

DETERMINANTS OF FINANCIAL FRAUD REPORTING: EVIDENCE FROM THE HEALTH SECTOR IN INDONESIA

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Abstract

This study investigates the determinants of financial fraud reporting (FFR) by examining the influence of corporate governance and financial performance indicators. Using a balanced panel dataset of 15 firms in healthcare sector over 4 years (2021–2024), this research employs panel data regression analysis through three models: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Variables analyzed include Return on Assets (ROA), asset change (ACHANGE), leverage, ownership structure (OSHIP), corporate internal disclosure (CID), growth potential (GP), state-owned enterprise status (SOE), CEO duality, board independence (BDOUT), number of independent oversight institutions (NOI), chairman audit committee (CHAUD), and CEO political connections (CEOPIC). Model selection was determined using the Chow test, Hausman test, and Lagrange Multiplier (LM) test. The REM was chosen as the most appropriate model. The results show that NOI, ACHANGE, and LEVERAGE significantly influence FFR, while other governance-related variables show insignificant effects. This suggests that internal oversight mechanisms and financial leverage play a more prominent role in detecting and preventing fraudulent activities than ownership or governance structures alone. The findings provide evidence for regulators and corporate boards to strengthen internal controls and risk assessment mechanisms to mitigate fraud risks.

Keywords: Financial Fraud Reporting, Corporate Governance, Leverage, Random Effects Model, Internal Oversight

1. Introduction

Financial fraud remains a pervasive concern in global corporate governance, threatening the credibility of financial markets and eroding investor confidence. The manipulation of financial statements through earnings management, misrepresentation of assets, or concealment of liabilities distorts a company's true financial position and undermines trust in regulatory systems. As corporations grow increasingly complex, the mechanisms ensuring integrity and transparency often struggle to keep pace, making fraudulent activities more difficult to detect. Therefore, exploring the determinants that influence financial fraud reporting (FFR) becomes vital for reinforcing accountability and restoring confidence in corporate disclosures (Ahmad et al., 2021).

Corporate governance frameworks have long been recognized as critical instruments for preventing and mitigating fraudulent behavior. Elements such as board independence, ownership concentration, and audit committee effectiveness play pivotal roles in overseeing management and safeguarding stakeholder interests. Beasley (1996) empirically demonstrated that independent boards significantly reduce the likelihood of

financial misstatements, suggesting that governance mechanisms serve as a vital line of defense against fraud. Similarly, Jensen and Meckling (1976) proposed the agency theory, which explains how conflicts of interest between management and shareholders can lead to opportunistic behaviors, including fraud. In this context, effective governance mechanisms such as stringent internal audits and independent oversight can mitigate these agency costs by aligning managerial incentives with those of shareholders (Abbott et al., 2004).

The interplay between financial indicators and fraud occurrence has also received growing attention in recent years. Profitability, leverage, and firm growth reflect the financial pressures or incentives that may lead managers to manipulate financial outcomes. High leverage, for example, increases financial stress, which may motivate firms to alter accounting figures to meet debt covenants or project financial stability (Mousavi et al., 2022). Conversely, profitability indicators such as Return on Assets (ROA) often demonstrate a negative relationship with fraudulent reporting, suggesting that financially healthy firms have less incentive to engage in manipulative practices (Dada et al., 2023). However, empirical results remain mixed across different contexts, indicating that the relationship between financial conditions and fraudulent activities is influenced by governance quality and regulatory environments (Esmailikia & Oshani, 2022).

Emerging economies face distinct challenges in upholding governance standards, largely due to weaker enforcement frameworks and institutional inefficiencies. In developing countries, governance mechanisms may exist formally but are often ineffective in practice (Claessens and Yurtoglu, 2013). This disconnect allows fraudulent behavior to persist despite the presence of regulations. Even in regulated financial sectors, variations in corporate governance practices across institutions significantly affect financial performance and reporting quality. The absence of consistent oversight mechanisms and transparent reporting procedures contributes to an environment where manipulation can occur with minimal detection (Hasan, 2024).

Malaysia and Indonesia present compelling cases of governance-related challenges in fraud prevention. Malaysian corporations have found that despite robust corporate governance codes, enforcement gaps and conflicts of interest often undermine fraud prevention efforts (Gurau et al., 2022). Indonesia, similarly, has witnessed high-profile cases such as Garuda Indonesia's 2018 earnings misstatement and the Jiwasraya insurance scandal, which revealed systemic weaknesses in audit oversight and corporate accountability. Additionally, the healthcare sector has also faced notable fraud incidents, such as the corruption case involving the procurement of COVID-19 testing equipment and medical supplies by the Ministry of Health in 2021, where irregularities in tender processes and inflated pricing led to significant state losses. These incidents demonstrate that the existence of governance policies alone is insufficient; their effectiveness depends on consistent implementation, independence of oversight bodies, and the ethical culture within organizations (Popa et al., 2024).

Cressey's (1953) "fraud triangle theory" provides a behavioral perspective that complements the structural understanding of governance and financial fraud. According to this framework, fraud arises when three conditions coexist: pressure, opportunity, and rationalization. Corporate governance mechanisms primarily aim to reduce opportunities for fraud, while strong ethical cultures and transparency reduce rationalization. Financial variables such as profitability, liquidity, and leverage, on the other hand, influence the level of pressure experienced by management. Hence, the integration of behavioral

insights with governance mechanisms provides a comprehensive understanding of fraud risk determinants (Ahmad et al., 2021).

Regulatory in Indonesia reforms have been introduced to improve transparency and accountability among publicly listed firms. However, the impact of these reforms on reducing financial fraud remains ambiguous. Many organizations continue to face governance failures due to overlapping management roles, weak internal audit systems, and political connections that compromise oversight. Empirical evidence suggests that politically connected executives may exert influence to obscure fraudulent reporting, as observed in numerous developing economies where enforcement is selective (Mousavi et al., 2022). This situation reinforces the need for empirical studies that evaluate how governance structures and financial variables collectively influence fraudulent reporting in the Indonesian context (Hasan et al., 2024).

Current study investigates determinant of financial fraud reporting (FFR) among 15 Indonesian firms between 2021 and 2024. The analysis integrates corporate governance variables including ownership structure and board independence, and CEO duality with financial indicators including ROA, leverage, and asset change. By applying panel regression models (namely the Common Effect Model, Fixed Effect Model, and Random Effect Model) and perform model selection tests such as the Chow test, Hausman test, and Lagrange Multiplier test), this research identifies the Random Effects Model as the most suitable approach to capture firm-level variations. The methodological rigor ensures that both temporal and cross-sectional factors are appropriately addressed, providing more accurate estimations regarding the relationships among variables.

This research makes a contribution to the current the existing knowledge base within several ways. First, it provides empirical findings derived from a developing market where corporate governance enforcement remains inconsistent, thereby extending the applicability of established theories to new contexts. Second, by incorporating both governance and financial performance indicators, it offers a holistic view of the multidimensional nature of fraud determinants. Finally, the results are expected to inform policymakers, auditors, and investors about the mechanisms that most effectively mitigate fraudulent behavior, emphasizing the need for integrated oversight systems that balance regulatory enforcement with internal accountability mechanisms.

Financial fraud continues to pose serious threats to corporate transparency and market stability. While the theoretical and empirical studies underscore the critical role of governance structures and financial discipline, inconsistencies across national contexts necessitate localized studies. The Indonesian corporate environment, marked by diverse ownership patterns, variable governance maturity, and distinct regulatory challenges, presents a valuable setting for understanding how these factors interact. Through its comprehensive examination of corporate governance and financial indicators, this research seeks to contribute to both scholarly discourse and practical policy formulation aimed at enhancing financial integrity within emerging market economies (Esmailikia & Oshani, 2022).

2. Theoretical Background

2.1 Agency Theory

Agency theory, introduced by Jensen and Meckling (1976) is considered among the most significant frameworks in explaining corporate misconduct, including financial fraud. The theory is based regarding the relationship between principals and agents, in which shareholders (as principals) entrust managers (as agents) with the authority to run

the company on their behalf. However, conflicts of interest often arise when managers pursue their own goals rather than those of the shareholders. Such conflicts create agency costs, which may manifest as opportunistic behavior, including earnings manipulation, asset misappropriation, or misleading financial reporting.

Managers are typically motivated by performance-related incentives, reputation, and job security. When firms experience financial stress such as declining profitability or increasing leverage managers might be tempted to participate in financial statement manipulation aimed at maintaining investor confidence or meet contractual obligations. Agency theory thus suggests that weak monitoring mechanisms exacerbate the risk of fraud because managers exploit information asymmetry between themselves and shareholders.

Corporate governance mechanisms serve as key instruments to mitigate agency problems. Board independence, for instance, enhances oversight by reducing managerial discretion. Beasley (1996) discovered that firms with a greater proportion of independent directors tend to be less prone to engage in financial fraud. Likewise, ownership structure affects the harmonization of interests between shareholders and management. Concentrated ownership can improve monitoring effectiveness but may also lead to entrenchment effects, where dominant shareholders manipulate decisions for personal benefit. Therefore, agency theory emphasizes that effective governance mechanisms, including strong boards, independent audit committees, as well as transparent reporting practices can align managerial behavior with organizational objectives, reducing the likelihood of financial fraud reporting.

2.2 Fraud Triangle Theory

Cressey's (1953) Fraud Triangle Theory provides a behavioral perspective that complements the structural focus of agency theory. It suggests that three elements pressure, opportunity, and rationalization are necessary to coexist for fraudulent behavior take place.

Pressure denotes financial or personal strains that push individuals toward committing fraud. In a corporate setting, this may include pressure to achieve performance targets, maintain stock prices, or satisfy debt covenants. Financial indicators such as high leverage or declining profitability can intensify this pressure, pushing management toward fraudulent practices.

Opportunity occurs due to weak internal controls or ineffective governance systems that allow fraudulent activities to go undetected. When audit committees lack independence or internal oversight mechanisms are insufficient, opportunities for manipulation increase.

Rationalization involves the psychological justification used by individuals to legitimize their actions. Managers may convince themselves that misreporting is temporary or necessary for the firm's survival.

In the context within corporate governance mechanisms, including audit committees and internal controls, and board oversight aim to minimize opportunity by increasing detection risks. At the same time, ethical leadership and transparency can reduce rationalization by fostering a culture of integrity. The integration of financial indicators (e.g., ROA, leverage, asset change) with governance variables (e.g., board independence, CEO duality, political connections) provides a comprehensive framework to analyze how both behavioral and institutional factors contribute to financial fraud reporting.

2.3 Stakeholder Theory

Stakeholder theory, developed by Freeman (1984), extends the understanding of corporate behavior beyond the principal–agent relationship by emphasizing that firms have responsibilities toward multiple stakeholders, including employees, customers, suppliers, governments, and the broader community. In this framework, corporate fraud not only harms shareholders but also undermines public trust, damages reputations, and disrupts economic systems.

From a stakeholder perspective, financial fraud reporting reflects a firm’s failure to uphold ethical accountability and social responsibility. Therefore, effective corporate governance mechanisms are essential for maintaining stakeholder confidence. For example, board independence ensures that decision-making considers broader stakeholder interests, while transparent disclosure practices (captured by the Corporate Internal Disclosure Index – CID) reinforce credibility in financial reporting.

Stakeholder theory also explains why state-owned enterprises (SOEs) and politically connected firms may face distinct fraud risks. Political influence may weaken governance accountability, as executives may prioritize political relationships over transparency. The presence of CEO political connections (CEOPIC) introduces potential conflicts between public responsibility and private gain, increasing the risk of opportunistic reporting behavior. Consequently, stakeholder theory underscores the importance of institutional independence and regulatory enforcement in protecting public trust in financial disclosures.

2.4 Corporate Governance Theory

Corporate Governance Theory provides the structural and procedural basis for preventing fraudulent financial practices. According to the Organization for Economic Cooperation and Development (OECD, 2015), corporate governance encompasses “a set of relationships between a company’s management, its board, its shareholders, and other stakeholders.” Its core objective is to ensure that corporate decisions align with the principles of transparency, accountability, fairness, and responsibility.

Key governance mechanisms including board independence (BDOUT), CEO duality (CEODUALITY), and audit committee effectiveness (CHAUD) serve to monitor managerial behavior and enhance decision-making quality. When the CEO simultaneously holds the position of board chair (duality), it can lead to concentration of power, reducing oversight effectiveness. Conversely, independent directors and separate leadership structures enhance the board’s capacity to evaluate management objectively.

Audit committees serve a central role in overseeing the accuracy of financial statements. Abbott et al. (2004) demonstrated that companies with independent and proactive audit committees exhibit fewer instances of financial misstatements. Moreover, the Number of Oversight Institutions (NOI) within a company reflects the extent of internal monitoring capacity. Firms with multiple internal control layers are generally better equipped to detect irregularities early.

Ownership structure also shapes governance outcomes. Dispersed ownership enhances managerial accountability through market discipline, while concentrated ownership can either strengthen or weaken governance depending on shareholder motives. In Indonesia, many firms exhibit concentrated ownership and family control, which can both reduce agency conflicts and create emerging conflicts of interest. Thus, the effectiveness of governance mechanisms depends on institutional context, enforcement strength, and organizational culture.

3. Methods

3.1 Research Design

This research employs a quantitative methodology using secondary data derived from the annual reports of 15 firms observed over four consecutive years (2021–2024). Consequently, the dataset forms a balanced panel comprising 60 firm-year observations. The main aim of this study is to investigate the determinants influencing Financial Fraud Reporting (FFR) by estimating panel regression models that capture both cross-sectional and time-series variations.

3.2 Variables and Model Specification

The dependent and independent variables used in this study are defined as follows:

Variable Code	Variable Name	Description
FFR_Y	Financial Fraud Reporting	Measures the extent of financial irregularities detected through audit findings, financial restatements, or discrepancies.
ROA_X1	Return on Assets	Indicator of profitability, calculated as net income divided by total assets.
ACHANGE_X2	Asset Change	Represents firm growth dynamics, computed as the percentage change in total assets.
LEVERAGE_X3	Leverage	Ratio of total debt to total assets, reflecting financial risk exposure.
OSHIP_X4	Ownership Structure	Indicates shareholder concentration or ownership distribution.
CID_X5	Corporate Internal Disclosure Index	Measures the level of transparency and internal disclosure practices.
GP_X6	Growth Potential	Captures the firm's potential for future expansion, often proxied by sales growth.
SOE_X7	State-Owned Enterprise Dummy	Equals 1 if the firm is state-owned, 0 otherwise.
CEODUALITY_X8	CEO Duality	Equals 1 if the CEO simultaneously serves as board chairperson, 0 otherwise.
BDOUT_X9	Board Independence	Ratio of independent directors to total board members.
NOI_X10	Number of Oversight Institutions	Reflects the number of internal control or audit bodies within the firm.
CHAUD_X11	Audit Committee Chair Independence	Equals 1 if the audit committee is chaired by an independent director.
CEOPIC_X12	CEO Political Connections	Equals 1 if the CEO has political ties or affiliations.

Source: Developed for this research (2026)

The general panel regression equation estimated in this study is expressed as follows: where:

1. Denotes the cross-sectional unit (firm),
2. Denotes the time period (year), and
3. Represents the stochastic error term.

3.3 Analytical Technique

The study employs panel data regression analysis, which integrates both cross-sectional and time-series dimensions to improve the robustness of parameter estimates. Three standard models are estimated and compared:

- 1) Common Effect Model (CEM) assumes that all firms share identical intercepts and slopes, ignoring individual and temporal differences.
- 2) Fixed Effect Model (FEM) controls for unobserved firm-specific characteristics by allowing each firm to have its own intercept.
- 3) Random Effect Model (REM) assumes firm-specific effects are random and uncorrelated with the explanatory variables.

All estimations are performed using Panel Least Squares (PLS) and Estimated Generalized Least Squares (EGLS) techniques to correct for potential heteroskedasticity and cross-sectional dependence. These robust estimation procedures ensure unbiased and efficient coefficient estimates, enhancing the reliability of the research findings.

4. Results and Discussion

4.1 Model Selection Summary

Table 1. Model Selection Result

Test	Null Hypothesis	p-value	Decision	Preferred Model
Chow Test	CEM = FEM	0.6010	Fail to reject	CEM
Hausman Test	FEM = REM	0.7605	Fail to reject	REM
Lagrange Multiplier Test	CEM = REM	0.0420	Reject H_0	REM

Source: Results of Data Processing Using EViews 12 (2026)

Based on the findings, the Random Effects Model (REM) best fits the data, capturing both firm-specific randomness and overall variation across time.

4.2 Random Effect Model (REM)

The Random Effect Model (REM) assumes that firm-specific effects are random and uncorrelated with regressors. As displayed in Table 3, the REM produces more consistent and stable coefficients, with R-squared = 0.294 and Adjusted R-squared = 0.249.

Table 2. Random Effect Model Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.	Significance
C	15.9846	18.3251	0.8723	0.3842	ns
ROA X1	-9.3207	62.1554	-0.1500	0.8810	ns
ACHANGE X2	0.6495	3.2058	0.2026	0.0197	Significant
LEVERAGE X3	-4.4482	22.3885	-0.1987	0.0325	Significant
OSHIP X4	8.1809	30.7371	0.2662	0.7904	ns
CID X5	-1.1521	9.2347	-0.1248	0.9008	ns
GP X6	-3.7846	17.0828	-0.2215	0.2467	ns
SOE X7	-2.3343	23.0749	-0.1012	0.9195	ns
CEODUALITY X8	0.5941	2.7890	0.2130	0.8315	ns
BDOUT X9	-7.3721	29.3861	-0.2509	0.8022	ns
NOI X10	-6.4709	1.0257	-6.3089	0.0109	Significant
CHAUD X11	-3.6646	10.8311	-0.3383	0.7355	ns
CEOPIC X12	-0.5345	2.1601	-0.2474	0.8048	ns
Model Summary	R-squared = 0.294	Adjusted R ² = 0.249	F-statistic = 6.467	p = 0.0367	DW = 1.99

Source: Results of Data Processing Using EViews 12 (2026)

The Hausman Test ($p = 0.7605 > 0.05$) supports the REM over FEM, indicating that firm effects are random rather than fixed. The Lagrange Multiplier (LM) Test ($p = 0.0420 < 0.05$) also favors REM over CEM. Consequently, the Random Effect Model (REM) represents selected as the most appropriate a model used for analysis.

Significant determinants of FFR under REM include:

- 1) Asset Change (ACHANGE): A positive and significant coefficient ($p = 0.0197$) shows that companies experiencing rapid asset likely to experience higher growth likely to engage in fraudulent reporting. Expansion pressures may weaken internal control systems, increasing the temptation or opportunity for manipulation.
- 2) Leverage (LEVERAGE): The negative and significant coefficient ($p = 0.0325$) implies that highly leveraged firms may disclose financial information more transparently to maintain creditor trust, consistent with the disciplining role of debt proposed by Jensen and Meckling (1976).
- 3) Number of Oversight Institutions (NOI): The negative coefficient ($p = 0.0109$) demonstrates that stronger internal audit structures reduce fraud risk, reaffirming the importance of institutional oversight highlighted by Beasley (1996) and Abbott et al. (2004).

4.3 Discussion of Key Findings

The regression outcomes reveal several noteworthy provides insights into the relationship between corporate governance, financial structure, and fraudulent financial reporting in Indonesian firms.

1) Internal Oversight and Fraud Deterrence

The strong negative relationship between NOI and FFR emphasizes that multiple layers of oversight serve as effective internal control mechanisms. Firms that establish more audit or risk management units are better equipped to identify irregularities early, reducing opportunities for fraud. This supports Abbott et al. (2004), who found audit committees that have higher expertise and frequency of meetings significantly lower the likelihood of restatements. Where external enforcement is often weak, the role of internal institutions becomes even more critical. Effective oversight compensates for regulatory inefficiencies by institutionalizing accountability within firms.

2) Growth Pressure and Fraud Risk

The positive and significant coefficient of Asset Change (ACHANGE) supports the pressure component of Cressey's Fraud Triangle (1953). Rapidly growing firms face pressure to maintain momentum and meet investor expectations. This environment can incentivize managers to manipulate earnings or asset values to sustain an appearance of success. Empirical studies in emerging markets (e.g., Mousavi et al., 2022) have confirmed similar dynamics, where aggressive expansion correlates with financial misstatements. Thus, corporate growth, while generally favorable, introduces managerial risks if not accompanied by commensurate governance strengthening.

3) Leverage and External Monitoring

The negative association between Leverage and FFR contradicts traditional expectations that indebted firms face higher pressure to manipulate. Instead, it suggests that creditors play a monitoring role, enforcing stricter compliance and disclosure requirements. This aligns with agency theory (Jensen & Meckling, 1976), which argues that debt creates external discipline by restricting managerial

opportunism. Creditors' scrutiny effectively acts as a governance substitute in countries where institutional enforcement is limited. Therefore, maintaining optimal leverage may indirectly enhance transparency by attracting continuous external evaluation.

4) Insignificance of Formal Governance Indicators

Variables such as Ownership Structure (OSHIP), Board Independence (BDOUT), and CEO Duality (CEODUALITY) were found insignificant across models. This suggests that formal governance structures alone do not guarantee transparency unless they are actively enforced and supported by ethical leadership. Governance mechanisms may exist primarily for compliance rather than substantive oversight (Claessens & Yurtoglu, 2013). For instance, the presence of independent directors does not necessarily ensure independence in practice if they are appointed by controlling shareholders.

5) Political Connections and Managerial Discretion

While CEOPIC was significant under FEM, it lost significance in REM, implying that the effect of political ties varies across firms. Nonetheless, the positive direction of the coefficient suggests that political connections can weaken enforcement and create moral hazard. CEOs with government affiliations might enjoy implicit protection, discouraging regulatory action against them (Mousavi et al., 2022). This finding resonates with the broader literature on emerging economies, where political-business ties often erode institutional integrity and compromise financial reporting transparency.

6) Implications for Theory and Practice

The findings collectively reinforce both agency theory and the fraud triangle framework theory. Agency theory posits that managerial self-interest, when insufficiently monitored, leads to opportunistic behavior such as misreporting. Fraud triangle theory complements this by identifying the behavioral driver's pressure, opportunity, and rationalization that interact with governance structures. From a policy standpoint, these findings highlight the necessity of strengthening internal oversight mechanisms and enhancing creditor-based monitoring. Regulatory reforms should focus not only on mandating governance structures but also on ensuring their operational independence and accountability.

5. Conclusion

This study analyzes the determinants of financial fraud reporting using panel data from 15 Indonesian firms over the period 2021–2024. Based on regression analyses and model selection tests, the Random Effects Model (REM) was identified as the most suitable estimation approach. The findings reveal that asset change (ACHANGE), leverage, and the number of internal oversight institutions (NOI) significantly affect financial fraud reporting. Asset change has a positive and significant effect, indicating that rapid asset growth increases pressure on management to manipulate financial statements. Leverage has a negative and significant effect, suggesting that creditor scrutiny imposes external discipline that enhances transparency. The number of oversight institutions has a negative and significant effect, confirming that stronger internal audit structures reduce fraud risk. In contrast, formal governance indicators such as board independence, ownership structure, CEO duality, and political connections do not significantly influence financial fraud reporting, suggesting that governance mechanisms may exist primarily for compliance rather than substantive oversight.

The theoretical implications extend Agency Theory and Fraud Triangle Theory to the context of fraud prevention in emerging markets. The significant negative effect of leverage supports Agency Theory by confirming that debt creates external discipline that restricts managerial opportunism through continuous creditor scrutiny (Jensen & Meckling, 1976). The significant positive effect of asset change supports the pressure component of Cressey's (1953) Fraud Triangle Theory, confirming that rapid growth creates financial pressure that may incentivize fraudulent reporting. The significant negative effect of the number of oversight institutions reinforces the importance of internal monitoring mechanisms in reducing fraud risk, consistent with the governance literature that emphasizes the role of audit committees and internal controls in detecting irregularities (Abbott et al., 2004; Beasley, 1996). The non-significant effects of formal governance indicators challenge the assumption that governance structures alone guarantee transparency, suggesting that governance mechanisms may be symbolic rather than substantive in contexts where enforcement is weak.

From a practical perspective, corporate governance mechanisms should focus not only on board composition but also on strengthening internal control units and risk committees. Companies experiencing rapid asset growth should implement commensurate governance strengthening to mitigate the pressure that may incentivize manipulation. Firms should maintain optimal leverage levels to benefit from the disciplining effect of creditor scrutiny. Regulators should enhance external audit enforcement and disclosure requirements for rapidly growing firms and those with complex capital structures, prioritizing the strengthening of internal audit functions and oversight institutions rather than merely mandating formal governance structures. Auditors should pay closer attention to asset growth patterns and the effectiveness of internal oversight institutions when assessing fraud risk. Investors should consider both financial indicators and governance effectiveness when evaluating investment decisions.

This study has several limitations. First, the analysis is limited to 15 Indonesian firms, restricting generalizability to other firms, sectors, or countries. Second, the four-year observation period (2021–2024) may not capture longer-term trends. Third, the study excludes other potential determinants such as profitability, liquidity, and macroeconomic conditions. Fourth, the proxies used for governance variables may not fully capture the complexity of governance effectiveness. Fifth, the relatively low R-squared value (29.4%) indicates that other factors outside the model significantly influence financial fraud reporting.

Future research should expand the sample size and incorporate qualitative governance indicators, such as board effectiveness, audit committee diligence, and organizational culture, to capture governance effectiveness beyond structural indicators. Future studies should include macroeconomic control variables such as GDP growth, inflation, and regulatory changes that may influence fraud behavior. Employing longer observation periods could capture long-term trends and patterns in financial fraud. Researchers should examine other moderating variables such as regulatory enforcement, institutional quality, and organizational culture. Finally, future studies could develop more comprehensive measurement approaches for governance effectiveness beyond the proxies used in this study to capture the multidimensional nature of corporate governance and its impact on fraud prevention more accurately.

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