

EFFECT OF AUDIT ROTATION ON AUDIT QUALITY OF NON-FINANCIAL FIRMS: THE ROLE OF AUDIT COMMITTEES

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ABSTRACT

This study examines the critical roles of audit rotation and size of audit committee in enhancing audit quality among non-financial firms that are publicly traded on the Ghana Stock Exchange. The study aims to achieve three key objectives. Firstly, to test the influence of audit rotation on audit quality. Secondly, to examine the impact of audit committee on audit quality. Finally, to analyse the moderating role of audit committee in the relationship between audit rotation and audit quality. An explanatory research design was employed to examine these objectives, and the two-step system generalised method of moments (GMM) was utilised on a sample of 19 firms. The study found evidence to support the notion that audit rotation harms audit quality. In addition, the empirical evidence revealed that larger audit committees have a positive impact on audit quality. Finally, the study discovered that larger audit committees can moderate the negative consequence of audit rotation on audit quality. The study recommends that policymakers consider revisiting regulations regarding mandatory audit rotation to ensure that they do not harm audit quality. These findings succours investors to make more informed investment decisions by considering the role of audit rotation on financial reporting quality.

Keywords: Audit Rotation, Audit Committee, Audit Quality, Firms, Stock Exchange.

INTRODUCTION

The global financial crisis (2007-2009), which predominantly affected several banks, and led to the downfall of notable organizations including Parmalat, WorldCom, Enron, Satyam, Olympus, and Xerox, the effectiveness of corporate governance structures has become increasingly important to academics, policymakers, and regulators across the globe. Corporate governance mechanisms do not only protect the interest of corporate shareholders but also protects shareholders interest. This is because, beyond the traditional shareholder-centric perspective, recent corporate governance codes also emphasize stakeholder governance, particularly in relation to environmental and social considerations (Mason & Simmons, 2014). Thus, modern day corporate governance promotes the interests of all stakeholders by setting the strategic direction of a company and institutionalizing mechanisms to achieve this (Shaikh & Randhawa, 2022). As a corollary to the importance of these mechanisms, their absence can result in the ineffective or complete failure of businesses (Basterretxea et al., 2022). It is believed rotation of auditors improves audit effectiveness

which is arguably ignited the insertion of Section 139 (11) in the most recent Companies Act 2019, Act 992. This new Act, however, seeks to introduce improved corporate governance standards for companies operating in Ghana. The section stipulates a requirement for mandatory rotation of auditors, wherein an auditor is prohibited from holding office for a period exceeding six years. Additionally, a cooling-off period of no less than six years is mandated following the completion of the auditor's term. This move has awoken the old debate of whether auditor improves audit quality. On the one side, it has been argued that the duration of an audit tenure is directly to the extent of familiarity with client's business environment (Martani et al., 2021). Consequently, longer tenure can enable auditors to streamline audit processes and procedures. This efficiency arises from the argument that auditors who have served clients for a considerable period gain institutional memory of such clients (Choi et al., 2017). In addition to the level of efficiency, Myers, Myers, & Omer (2003) provide evidence to suggest that as audit tenure increases, auditors are more inclined to decrease the extent of discretionary accruals made by management. Firstly, the members are responsible for suggesting auditors for subsequent appointment by shareholders. This means that audit committees can facilitate an equal or better replacement of existing auditors in case of mandatory or voluntary rotation. Secondly, audit committees directly influence the scope of the audit. This is because they agree audit fees with auditors and such fees are a function of audit scope and audit quality (Sultana et al., 2019). Finally, audit committee members are tasked with the responsibility of safeguarding the independence of auditors. This presupposes that if the members are effective in performing this function, the long tenure of auditors will have a lower impact of impairing audit independence. This study argues that since familiarity impairs independence, long tenure of auditors is likely to harm audit quality in firms with ineffective audit committee members. Building upon the aforementioned arguments, this study examines the conditioning impact of audit committees on the relationship between audit rotation and audit quality.

LITERATURE REVIEW

Key Concepts of Audit Quality, Audit Rotation and Audit Committees

Audit quality

Vanstraelen & Schelleman (2017) assert that an audit can be deemed to possess high quality if it adheres to the stipulations of relevant auditing standards and the audit firm's audit execution guide. Additionally, quality of audit evidence, along with its capacity to substantiate the derived conclusion, contributes to the overall assessment of audit quality. However, Detzen & Gold (2021) propose that conceptualizing audit quality necessitates the integration of diverse perspectives from various stakeholders with distinct interests in financial statements. Rajgopal et al., (2021) highlight that the main users of financial statements consider audit quality to be characterized by the absence of material misstatements. Conversely, auditors may perceive quality within the ambit of how effective the audit process in achieving the objectives outlined in their audit methodology or execution guide. Similarly, Brivot et al., (2018) highlighted the existence of divergent perspectives among auditors regarding the definition of audit quality. Their research revealed that auditors working with public companies perceive audit quality as an audit that is free from all technical deficiencies, characterized by meticulous documentation, and devoid of any adverse inspection findings. In contrast, auditors serving private companies emphasize the importance of customizing audit procedures to align with the specific needs of clients, exercising a high level of professional judgment, and delivering value-added services as evidence of quality.

The existence of varying perspectives on audit quality has given rise to multiple academic proxies for its measurement. Rajgopal et al., (2021) provide a summary of three main categories of proxies for audit quality. The first category entails an output-based measure, namely discretionary accruals. The second category consists of input-based measures, such as audit fees. The authors classified the remaining measures as "other quality measures," comprising a third category. Arguably, the frequency of financial statement restatements is one of the best proxies for audit quality. However, it would be erroneous to assume that all financial statements not restated automatically possess the same level of quality. Furthermore, audit fees, although reflective of the resources allocated and the nature of work involved, can also be influenced by negotiation dynamics (Widmann et al., 2021). Consequently, discretionary accruals have emerged as the widely employed proxy for assessing audit quality (Rajgopal et al., 2021). Prior literature suggests an inverse relationship between discretionary accruals and quality of audits (Francis et al., 1999). As a result, companies with higher levels of discretionary accruals are more prone to experiencing audit deficiency violations.

Audit Rotation

In the context of the principal-agent problem, the audit committee serves as a mechanism to mitigate opportunistic behaviors exhibited by management (Baker & Persson, 2021). Auditors play a crucial role in addressing this problem by delivering high-quality audits. To accomplish this, auditors must uphold their independence. However, auditor independence can be compromised by familiarity threats arising from close auditor-client relationship. This closeness may lead to a diminished attention to detail and a tendency to prioritize client satisfaction (Martani et al., 2021). Notably, it has been argued that prolonged audit tenures may contribute to auditors experiencing the belief-perseverance syndrome. This syndrome manifests as auditors ignoring new information and being unable to modify their reports when confronted with evidence that contradicts their preconceived notions about the client (Nasution & Östermark, 2019). One potential solution for addressing the issue of long-standing associations between auditors and clients is audit rotation, which can be implemented at the partnership or the firm level. Audit rotation involves the selection of a different audit firm or the appointment of a new audit partner by the same audit firm after a series of consecutive audit engagements. The decision to rotate audits may be voluntary or mandatory, depending on the regulatory and legal framework in place. For instance, Section 139 (11) of the Companies Act 2019 (Act 992) avers that auditors are required to hold office for a maximum period of 6 years and are eligible for reappointment only after a cooling-off period of no less than 6 years. By requiring audit rotation, this clause prevents auditors from continuing their close relationship with any one client for an extended period of time. By disrupting the continuity and deep understanding that comes with long-term auditor-client relationships, mandatory rotation may introduce challenges in maintaining the same level of expertise and familiarity. The successor auditor may face hurdles in quickly acquiring the necessary insights and context needed to effectively perform the audit. This, in turn, can potentially compromise the quality of the audit process. Thus, while mandatory rotation aims to mitigate the potential risks associated with long-term auditor-client relationships, it is crucial to consider the potential trade-offs and carefully evaluate the overall effects on audit quality when implementing such requirements.

Audit Committee

Harris & Williams (2020) claim that because of its institutional appeal, the audit committee has become a crucial part of corporate governance. The committee's importance in Ghana is emphasized in the exposure draft of the corporate governance regulations, which was released in August 2022. A minimum of three people must be on the audit committee, according to Section 55 of the Code. However, for smaller businesses, the criteria can be met by the audit committee consisting of two independent non-executive members. This is consistent with suggestions for good global corporate governance made in a number of publications, including the Cadbury Report from 1992 and the Smith Report from 2003, both of which support an audit committee with a minimum of three members. Similar requirements for audit committee membership are set down in the Sarbanes-Oxley Act of 2002 in the US. These guidelines and regulations reflect the recognition of the importance of having an appropriate number of members to ensure effective oversight and governance in the audit committee's operations. Section 56 of the exposure draft specifies the primary responsibilities of the audit committee, which include:

- (i) Reviewing significant judgments presented in the organization's financial statements, as well as any public disclosures regarding the organization's financial performance, to ensure their integrity.
- (ii) Advising the board on the overall fairness, justice, and transparency of the annual report and accounts, and assessing whether they provide the necessary information for users to make informed economic decisions.
- (iii) Unless delegated to a separate board risk committee composed of independent non-executive directors or handled by the governing body itself, reviewing the organization's internal control systems and risk management systems.
- (iv) Monitoring and evaluating the effectiveness of the organization's internal audit function, or, in cases where no internal audit function exists, assessing the need for one annually and recommending its establishment to the governing body.
- (v) Managing the tender process, providing guidance to the governing body on the appointment, reappointment, and removal of the external auditor, and approving their compensation and terms of engagement.
- (vi) Scrutinizing and overseeing the objectivity and independence of the external auditor to ensure they can perform their duties without any conflicts of interest.

Al-Hajaya (2019) asserts that independent members of the audit committee play a crucial role in overseeing management and reducing the potential for earnings management practices. These independent members are less susceptible to undue influence from business executives, enabling them to provide effective supervision. Additionally, regulatory requirements mandating a minimum size for audit committees have valid reasoning behind them.

The size of the audit committee can have a positive impact on the quality of financial reporting. A larger committee has the potential to perform its functions more effectively because it can incorporate members with diverse areas of expertise (Amin et al., 2018). This diversity of expertise within the committee enhances its ability to address complex financial reporting issues, monitor internal controls, and provide valuable insights and recommendations. By having independent members and a sufficient size, the audit committee can effectively fulfil its responsibilities in safeguarding financial reporting integrity. Boshnak (2021) presents a contrasting viewpoint, suggesting that the number of audit committee members should be tailored to the specific needs and culture of the company, in addition the level of authority delegated by the board. A lack of different experience and viewpoints might prevent the audit committee from reaching an agreement, while too few members can prevent meaningful discussion and debate. The nature of the audit committee's work

necessitates that, in addition to its size, its members' accounting and financial knowledge be improved. They can analyze accounting procedures and spot internal control flaws because of their experience (Alzoubi, 2019). The committee can help build and strengthen reliable internal controls by working with internal auditors (Amin et al., 2018).

Theoretical Literature Review

Agency Theory

To comprehend corporate governance fully, it is essential to have a grasp of agency theory. The fundamental premise of the theory was developed by William & Michael (1976) to explain the concept, context, and principles of the agency relationship. Management acts as agents who are responsible for safeguarding the interests of the shareholders, who are the principals. According to Ibitamuno et al., (2018), the theory aims to match the interests of managers, who act as agents, and shareholders, who act as principals, in order to reduce any potential agency conflicts. Knowledge asymmetry between business owners and corporate managers results from distinction between ownership and control. Due to this information asymmetry, managers may take use of their informational advantage and act in ways that are detrimental to the interests of owners. Financial reporting fraud is one example of these actions. As a result, several research works have discovered an association between information asymmetry and earnings management that is favorable (Prisilla & Bimo, 2022). The principle (shareholder) cannot always rely on the agent (manager) to behave purely in their best interests since both the agent (manager) and principal (shareholder) are utility maximizers. Because of the information asymmetry and their lack of trust in agents, shareholders have established procedures and mechanisms to reduce information asymmetry and managers' opportunistic behaviors. These measures have been successful in addressing shareholders' concerns. The institutionalization of corporate boards and the deployment of external audits are two examples of these systems. Institutional oversight is crucial in preventing managerial opportunistic conduct. A key component of institutional monitoring is the creation of legislative frameworks, such as the addition of Section 139 (11) to the Companies Act 2019 (Act 992). Additionally, the concepts of agency theory are adhered to by the audit committee's function as a subset of the board in fostering the quality of financial reporting and supervising the accounting and auditing processes. These levels of corporate governance are meant to give management supervision and rein in opportunistic actions. As a result, audit committees exist and obligatory audit rotation has been implemented through legislative frameworks in an effort to solve issues brought on by asymmetric knowledge by improving the quality of audits and financial reporting.

Positive Accounting Theory (PAT)

Watts & Zimmerman (1986) postulated the Positive Accounting Theory (PAT) with the objective of explaining and predicting real-world accounting practices. PAT seeks to understand the choices made by managers in selecting accounting policies and the consequences of these choices. It aims to identify the factors that influence managers' decisions regarding accounting practices. One important factor that influences these decisions is the institutional and regulatory framework. In the case of non-financial firms, management may have incentives to manipulate or manage earnings for various reasons, such as meeting competitive targets, securing large bonuses, or smoothing earnings to comply with debt covenants or regulations Mensah (2021). However, such practices can undermine the long-term stability of firms, as the reported financial balances may not accurately reflect the true

underlying financial position, leading to erroneous investment and management decisions. Audit rotation serves as a mechanism to enhance auditor independence and skepticism by reducing familiarity threats between auditors and management, thereby minimizing discretionary and opportunistic accounting practices.

Upper Echelons Theory

The upper echelons theory provides insights into how the characteristics and experiences of top executives, including audit committee members, can influence their perceptions, decisions, and ultimately the outcomes of a firm. The idea contends that CEOs' unique perceptions of strategic circumstances are influenced by their backgrounds, specializations, moral principles, and personalities (Hambrick, 2007). This theory's foundation is bounded rationality, which acknowledges that executives might not have all the facts and that their judgments are personal. Based to the upper echelon's theory, audit committee members may have a moderating influence on audit rotation and audit quality. Rotation's potential negative impacts may be lessened by audit committees with the necessary knowledge and connections finding and choosing acceptable replacement auditors. The independence of auditors must also be protected, and audit committees are in charge of doing this. By doing this, familiarity risks that can result from long-standing connections between the business and its auditors can be reduced. Therefore, the efficiency of audit committees in finding acceptable replacements and guaranteeing the independence of auditors may be used to assess the extent to which audit rotation effects audit quality. The audit rotation process and its effects on audit quality are shaped by the skills and decision-making processes of the members, according to the upper echelon's hypothesis.

Empirical Literature Review

The effect of audit rotation on audit quality

Among the various factors influencing audit quality, audit rotation has emerged as a primary determinant. Kim et al., (2015) highlight two contrasting perspectives regarding audit rotation. Proponents argue that long-standing relationships foster familiarity threats, compromising audit quality. They contend that new auditors bring fresh perspectives and professional scepticism, thereby improving the quality of audits (Kalanjati et al., 2019). Conversely, opponents assert that new auditors must invest time in understanding clients and their industries, potentially increasing their reliance on management and introducing bias into the audit process (Malagila et al., 2020). Empirical studies on the impact of audit rotation on audit quality have yielded inconclusive results, with most studies conducted outside the Ghanaian institutional setting. In the Ghanaian context, Abdul-Kadir et al., (2021) conducted a qualitative study exploring the implications of rotating audit team members. The study involved structured interviews with ten audit firms, including highly ranked ones. Findings indicated that internal rotation of audit members generally enhances audit quality by reducing risks and ensuring accountability. However, this study did not consider external rotation of the entire audit team, and the qualitative approach employed raises concerns about objectivity. Widyaningsih et al. (2019) assessed how Indonesia's audit rotation rules have changed in respect to the link between audit rotation and audit quality. A substantial beneficial effect of audit rotation on audit quality was discovered during the voluntary rotation period using an Ordinary Least Squares (OLS) regression model on a sample of 371 listed businesses from 2010 to 2017. Nevertheless, throughout the required rotation period,

the impact was negligible. OLS regression was used, which raised questions regarding endogeneity. Using an instrumental variable approach might have increased the dependability of the results. Martani et al., (2021) investigated how audit partner and audit firm rotation affected audit quality in Indonesian listed businesses. The authors explicitly compared the effects of Big 4 and non-Big 4 audit firms. A negligible correlation between audit tenure and audit quality was found in the study, which used a sample of 215 listed corporations from 2013 to 2017. The Big 4 audit firms, however, were shown to benefit from audit firm rotation in terms of audit quality.

In their study of the relationships between audit tenure and audit quality in Indian companies from 2001 to 2015, Jadyappa et al., (2021) looked at the moderating effects of auditor salary, CEO duality, and business group connections. In order to overcome cross-sectional dependencies and potential problems with serial correlation, the study used the Newey-West technique. Long audit tenure, according to the research, improves audit quality, although the advantages are reduced for businesses with high audit fees, business group connections, and dual-role CEOs. In order to examine the impact of audit rotation on audit quality for Italian non-financial companies listed on the Milan Stock Exchange between 1993 and 2012, Horton et al., (2021) used OLS regression. The idea that business rotation improves audit quality was refuted by the inquiry, which failed to turn up any supporting evidence. It argued that altering the audit partners improves the audit's quality instead. Garcia et al., (2020) examined the relationship between audit tenure and audit quality in their analysis of firms included in the S & P 350 market index. Based on their study, which employed a multivariate logistic regression model and a sample of 1,340 firms from 2009 to 2016, they found that enterprises had more than 10 years of audit.

The role of Audit Committee Effectiveness in Promoting Audit Quality

Agyei-Mensah et al., (2018) studied the effect of audit committees and audit quality on earnings quality for firms on the GSE. Utilizing 180 firm-year observations from 2013 to 2017, the investigation discovered that the size of the committee and the information on its individuals, including their experiences, adversely affected management discretion. The findings did not support any connection between independence of audit committee members, the recurrence of gatherings, and audit quality. Mawutor et al., (2019) conducted research on the drivers of audit quality in Ghana. The study employed an ordinary least square regression, on a sample of 25 publicly listed businesses. The size of the auditor, the existence of an audit committee, and audit fees were taken into consideration. The results showed that each of these variables significantly impacted the quality of the audit. It is noteworthy that businesses without audit committees showed worse audit quality. The study's use of the "leverage ratio" as a stand-in for audit quality, however, presented a problem because it might not adequately indicate low audit quality in businesses with significant leverage. Sultana et al., (2019) how the expertise of audit committees influence audit quality. Age, numerous directorships, and tenure of audit committee members were taken into account in the study as substitutes for experience. The study examined 13,155 observations from 2001 to 2012 and reported that all the proxies for audit committee member experience were favorably correlated with audit fees. Alzeban (2019) investigated how aspects of company governance, such as audit committees, CEOs, and the caliber of external auditors, affect the accuracy of financial reporting. For the years 2015 to 2017, the study gathered information from 386 European firms listed on four exchanges. Discretionary accruals and accruals quality, two widely known indicators of audit quality, were utilized as proxies for financial reporting quality. According to the results of the

OLS regression model, audit committees had the greatest influence on financial reporting quality among the corporate governance factors. The study also discovered that the influence of CEOs on the caliber of financial reporting was mediated via audit committees. Data from 2,620 companies between 2004 and 2013 were analysed, with a focus on the inclusion of auditors' opinions on internal control in 10-K filings as required by SOX 404. The findings indicated that a higher level of accounting knowledge among members of the members enhanced the probability of receiving a negative audit opinion on internal controls. Additionally, the study found that having at least two audit committee members with accounting knowledge reduced the chances of future auditor removal following a negative audit opinion of a firm's internal control. Agyei-Mensah et al., (2020) examines the relationships between audit committees, audit standards, and the disclosure of internal control information among businesses listed on the Ghana Stock Exchange (GSE) from 2013 to 2017. The study considered variables such as size of boards, independence of directors, and leverage. By analyzing a sample of 210 firm-years, the researchers employed both univariate and multivariate analyses to investigate these relationships. The findings of the study revealed that the effectiveness of the audit committee and the size of the audit firm played complementary and substitutive roles in ensuring internal control disclosures. This suggests that having both an efficient audit committee and engaging a reputable audit firm contributes to the overall quality of disclosure by companies. The study also documented that both the size and independence of the board had an impact on the sharing of useful and voluntary information. This implies that having a higher number of independent directors and a larger board size may enhance the quality and frequency of voluntary disclosures.

METHODOLOGY

Secondary annual data will be employed. Data on firm characteristics and performance will be sourced from their annual reports. A total of 42 listed companies are on the GSE. The study excludes all financial firms (11), firms that are not listed on the GSE mainboard, firms without complete financial reports from 2010 to 2019, to ensure data availability over the study period. In this regard, the remaining firms are 19 non-financial firms listed on the GSE. 2010 to 2019 is selected to cover periods after the global financial crisis and before the coronavirus pandemic as these activities can affect firms' decisions to manipulate earnings. Moreover, the period of COVID-19 can affect the quality of audits because of restricted movements and ultimately, auditors' inability to employ certain procedures.

Model Specification

$$AQ_{it} = \alpha_{it} + \delta AQ_{it-1} + B_1 AR_{it} + B_2 AC_{it} + B_3 X_{it} + \epsilon_{it} \quad (1)$$

$$AQ_{it} = \alpha_{it} + \delta AQ_{it-1} + B_1 AR_{it} + B_2 AC_{it} + B_3 (AR * AC)_{it} + B_4 X_{it} + \epsilon_{it} \quad (2)$$

Where AQ represents Audit quality, proxied by discretionary accruals. AQ_{it-1} is first lag of Audit Quality. AR also represent audit rotation, measured by a dummy variable while AC represents Audit Committee effectiveness, measured by the size of audit committee members. $AR*AC$ is the interaction between the two variables. X is a vector of control variables consisting of firm size, financial constraints, and tax aggressiveness. Larger firms may have complex structures. Thus, it is difficult for auditors to employ detailed testing and therefore audit firms are likely to employ a risk-based approach to auditing which can harm audit quality. On the other hand, large firms may have the funds to employ large audit firms

such as the big 4, which eventually improves audit quality. Further, firms facing financial constraints may face significant challenges meeting the demands of large audit firms. Consequently, such firms are likely to employ smaller audit firms which eventually reduce audit quality. Lastly, the study controls for tax aggressiveness as firms that are tax aggressive are less likely to employ the services of experienced audit or large audit firms. This is because firms such as the big 4 are more likely to be concerned about protecting their corporate reputation which could be harmed in case news on tax aggressive practices of their clients are disclosed. It should also be noted that i refers to the firm ($i = 1, 2, 3, 19$); t refers to time period from ($t = 1, 2, 3, \dots, 10$) in Table 1.

Table 1				
VARIABLES, DESCRIPTION AND MEASUREMENT				
Variable	Description	Measurement	Sources	Hypothesized relationship
Audit Quality (AQ)	The extent to which audit procedures reduces earnings management.	Discretionary Accruals	Martani et al., (2021).	
Audit Committees (AC)	The effectiveness of audit committee members	Size of Audit Committee	Mawutor et al., (2019)	+/-
Audit Rotation (AR)	The extent to which management maintains its auditors	Dummy variable (1 if auditors are changed in a year; 0 if otherwise)		+/-
Firm Size (FS)	This measures how large an audited client is.	Natural log of total assets		+/-
Financial Constraints (FC)	This measures the firm's ability to meet its operating and investment needs.	$FC = -0.091 * \left(\frac{CF}{TA}\right) - 0.062 * (1 \text{ if } dv > 0, 0 \text{ if } dv = 0) + 0.021 * \left(\frac{LTD}{TA}\right) - 0.044 * \ln TA - 0.035 * SG$ Where CF = cash flows; TA = total assets; dv = dividends; LTD = total long-term debt	Hennessy & Whited (2007); Whited & Wu (2006)	+
Tax Aggressiveness (TA)	The extent to which firms engage in practices to reduce tax payments. Effective tax rate is an inverse	Cash effective tax rate measured by the ratio of tax paid to profit	Huang et al., (2018).	+

	measure of tax aggressiveness.	before taxes		
Political Connection (PC)	A dummy variable to assess whether a firm is politically exposed. A politically exposed firm is one with a significant shareholder, board member or executive employee who are politically exposed/connected	Dummy variable (1 if firm is politically connected)	Adela et al., (2023).	+/-

RESULTS AND DISCUSSION

Variable	Mean	Std. Dev.	Min	Max
Audit quality (AQ)	.307	15.226	-86.379	162.384
Audit Rotation (AR)	.321	.067	0	1
Political Connection (PC)	.37	.484	0	1
Audit Committee Size (AC)	3.554	.949	2	6
Firm Size (FS)	12.057	2.647	6.81	17.578
Financial Constraints (FC)	-.442	1.019	-3.955	7.777
Tax Aggressiveness (TA)	.349	3.31	-5.993	43.801

A glance at the statistical properties of the variables reported in Table 2 indicates that audit quality, measured by discretionary accruals, is volatile with a standard deviation of 15.226 and a mean of 0.307. This suggests that there is a wide variation in the level of audit quality among the sampled listed firms, with some firms possessing lower levels. Additionally, the mean of Audit Rotation is 0.32, indicating that 32% of the sampled firms changed their existing auditors within 2010 to 2019. The descriptive statistics also indicate that approximately 37% of the firms in the sample have political connections. Furthermore, the sampled firms appear to be financially constrained, as the measure for financial constraint is negative on average. Additionally, it seems that the sampled firms may be less tax aggressive, given the high level of cash effective tax rate of 34.9% compared to the general corporate tax rate of 25%.

Correlation Analysis

Table 3 presents the pairwise correlation between the explanatory variables, serving three main purposes. Firstly, it enables the assessment of the magnitude of the relationships between the explanatory variables, which can indicate the presence of multicollinearity. If multicollinearity exists, it can bias the empirical estimates. Secondly, it allows for an evaluation of the relationship between the lag of the dependent variable (one-year lag of audit quality, l.AQ) and the dependent variable AQ. This relationship is crucial in justifying the use of a dynamic model. Finally, although correlation does not imply causation, the relationships revealed in the table provide a preliminary indication of how the variables may be related in

the empirical analysis.

Variables	AQ	AR	PC	AC	Size	FC	TA
AQ	1.000						
L.AQ	0.326***						
AR	-0.138	1.000					
PC	-0.278***	0.052	1.000				
AC	-0.236**	0.047	0.279***	1.000			
Size	-0.432***	0.427***	0.438***	0.478***	1.000		
FC	0.278***	0.051	-0.180**	-0.453***	-0.382***	1.000	
TA	-0.192**	0.042	0.064	-0.069	0.029	-0.077	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Note: AQ and L.AQ represent natural logarithm of audit quality, proxied by discretionary accruals and its one-year lag, respectively; AR means audit rotation; PC means political connection; AC represents size of audit committee members; Size represents firm size proxied by natural log of total assets; FC represent financial constraints; and TA represents Tax Aggressiveness measured by current effective tax rate.

Abeka et al., (2022) posit that a pairwise correlation of magnitude greater than 0.8 between explanatory variables indicates that the variables are highly correlated and therefore, enhances the likelihood of multicollinearity if employed together in a regression model. Based on the correlation analysis, the highest correlation coefficient is 0.478 which exist between audit committee size and firm size. Thus, it is evident the possibility of multicollinearity in the model is minimum. The results of the correlation analysis reveal that there is a significant and positive correlation ($r = 0.326$; significant at 1%) between audit quality (as measured by discretionary accruals) and its one-year lag. This indicates that past values of audit quality are significantly related to its current value, suggesting some level of persistence in the dependent variable. However, the level of persistence is low, which is in line with the findings of Agyei et al., (2020) who suggest that a correlation coefficient of 0.8 and above indicates high levels of persistence in a variable. One possible explanation for the low level of persistence in discretionary accruals for the sampled listed firms could be the increased scrutiny that they face, which limits their discretion in reporting practices. It is also possible that the firms adhere to consistent accounting policies, which reduces the need for discretionary reporting practices. Nonetheless, the presence of some level of persistence in audit quality suggests that a dynamic model that incorporates the lag of the dependent variable could be appropriate for the empirical analysis. Moreover, the pairwise correlation analysis revealed several noteworthy findings. First, while the correlation between firms that retained their prior period auditors and discretionary accruals was negative, it was insignificant. However, the correlations indicate that firms in this context exhibit a lower tendency to engage in aggressive financial reporting practices, indicating a higher level of integrity in their financial reporting. Moreover, a noteworthy negative correlation between political connections and audit quality is reported, implying that firms with political affiliations tend to demonstrate better quality in terms of their earnings. Furthermore, the study uncovers a significant positive role of financial constraints on audit quality, signifying that firms experiencing financial limitations are more prone to encountering lower levels of audit quality. Fourth, the inverse proxy for tax aggressiveness showed a negative correlation with audit quality, implying that firms that are more tax aggressive often possess poor audit quality. Finally, the analysis also demonstrated that larger firms are likely to have better

earnings quality, as there was a significant negative correlation between firm size and audit quality.

Empirical Results

Table 4 presents the findings of the GMM analysis conducted to explore the relationships between audit rotation, audit committee, and audit quality. The aim was to examine the direct impact of audit rotation on audit quality and investigate whether the audit committee moderates this relationship. Model 1 displays the coefficients of the direct estimates, while Model 2 introduces an interaction term between audit rotation and audit committee size to examine the moderating effect. The analysis also controls for political connection, firm size, financial constraint, and tax aggressiveness. The coefficients are reported in parentheses, and the significance levels are indicated by asterisks, with one star (*, 10%), two stars (**, 5%), and three stars (***, 1%).

	Model 1	Model 2
Variables	Audit Quality (AQ)	Audit Quality (AQ)
One-year lag of Audit Quality (1AQ)	0.558*** (0.0827)	0.481*** (0.085)
Audit Rotation (AR)	0.529*** (0.087)	0.104* (0.058)
Audit_Rotation#c.Audit Committee		-0.003*** (0.001)
Audit Committee Size (AC)	-0.692*** (0.171)	-2.540** (0.958)
Political Connection (PC)	-0.061** (0.030)	0.386*** (0.093)
Firm Size (FS)	-0.400*** (0.104)	-0.066** (0.011)
Financial Constraint (FC)	0.228* (0.118)	0.654* (0.351)
Tax Aggressiveness (TA)	-0.124*** (0.030)	-0.045*** (0.016)

Note: Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Examining how audit rotation affects audit quality was the study's first objective. The null hypothesis was that rotation had no significant effect on audit quality, and a dummy variable was used to represent audit rotation. The results of Model 1 show that, at the 1% level of significance, the audit rotation coefficient is significant and also positive (beta = 0.529). Thus, it can be seen that audit rotation significantly affects audit quality and thus the null hypothesis is rejected. The findings demonstrate that switching auditors causes audit quality to degrade over time (the study proxies audit quality with discretionary accruals, an

inverse measure), as shown by greater amounts of discretionary accruals, across different firms and years. The study puts forward several explanations for the adverse impact of audit rotation on audit quality in non-financial listed firms on the GSE. Firstly, the introduction of a new auditor to a company may necessitate starting the entire process of comprehending the client's operations and industry anew, resulting in increased reliance on management estimates and representations. This increased dependence can potentially reduce the extent to which adjustments are passed to be passed on management discretion, thereby enhancing discretionary accruals. Secondly, the new auditor may not have established a strong rapport with the audit client's employees, leading to reduced whistleblowing and consequently diminishing the auditor's ability to identify fraud and other deficiencies in internal controls. These findings align with prior studies conducted by Dattin (2017); Rickett, (2016), which documented that audit rotation, harms audit quality. However, they contradict the results of Garcia-Blandon et al., (2020); Bratten et al., (2019) whose findings suggested a negligible relationship between the variables. The effect of audit committee size on audit quality was examined in this objective. The assertion that the number of audit committees has no effect on audit quality was put to the test. According to the results in Model 1, size of audit committee significantly enhances audit quality, evidenced by the significant (at 1%) negative coefficient. The study therefore rejects the null hypothesis and concludes that the size of the AC (Audit Committee) has a substantial impact on audit quality. According to the negative coefficient, public companies with bigger audit committees had better audits overall. This result can be explained by the claim that larger organizations may need more committee members to effectively oversee financial reporting procedures because they are frequently larger in size. The presence of audit committees in listed firms can play a vital role in enhancing audit quality as they are responsible for recommending auditors and determining the scope of the audit. Through their procedures, these committees can directly contribute to enhancing the quality of audits. Additionally, the members of audit committees are likely to possess knowledge in accounting and auditing matters, and their diligent execution of duties can enhance audit quality of the sampled firms. In support of this, Lisic et al. (2019) found that having at least two audit committee members with accounting knowledge reduces the likelihood of subsequent auditor dismissal. Similarly, Agyei-Mensah (2019) documented audit committee members with expertise, including their previous experiences and the size of the committee, have a significant negative impact on discretionary accruals. Likewise, Alzeban (2019) documented that audit committees have the most substantial influence on audit rotation among all corporate governance variables. In their study, Agyei-Mensah et al., (2020) discovered a significant positive association between the size of audit committees and the disclosure quality of firms. The study also looked at how the size of the audit committee affected the link between audit rotation and audit quality. The study's findings are consistent with the alternative hypothesis, which holds that the link between audit rotation and audit quality is considerably modified by the size of the audit committee, contrary to the null hypothesis. To investigate this, an interaction term was introduced in the regression model, considering both Audit Committee Size (AC) and Audit Rotation (AR). The results demonstrate that the interaction term, denoted as "*Audit_Rotation#c.Audit Committee*", is negatively significant. This suggests that audit committees interact with audit rotation to reduce discretionary accruals and enhance audit quality. Additionally, the coefficient of audit rotation decreases from 0.529 in Model 1 to 0.104 in Model 2 after introducing the interaction term, indicating that the negative influence of audit rotation on audit quality diminishes in the presence of larger audit committees in non-financial firms. The results have noteworthy implications for comprehending the efficacy of governance mechanisms in

corporations in enhancing audit quality. Findings indicate that larger audit committees have the potential to mitigate the negative consequences that audit rotation may have on audit quality. These findings underscore the importance of robust and adequately sized audit committees as a means of safeguarding and promoting high-quality audits within organizations. This can be attributed to the idea that larger audit committees may possess stronger connections and resources to facilitate a more efficient replacement of auditors in the case of mandatory or voluntary rotation. Consequently, these larger audit committees contribute to minimizing the negative impact that such rotations can have on audit quality.

CONCLUSION

The evidence revealed that audit rotation harms audit quality in the sampled non-financial listed companies in Ghana. In addition, size of audit committee enhances audit quality. The study also emphasized how the size of the audit committee moderates the audit rotation-audit quality relationship. Larger audit committees are shown to specifically lessen the negative impacts of audit rotation on audit quality, demonstrating that large numbers on the board can lessen the negative effects brought on by audit rotation. Notably, these results show resilience even when time dummies are taken into account, showing that unobserved time-varying variables have no impact on the results. The study's findings have important implications for policymakers, investors, and auditors. Policymakers could consider revisiting regulations regarding mandatory audit rotation to ensure that they do not harm audit quality. These conclusions help investors to improve investment decisions by considering the impact of audit rotation the quality of financial information. For auditors, the findings suggest that they should be aware of the potential adverse effects of changing clients and strive to build strong relationships with clients to ensure effective audits. It is also recommended that regulators should reconsider mandatory audit rotation requirements, particularly for non-financial listed firms, as it may have a negative impact on audit quality.

REFERENCES

- Abdul-Kadir, A., Adams, I., Quinua, A. K., & Mariam, A. J. (2021). The role of internal rotation of key audit team members—evidence from Ghana. *StudNet*, 4(5).
- Abeka, M. J., Amoah, E. K., Owusu Appiah, M., Gatsi, J. G., Obuobi, N. K., & Boateng, E. (2022). Economic institutions, political institutions, and renewable energy production in Africa. *Journal of African Business*, 23(4), 1049-1066.
- Agyei, S. K., Marfo-Yiadom, E., Ansong, A., & Idun, A. A. A. (2020). Corporate tax avoidance incentives of banks in Ghana. *Journal of African Business*, 21(4), 544-559.
- Agyei-Mensah, B. K. (2019). The effect of audit committee effectiveness and audit quality on corporate voluntary disclosure quality. *African Journal of Economic and Management Studies*, 10(1), 17-31.
- Agyei-Mensah, B. K., Agyemang, O. S., & Ansong, A. (2020). Audit Committee Effectiveness, Audit Quality, and Internal Control Information Disclosures: An Empirical Study. In *Corporate Governance Models and Applications in Developing Economies* (pp. 1-22). IGI Global.
- Al-Hajaya, K. (2019). The impact of audit committee effectiveness on audit quality: Evidence from the Middle East. *International Review of Management and Marketing*, 9(5), 1.
- Alzeban, A. (2019). The impact of audit committee, CEO, and external auditor quality on the quality of financial reporting. *Corporate Governance: The International Journal of Business in Society*.
- Alzoubi, E. S. S. (2019). Audit committee, internal audit function and earnings management: Evidence from Jordan. *Meditari Accountancy Research*, 27(1), 72-90.
- Amin, A., Lukviarman, N., Suhardjanto, D., & Setiyan, E. (2018). Audit committee characteristics and audit-earnings quality: Empirical evidence of the company with concentrated ownership. *Review of Integrative Business and Economics Research*, 7, 18-33.

- Baker, C. R., & Persson, M. E. (2021). The Role of Financial Reporting in Corporate Governance. In *Historical Developments in the Accountancy Profession, Financial Reporting, and Accounting Theory*. Emerald Publishing Limited.
- Basterretxea, I., Cornforth, C., & Heras-Saizarbitoria, I. (2022). Corporate governance as a key aspect in the failure of worker cooperatives. *Economic and industrial democracy*, 43(1), 362-387.
- Boshnak, H. A. (2021). The Impact of Audit Committee Characteristics on Audit Quality: Evidence from Saudi Arabia. *International Review of Management and Marketing*, 11(4), 1.
- Bratten, B., Causholli, M., & Omer, T. C. (2019). Audit firm tenure, bank complexity, and financial reporting quality. *Contemporary Accounting Research*, 36(1), 295-325.
- Brivot, M., Roussy, M., & Mayer, M. (2018). Conventions of audit quality: The perspective of public and private company audit partners. *Auditing: A Journal of Practice & Theory*, 37(2), 51-71.
- Choi, J. S., Lim, H. J., & Mali, D. (2017). Mandatory audit firm rotation and Big4 effect on audit quality: Evidence from South Korea. *Asian Academy of Management Journal of Accounting and Finance*, 13(1), 1-40.
- Dattin, C. F. (2017). Developments in France regarding the mandatory rotation of auditors: Do they enhance auditors' independence? *Accounting History*, 22(1), 44-66.
- Detzen, D., & Gold, A. (2021). The different shades of audit quality: A review of the academic literature. *Maandblad voor Accountancy en Bedrijfseconomie*, 95(1/2), 5-15.
- Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & theory*, 18(2), 17-34.
- Garcia-Blandon, J., Argiles, J. M., & Ravenda, D. (2020). On the relationship between audit tenure and fees paid to the audit firm and audit quality. *Accounting in Europe*, 17(1), 78-103.
- Hambrick, D. C. (2007). Upper echelons theory: An update. *Academy of management review*, 32(2), 334-343.
- Harris, M. K., & Williams, L. T. (2020). Audit quality indicators: Perspectives from Non-Big Four audit firms and small company audit committees. *Advances in Accounting*, 50, 100485.
- Horton, J., Livne, G., & Pettinicchio, A. (2021). Empirical evidence on audit quality under a dual mandatory auditor rotation rule. *European Accounting Review*, 30(1), 1-29.
- Ibitamuno, D. A., Onuchuku, O., & Nteegah, A. (2018). Corporate governance and banking sector performance in Nigeria. *Journal of Applied Economics and Business*, 6(4), 35-50.
- Jadiyappa, N., Hickman, L. E., Kakani, R. K., & Abidi, Q. (2021). Auditor tenure and audit quality: an investigation of moderating factors prior to the commencement of mandatory rotations in India. *Managerial Auditing Journal*.
- Kalanjati, D. S., Nasution, D., Jonnergård, K., & Sutedjo, S. (2019). Auditor rotations and audit quality: A perspective from cumulative number of audit partner and audit firm rotations. *Asian Review of Accounting*.
- Kim, H., Lee, H., & Lee, J. E. (2015). Mandatory audit firm rotation and audit quality. *Journal of Applied Business Research (JABR)*, 31(3), 1089-1106.
- Lisic, L. L., Myers, L. A., Seidel, T. A., & Zhou, J. (2019). Does audit committee accounting expertise help to promote audit quality? Evidence from auditor reporting of internal control weaknesses. *Contemporary Accounting Research*, 36(4), 2521-2553.
- Malagila, J. K., Bhavani, G., & Amponsah, C. T. (2020). The perceived association between audit rotation and audit quality: Evidence from the UAE. *Journal of Accounting in Emerging Economies*, 10(3), 345-377.
- Martani, D., Rahmah, N. A., Fitriany, F., & Anggraita, V. (2021). Impact of audit tenure and audit rotation on the audit quality: Big 4 vs non big 4. *Cogent Economics & Finance*, 9(1), 1901395.
- Mason, C., & Simmons, J. (2014). Embedding corporate social responsibility in corporate governance: A stakeholder systems approach. *Journal of Business Ethics*, 119(1), 77-86.
- Mawutor, J. K. M., Francis, B. B., & Obeng, A. D. (2019). Assessment of Factors Affecting Audit Quality: "A Study of Selected Companies Listed on the Ghana Stock Exchange". *International Journal of Accounting and Financial Reporting*, 9(2), 123-151.
- Mensah, E. (2021). The effect of IFRS adoption on financial reporting quality: evidence from listed manufacturing firms in Ghana. *Economic research-Ekonomska istraživanja*, 34(1), 2890-2905.
- Myers, J. N., Myers, L. A., & Omer, T. C. (2003). Exploring the term of the auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation?. *The accounting review*, 78(3), 779-799.
- Nasution, D., & Östermark, R. (2019). The impact of auditors' awareness of the profession's reputation for independence on auditors' ethical judgement. *Social Responsibility Journal*.
- Prisilla, G., & Bimo, I. D. (2022). The impact of internal and external growth strategy on firm performance post-IPO. *Jurnal Akuntansi*, 16(1), 121-140.

- Rajgopal, S., Srinivasan, S., & Zheng, X. (2021). Measuring audit quality. *Review of Accounting Studies*, 26(2), 559-619.
- Rickett, L. K., Maggina, A., & Alam, P. (2016). Auditor tenure and accounting conservatism: evidence from Greece. *Managerial Auditing Journal*.
- Shaikh, I., & Randhawa, K. (2022). Managing the risks and motivations of technology managers in open innovation: Bringing stakeholder-centric corporate governance into focus. *Technovation*, 114, 102437.
- Sultana, N., Singh, H., & Rahman, A. (2019). Experience of audit committee members and audit quality. *European Accounting Review*, 28(5), 947-975.
- Vanstraelen, A., & Schelleman, C. (2017). Auditing private companies: what do we know? *Accounting and Business Research*, 47(5), 565-584.
- Watts, R. L., & Zimmerman, J. L. (1986). Positive accounting theory.
- Widmann, M., Follert, F., & Wolz, M. (2021). What is it going to cost? Empirical evidence from a systematic literature review of audit fee determinants. *Management Review Quarterly*, 71(2), 455-489.
- Widyaningsih, I. A., Harymawan, I., Mardijuwono, A. W., Ayuningtyas, E. S., & Larasati, D. A. (2019). Audit firm rotation and audit quality: Comparison before vs after the elimination of audit firm rotation regulations in Indonesia. *Cogent Business & Management*, 6(1), 1695403.
- William H, M., & Michael, J. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*.

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