variables could improve its explanatory power and provide more actionable insights for managers and policymakers.

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