



Board Gender Diversity, Capital Structure, and Earnings Management: The Moderating Role of the Audit Committee

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Abstract

Background: Recurring financial-reporting concerns in Indonesia and mixed prior evidence on the governance determinants of earnings management create a need to clarify when monitoring mechanisms constrain managerial reporting discretion. The study addresses the gap concerning whether audit committee meeting intensity conditions the relationships of board gender diversity and leverage with earnings management in an emerging-market consumer-sector setting.

Objective: This study examines the associations of board gender diversity and capital structure with earnings management and tests audit committee meeting intensity as a moderator.

Methods: The unit of analysis is 266 firm-year observations (133 consumer cyclical and consumer non-cyclical firms × 2 years) listed on the Indonesia Stock Exchange during 2023–2024 and selected purposively. A centered moderated regression was estimated in EViews 13 using Stubben's discretionary-revenue measure and White cross-section robust standard errors.

Results: Board gender diversity is negatively associated with earnings management ($\beta = -0.0244$; $p = 0.0158$), whereas leverage is positively associated with it ($\beta = 0.0500$; $p < 0.001$). The board-gender-diversity × audit-committee interaction is not significant ($\beta = -0.0050$; $p = 0.2674$), while the leverage × audit-committee interaction is negative and significant ($\beta = -0.0218$; $p < 0.001$).

Conclusion: Audit committee meeting intensity appears to constrain leverage-related reporting pressure but does not significantly amplify the board-diversity pathway. The study contributes a conditional governance perspective in which monitoring mechanisms are matched to the source of reporting risk.

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INTRODUCTION

Financial statements remain the primary channel through which firms communicate their economic condition to outside parties, and their usefulness rests entirely on the assumption that reported figures are prepared honestly and can be relied upon. Yet the same accounting standards that give managers the flexibility to portray economic reality faithfully also leave room for discretion to be exercised in self-interested ways. Earnings management the deliberate intervention in the external reporting process to reach a desired earnings figure sits precisely in this grey zone (Emudainohwo, 2021; Safira & Setiyawati, 2025). It is not necessarily unlawful, but when managers accelerate revenue recognition, delay expenses, or adjust accounting estimates to disguise the underlying performance, the informational value of the financial statements erodes

and the interests of investors and creditors are placed at risk (Githaiga et al., 2022). International evidence likewise shows that earnings-management risk persists across institutional settings and that governance mechanisms such as board oversight and audit committees remain central to limiting reporting discretion (Githaiga et al., 2022; Bawuah, 2024; Le & Nguyen, 2023).

The Indonesian capital market offers vivid reminders of why this matters. PT Envy Technologies Indonesia Tbk drew regulatory scrutiny after its 2019 consolidated statements reported a sharp jump in revenue and profit while a key subsidiary failed to file its own accounts; subsequent analysis attributed the anomaly to aggressive percentage-of-completion revenue recognition and premature capitalization of costs (Christian et al., 2022). Beyond the listed-company setting, the eFishery case provides a broader Indonesian illustration of reporting-integrity risk: reports indicated divergent sets of accounts, with a substantial profit presented to investors while internal records pointed to losses (Setyowati, 2025). This example is used only as contextual evidence and is not part of the listed-firm research sample. Together with the PT Envy case, it illustrates why the determinants of earnings management and reporting oversight continue to attract regulatory and scholarly attention.

Among the governance attributes thought to curb such behaviour, the gender composition of the board has become a focal point. Prior governance research associates greater female board representation with monitoring-related attributes such as more cautious risk assessment, stronger attention to ethical issues, and more independent challenge; these are empirical tendencies reported in the literature rather than inherent traits of all women directors (Saona et al., 2024). The governance relevance therefore lies in how a more diverse board can broaden deliberation and strengthen monitoring. Several studies report that greater female representation is associated with lower earnings management, particularly when representation is substantive rather than tokenistic (Alves, 2023; Aryani et al., 2024). The cross-context variation in these findings suggests that the effect of board gender diversity may depend on the institutional and monitoring environment in which it operates.

Capital structure introduces a different mechanism. Firms carrying heavy debt face recurring obligations to service interest and principal, and the resulting pressure to appear capable of meeting creditor expectations can push managers toward managing reported earnings, especially where debt covenants are binding (Muhtaseb et al., 2024). Here too the empirical record is inconsistent: leverage has been linked to more intensive earnings management in some settings (Khanh & Thu, 2019; Nguyen et al., 2024; Tuan, 2022) but not in others. Taken together, the mixed findings on both board gender diversity and leverage point to an unresolved question of when, rather than simply whether, these factors translate into reporting outcomes.

This is where the audit committee enters. As the board's dedicated organ for overseeing financial reporting and internal audit, an active and competent audit committee is well placed to strengthen or weaken the effect of other governance and financing characteristics on reporting behaviour (Amara et al., 2025). Yet most work relevant to Southeast Asia, including Indonesia, continues to treat the audit committee as a direct determinant of earnings management rather than as a conditioning factor (Bawuah, 2024; Le & Nguyen, 2023). The few studies that do model it as a moderator are concentrated in the Middle East and North Africa (Attia et al., 2024), leaving the moderating role of audit committee activity in an emerging Asian market largely unexamined. This gap motivates the present study: rather than asking only whether board gender diversity and leverage matter, we ask whether audit committee oversight changes how much they matter. The closest studies cited here illustrate the distinction underlying the gap: Bawuah (2024) and Le & Nguyen (2023) principally examine audit-committee characteristics as direct governance determinants, whereas Attia et al. (2024) models moderation in a different regional setting. The present model therefore focuses on the still-limited Indonesian evidence on whether audit committee meeting intensity conditions both a board-composition pathway and a financing-pressure pathway within the same empirical specification.

The study is framed by agency theory (Jensen, 2022; Jensen & Meckling, 1976), which locates earnings management in the conflict of interest and information asymmetry between owners and managers. Within this lens, board gender diversity and the audit committee are complementary monitoring devices that reduce the manager's scope for discretion, while leverage is a source of contractual pressure that heightens the temptation to manage earnings. Positioning the audit committee as a moderator therefore follows naturally from the theory: its oversight

should condition the strength of both the disciplining effect of a diverse board and the distorting effect of financing pressure.

Building on this reasoning, the study pursues four objectives: (1) to test whether board gender diversity is negatively associated with earnings management; (2) to test whether capital structure is positively associated with earnings management; (3) to examine whether greater audit committee meeting intensity strengthens the negative association between board gender diversity and earnings management; and (4) to examine whether greater audit committee meeting intensity weakens the positive association between capital structure and earnings management. The novelty is both theoretical and empirical. Prior work cited above typically treats audit-committee characteristics as direct antecedents, whereas this study specifies meeting intensity as a moderator that conditions two distinct risk pathways. The analysis is situated in Indonesian consumer cyclical and consumer non-cyclical firms during the recent 2023–2024 post-pandemic reporting period, without presuming that this period itself constitutes unusually high financial pressure. Earnings management is captured through Stubben (2010) and Jamadar et al. (2022) discretionary-revenue model, which is sensitive to revenue-based reporting discretion.

METHOD

This study adopted a quantitative, hypothesis-testing design based on secondary panel data. The population comprised consumer cyclical and consumer non-cyclical firms listed on the Indonesia Stock Exchange (IDX). The sampling frame was established using the 2023 sector classification and then followed through 2024 so that a balanced two-year panel could be constructed. A purposive sampling procedure retained firms that consistently published annual reports across both years, provided the required variables, and reported financial data in rupiah. Restricting the sample to rupiah-reporting firms improved monetary comparability and avoided currency-conversion assumptions, but it may have introduced selection bias by excluding otherwise eligible firms reporting in foreign currencies; this limitation is acknowledged when interpreting the generalisability of the findings. The final sample contained 133 distinct firms observed over two years, yielding 266 firm-year observations rather than 266 separate companies. Firms that did not provide consistent two-year observations, including cases affected by listing, delisting, reclassification, or incomplete reporting during the study period, were excluded under the balanced-panel criterion. Because the analysis relied exclusively on publicly disclosed corporate documents and did not involve human or animal participants, no ethics-committee approval was required; nonetheless, all data were handled in accordance with institutional research-integrity standards.

Earnings management (EM), the dependent variable, was operationalised using Stubben (2010) and Jamadar et al. (2022) conditional discretionary-revenue approach. The model estimated the expected change in accounts receivable from the change in revenue using the conditioning structure specified in Stubben (2010) and Jamadar et al. (2022); the firm-year residual represented the unexplained revenue-related receivable component. The regression analysis in this study used the signed residual rather than its absolute value. Accordingly, positive and negative EM values indicated the direction of discretionary revenue, while the magnitude indicated the extent of deviation from the model-predicted level. Coefficient signs were therefore interpreted as directional associations with the signed discretionary-revenue measure and not mechanically as indicating a universal increase or decrease in the absolute amount of earnings management.

Board gender diversity (BGD) was measured as $1 - \text{HHI_gender} = 1 - (p_{\text{female}}^2 + p_{\text{male}}^2)$, where p_{female} and p_{male} represented the proportions of women and men on the board of directors, respectively, as coded consistently from the annual reports. For example, an evenly split board had $\text{BGD} = 1 - (0.5^2 + 0.5^2) = 0.50$, whereas a single-gender board had $\text{BGD} = 0$. Capital structure was proxied by leverage, calculated as total debt divided by total assets. The audit committee construct was deliberately defined as meeting intensity/activity, measured by the annual number of audit committee meetings; this observable proxy did not represent multidimensional audit committee effectiveness, such as independence, expertise, or deliberation quality. Firm size and profitability were included as control variables.

Table 1*Operational Definitions and Measurement of Variables*

Variable	Definition	Measurement	Source
Earnings Management (EM)	Managerial intervention in reported earnings within accounting rules	Discretionary revenue (residual of the conditional revenue model)	Stubben (2010) and Jamadar et al. (2022)
Board Gender Diversity (BGD)	Representation of women on the board	1 – Herfindahl–Hirschman Index of board gender concentration	Upadhyay & Zeng (2014) and Chang et al. (2024)
Capital Structure (CS)	Extent of debt financing	Total debt ÷ total assets (leverage)	(Muhtaseb et al., 2024)
Audit Committee (AC)	Intensity of audit committee monitoring	Number of audit committee meetings per year	Ali (2024)
Firm Size (SIZE)	Scale of the firm	Natural logarithm of total assets	Le & Nguyen (2023)
Profitability (PROF)	Earnings efficiency of assets	Return on assets (net income ÷ total assets)	Ni Made Rianita (2022)

Source: Authors' compilation (2026)

The data were analysed using panel-data regression in EViews 13. The most appropriate estimator was selected through the standard sequence of the Chow test, the Hausman test, and the Breusch–Pagan Lagrange Multiplier test. Subsequently, the classical assumptions of normality, multicollinearity, heteroskedasticity, and autocorrelation were examined to ensure that the estimates were unbiased and efficient. The moderating hypotheses were tested using centred moderated regression analysis (MRA), in which board gender diversity, capital structure, and the audit committee were mean-centred before the interaction terms were formed. Mean-centering reduced the artificial correlation between the interaction terms and their constituent variables and allowed the main effects to be interpreted at the average level of the moderator. Where the diagnostic tests indicated cross-sectional heteroskedasticity, robust (White) standard errors were used so that inferences regarding the coefficients would not be distorted by unequal residual variances.

$$EM_{it} = \alpha + \beta_1 BGD_C + \beta_2 CS_C + \beta_3 AC_C + \beta_4 (BGD_C \times AC_C) + \beta_5 (CS_C \times AC_C) + \beta_6 SIZE + \beta_7 PROF + \varepsilon$$

where EM denotes earnings management; BGD_C, CS_C, and AC_C are the centered values of board gender diversity, capital structure, and the audit committee; the two product terms represent the moderating effects; SIZE and PROF are the control variables; and ε is the error term.

RESULTS AND DISCUSSION**Result*****Sample Selection and Data Structure***

Table 2 traces the purposive-sampling process. Of the 172 consumer cyclical and non-cyclical firms listed on the IDX, 24 did not publish annual reports consistently across 2023 and 2024, 8 did not report in rupiah, and 7 lacked the complete information required for the study. The remaining 133 firms, observed over two years, yield a balanced panel of 266 firm-year observations. The initial count of 172 firms refers to the 2023 sector-classification frame that was subsequently tracked through 2024; the exclusions shown in Table 2 produce the balanced panel used for estimation.

Table 2*Sample Selection Process*

No.	Description	Total
1	Consumer cyclical and non-cyclical firms listed on the IDX (2023)	172
2	Firms not publishing annual reports consistently in 2023–2024	(24)

No.	Description	Total
3	Firms not reporting financial data in rupiah	(8)
4	Firms with incomplete required data	(7)
	Final number of firms	133
	Years of observation	2
	Total observations (133 × 2)	266

Source: Authors' compilation from IDX data, 2026

Descriptive Statistics

Table 3 profiles the variables. Earnings management (EM) has a mean close to zero (−0.0021) with a standard deviation of 0.0266 and ranges from −0.0727 to 0.0725, indicating that reporting discretion in the sample is modest and moves in both income-increasing and income-decreasing directions. Board gender diversity (BGD) averages 0.1737, with a minimum of 0.0000 some boards remain entirely male and a maximum of 0.6463, confirming wide variation across firms. Capital structure (CS) averages 0.4037, showing that firms finance roughly 40 percent of their assets with debt. The audit committee (AC) meets 5.47 times a year on average, ranging from 3 to 11 meetings, which provides sufficient variation to test its moderating role. Firm size (SIZE) and profitability (PROF) average 28.49 and 0.0652 respectively. The near-normal skewness (−0.0453) and kurtosis (3.0105) of EM, together with a Jarque–Bera probability of 0.9549, indicate an approximately normal distribution of the dependent variable.

Table 3

Descriptive Statistics

Variable	Mean	Median	Max	Min	Std. Dev.	Skew.	Kurt.
EM	−0.0021	−0.0004	0.0725	−0.0727	0.0266	−0.0453	3.0105
BGD	0.1737	0.1465	0.6463	0.0000	0.1410	0.8475	3.2817
CS	0.4037	0.3748	0.8588	0.0898	0.1635	0.4418	2.6264
AC	5.4737	5.0000	11.0000	3.0000	2.1773	0.7422	2.5616
SIZE	28.4863	28.2218	33.5536	24.0532	1.9446	0.1245	2.5211
PROF	0.0652	0.0473	0.3500	0.0003	0.0653	1.8957	7.0763

Notes: $n = 266$. EM = Earnings Management; BGD = Board Gender Diversity; CS = Capital Structure; AC = Audit Committee; SIZE = Firm Size; PROF = Profitability. Source: EViews 13 output, 2026

Pearson Correlation

Table 4 presents the Pearson correlation matrix. Board gender diversity is negatively correlated with earnings management (−0.1092) and the audit committee is likewise negative (−0.1251), while capital structure is positively correlated with earnings management (0.1817); firm size shows the strongest negative association (−0.2679). The highest correlation among the independent variables is only 0.1787 (CS with SIZE), well below the 0.80 threshold, giving an early indication that multicollinearity is not a concern.

Table 4

Pearson Correlation Matrix

Var	EM	BGD	CS	AC	SIZE	PROF
EM	1.0000					
BGD	−0.1092	1.0000				
CS	0.1817	0.1423	1.0000			
AC	−0.1251	0.0455	0.1747	1.0000		
SIZE	−0.2679	−0.0669	0.1787	−0.0906	1.0000	
PROF	−0.1592	−0.0231	0.0439	0.1229	−0.0017	1.0000

Source: EViews 13 output, 2026

Panel Model Selection

The choice of estimator was resolved through the Chow, Hausman, and Breusch–Pagan Lagrange Multiplier tests summarised in Table 5. The Chow cross-section F probability (0.5987)

does not reject the Common Effect Model (CEM). The Hausman probability (0.6719) does not favour the Fixed Effect Model, and the EViews random-effects output reports an estimated cross-section variance component of zero. Substantively, a zero cross-section variance means that the random intercept contributes no additional between-firm variance beyond the pooled specification; in this circumstance, the random-effects estimate converges toward the pooled/common-effect estimator. The Breusch–Pagan LM result (Both = 0.5663) likewise provides no evidence that random effects are required. Taken jointly, these diagnostics support selection of the CEM for the reported estimates.

Table 5*Panel-Model Selection Tests*

Test	Statistic	Prob.	Decision
Chow (Cross-section F)	0.9571	0.5987	CEM
Hausman (Cross-section random)	4.9025	0.6719	REM → CEM
Breusch–Pagan LM (Both)	0.3288	0.5663	CEM
Selected model	Common Effect Model (CEM)		

Source: EViews 13 output, 2026

Classical Assumption Tests

Because the selected common effect model is estimated by pooled ordinary least squares, residual and collinearity diagnostics were reviewed before interpreting the moderated regression. The Jarque–Bera probability is 0.9657. The reported main-effect VIFs are close to 1 and far below 10; however, because the primary model contains product terms, this statistic should not be read as a complete summary of collinearity in the moderation model. Mean-centering was therefore applied before forming the interactions to reduce nonessential collinearity, and the interaction estimates are interpreted together with coefficient stability rather than from the main-effect VIF alone. The Durbin–Watson statistic of 2.0587 is treated only as an initial descriptive indicator because the panel contains just two annual observations per firm, which limits the informativeness and power of panel-specific serial-correlation diagnostics. Heteroskedasticity diagnostics are mixed: the manual Breusch–Pagan test is insignificant, while the panel cross-section LR test is significant (0.0007). The final model therefore uses the White cross-section heteroskedasticity-consistent covariance estimator in EViews 13, which adjusts inference for unequal residual variance across firms.

Table 6*Classical Assumption Test Results*

Test	Result	Criterion	Conclusion
Normality (Jarque–Bera prob.)	0.9657	> 0.05	Residuals normal
Multicollinearity (max VIF)	1.10	< 10	No multicollinearity
Autocorrelation (Durbin–Watson)	2.0587	≈ 2	No autocorrelation
Heteroskedasticity (panel cross-section LR)	0.0007	< 0.05	Robust White SE applied

Source: EViews 13 output, 2026

Hypothesis Testing

The four hypotheses were tested with the centered moderated regression model shown in Table 7. The adjusted R-squared is 0.2841 and the model F-test is significant ($p < 0.001$), indicating that the included predictors jointly account for 28.41% of the observed variation in the signed discretionary-revenue measure. This level of explanatory power is not, by itself, treated as evidence of model adequacy; interpretation also rests on the theoretical specification, diagnostics, and acknowledged possibility of omitted governance determinants. Board gender diversity is negatively associated with EM ($\beta = -0.0244$; $p = 0.0158$), supporting H1. Because BGD is an index ranging from 0 upward rather than the percentage of women, the coefficient represents the change in the signed EM measure associated with a one-unit increase in the diversity index; realistic within-sample changes are smaller than one unit and should be interpreted accordingly.

Capital structure is positively associated with EM ($\beta = 0.0500$; $p < 0.001$), supporting H2; given the observational design, this is an association and not a causal effect. The BGD $\times$ audit-committee interaction is negative but not significant ($\beta = -0.0050$; $p = 0.2674$). A negative interaction would be directionally consistent with strengthening an already negative BGD association, but the non-significant estimate means H3 is not supported. The capital-structure $\times$ audit-committee interaction is negative and significant ($\beta = -0.0218$; $p < 0.001$), supporting H4 and indicating that greater meeting intensity weakens the positive leverage-EM association. Firm size and profitability are also negatively associated with EM.

Table 7
Centered Moderated Regression Results

Variable	Pred.	Coef.	t-Stat	Prob.	Result
C (Constant)		0.1484	7.0595	0.0000***	Significant
BGD_C	(-) Negative	-0.0244	-2.4299	0.0158**	H1 supported
CS_C	(+) Positive	0.0500	5.5798	0.0000***	H2 supported
AC_C	(-)	-0.0018	-2.6806	0.0078***	(-) significant
	Strengthening				
BGD_C $\times$ AC_C	(-)	-0.0050	-1.1114	0.2674	H3 not supported
	Strengthening				
CS_C $\times$ AC_C	(-)	-0.0218	-4.8981	0.0000***	H4 supported
	Weakening				
SIZE		-0.0051	-6.9723	0.0000***	(-) significant
PROF		-0.0494	-2.2878	0.0230**	(-) significant
Adjusted R ²		0.2841			
Prob(F)				0.0000***	
Durbin-Watson		2.0587			
Observations		266			

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. Robust White standard errors. Source: EViews 13 output, 2026

Source: Authors' analysis, 2026

Discussion

Board Gender Diversity and Earnings Management

The finding that board gender diversity is negatively associated with earnings management suggests that greater gender heterogeneity on the board can coincide with stronger monitoring and reporting discipline. Read through the lens of agency theory, a more diverse board broadens the range of perspectives brought to managerial decisions and may reduce the dominance of a single, homogeneous outlook. Prior studies have associated female board participation with differences in risk assessment, ethical attention, and independent challenge; these are context-dependent empirical patterns reported in the governance literature rather than inherent characteristics of all women directors (Saona et al., 2024). The relevant mechanism in this study is therefore the potential contribution of board composition to monitoring quality.

What the result adds to the Indonesian debate is evidence, within the sampled firms, that board diversity is associated with reporting discipline rather than functioning only as a formal representation metric. This interpretation resonates with Alves (2023) and Aryani et al. (2024), which link substantive female representation with lower earnings-management tendencies in their respective settings. The present evidence extends that discussion to Indonesian consumer-sector firms, while remaining cautious about generalising the relationship beyond the observed sectors and period.

Capital Structure and Earnings Management

The positive association between leverage and earnings management confirms that a firm's financing profile shapes its reporting behaviour. Under agency theory, debt introduces a recurring contractual obligation, and the need to appear capable of honouring that obligation gives management an incentive to smooth or inflate the earnings presented to creditors. As leverage rises, so does the pressure to avoid breaching covenants and to sustain a favourable impression

of financial health, and that pressure finds an outlet in the discretionary components of reported earnings.

The result therefore suggests, within this sample, that capital structure is not only a financial risk characteristic but is also associated with reporting behaviour. This is consistent with the argument of [Muhtaseb et al., \(2024\)](#) that leverage-related liquidity pressure can coincide with stronger incentives to manage earnings. The present evidence should be read as a sample-specific practical implication rather than a universal recommendation: among the two Indonesian consumer sectors observed in 2023–2024, highly leveraged firms may warrant closer reporting oversight because leverage is positively associated with the signed discretionary-revenue measure.

The Audit Committee and Board Gender Diversity

Contrary to expectation, the audit committee does not significantly reinforce the disciplining effect of board gender diversity. A plausible reading is that the two mechanisms operate in parallel rather than in sequence. The restraining influence of a gender-diverse board is already embedded in the intrinsic dispositions of its members (their caution and ethical orientation) so intensifying audit committee activity does not add a further, distinct layer of restraint to that particular channel. In other words, board diversity and committee oversight each contribute to reporting quality, but they do so as complementary rather than mutually amplifying forces.

This outcome also cautions against equating audit committee meeting intensity with the frequency of its meetings. Meeting count captures activity and should not be interpreted as a complete measure of effectiveness but not the independence, financial expertise, or the quality of deliberation and follow-up that ultimately determine whether oversight is meaningful. Where board-level diversity already supplies substantive monitoring, a committee measured only by how often it convenes may have little marginal effect on that path. The finding thus echoes a broader theme in the governance literature that the substance of oversight matters more than its formal intensity and it invites future work to model audit committee quality more richly.

The Audit Committee and Capital Structure

The audit committee does, however, significantly weaken the earnings-management pressure generated by leverage, and this contrast is the study's most instructive result. Highly indebted firms face strong incentives to present favourable numbers to creditors, but a more active audit committee appears able to detect and resist the aggressive accounting choices that such pressure invites. The committee's direct line of sight over the financial-reporting process makes it especially effective precisely where the reporting risk originates in financing strain.

The divergence between the two moderation results is theoretically coherent. The audit committee is not a universal amplifier of every governance relationship; its comparative advantage lies in policing the consequences of financial pressure rather than in augmenting the behavioural effect of board composition. This selective effectiveness aligns with Tuan (2022), who found that the influence of leverage on earnings management weakens where audit oversight is strong, and it carries a clear international relevance: in emerging markets where leverage is a common source of reporting distortion, strengthening the audit committee offers a targeted safeguard. The limitations of the study temper these conclusions the audit committee is proxied only by meeting frequency, the sample is confined to two consumer sectors over two years, and the model leaves much of the variation in earnings management unexplained but they also point directly to where further evidence would be most valuable.

Governance Complementarity and the Limits of Additive Monitoring

The contrasting moderation results are easier to understand when board diversity and audit committee oversight are treated as distinct governance channels rather than as interchangeable layers of control. Agency theory locates both mechanisms within the broader effort to reduce information asymmetry and constrain managerial discretion ([Jensen, 2022](#); [Jensen & Meckling, 1976](#)). Yet they intervene at different points in the reporting process. Board gender diversity changes the composition of the decision-making body itself, widening the range of perspectives through which strategic and accounting choices are challenged. Audit committee

activity, by contrast, is a specialised monitoring process focused more directly on financial reporting, internal control, and the audit interface. The absence of an incremental moderating effect on the gender-diversity pathway therefore need not be read as evidence that the committee is ineffective. It is more consistent with the view that some monitoring mechanisms produce parallel effects that do not necessarily multiply when combined.

This distinction is particularly important because gender diversity may influence reporting quality through changes in the composition and quality of board deliberation. Prior studies associate female board participation with differences in monitoring behaviour and decision processes, including risk assessment, ethical attention, and independent challenge, but these relationships are contingent on governance context rather than universal gender traits (Saona et al., 2024). Evidence that effects become more visible when female representation is substantive rather than tokenistic Alves (2023) and Aryani et al. (2024) further supports a governance-mechanism interpretation. Once that board-level monitoring channel is present, more frequent audit committee meetings may add oversight without materially changing the mechanism through which board diversity operates.

The finding also helps explain why formal governance structures should not be evaluated only by whether they statistically reinforce one another. A governance system can be effective because different mechanisms cover different risks. In this setting, the audit committee may contribute directly to reporting discipline while leaving the board-diversity effect largely unchanged. Research from emerging markets likewise shows that the effect of governance arrangements depends heavily on institutional setting and on how committee activity is operationalised (Bawuah, 2024; Le & Nguyen, 2023). For Indonesian listed firms, the implication is that improving governance requires attention to functional fit. Diversity policy should be designed to improve the quality and independence of board deliberation, while audit committee policy should strengthen the depth and responsiveness of financial-reporting oversight. Treating the two as complementary but non-identical mechanisms offers a more realistic interpretation than assuming that every additional layer of governance must amplify every other layer.

Debt Pressure and the Selective Value of Audit Oversight

The significant moderation of the capital-structure pathway reveals where audit committee activity appears to have its greatest practical value. Leverage creates an identifiable source of reporting pressure because debt introduces recurring obligations and can expose managers to covenant, refinancing, and reputation concerns. Earlier work associates higher leverage with stronger incentives to influence reported earnings, particularly when short-term financing pressure is pronounced (Muhtaseb et al., 2024). Evidence from other settings similarly connects debt intensity with earnings-management behaviour (Hieu & Anh, 2023; Khanh & Thu, 2019; Tuan, 2022). This makes the leverage channel different from board composition: it generates a concrete financial pressure that can be translated into specific reporting choices and can therefore be monitored more directly by a committee responsible for financial-reporting integrity.

An active audit committee can respond to that pressure by increasing the frequency with which management explanations, accounting judgements, and audit findings are scrutinised. The committee cannot remove a firm's debt obligations, but it can narrow management's room to respond to those obligations through opportunistic reporting. This interpretation is consistent with the view that audit committees are most effective when their monitoring mandate is closely aligned with the source of agency risk. Prior studies emphasise the role of committee oversight in constraining earnings-management behaviour and improving the credibility of financial reporting (Le & Nguyen, 2023), while more recent evidence underlines that audit committee effectiveness becomes particularly relevant when firms face stronger governance or financing pressures (Amara et al., 2025). The present pattern therefore points to targeted rather than universal moderation.

This selective effect has an important managerial implication. Highly leveraged companies should not treat audit committee meetings as a routine compliance calendar. The meetings are most valuable when they are used to interrogate the reporting consequences of financing pressure, to follow up on audit findings, and to challenge accounting choices that could obscure the firm's underlying capacity to meet its obligations. In that sense, the result reframes audit committee intensity as a risk-responsive governance mechanism. More meetings are not

inherently superior; their value arises because they create repeated opportunities to identify and contest aggressive reporting at precisely the point where debt-related incentives are strongest. The practical objective is therefore not simply to increase meeting counts, but to ensure that committee attention is concentrated on the financial-reporting risks that accompany a highly leveraged capital structure.

Measurement Boundaries and the Meaning of Audit Committee Effectiveness

The interpretation of the moderating results must also recognise the measurement boundary of the audit committee construct. In this study, committee activity is represented by the number of meetings held during the year (Ali, 2024b). Meeting frequency is observable and comparable across firms, and it captures the intensity with which the committee formally engages in oversight. It does not, however, reveal whether members are independent, whether they possess accounting and financial expertise, whether difficult issues are debated substantively, or whether management responds to the committee's recommendations. A committee that meets frequently but lacks authority or expertise can be less effective than a committee that meets less often but conducts rigorous, well-informed reviews.

This limitation is especially relevant to the non-significant interaction with board gender diversity. If the moderator captures only the frequency of meetings, it may be too narrow to detect the dimensions of committee quality that could interact with board composition. Independence and expertise, for example, may be more capable of reinforcing the effect of diverse viewpoints than meeting frequency alone. Prior studies have repeatedly treated audit committee characteristics as multidimensional and have shown that the strength of governance outcomes depends on the specific attribute examined (Bawuah, 2024; Le & Nguyen, 2023). The present findings should therefore be interpreted as evidence about monitoring intensity, not as a definitive test of every aspect of audit committee quality.

The same caution applies to generalisability. The evidence is drawn only from consumer cyclical and consumer non-cyclical firms and from two annual observation periods (2023–2024); it therefore cannot automatically be generalized to all companies listed on the Indonesia Stock Exchange. The short window may also incompletely capture slower governance effects. Future research should extend the observation period to address the temporal limitation, broaden sectoral coverage to test external validity, and replace the meeting-frequency proxy with richer audit-committee measures such as independence and financial expertise. Additional variables such as external audit quality, institutional ownership, and CEO characteristics should be introduced specifically to address the omitted-governance-determinant limitation of the present model.

Implications for Emerging-Market Governance and Reporting Quality

The findings suggest that governance reform should be risk-specific rather than purely formal. Board gender diversity is associated with better reporting discipline, which supports the view that diversity can function as a substantive governance resource instead of a representational symbol. At the same time, the audit committee is most consequential where reporting risk is generated by financial pressure. This combination means that firms should avoid a checklist approach in which diversity, committee meetings, and capital structure are considered independently. Governance design is more credible when board composition, financing policy, and monitoring arrangements are evaluated as parts of a single reporting-risk architecture.

For companies, the immediate implication is twofold. First, increasing female representation should be accompanied by meaningful participation in board deliberation so that diverse perspectives can influence oversight rather than merely satisfy a formal expectation. Second, firms with high leverage should strengthen the substance of audit committee supervision because debt pressure can alter managerial incentives even when the underlying business remains viable. The relationship identified here is therefore not an argument against debt financing; it is an argument for matching financing intensity with stronger reporting safeguards. This is consistent with the agency-theory expectation that monitoring becomes more valuable when contractual pressure and information asymmetry increase (Jensen, 2022; Jensen & Meckling, 1976).

For regulators and investors, the results point to the informational value of governance disclosures. Board composition and audit committee activity can provide context for interpreting financial statements, particularly when a firm also carries substantial debt. Regulators can encourage higher governance quality by focusing not only on the existence of committees but also on independence, competence, and the effectiveness of follow-up. Investors, in turn, can use governance information as a complement to conventional financial ratios when judging whether reported earnings are likely to reflect economic performance faithfully. The wider contribution to emerging-market research is that governance mechanisms appear to work selectively: their effectiveness depends on the source of reporting risk and the institutional channel through which monitoring is exercised. Such selectivity helps reconcile prior mixed findings and offers a more precise basis for future cross-country comparisons ([Attia et al., 2024](#)).

Theoretical Contribution: A Conditional Governance Architecture

Beyond the individual hypotheses, the combined pattern advances a conditional view of corporate governance. Conventional governance models often assume that adding monitoring mechanisms produces an approximately cumulative improvement in reporting quality. The present evidence suggests a more discriminating architecture. Board gender diversity is a structural characteristic of the decision-making body, whereas audit committee activity is a process characteristic of specialised oversight. Both can constrain managerial discretion, but they do not need to reinforce one another on every pathway. This interpretation remains consistent with agency theory, which requires mechanisms that reduce information asymmetry and opportunism but does not imply that every monitoring device must interact positively with every other device ([Jensen, 2022](#); [Jensen & Meckling, 1976](#)). The theoretical contribution is therefore to move from an additive governance logic toward a contingent one in which the value of a mechanism depends on the particular agency problem it is positioned to address.

The contrast between the two moderation paths illustrates this contingency clearly. Gender diversity appears to work through the composition and behavioural quality of board deliberation. Its monitoring value is associated with broader perspectives, greater caution, and stronger ethical sensitivity ([Saona et al., 2024](#)). Audit committee meeting intensity does not materially change that board-level mechanism, which implies that structural diversity and committee activity may coexist without producing an additional interaction effect. Financing pressure is different. Leverage creates an external contractual discipline that can also generate incentives to present results more favourably, and this pressure enters the same financial-reporting domain that the audit committee is expected to supervise ([Muhtaseb et al., 2024](#)). The committee therefore has a clearer point of intervention. The study consequently identifies a boundary condition for monitoring effectiveness: specialised oversight is most likely to moderate a relationship when the source of managerial incentive falls within the committee's functional remit.

This conditional governance interpretation also offers a way to reconcile mixed findings in prior research. Studies undertaken in different institutional environments do not always observe the same effects of gender diversity, leverage, or audit committees because the mechanisms are embedded in different ownership structures, enforcement regimes, financing conditions, and board practices. Evidence that the role of audit committees varies across emerging-market settings ([Bawuah, 2024](#); [Le & Nguyen, 2023](#)) and that gender-diversity effects depend on governance context ([Attia et al., 2024](#)) is consistent with the idea that governance relationships should be specified conditionally rather than treated as universal. For empirical research, this means that future models should examine alignment between the source of reporting risk and the monitoring mechanism, not merely test whether a larger number of governance attributes predicts lower earnings management. Such an approach can produce more interpretable results and reduce the tendency to label a governance mechanism ineffective simply because one interaction term is not supported.

CONCLUSION

This study answers the four hypotheses in the same order as the research objectives. H1 is supported: board gender diversity is negatively associated with the signed discretionary-revenue measure of earnings management. H2 is supported: leverage is positively associated with earnings management, although the observational design does not establish causality. H3 is not

supported: audit committee meeting intensity does not significantly strengthen the negative board-gender-diversity association. H4 is supported: audit committee meeting intensity significantly weakens the positive leverage–earnings-management association. Taken together, the findings support a conditional governance interpretation in which monitoring mechanisms are not interchangeable and audit committee activity is most consequential when reporting risk is linked to financing pressure.

These findings have practical implications for the sampled setting, but they should not be generalized automatically to all Indonesian listed firms. For firms in the two consumer sectors studied, greater attention to meaningful board diversity and to the substance of audit committee oversight may improve monitoring, particularly where leverage is high. The study is bounded by its two-year window, its sectoral focus, the use of meeting frequency as a one-dimensional proxy for audit committee activity, and the possibility of omitted governance determinants. Future research should address each limitation directly by extending the observation period, widening sectoral coverage, measuring audit committee independence and financial expertise, and incorporating external audit quality, institutional ownership, and CEO characteristics. These extensions would test whether the conditional governance pattern observed here persists across broader institutional and reporting contexts.

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AUTHOR CONTRIBUTION STATEMENT

D.P. conceived the study, collected and analysed the data, and prepared the initial draft. E.M. supervised the research, refined the methodology and theoretical framing, and critically reviewed and edited the manuscript. Both authors read and approved the final version.

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