

Auditor Tenure, Audit Committee Independence, and Effect on Fraud Risk: Evidence from Malaysia

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ABSTRACT

This study investigates the impact of the auditor–client relationship, proxied by auditor tenure, on the risk of fraudulent financial statements, with audit committee independence as a key corporate governance mechanism moderating the relationship. Using panel data from 578 public listed companies in Malaysia over the period 2013 to 2017, comprising 2,890 firm-year observations, the Altman Z-score is employed as a proxy for fraud risk. The results show that longer auditor tenure and stronger audit committee independence are each associated with higher Z-scores, suggesting lower fraud risk. However, the interaction between tenure and audit committee independence is negative and significant, indicating a substitution effect: when audit committees are highly independent, the incremental benefit of extended auditor tenure in reducing fraud risk diminishes. This challenges the conventional assumption that internal and external monitoring mechanisms always reinforce one another, instead suggesting they may overlap in function. The study extends agency theory and network theory by demonstrating how the interaction between external audit continuity and board-level governance mechanisms influences fraud risk. The findings provide practical implications for regulators, policymakers, and audit committees, emphasising the need to balance governance effectiveness with auditor tenure regulations in order to strengthen fraud prevention in emerging markets.

Keywords: Auditor–client relationship, auditor tenure, audit committee independence, corporate governance, risk of fraudulent financial statements.

INTRODUCTION

Fraudulent financial statements remain one of the most destructive forms of corporate misconduct, severely undermining investor confidence, organisational stability, and the integrity of financial reporting. Although financial statement fraud accounts for a relatively small share of reported fraud cases, its consequences are disproportionately damaging, often resulting in substantial financial losses, reputational decline, and, in some instances, corporate collapse (ACFE, 2014; ACFE, 2020; Smaili, Arroyo, & Issa, 2022). In Malaysia, high-profile cases such as 1MDB and corporate failures among listed companies have heightened concerns regarding weak monitoring mechanisms and insufficient auditor independence. The Securities Commission Malaysia reported RM11.4 million in corporate misconduct and accounting violations in 2019, underscoring the urgent need for more effective governance practices. These incidents highlight that the ability of auditors to mitigate fraud risk remains a pressing issue, particularly in emerging markets where governance enforcement is less robust (Rahmat, Ali, & Mohd Saleh, 2021).

A central debate in the audit literature concerns the auditor–client relationship (ACR), especially in the context of long auditor tenure. From one perspective, extended tenure allows auditors to build a deeper understanding of their client’s operations, systems, and industry, thereby improving audit efficiency and reducing fraud risk (Carcello & Nagy, 2004; Ball, Tyler, & Wells, 2015). From another perspective, prolonged auditor–client closeness may impair independence, foster economic dependence, and weaken professional scepticism, ultimately increasing the likelihood of overlooking fraudulent practices (Liu et al., 2021). This duality reflects the tension between the efficiency and independence perspectives, leaving unresolved whether long auditor tenure enhances or undermines fraud risk.

In addition to external auditors, corporate governance mechanisms particularly the audit committee play a crucial role in monitoring financial reporting. Audit committees act as an internal governance safeguard, overseeing financial disclosures, liaising with external auditors, and ensuring accountability (Ahmed & Hamdan, 2015; Othman et al., 2023). Independence of the audit committee, typically measured by the proportion of non-executive members, has been widely recognised as essential for effective oversight. Strong audit committees can improve transparency, enhance monitoring of management, and strengthen the auditor's ability to detect irregularities (Bennouri, Nekhili, & Tournon, 2015). However, the interplay between audit committee strength and auditor tenure remains underexplored. Despite extensive prior studies on auditor tenure and audit committees separately, the novelty of this study lies in examining their joint effect specifically, how audit committee independence moderates the relationship between auditor tenure and the risk of fraudulent financial statements.

Malaysia provides an important empirical setting to examine these dynamics. While audit partner rotation is mandated, there is no requirement for mandatory firm rotation, enabling extended auditor–client relationships to persist. At the same time, the Malaysian Code on Corporate Governance (MCCG) has progressively emphasised the independence of audit committees as a cornerstone of corporate oversight. This duality long auditor tenure and varying levels of audit committee independence offers a unique opportunity to investigate how internal governance interacts with external monitoring in mitigating fraud risk.

This study introduces novelty by investigating not only the direct effect of auditor tenure on fraud risk but also how audit committee independence moderates this relationship. Using panel data of 578 public listed companies in Malaysia over the period 2013 to 2017 (2,890 firm-year observations), the results reveal that longer auditor tenure is associated with reduced fraud risk, supporting the efficiency perspective. Audit committee independence also significantly mitigates fraud risk. Importantly, the interaction between auditor tenure and audit committee independence is negative, suggesting a substitution effect: strong audit committees reduce the incremental benefits of extended auditor tenure in constraining fraud. This novelty positions the study to contribute both empirically and theoretically. Empirically, by providing fresh evidence from an emerging market; and theoretically, by extending agency theory and network theory to highlight overlapping functions of auditors and audit committees in fraud monitoring. The findings also offer important implications for regulators, policymakers, and boards in designing audit rotation policies and strengthening audit committee independence to safeguard financial reporting credibility.

The remainder of this paper is structured as follows. Section 2 reviews the relevant literature and hypotheses development. Section 3 describes the research method. Section 4 presents the empirical results, and Section 5 concludes the paper.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Agency Theory and Network Theory

Financial statement fraud is a critical issue that undermines confidence in financial reporting and capital markets. Manipulated financial statements mislead investors and creditors, resulting in poor investment decisions, financial losses, and, in extreme cases, corporate collapse (ACFE, 2014; ACFE, 2020). Agency theory provides a strong foundation to explain this problem, as it highlights the inherent conflict of interest between managers (agents) and shareholders (principals). Managers often pursue personal interests, including concealing poor performance, which creates opportunities for financial statement fraud (Jensen & Meckling, 1976). Independent auditors serve as monitoring agents tasked with reducing these conflicts and ensuring credible financial reporting (DeAngelo, 1981; Antle, 1982). However, agency theory also suggests potential risks in the auditor–client relationship. Prolonged auditor tenure may foster excessive familiarity, economic dependence, or loss of professional scepticism, weakening auditors' role as effective monitors (Liu et al., 2021). This tension between efficiency and independence perspectives continues to dominate audit quality debates (Martani et al., 2021).

Network theory complements agency theory by emphasising the relational ties that develop between auditors and clients over time. These ties may generate trust, knowledge-sharing, and cooperation that improve audit

effectiveness (Van Nieuw Amerongen et al., 2022). At the same time, they may also reduce auditor independence if relationships become too close (Rahmat et al., 2024). Hence, the interaction between external monitoring (auditors) and internal governance (audit committees) is central to understanding fraud risk.

Auditor Tenure and the Risk of Fraudulent Financial Statements

The length of the auditor–client relationship, commonly referred to as auditor tenure, has long been debated in the literature as a key determinant of audit effectiveness and financial reporting quality. Proponents of extended tenure argue from the efficiency perspective, suggesting that continuity allows auditors to build cumulative knowledge of the client’s business model, internal controls, and industry dynamics. This deeper client-specific understanding can enhance audit efficiency, reduce the likelihood of undetected misstatements, and strengthen fraud detection (Carcello & Nagy, 2004; Ball et al. 2015). In this view, long auditor tenure is not a threat to independence but a valuable mechanism that equips auditors with insights to challenge management effectively. More recent empirical evidence continues to support this argument, showing that extended auditor–client relationships are linked to fewer financial misstatements and higher-quality audit outcomes (Khavis & Szerwo, 2025; van Nieuw Amerongen et al., 2022).

On the other hand, critics emphasise the independence perspective, raising concerns that prolonged engagement may erode professional scepticism. Extended tenure may create familiarity threats, increase auditors’ economic dependence on recurring fees, and cultivate personal ties that reduce objectivity in fraud risk assessments (Liu et al., 2021; Mustikarini & Adhariani, 2022). From this perspective, auditors may gradually align with management interests, consciously or unconsciously overlooking aggressive accounting practices or fraudulent reporting. This concern underpins regulatory debates worldwide on mandatory audit firm rotation and partner rotation, as mechanisms to break excessively close auditor–client ties (Martani et al., 2021).

The tension between these two perspectives leaves the effect of auditor tenure on fraud risk unresolved in the literature. Some studies document positive associations between longer tenure and audit quality, while others reveal adverse effects linked to overfamiliarity. Recent research highlights that the impact of tenure may also depend on contextual factors such as regulatory frameworks, governance mechanisms, and cultural settings (Dunakhir et al., 2023; Aier et al., 2024).

In Malaysia, this debate is particularly salient. The current regulatory regime mandates audit partner rotation but not audit firm rotation, allowing auditor–client relationships to extend over long periods. At the same time, concerns persist about whether long tenure enhances auditors’ ability to detect fraud or compromises their independence in an environment where enforcement of governance mechanisms is still evolving (Rahmat et al., 2024). This provides a unique opportunity to re-examine the role of auditor tenure in mitigating fraud risk in an emerging market context.

Drawing on the efficiency perspective, and consistent with prior evidence that continuity enhances audit effectiveness, this study hypothesises that extended auditor tenure reduces the risk of fraudulent financial statements.

H1. Auditor tenure is negatively associated with the risk of fraudulent financial statements.

Audit Committee Independence and Fraud Risk

Audit committees have long been recognised as one of the most important internal governance mechanisms for safeguarding the quality of financial reporting. Positioned as a key link between external auditors and the board of directors, audit committees are tasked with overseeing financial disclosures, reviewing internal control systems, and ensuring that reported financial statements reflect the true performance of the firm (Ahmed & Hamdan, 2015; Othman et al., 2023). A crucial determinant of their effectiveness is independence, usually defined by the proportion of non-executive or independent directors on the committee. Independence ensures that audit committee members are free from management influence, enabling objective oversight and unbiased judgment (Bennouri et al., 2015).

Prior research highlights that strong and independent audit committees enhance audit quality by supporting external auditors in challenging management's accounting choices and by demanding greater accountability in financial reporting (Che, Hope, & Langli, 2020). For example, independent committees are better able to resist managerial pressure, scrutinise related-party transactions, and prevent earnings management practices that may disguise underlying fraud risks (Rahmat et al., 2021). This aligns with agency theory, which posits that effective governance mechanisms reduce the information asymmetry between managers (agents) and shareholders (principals), thereby constraining opportunities for fraudulent behaviour.

Recent studies provide empirical support for this view. Lam, Mo, & Rahman (2024) show that audit committees with a higher proportion of independent members significantly reduce opportunistic reporting in secrecy-oriented cultures. Similarly, Darvishi et al., (2025) find that audit committee independence improves the monitoring environment, mitigating financial misreporting and abnormal disclosures. These findings echo earlier evidence that governance structures with strong audit committees enhance transparency and credibility in financial statements, directly reducing the likelihood of fraud.

In the Malaysian context, the Malaysian Code on Corporate Governance (MCCG) has progressively placed heavy emphasis on audit committee independence as a safeguard against corporate misconduct. Reforms have required public listed companies to increase the number of independent directors on audit committees and to strengthen their roles in overseeing auditors and financial disclosures. Nevertheless, despite these regulatory enhancements, cases of financial statement fraud have persisted in Malaysia, underscoring the need to empirically test the effectiveness of audit committee independence in constraining fraud risk under local conditions.

Taken together, both theoretical arguments and empirical evidence suggest that greater independence within audit committees enhances their monitoring role, thereby reducing the risk of fraudulent financial statements.

H2. Audit committee independence is negatively associated with the risk of fraudulent financial statements.

Moderating Role of Audit Committee Independence

While both long auditor tenure and audit committee independence are theorised to constrain the risk of fraudulent financial statements, their effects may not always be additive or complementary. Governance research increasingly acknowledges that multiple monitoring mechanisms can interact in complex ways, at times substituting for one another rather than reinforcing each other (Mustikarini & Adhariani, 2022). From an agency theory perspective, both external auditors and audit committees serve as monitoring agents acting on behalf of shareholders to reduce information asymmetry and deter managerial opportunism. However, when multiple strong monitoring mechanisms coexist, the marginal effectiveness of one may diminish because the governance function is already fulfilled by the other.

In the case of auditor tenure, longer relationships allow auditors to accumulate client-specific knowledge and improve their ability to detect irregularities (Ball, Tyler, & Wells, 2015). Yet, if the audit committee is already highly independent and proactive, it can perform strong internal oversight functions, thereby reducing the incremental value of extended auditor tenure in constraining fraud. This situation reflects a substitution effect, where strong internal governance reduces the need for external auditors to rely on prolonged client familiarity to mitigate fraud risk (Rahmat et al., 2024).

Network theory also provides a useful lens to interpret this interaction. External auditors and audit committees form part of the broader governance network surrounding the firm. Both parties in the network can exert pressure on management to enhance transparency and accountability. However, when one party such as the audit committee is particularly strong, the other party represented by auditors with long tenure may add less incremental value, as the client is already disciplined through alternative channels (Che et al., 2020; Dunakhir et al., 2023). Thus, the relationship between tenure and fraud risk becomes contingent on the governance environment provided by the audit committee.

Empirical evidence has begun to support this substitution view. Studies indicate that strong boards and audit committees can reduce the reliance on external auditors as primary monitors of fraud, especially when auditors

face risks of impaired independence due to prolonged tenure (Liu et al., 2021; Lam et al., 2024). In emerging markets such as Malaysia, where the MCCG emphasises audit committee independence as a cornerstone of corporate governance, this interaction is especially salient. Firms with robust audit committees may not need the additional assurance associated with extended auditor–client relationships, thereby reducing the fraud-reducing benefit of long auditor tenure.

Accordingly, this study posits that audit committee independence moderates the association between auditor tenure and the risk of fraudulent financial statements, such that the negative effect of tenure on fraud risk is weakened in the presence of strong audit committees.

H3. Audit committee independence negatively moderates the relationship between auditor tenure and the risk of fraudulent financial statements.

RESEARCH METHOD

Sample Selection and Data

This study examines firms listed on Bursa Malaysia over the five-year period from 2013 to 2017, resulting in 2,890 firm-year observations from 578 non-financial companies. Malaysia offers a relevant and insightful context for this study due to its concentrated ownership structures, strong presence of family-controlled firms, and persistent concerns over corporate governance failures and fraudulent financial reporting (Rahmat et al., 2021; Othman et al., 2023). High-profile scandals such as 1MDB and the governance lapses in firms like Serba Dinamik have highlighted weaknesses in monitoring mechanisms, reinforcing the importance of understanding how auditor–client relationships and audit committee oversight interact in shaping fraud risk.

The study period was carefully chosen for several reasons. First, it captures a time before the 2018 revision of the Malaysian Institute of Accountants (MIA) circular, which extended mandatory audit partner rotation from five to seven years, thus ensuring a consistent regulatory environment regarding auditor tenure. Second, it avoids the confounding influence of the 2017 Malaysian Code on Corporate Governance (MCCG) reforms, which introduced new expectations on audit committee responsibilities and independence. By focusing on 2013 to 2017, this study ensures that the auditor–client relationship and governance practices are observed under a stable regulatory framework.

Data for this study were obtained from two complementary sources. Information on auditor tenure, audit committee independence, non-audit fees, and ownership structures was manually collected through content analysis of annual reports, given the limited coverage of governance and audit-related data in commercial databases. Meanwhile, financial statement data required to compute the fraud risk proxy the Altman Z-score (Altman, 1968; Azhar et al., 2021), were primarily extracted from the Thomson Reuters DataStream database, supplemented by published annual reports and Bursa Malaysia’s official filings. Using DataStream ensured accuracy, consistency, and comparability of financial indicators across firms.

In line with prior governance and audit research (David et al., 2020), financial institutions, closed-end funds, and real estate investment trusts (REITs) were excluded due to their highly regulated environments, which differ substantially from non-financial firms. Additionally, firms with incomplete data often due to delisting, mergers, acquisitions, or missing disclosures were removed to ensure consistency in measurement.

To strengthen the measurement of auditor tenure, additional auditor appointment records from 2008 to 2012 were reviewed to capture tenure length beyond the main sample window. This approach ensures a more accurate estimation of long-term auditor–client relationships, as relying only on the five-year testing window could underestimate actual tenure. The final sample of 578 firms (2,890 firm-year observations) therefore represents a robust dataset of Malaysian public listed companies.

Research Model

To test the proposed hypotheses, this study applies a panel data regression framework with cross-sectional fixed effects and time-period effects. The choice of a fixed effects specification is motivated by both

theoretical and empirical considerations. Specifically, the Hausman specification test and redundant likelihood ratio test (not tabulated) indicated that the fixed effects estimator is preferable to random effects, ensuring that unobservable firm-specific heterogeneity is adequately controlled. Incorporating cross-sectional and time fixed effects also strengthens the model by accounting for unobserved heterogeneity across firms and macroeconomic shocks across years, thereby improving the robustness of the results. Furthermore, the application of fixed effects increases the Durbin–Watson statistic, which mitigates the potential issue of autocorrelation commonly encountered in panel datasets (Wooldridge, 2010).

The regression model is specified as follows:

$$RFFS_{i,t} = \beta_0 + \beta_1 AUDTEN_{i,t} + \beta_2 ACIND_{i,t} + \beta_3 AUDTEN*ACIND_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 GROWTH_{i,t} + \beta_7 ROA_{i,t} + \beta_8 BOD_{i,t} + \beta_9 DOS_{i,t} + \beta_{10} AQ_{i,t} + \beta_{11} \Sigma^5_{i,t} Year_{i,t} + \beta_{12} \Sigma^6_{i,t} Ind_{i,t} + \varepsilon_{i,t}$$

where RFFS is a risk of fraudulent financial statements measured by the Z-score value of the Altman Z-score formula. The Z-score has been widely adopted in fraud risk literature as a proxy for financial distress, which increases the likelihood of earnings manipulation and accounting fraud (Altman, 1968; Bhavani & Amponsah, 2017; Kukreja et al., 2020; Azhar et al., 2021). Furthermore, the Z-score’s straightforward linear formula makes it easy to implement and interpret, providing clear results that help financial practitioners, investors, and decision-makers assess risk quickly and effectively. Firms under financial pressure are more prone to commit fraud to conceal their poor performance, making the Z-score a suitable proxy for fraud risk in this context.

AUDTEN is auditor tenure, measured by the number of consecutive years a firm has retained the same auditor. Longer tenure may reduce fraud risk by enhancing the auditor’s knowledge of client operations and industry, improving audit efficiency and effectiveness (Carcello & Nagy, 2004; Khavis & Szerwo, 2025). However, excessive tenure may raise concerns about auditor independence and familiarity threats (Liu et al., 2021).

ACIND is audit committee independence, defined as the proportion of independent non-executive directors serving on the audit committee. It is measured by the proportion of non-executive AC members divided by the total number of AC members (Othman et al. 2023). Audit committee independence is a critical governance mechanism, ensuring that financial reporting is subject to unbiased and effective oversight (Ahmed & Hamdan, 2015; Othman et al., 2023).

AUDTEN*ACIND is interaction variable testing the moderating role of audit committee independence. A negative and significant coefficient would suggest a substitution effect, where strong audit committees reduce the incremental fraud-mitigating benefits of longer auditor tenure. This interaction highlights the overlap between internal governance mechanisms and external audit monitoring (Che et al., 2020; Mustikarini & Adhariani, 2022; Rahmat et al., 2024).

We also include control for other factors that may influence the dependent variable, mainly factors that could represent the differential of company attributes and corporate governance practices. The company’s attributes include SIZE, LEV, GROWTH, and ROA. SIZE is a firm’s size, measured by a natural logarithm of its book value of total assets. Larger firms are more visible to regulators and the public, which can deter fraudulent behaviour, but they may also have more complex operations that increase opportunities for fraud risk (Rahmat & Ali, 2016). Meanwhile, LEV is a company’s leverage, scaled by total debt ratio over total assets (Rahmat & Ali 2016). High leverage increases financial pressure and creates incentives for managers to manipulate earnings to avoid covenant violations (Hoang & Phung, 2019). Gaio and Raposo (2011) also highlighted that a company’s poor performance is associated with lower earnings quality. The cross-sectional differential company’s performance effect through GROWTH is controlled, which is measured by revenue at the end of the year t divided by revenue year $t-1$ (Rahmat & Ali 2016). Firms experiencing rapid growth may be under greater pressure to sustain performance, potentially leading to fraudulent reporting (Cesinger et al., 2018). ROA is measured using earnings before interest and tax divided by total assets (Ahmed and Hamdan 2015). Higher profitability generally reduces fraud incentives, as managers are less pressured to manipulate results (Tahir et al., 2020).

The corporate governance characteristics are the size of the board of directors (BOD) which may also influence the fraud risk to the companies. Strong corporate governance is associated with improved transparency and reduced fraud risk, making it a critical control variable in studies related to corporate behaviour and financial performance (Krause, Semadeni, & Cannella, 2014; Larcker & Tayan, 2020). BOD is measured by the actual number of directors on board. Larger boards may improve monitoring but may also suffer from coordination issues (Pucheta-Martínez & Gallego-Álvarez, 2019). Note that DOS is a direct ownership shareholding measured by the percentage of direct ownership owned by the controlling shareholders (Ahmed & Hamdan 2015). Concentrated ownership can either mitigate fraud risk by enhancing monitoring or exacerbate it if controlling shareholders exploit their power (Rahmat et al., 2021; Smaili et al., 2022). In addition, AQ is represented by a binary variable, with a value equal to “1” if a Big 4 auditor audits a company and “0” otherwise. The type of auditor (Big 4 vs. non-Big 4) affect AQ and may influence the auditor’s ability to detect fraudulent financial statements (Harris & Williams 2020). Thus, the impact must be controlled to prevent the results from confounding. Additionally, the differential effect of *Year* and *Industry* is controlled using the panel least-squares, cross-section, and period fixed effects (Hawtrey and Liang, 2008). Note that ε is the error term.

RESULTS

Table I reports descriptive statistics for 2,890 firm-year observations of Malaysian non-financial listed companies from 2013 to 2017. The mean RFFS is 1.396, with a wide range (–4.290 to 6.530), indicating variation in financial health and fraud risk exposure. Auditor tenure showing that 73% of firms retained the same auditor for at least four years, consistent with Malaysia’s concentrated ownership and preference for long-term auditor–client ties. Audit committee independence is high (mean = 0.89), reflecting compliance with MCCG requirements, while the interaction term (AUDTEN*ACIND) averages 0.653, suggesting that both mechanisms often coexist.

For controls, firms average 7.3 directors on the board, 5.6% ROA, and 18.6% LEV, with ownership concentration (DOS) at 51.3%. Half of the firms are audited by Big 4 auditors, while firm size (SIZE) averages 5.723 and GROWTH is modest at 0.2%. These statistics confirm that Malaysia is characterised by extended auditor tenure, strong audit committee independence, and concentrated ownership, providing a unique context for testing the interaction of internal and external monitoring in mitigating fraudulent financial reporting.

Table I Descriptive Statistics

Panel A: Continuous variables					
	Mean	Median	Maximum	Minimum	Std. Dev.
RFFS	1.396	1.385	6.530	-4.290	1.092
ACIND	0.889	1.000	1.330	0.400	0.153
AUDTEN*ACIND	0.653	0.750	1.330	0.000	0.414
BOD	7.300	7.000	13.000	3.000	1.815
ROA	0.056	0.053	0.523	-0.432	0.096
LEV	0.186	0.160	0.760	0.000	0.155
SIZE	5.723	5.663	7.828	3.869	0.639
DOS	51.291	53.790	98.014	16.800	16.627
GROWTH	0.002	0.003	0.123	-0.119	0.028
Panel B: Dummy variable					
Panel B1: AUDTEN					

	Frequency	Percentage
Audit firm tenure reappointment (4 years or more)	2128	73.630
Audit firm tenure reappointment (1 to 3 years)	762	26.370
n	2890	100.000
Panel B2: AQ		
	Frequency	Percentage
Big 4	1452	50.240
Non Big 4	1438	49.760
n	2890	100.000

Notes: RFFS is a risk of fraudulent financial statements measured by the Z-score value of the Altman Z-score formula. AUDTEN is audit firm tenure reappointment, measured by a dummy variable, with a value equal to “1” if the clients reappoint the auditor for four or more consecutive years and “0” otherwise. ACIND is an audit committee independence, measured by the proportion of the number of non-executive audit committee members divided by the total number of audit committee members. AUDTEN*ACIND is an interaction variable testing the moderating role of audit committee independence. BOD is a board of directors measured by the actual number of directors on board. ROA is the return on assets measured using earnings before interest and tax divided by total assets. LEV is a company’s leverage scaled by total debt ratio over total assets. SIZE is a firm’s size, measured by a natural logarithm of its book value of total assets at year-end. DOS is a direct ownership shareholder, measured by the percentage of shares by direct ownership shareholders. GROWTH is measured by revenue at the end of the year t divided by revenue year t-1. AQ is a binary variable representing audit quality, with a value equal to “1” if a firm is audited by a Big 4 auditor or “0” otherwise.

We also conducted Pearson’s correlation, as presented in Table II, and the results indicate that no variable is highly correlated with any other. The highest correlation is between RFFS and ROA (0.693). To further confirm the absence of multicollinearity, variance inflation factor (VIF) values were examined. All variables recorded VIF values well below the conservative threshold of 10 (Neter et al., 1983), indicating that multicollinearity is not a concern in the regression analysis.

Table II Correlation Analysis

	RFFS	AUDTEN	ACIND	AUDTEN*ACIND	BOD	ROA	LEV	SIZE	DOS	AQ	GROWTH
RFFS	1.000	0.106	0.009	0.108	0.123	0.693	-0.266	0.045	0.159	0.090	0.179
AUDTEN		1.000	-0.005	0.948	0.045	0.110	-0.008	0.167	0.081	0.262	0.033
ACIND			1.000	0.269	0.050	-0.055	0.002	-0.072	-0.035	-0.135	0.022
AUDTEN*ACIND				1.000	0.059	0.090	-0.011	0.145	0.077	0.213	0.033
BOD					1.000	0.124	0.149	0.377	0.119	0.141	0.050
ROA						1.000	-0.124	0.142	0.142	0.109	0.227
LEV							1.000	0.370	-0.052	0.115	0.021
SIZE								1.000	0.162	0.410	0.060
DOS									1.000	0.180	0.047
AQ										1.000	0.006
GROWTH											1.000

Table III Multiple Regression Result

	Coefficient	t-Statistic
AUDTEN	0.211	4.501***
ACIND	0.339	6.985***
AUDTEN*ACIND	-0.213	-3.415**
BOD	0.010	2.31**
ROA	4.583	17.852***
LEV	-1.680	-20.678***
SIZE	0.526	7.101***
DOS	0.004	8.441***
AQ	0.144	3.273***
GROWTH	1.553	9.165***
n	2890	
Adjusted R ²	92.77%	
Durbin-Watson statistic	1.434	
F-Statistic	63.690	
Prob (F-statistic)	0.000	

Notes: Refer to Table I for variable definition and measurement. The model is regressed using panel least-squares estimation with cross-section fixed and period effects. We report t-statistics based on White's (1980) consistent estimator. ***Significant level $p < 0.01$, ** significant level $p < 0.05$, *significant level $p < 0.10$

The fixed effect panel regression model examines the relationship between auditor tenure, audit committee independence, their interaction, and the risk of fraudulent financial statements. The results are summarised in Table III. The adjusted R^2 of the model is 92.77%, indicating that the explanatory variables account for nearly all variation in fraud risk (RFFS). The Durbin–Watson statistic is 1.434, suggesting no serious autocorrelation issues. Table III shows that auditor tenure (AUDTEN) is positively associated with fraud risk ($\beta = 0.211$, $t = 4.501$, $p < 0.01$), indicating that longer auditor tenure reduces the risk of fraudulent financial statements. This finding supports the efficiency perspective, whereby accumulated knowledge from prolonged auditor–client relationships enhances the auditor's ability to detect irregularities and mitigate fraud risk. In contrast, audit committee independence (ACIND) is positively and significantly associated with fraud risk mitigation ($\beta = 0.339$, $t = 6.985$, $p < 0.01$), suggesting that independent audit committees play a critical role in reducing the likelihood of fraudulent reporting. Importantly, the interaction between auditor tenure and audit committee independence (AUDTEN*ACIND) is negative and significant ($\beta = -0.213$, $t = -3.415$, $p < 0.01$), supporting the substitution hypothesis. This implies that when audit committees are highly independent, the incremental monitoring value of longer auditor tenure diminishes. In other words, strong audit committees may counterbalance the potential risks posed by long auditor-client relationships, thereby moderating the effect of auditor tenure on fraud risk.

With respect to the control variables, several are significant and in the expected direction. Profitability (ROA) is strongly positive ($\beta = 4.583$, $t = 17.852$, $p < 0.01$), reflecting that more profitable firms exhibit higher Z-scores, i.e., lower financial distress and hence lower fraud risk. Leverage (LEV) is negative and highly significant ($\beta = -1.680$, $t = -20.678$, $p < 0.01$), confirming that highly indebted firms are more vulnerable to financial stress and fraud risk. Firm size (SIZE) is positively significant ($\beta = 0.526$, $t = 7.101$, $p < 0.01$), consistent with larger firms being better monitored and less prone to manipulation. Ownership concentration (DOS) is also positive ($\beta = 0.004$, $t = 8.441$, $p < 0.01$), suggesting that block holders may enhance monitoring effectiveness. Audit quality (AQ) is positive and significant ($\beta = 0.144$, $t = 3.273$, $p < 0.01$), indicating that Big 4 auditors contribute to reducing fraud risk. Similarly, firm growth (GROWTH) is positive and highly significant ($\beta = 1.553$, $t = 9.165$, $p < 0.01$), showing that growing firms are less financially distressed. Board size (BOD) has a small but positive effect ($\beta = 0.010$, $t = 2.31$, $p < 0.05$), implying that larger boards may strengthen oversight.

Taken together, the results provide strong evidence that while longer auditor tenure may elevate fraud risk, this effect is mitigated by the independence of the audit committee. The findings underscore the importance of balancing external and internal monitoring mechanisms.

CONCLUSION

This study examined the impact of auditor tenure and audit committee independence on the risk of fraudulent financial statements, with audit committee independence tested as a moderating factor. Drawing on agency theory and network theory, the study proposed that while extended auditor tenure may enhance audit efficiency through accumulated knowledge, it also raises concerns over independence if scepticism is eroded. Audit committee independence, on the other hand, was expected to strengthen monitoring and mitigate fraud risk. The results provide strong evidence that longer auditor tenure is positively associated with higher Altman Z-scores, which reflects lower fraud risk. This supports the efficiency perspective, suggesting that continuity in auditor–client relationships improves fraud detection and reduces the likelihood of financial misreporting. Audit committee independence was also found to significantly reduce fraud risk, consistent with prior evidence emphasising the importance of strong governance structures. However, the interaction between auditor tenure and audit committee independence was significantly negative, suggesting a substitution effect. This implies that while both mechanisms independently reduce fraud risk, the marginal benefit of long auditor tenure is diminished when audit committees are already highly independent.

These findings are reinforced by real-world evidence. In Malaysia, the 1MDB scandal highlighted how weaknesses in governance oversight allowed fraudulent practices to persist, underscoring the importance of effective audit committee independence in complementing external audit efforts. Internationally, the Enron case illustrated how extended auditor–client relationships without sufficient scepticism can undermine audit quality and contribute to catastrophic fraud. Both cases demonstrate that neither long auditor tenure nor independent audit committees alone are sufficient; rather, a careful balance between these mechanisms is essential.

From a policy perspective, the findings suggest that regulators and boards should not assume that long auditor tenure guarantees reduced fraud risk. Instead, emphasis should be placed on strengthening audit committee independence under the MCCG and ensuring that both internal and external monitoring mechanisms operate effectively without overlapping or creating blind spots.

This study has a few limitations. The data period (2013 to 2017) was chosen to capture a stable governance environment prior to regulatory reforms introduced in 2018, which may limit direct applicability to more recent settings. Additionally, the measures of auditor tenure and audit committee independence rely on disclosures in annual reports and may not fully capture qualitative aspects such as the depth of scepticism or the effectiveness of audit committee deliberations. Finally, the study is confined to Malaysian listed companies, which may reduce the generalisability of results to other jurisdictions with different ownership and governance structures.

In conclusion, this study provides new evidence that auditor tenure and audit committee independence both reduce the risk of fraudulent financial statements, but their interaction produces a substitution rather than complementary effect. The findings highlight the importance of balancing auditor–client continuity with strong governance oversight to ensure the credibility of financial reporting.

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