



MODERATING EFFECT OF FIRM SIZE ON THE RELATIONSHIP BETWEEN AUDIT CHARACTERISTICS AND FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL COMPANIES IN NIGERIA

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Abstract

This study investigates the moderating effect of firm size on the relationship between various audit characteristics and the financial performance of listed non-financial companies in Nigeria. Drawing on secondary data from 88 firms over a period from 2015 to 2024, the study utilized a longitudinal panel design and employed fixed-effects regression to analyze the data. Financial performance was measured by Return on Assets (ROA). The findings indicate a significant positive impact of both Audit Independence (AI) and Audit Financial Expertise (AFE) on ROA. Notably, the positive influence of financial expertise is amplified in larger firms, as shown by a significant interaction term (AFE*FS). This finding supports the notion that larger firms are better equipped to leverage audit expertise to enhance profitability, aligning with the resource-based view and providing a more nuanced perspective on prior studies that omitted this moderating effect. Conversely, the study reveals that Audit Size (AS) and Audit Gender Diversity (AGD) have no significant impact on ROA. Most strikingly, Audit Quality (AQ) is negatively correlated with ROA, a finding that contradicts some prior research but supports the view that in institutional environments like Nigeria, high audit quality may be associated with firms facing greater challenges, thus leading to lower profitability. The model as a whole explains 47% of the variance in ROA. The results suggest that policymakers, regulators, and corporate boards should prioritize strengthening auditor independence and financial expertise, particularly in larger firms. The study also cautions against the assumption that a larger audit firm or high perceived audit quality will automatically lead to improved financial performance. The findings highlight the importance of considering firm-specific and contextual factors when assessing the effectiveness of audit practices in emerging economies.

Keywords: Firm size, audit characteristics, financial performance, non-financial firms, Nigeria.



1. Introduction

Corporate governance and financial transparency have received heightened global attention in the wake of financial scandals such as Enron and WorldCom, underscoring the importance of effective audit practices. In emerging economies like Nigeria, the relationship between audit characteristics and firm performance is further complicated by firm-specific dynamics. Among these, firm size is particularly salient, as larger firms often have more complex structures, greater regulatory scrutiny, and more resources to influence audit effectiveness (Glover et al., 2023; Ugwu & Ezeagba, 2021).

The Nigerian business environment has been shaped by several corporate failures, including Cadbury Nigeria in 2006, which exposed weaknesses in financial reporting and auditing practices. Despite reforms by the Financial Reporting Council of Nigeria (FRCN) and the Securities and Exchange Commission (SEC), audit quality issues persist, particularly in the non-financial sector (Adebayo & Enekwe, 2020). Audit independence is frequently undermined by close auditor-client relationships, while limited expertise and diversity within audit committees reduce their effectiveness (Adegboye, 2020). The problem is compounded by the fact that firm size plays an ambiguous role: larger firms may benefit from economies of scale in auditing, but they may also experience bureaucratic inefficiencies that dilute audit effectiveness. Smaller firms, meanwhile, often lack the resources to attract highly skilled auditors, which can reduce the quality of their financial reporting.

Although existing research establishes the importance of audit independence, expertise, and quality in improving financial performance (Knechel & Salterio, 2017; Francis & Wang, 2023), little attention has been paid to how firm size moderates these relationships in emerging economies such as Nigeria. Prior studies typically examine direct effects, ignoring the interactive role of firm-specific attributes that may amplify or weaken audit outcomes (Obalola et al., 2021). This gap is significant because Nigerian non-financial firms contribute substantially to GDP but continue to experience challenges of weak governance and inconsistent audit effectiveness. The central problem, therefore, is whether firm size alters the strength and direction of audit-performance relationships, and if so, in what ways. Addressing this gap is vital to guide regulators, auditors, and corporate boards in tailoring audit practices to firm-specific realities.

2. Literature Review

2.1 Audit Characteristics and Financial Performance

Audit characteristics such as independence, size, financial expertise, gender diversity, and audit quality are central to effective governance (Hay, 2021). Auditor independence ensures unbiased reporting (DeFond & Zhang, 2021), while financial expertise enhances auditors' ability to detect irregularities (Johnson & Anderson, 2023). Gender diversity introduces varied perspectives that can strengthen audit committees, though evidence of its impact on performance remains mixed (Becker et al., 2022). However, evidence on audit quality remains mixed, with some studies



reporting positive outcomes (Francis & Wang, 2023) and others identifying negative or insignificant effects (Osemeke & Adegbite, 2019).

2.2 Firm Size and Performance

Firm size reflects a company's resource capacity and complexity (Cappa et al., 2021). Larger firms often benefit from economies of scale, better access to finance, and improved visibility, but they also face higher monitoring costs and risks of inefficiency (Saidu, 2019). Hoque and Das (2024) argue that firm size moderates the relationship between governance mechanisms and firm outcomes, as larger firms can better exploit audit resources than smaller firms. In Nigeria, research shows that firm size is positively related to profitability but interacts with governance practices in complex ways (Mulwa, 2020).

2.3 Moderating Role of Firm Size

Firm size may alter the strength and direction of audit-performance relationships. For example, audit expertise may be more valuable in large firms with complex financial structures, while smaller firms may experience stronger benefits from auditor independence (Beck et al., 2023). In the Nigerian context, where regulatory enforcement varies, firm size can determine how effectively audit practices enhance performance (Ifeyanyi & Okoye, 2022).

2.4 Empirical Studies

Prior studies have established a direct link between audit characteristics and financial performance. For instance, a study by Iqbal and Saeed (2022) found that audit size positively affects financial performance, with larger audit firms being associated with higher ROA. However, this study did not consider the interaction between audit size and firm-specific characteristics. Similarly, Lee and Kim (2022) highlighted a significant positive effect of audit financial expertise on financial performance, but their study was critiqued for excluding firm size as a moderating factor. Carter and Green (2020) and Kim and Lee (2021) also found a positive correlation between audit quality and financial performance but did not account for how firm size might influence this relationship.

Czajkowska et al. (2024) found that auditor independence is positively related to financial reporting credibility across European markets. Similarly, Abdullah and Ismail (2017) demonstrated that gender-diverse audit committees in Malaysia improve oversight quality. In Nigeria, Ugwu and Ezeagba (2021) provided evidence that auditor expertise positively affects performance in manufacturing firms, while Okike and Okougbo (2022) highlighted the resource constraints faced by smaller audit firms, which limit audit quality. Contrastingly, Osemeke and Adegbite (2019) reported that audit quality does not always translate into improved firm performance due to institutional weaknesses in Nigeria's governance environment. These findings suggest that the effectiveness of audit characteristics may depend on contextual factors, such as firm size, ownership, or regulatory frameworks.



This study fills this notable gap by systematically integrating firm size as a moderating variable. While it is well-established that larger audit firms generally produce higher-quality audits, it is less clear how the size of the firm being audited might moderate this relationship. This research provides a more nuanced understanding of this dynamic, building on the work of scholars who have highlighted the need to account for such interactions.

2.5 Theoretical Underpinnings

Three theories guide this study:

Agency Theory (Jensen & Meckling, 1976) explains the monitoring role of audits in reducing conflicts between managers and shareholders. Independent and expert audits mitigate agency costs, but the effectiveness of such monitoring may depend on firm size.

Resource-Based View (RBV) suggests that audit expertise and quality represent unique resources that can provide competitive advantages (Barney, 1991). Larger firms, with more resources, may harness these advantages more effectively.

Stakeholder Theory emphasizes that effective audits enhance accountability not only to shareholders but also to other stakeholders (Freeman, 1984). Firm size shapes stakeholder expectations, making auditing practices more critical in larger firms with wider social and economic footprints.

3. Methodology

3.1 Research Design and Data

The study employed a longitudinal panel design, using secondary data from 88 non-financial firms listed on the Nigerian Exchange Group (2015–2024). Financial performance was measured by return on assets (ROA).

3.2 Variables

- **Dependent variable:** Financial performance (ROA).
- **Independent variables:** Audit independence (AI), audit size (AS), audit financial expertise (AFE), audit gender diversity (AGD), audit quality (AQ).
- **Moderating variable:** Firm size (FS).

3.3 Model Specification

The regression model incorporated interaction terms between firm size and audit characteristics:

$$ROA = \beta_0 + \beta_1 AI + \beta_2 AS + \beta_3 AFE + \beta_4 AGD + \beta_5 AQ + \beta_6 FS \beta_7 (AIFS) + \beta_8 (ASFS) + \beta_9 (AFEFS) + \beta_{10} AGDFS + \beta_{11} (AQ * FS) + \varepsilon$$



3.4 Estimation Technique

Fixed and random effects models were estimated. The Hausman test guided the choice of the fixed effects estimator.

4. Results and Discussion

4.1 Descriptive Statistics

Table 1: Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
ROA	0.064	0.082	-0.21	0.37
AI	0.55	0.13	0.20	0.89
AS	0.42	0.16	0.10	0.78
AFE	0.47	0.15	0.12	0.82
AGD	0.36	0.14	0.09	0.67
AQ	0.58	0.17	0.21	0.93
FS	9.87	0.64	8.10	11.30

Table 1 shows the descriptive statistics that summarize the major variables under investigation. Return on Assets (ROA) has a mean of 0.064, which indicates a moderate level of profitability for the observed companies. The standard deviation of 0.082 means there is considerable variability with values ranging from -0.21 as the lowest to 0.37 as the highest, indicating some companies are losing money while others are earning high levels of profitability. Audit Independence (AI) is 0.55 with a similarly small standard deviation of 0.13, which suggests that there is generally an average degree of independence in auditing practice in most firms. The range of values suggests a large diversity of independence practices.

Audit Size (AS), Audit Financial Expertise (AFE), and Audit Gender Diversity (AGD) all possess varying means and standard deviations, the highest being in AFE at 0.47. This indicates the



importance of financial expertise in audits, as evidenced by the large standard deviation, as some companies place this much higher importance than others. Audit Quality (AQ) has a mean of 0.58 and a standard deviation of 0.17, reflecting that most firms are performing well in terms of audit quality, but there is always the opportunity to get better. Firm Size (FS), on its logarithmic scale with a mean of 9.87, reflects a general pattern towards larger firm sizes in the sample.

4.2 Correlation Analysis

Table 2: Correlation Matrix

Variable	ROA	AI	AS	AFE	AGD	AQ	FS
ROA	1						
AI	0.32	1					
AS	0.18	0.22	1				
AFE	0.29	0.31	0.24	1			
AGD	0.11	0.12	0.16	0.19	1		
AQ	-0.15	-0.09	0.08	0.13	0.12	1	
FS	0.27	0.23	0.21	0.26	0.18	0.14	1

Table 2 presents the correlation matrix that helps in the determination of relationships between variables. ROA is significantly correlated with numerous variables: AI (0.32), AFE (0.29), and FS (0.27), and it indicates that higher audit independence, financial know-how, and firm size are all connected with better profitability. Positive correlation between AI and AFE (0.31) suggests that the firms with higher independence will most likely have better financial know-how, which can enhance audit quality. Interestingly, AQ negatively correlates with ROA (-0.15), which might suggest that higher perceived audit quality does not translate to higher profitability, and this should be explored further.



4.3 Regression Results

Table 3: Regression Results with Firm Size as Moderator

Variable	Coefficient	t-stat	p-value
Audit Independence (AI)	0.182***	3.45	0.001
Audit Size (AS)	0.076	1.48	0.139
Audit Financial Expertise (AFE)	0.204***	4.01	0.000
Audit Gender Diversity (AGD)	0.053	1.12	0.263
Audit Quality (AQ)	-0.129**	-2.57	0.011
Firm Size (FS)	0.097**	2.21	0.028
AI*FS	0.041	1.29	0.197
AS*FS	0.028	0.91	0.365
AFE*FS	0.112***	3.27	0.001
AGD*FS	0.016	0.55	0.582
AQ*FS	-0.084**	-2.42	0.016
R-squared	0.47		
F-statistic	11.34***		0.000

***p<0.01, **p<0.05, *p<0.10

Regression results in Table 3 show the impact of various audit factors on ROA, which is moderated by size. Audit Independence (AI) and Audit Financial Expertise (AFE) are highly important at a level of 0.182 and 0.204, respectively. In other words, their rising values are highly likely to positively contribute to profitability. Audit Size (AS) and Audit Gender Diversity (AGD) exert no strong impacts on ROA, as indicated by their p-values (0.139 and 0.263), which are quite high. Firm size interaction terms show that while AFE*FS is statistically significant (0.112), indicating that the positive influence of financial expertise on ROA is stronger in large firms, no other interaction terms are statistically significant, suggesting that firm size may not be a good moderator of the impact of those variables. The entire model has a value of R-squared equal to 0.47, indicating that 47% of the variance in ROA is accounted for by the independent variables in the model. The F-statistic (11.34) also supports the significance of the model.

4.4 Discussions

The results of this study resonate with several prior research findings. Notably, the positive and significant relationship observed between Audit Independence (AI) and Return on Assets (ROA)



aligns with the work of Czajkowska et al. (2024), who established a link between auditor independence and the credibility of financial reporting. Furthermore, the robust positive impact of Audit Financial Expertise (AFE) on profitability corroborates the conclusions drawn by Ugwu and Ezeagba (2021). This study also expands on the research conducted by Lee and Kim (2022) by demonstrating that the beneficial effects of AFE are particularly pronounced in larger firms. This moderating effect effectively addresses the critique leveled at Lee and Kim for neglecting to consider firm size, and it supports the observations made by Okike and Okougbo (2022) that smaller firms often grapple with resource constraints, which can diminish the potential advantages of financial expertise.

Conversely, the findings of this study challenge established views within the literature. Specifically, the lack of a significant impact of Audit Size (AS) on ROA contradicts the assertions made by Iqbal and Saeed (2022), who posited that larger audit firms are associated with enhanced financial performance. This study suggests that the mere size of an audit firm may not serve as a dependable indicator of profitability.

Most strikingly, the negative correlation between Audit Quality (AQ) and ROA stands in contrast to the positive relationships reported by Carter and Green (2020) and Kim and Lee (2021). This seemingly paradoxical finding is, however, supported by the contextual analysis provided by Osemeke and Adegbite (2019), which posits that in environments such as Nigeria, characterized by institutional weaknesses, high audit quality may not necessarily correlate with improved financial performance. Instead, firms that exhibit high audit quality might be grappling with more complex challenges or facing heightened scrutiny, which could ultimately lead to lower profitability. Additionally, the findings align with the work of Abdullah and Ismail (2017), revealing no significant impact of Audit Gender Diversity (AGD) on profitability. This could be attributable to varying contextual or market factors that influence the effectiveness of gender diversity in audit teams.

5. Conclusion and Recommendations

This study provides valuable insights into the relationships between various audit characteristics and firm performance, specifically focusing on Return on Assets (ROA). The findings indicate that Audit Independence (AI) and Audit Financial Expertise (AFE) have a significant positive impact on profitability, particularly in larger firms. Conversely, the study challenges established notions regarding the effectiveness of Audit Size (AS) and reveals a negative correlation between Audit Quality (AQ) and ROA, suggesting that high audit quality does not always equate to better financial performance in certain contexts. Additionally, the lack of significant impact from Audit Gender Diversity (AGD) underscores the complexity of these relationships, which may be influenced by various contextual factors. Based on the findings, the following recommendations were made:



- i. Firms should prioritize enhancing auditor independence to improve financial reporting credibility and profitability. This can be achieved by implementing robust governance structures that promote auditor objectivity.
- ii. Organizations, particularly larger firms, should invest in developing financial expertise within their audit teams. This may include providing training programs, encouraging professional development, and ensuring access to the latest financial knowledge and practices.
- iii. Stakeholders should be cautious in assuming that larger audit firms inherently lead to better financial performance. Instead, firms should evaluate the quality of the audit process and the specific competencies of the auditing team.
- iv. When assessing audit quality, firms should consider the specific institutional and market contexts in which they operate. This recognition may help in understanding the complexities that affect the relationship between audit quality and profitability.
- v. Future studies should explore the dynamics of audit characteristics and performance across different industries and regions to better understand the contextual factors influencing these relationships. Additionally, examining the long-term effects of audit quality and expertise on firm performance could yield further insights.



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