

The impact of earnings management on perceived quality of earnings: the moderating role of ESG

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Abstract

Purpose – This study aims to examine whether investors perceive earnings management as opportunistic behaviour that impair earnings quality or as an enhancer of earnings informativeness in the context of developing countries. This study also investigates whether the presence of higher ESG activities can obscure investors' assessment of earnings management and thus affect investors' response to managed earnings.

Design/methodology/approach – Final sample is 166 firm-year observations from non-financial public companies in Indonesia with the observation period 2019–2023. This study uses two-step estimator of GMM with robust standard errors.

Findings – We find that earnings management is viewed as an action that increases the informativeness value, thereby increasing investor reactions to earnings announcements. ESG was found to significantly affect investors' valuation on managed earnings. Overall, investors still give a large reaction to managed earnings because of the high ESG performance considered by investors. This effect is more significant in the case of income decreasing earnings management.

Research limitations/implications – The study employs small sample and focuses in the Indonesian context. Future research could expand the sample or conduct international studies.

Practical implications – This study provides an understanding that companies may manage earnings to increase informativeness value of earnings and utilize high ESG to hide their opportunistic actions. Regulators play an important role in preventing such opportunistic actions by increasing the monitoring of ESG activities and promote transparency in ESG reporting.

Originality/value – This study extends existing literature by examining how ESG affect investor reaction to managed earnings.

Keywords Earnings management, Earnings response coefficient, Market reaction, ESG

Paper type Research paper

1. Introduction

The first objective of this study is to investigate how earnings management influences investors perceive the quality of a firm's earnings, using the Earnings Coefficient Response as a proxy, as following [Chen et al. \(2019\)](#). Earnings Coefficient Responses (ERCs) represent the magnitude of market reactions to changes in corporate earnings ([Feltham and Pae, 2000](#)). How earnings management affects ERCs has been documented in many studies. For example, [Nwaeze \(2011\)](#) and [Lu and Li, 2011](#) found that earnings management is a source of earnings uncertainty, high earnings management exposure reduces investor belief in earnings quality so

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that decreases ERCs. Investors tend to assign lower valuations to earnings that are believed to be manipulated or subject to high levels of earnings management (HAW *et al.*, 2005). Nonetheless, Lento *et al.* (2016), which examined the impact of earnings management nature on stock prices during earnings announcement date, discovered that investors offer rewards (penalties) to firms employing high levels of earnings management when earnings surpass (fall short of) analysts' expectations. This indicates varying perspectives among investors regarding earnings management (Kwag and Stephens, 2009; Bansal *et al.*, 2021), leaving the judgment of whether earnings management is detrimental or beneficial ambiguous. Firms employing earnings management tactics often utilize voluntary disclosure strategies to enhance the credibility of unexpected earnings outcomes (Ronen *et al.*, 2003). Ronen *et al.* (2003) found that within firms engaged in earnings management, disclosure of good news provides higher ERCs than disclosure of bad news. Disclosure of social and environmental activities serves as a good news signal that can bolster investor belief. Despite this, there is limited research examining the effect of Environmental, Social, and Governance (ESG) disclosures on the relationship between earnings management and ERCs. This research addresses a gap by utilizing an Indonesian sample, particularly pertinent in light of the PT Timah scandal, where fraud was concealed using CSR accounts.

Theoretical and empirical studies suggest that earnings management influences perceived quality of earnings and value relevance of accounting information (Marquardt and Wiedman, 2004; Fan *et al.*, 2015). Earnings management can be opportunistic (agency theory) or informative (signaling). Opportunistic earnings management is considered to mislead investors (agency theory), leading to misreporting earnings (Nwaeze, 2011), greater uncertainty risk about future payoffs (Feltham and Pae, 2000), which will ultimately harm the firm and investors. While, informative earnings management is considered a signal to convey inside information regarding the long-term sustainability of earnings (Lento *et al.*, 2016), reducing the risk of litigation and loss of potential wealth (Ducharme *et al.*, 2001). However, Shoaib and Siddiqui (2022) suggest that in the context of firms in Bangladesh (an emerging economy), earnings management does not increase the informativeness of earnings in the market, but rather increases managers' personal benefits. Therefore, we propose that in the context of firms in Indonesia (developing countries), earnings management is more opportunistic, so that when firms are identified as having a high level of earnings management, the market will be less responsive to unexpected earnings released by the firm due to a lack of confidence in the quality of these earnings, ERCs become small. We hypothesize that high earnings management negatively affects Earnings Coefficient Response.

Firms employ CSR disclosure to conceal opportunistic behavior through earnings management as an entrenchment strategy (Dissanayake *et al.*, 2023). Signaling theory (Spence, 1973) states that managers attempt to reduce information asymmetry through signaling (information). Environmental, Social and Governance (ESG) disclosure is one of the signals to inform that the firm has met the demands of investors, creditors, communities, and other stakeholders to maintain environmental and social relations to gain legitimacy, trust and reputation. Higher ESG performance disclosure becomes a competitive resource for business continuity, thus increasing value in the eyes of investors (Loh *et al.*, 2017; Velte, 2019). Stock market reactions are more pronounced to earnings announcements by firms with higher ESG ratings (Wang *et al.*, 2024). But, recently, ESG disclosure is closely related to fraudulent activities, for example, many automotive firms in Japan in 2017 manipulated financial statements by utilizing ESG activities (Tarjo *et al.*, 2024). We argue that the existence of information asymmetry makes high ESG activities viewed favorably by investors, even though it contains misinformation, but the existence of ESG masks the opportunistic behavior of management. Gao and Zhang (2015) state that higher socially responsible activities provide a unique quality dimension to earnings attributes that are managed and valued by investors. We hypothesize that ESG positively moderates the relationship between earnings management and ERCs, where investors discount earnings management for firms that have high ESG

activities. So, the second objective of this study is to determine whether ESG performance affects investors' perception of corporate earnings management.

To investigate whether earnings management impacts the perceived quality of earnings by investors, we employ regression analysis to examine the relationship between earnings management and earnings coefficient response (ERCs). ERCs are derived from the coefficient of the regression equation linking unexpected earnings to the cumulative abnormal returns over a three-day period, spanning from one day prior to the earnings announcement to one day after. Abnormal return is the difference between the realized return and the expected return (Hartono, 2022). We use mean-adjusted model (Hartono, 2022) to compute the expected return, which involves averaging the prior realized returns over a 200-day estimation period preceding the event windows. Unexpected earnings is the difference between annual earnings at the end of period and previous year earnings deflated by total assets at the end of period (Wijayana and Gray, 2018). Following existing studies, we estimate earnings management using the modified Jones model and apply cross sectional industry regression (Dechow *et al.*, 1995; Wijayana and Gray, 2018; Cui *et al.*, 2021). This study also examines how ESG disclosure moderates the relationship between earnings management and earnings coefficient responses (ECRs). We use ESG scores from Refinitiv Eikon to measure ESG disclosure. The control variables used in this study are Book to Market, Size, Leverage, Operating Cash Flow per share. Additional tests, researchers categorize earnings management into income-increasing and income-decreasing, such as (Lu and Li, 2011).

We expect to find a negative relationship between earnings management and ERCs, implying that investors will perceive earnings management as an activity that worsens the quality of the firm's earnings, consequently, reduces the earning coefficient response. But the result shows that the interaction between unexpected earnings and earnings management positively affect investor reaction. It means that earnings management amplifies earnings coefficient response. Then, we find that ESG is the best reason for the question of why investor still give larger reaction to managed earnings. Interaction between earnings surprise, earnings management and ESG is positive and significant, suggesting that ESG obscures management's opportunistic behaviour, increases investor belief and encourages a greater reaction to unexpected earnings. Furthermore, we find empirical evidence that align with the findings of Lu and Li (2011), investors are likely to perceive income-decreasing earnings management more favourably than income-increasing earnings management. This is due to the fact that income-increasing earnings management is typically associated with greater levels of earnings uncertainty.

This study contributes to the existing literature on how investors perceive earnings management practices. This study establishes a strong correlation between Earnings Response Coefficients (ERC) and the level of uncertainty stemming from a firm's exposure to earnings management incentives. Previous research has documented the relationship between earnings management and ERC (Lu and Li, 2011; Nwaeze, 2011). However, this study extends the existing literature by specifically examining the moderating role of ESG on the relationship between earnings management and ERC. In addition, the setting in this study uses firms listed on the Indonesia Stock Exchange in 2019–2023.

The rest of this paper is organized as follows. Section 2 presents regulatory environment, theoretical background and hypotheses development. Section 3 demonstrates how the data, sample, and research methodology are used to investigate the hypotheses. Section 4 presents the results of the hypothesis testing and discussion. Section 5 presents the summary and conclusion.

2. Regulatory environment

Public companies listed on Indonesia Stock Exchange are required to submit financial statement and annual reports. The first disclosure of financial information to public is through the submission of financial statements, which include financial information such as profit.

Around this date, the mass media publish the company's profit information, which can potentially trigger investors' reactions. This study uses the annual earnings announcement date, obtained from the Market Screener and Indo Premier Sekuritas, which is not significantly different from the date of the annual financial statement submission on the Indonesia Stock Exchange website, to examine whether investors evaluate earnings management that influence their perception of the quality of reported earnings.

Earnings management is a practice used by some firms in Indonesia, just like in many other countries. It refers to actions taken by firms to manipulate their financial statements in order to present a more favorable financial picture. The Indonesian Stock Exchange (IDX) has regulations in place to deter earnings management. However, enforcement can be challenging. Several cases occurred recently in Indonesia. An investigation by the Indonesian Audit Board into PT Indofarma Tbk and its subsidiaries uncovered financial irregularities. These irregularities suggest that criminal acts may have been committed by parties affiliated with the company, potentially leading to losses for the state about IDR 371.8 billion (Arini, 2024). Furthermore, state-owned tin mining company PT Timah has been embroiled in a corruption scandal linked to its Corporate Social Responsibility (CSR) programs (Wandira, 2024). This scandal has tarnished PT Timah's reputation and raised concerns about the transparency and effectiveness of its CSR programs.

The scandals above show that earnings management is still widely practiced in companies in Indonesia and the company attempts to hide the fraud using CSR account. Therefore, how investors react to these practices is very important to investigate. The study tries to determine whether the presence of CSR/sustainability/ESG activities makes investors ignore the existence of earnings management so that they remain interested and react to unexpected earnings surprises. Indonesia is one of the developing countries committed to sustainable development goals. The Indonesian government issued Financial Services Authority Regulation No. 51/POJK.03/2017, which requires public companies in Indonesia to publish sustainability reports starting in 2019. This is because the private sector plays an important role in supporting the achievement of sustainable development goals. The issuance of sustainability reports is intended to monitor the company's achievements in balancing environmental, social and governance performance and sustainability performance.

3. Theoretical background and hypothesis development

3.1 Theoretical background

This study aims to investigate whether earnings management affects investors' perceptions of the quality of earnings reported by the company. We use agency theory to explain how earnings management is assessed by investors. This study also aims to determine whether the company's ESG activities change investors' perceptions of the quality of earnings managed using the signalling theory framework.

Habib (2023) posits that agency theory highlights the conflict between the interests of principals (stakeholders) and agents (managers). This conflict arises from information asymmetry, where shareholders lack complete information, leading managers to create opportunities for earnings management for their own benefit. However, Jiraporn *et al.* (2008) argue that earnings management can be viewed as either opportunistic or beneficial. Their research explains that the greater the clash of interests between managers and shareholders (high agency costs), the more likely accounting figures will be manipulated for the worse, indicating that earnings management is seen as an opportunistic goal. However, earnings management can also be used for positive or beneficial purposes, namely to communicate valuable and hidden information to shareholders. This transparency can actually improve the accuracy and usefulness of earnings reports.

Signalling theory suggests that signallers (managers) possess valuable private information (insider information) that is not yet available to receivers (investors or the public). The clearer and more reliable the signal, the more effectively it conveys the sender's hidden information

(Spence, 1973). According to signalling theory, both positive and negative information conveyed by the signaller can be beneficial to the receiver (Kirmani and Rao, 2000). These signals can be new or additional information to complement the existing information held by the receiver. Furthermore, Huang (2022) posits that ESG disclosure can be used as a signal to convey information due to the unknown quality of products. In other words, the existence of information asymmetry, where the quality of earnings reporting is still questioned by the public, the role of ESG disclosure can reduce this information asymmetry, as it is viewed as positive information for long-term investment outcomes.

3.2 Hypothesis development

3.2.1 Earnings management and earnings coefficient response. Earnings serve as a crucial signal, particularly for investors, in making investment decisions. Investors gravitate towards firms with higher profit margins, subsequently overvaluing the firm's equity, leading to an increase in stock prices and returns (Lu and Li, 2011). While profits reflect a firm's value, there exists the possibility of firms manipulating accounting information to generate investor-appealing profits. Based on agency theory, the presence of information asymmetry enables managers to provide misleading information to shareholders and other stakeholders (Sun et al., 2024), such as to achieve desired profit targets. Therefore, in addition to considering profits when determining investments, investors should also evaluate whether firms manipulate their reported earnings.

Watts and Zimmerman (Marquardt and Wiedman, 2004) posit that earnings management is employed to either convey private information or distort accounting reports. Feltham and Pae (2000) demonstrate that earnings management, rather than enhancing informativeness, introduces disturbances associated with greater uncertainty, thereby diminishing the quality and relevant value of earnings. Fan et al. (2015) further substantiate that earnings management reduces the relevant value of earnings. Earnings management exposure serves as a source of ex-ante earnings uncertainty perceived by investors (Nwaeze, 2011), thus raising doubts about the quality of a firm's earnings. When investors recognize the presence of earnings management, they tend to disengage from the firm and become less responsive to reported earnings, consequently leading to a decline in ERC. Drawing upon the literature and arguments presented above, this study predicts that high levels of earnings management diminish the magnitude of investor reaction to a firm's earnings announcements. The first hypothesis is stated as follows:

H1. Earnings management has a negative effect on ERC.

3.2.2 ESG, earnings management and earnings coefficient response. Earnings management is an attempt to modify company profits by managers due to agency problems to pursue their own targets or benefits (Sun et al., 2024). Earnings management reduces investor confidence in the quality of earnings announced by the company, thus having a negative impact on the earnings coefficient response. We expect that to reduce the negative exposure of earnings management to earnings coefficient response, companies seek to increase ESG activities and disclosures to remain positively valued by investors.

Some studies found that companies with high earnings management are less actively involved in ESG activities (Adeneye et al., 2024). But, Tohang et al. (2024) found that higher ESG performance is associated with higher earnings management and lower earnings quality. This suggests that, in some cases, firms may engage in symbolic ESG practices, potentially masking opportunistic behaviors like earnings manipulation.

Agency problems can motivate managers to associate ESG with opportunistic behaviour (Khan and Azim, 2015). ESG performance is important information for investors to assess investment opportunities and risks (Amel-Zadeh and Serafeim, 2018). High ESG performance signals that the company has lower investment risk and a good public reputation (Asante-Appiah and Lambert, 2023), regardless of whether or not the company engages in earnings

management. Ultimately, corporate managers leverage the reputation built from ESG to hide opportunistic behavior. Companies that engage in earnings management will provide other positive signals to investors in the form of superior ESG performance to strengthen investor confidence in making investment decisions related to managed earnings announced by the company.

Khan and Azim (2015) demonstrate that managers in developing countries engage in earnings management when they provide more social and environmental responsibility disclosures. This suggests that CSR (ESG) disclosures serve as a means to conceal opportunistic management behavior, rendering earnings management less scrutinized by investors once a firm is perceived to be behaving ethically. Investors temporarily reward high ESG performance (Fdez-Galiano and Feria-Dominguez, 2024), thereby mitigating the negative assessment impact of earnings management. Based on the literature and arguments presented above, the following hypothesis is proposed:

H2. High ESG performance reduces the negative impact of earnings management on ERC.

4. Research methodology

4.1 Sample and data

This study aims to investigate whether earnings management affects investors' perceptions of the quality of earnings reported by the company and how the role of ESG in influencing investors' valuation of managed earnings. The research population consists of public firms listed on the Indonesia Stock Exchange during 2019–2023 based on the Thomson Reuters database. The research sample is selected with the following criteria: (1) excluding firms in the financial sector; (2) having an ESG score based on the Thomson Reuters database during the observation period; (3) having the availability of annual earnings announcement date data; (4) having complete stock price data during the observation period; (5) having complete data for other control variable measurements. Additionally, researchers also remove observation units with standardized residual values greater than 2.5. The final sample is an unbalanced panel with the following details in Table 1. Firm earnings announcement date data was obtained from the Market Screener and Indo Premier Sekuritas websites. Firm stock price data was obtained from the [id.investing.com](https://www.id.investing.com) website. Firm-specific and financial data was obtained from the Thomson Reuters database.

4.2 Data analysis

To test the hypotheses, this study employs a Arellano-Bond dynamic panel-data estimation for regression analysis. Generalized Method of Moment (GMM) incorporates lagged dependent

Table 1. Research sample

No.	Criteria	Quantity	
1	Firms Listed on the Indonesia Stock Exchange	927	Firm
2	Financial Firms	(154)	Firm
3	Firms without ESG Scores from Thomson Reuters during 2019–2023	(734)	Firm
4	Firms with Incomplete Data	(2)	Firm
	Firm Sample	37	Firm
	Sample Observation Units	175	Firm-Year
	Observation Units with standardized residual >2.5	(9)	Firm-Year
	Final Samples	166	Firm-Year
Source(s): Authors' own work			

variables as instruments. This estimation model addresses the issue of autocorrelation among error terms in OLS models and is suitable for unbalanced panel data (Wijayana and Gray, 2018). This study uses two-step estimator of GMM with bias-corrected robust standard errors to get more accurate inference with finite sample (Windmeijer, 2005). This study also presents results based on OLS and Fixed Effects estimators to ensure that the results are not significantly different.

As in regression equation models 2 and 3, cumulative abnormal return (CAR) serves as the dependent variable in this study. CAR represents the cumulative abnormal return over the one day preceding the earnings announcement, the announcement day, and the one day following the earnings announcement, resulting in an accumulated return over the 3-day window period. Abnormal return is the difference between actual return and expected return. Expected return in this study is estimated using the mean-adjusted model with an estimation period of 200 days prior to the window period (Hartono, 2022). The researchers exclude returns for periods -10 to -6 and +6 to +10, and estimate expected return from t+11 to t+211. Expected return is estimated using the following equation:

$$R_{i,t} = \alpha_i + \beta_i R_{i,M} + \varepsilon_{i,t} \quad (1)$$

Where $R_{i,t}$ represents the daily return of firm i during period t ; $R_{i,M}$ represents the market return (IDX Composite return) during period t ; t represents the estimation period of observation (200 days pre-event window). This equation is regressed for each individual firm stock during the estimation period to obtain the values of α_i and β_i for calculating the expected return using the following formula:

$E(R_{i,t}) = \alpha_i + \beta_i \cdot R_{i,M} + \varepsilon_{i,t}$. Which $E(R_{i,t})$ represents the calculated value of α_i added β_i multiplied by the market stock return during the window period (3-day window period, -1 to +1).

$$\begin{aligned} CAR3_{i,t} = & \alpha + \beta_1 \cdot CAR3_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} + \beta_4 \cdot DummyEM_{i,t} \\ & + \beta_5 \cdot ABSEM_{i,t} * DummyEM_{i,t} + \beta_6 \cdot sqES_{i,t} * ABSEM_{i,t} + \beta_7 \cdot ROA_{i,t} \\ & + \beta_8 \cdot Growth2_{i,t} + \beta_9 \cdot WC_{i,t} + \beta_{10} \cdot sqrtCashRatio_{i,t} + year\ fixed\ effect + e \end{aligned} \quad (2)$$

$$\begin{aligned} CAR3_{i,t} = & \alpha + \beta_1 \cdot CAR3_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} + \beta_4 \cdot DummyEM_{i,t} \\ & + \beta_5 \cdot ABSEM_{i,t} * DummyEM_{i,t} + \beta_6 \cdot ESG_{i,t} + \beta_7 \cdot sqES_{i,t} * ABSEM_{i,t} * ESG_{i,t} \\ & + \beta_8 \cdot ROA_{i,t} + \beta_9 \cdot Growth2_{i,t} + \beta_{10} \cdot WC_{i,t} + \beta_{11} \cdot sqrtCashRatio_{i,t} \\ & + year\ fixed\ effect + e \end{aligned} \quad (3)$$

$CAR3_{i,t}$ refers to the cumulative of absolute value of abnormal return during the window period (t-1; t+0; t+1). $CAR3_{i,t-1}$ adalah lagged one year from dependent variable. $ES_{i,t}$ refers to earning surprise is measured by the change in a firm's earnings in period t deflated by total assets at the end of the year. $ABSEM_{i,t}$ refers to earnings management is measured by the absolute value of discretionary accruals for firm i in period t . $DummyEM_{i,t}$ is a dummy variable, taking a value of 1 if discretionary accruals are positive (income-increasing) and 0 if they are negative (income-decreasing).

$sqES_{i,t} * ABSEM_{i,t}$ is an interaction variable between earnings surprise and earnings management. This study use $sqES$ to interact with the earnings management variable to avoid a very small size, where $sqES$ is measured by the formula (ES_{it}^2) . The squared value shows the size of the earnings surprise, regardless of whether the earnings surprise is positive or negative.

$ROA_{i,t}$ is a measure of firm profitability, calculated by dividing the earnings before interest and tax (EBIT) of firm i in period t by the total assets of firm i in period t . $Growth_{i,t}$ is the market-to-book ratio of firm i in period t , calculated by dividing the market capitalization of firm i by the book value of equity of firm i . $Growth2_{i,t}$ is the inverse of the growth variable multiplied by -1 , calculated by the formula $\left(\frac{1}{Growth_{i,t}} \times -1\right)$. $WC_{i,t}$ is the working capital of firm i in period t , measured by the difference between current assets and current liabilities deflated by total assets at the end of the period. $CashRatio_{i,t}$ is a measure of firm liquidity, calculated by dividing total cash and cash equivalents by current liabilities and then we do square root of cash ratio value. Year fixed effects are dummy variables for each year.

4.3 Variable measurement

Table 2 summarizes all variables and their measurements used in this study.

5. Result

5.1 Descriptive statistics

Table 3 presents descriptive statistics for the variables in the study. Based on cumulative abnormal return we know that average Indonesian firm has a negative cumulative abnormal return around the earnings announcement, indicating that the realized return is greater than the return expected by the market. This could be due to several factors, such as earnings surprises and earnings management. The absolute value of the earnings surprise shows that the average tends to be small, at 4% with a minimum value of 0% and a maximum of 50%, so the investor reaction also tends to be small. The larger earnings surprise, the greater investor reaction to the firm's announced earnings.

Then, the earnings management variable shows an average that is greater than the median, indicating that the average firm in Indonesia has a high level of accrual earnings management, thus suppressing investor reaction to the firm's earnings. There is considerable variation in the ESG and Growth variables. The variables ROA, working capital, and quick ratio do not vary greatly among firms in Indonesia. Cumulative of absolute value of daily abnormal return describes the magnitude of market reaction during earnings announcement period, the greater value shows the greater market reaction to earnings announcement.

Table 4 shows the correlation analysis between the study variables. Table 4 shows that the correlation between variables, especially between independent variables, was no more than 0.80 (Wijayana and Gray, 2018). This indicates that there is no multicollinearity problem.

5.2 Hypothesis testing result

5.2.1 Earnings management and earnings coefficient response. The first objective of this study is to examine investor perceptions of earnings management, whether investors view earnings management as an opportunistic practice that reduces their reaction to a company's announced earnings, or whether investors view earnings management as informative, thereby strengthening the positive reaction to announced earnings. Table 5 presents the result of regression analysis for the first hypotheses. Table 5 shows that earnings surprises have a positive and significant impact on market reaction around earnings announcements (row ES). This result suggests that highly unpredictable earnings surprises increase market reaction around the announcement date.

Investor response to earnings can also be influenced by investor perceptions of the quality of earnings reported by the company. High-quality earnings indicate that the company is not engaged in opportunistic earnings management. Company managers have private information that can affect reported accruals (Feltham and Pae, 2000), which can be used for their personal gain. If earnings management is perceived to add to the noise in earnings quality, the market response to announced earnings (earnings coefficient response) that indicates earnings

Table 2. Variable measurement

Variable	Measurement
Cumulative Abnormal Return selama 3 hari periode jendela ($CAR3_{i,t}$)	Cumulative abnormal return from one days before to one days after the firm's earnings announcement. Cumulative abnormal return = an addition function from absolute value of daily abnormal return. Abnormal return is the difference between actual return and expected return during the window period. Return = difference between stock price on day t and stock price on day t–1 divided by stock price on day t–1. Expected return is estimated using the mean-adjusted model, with an estimation period of 200 days before the window period, excluding –10 to –6 and +6 to +10. We use cumulative of absolute value of daily abnormal return as a proxy for dependent variable
Earnings Surprise ($ES_{i,t}$)	The change in a firm i net income for a t period is deflated by total assets at the end of the period (Wijayana and Gray, 2018)
Earnings Management ($ABSEM_{i,t}$)	Earnings management is measured using the absolute value of discretionary accruals. Discretionary accruals are estimated using the modified Jones model with the following equation $1. \frac{Total\ Accruals_{i,t}}{Assets\ Total_{i,t-1}} = \alpha_0 + \beta_1 \frac{1}{Assets\ Total_{i,t-1}} + \beta_2 \frac{\Delta Revenue_{i,t} - \Delta Receivable_{i,t}}{Assets\ Total_{i,t-1}} + \beta_3 \frac{Gross\ PPE}{Assets\ Total_{i,t-1}} + \varepsilon_{i,t}$ $2. Total\ Accruals = \Delta Current\ Assets - \Delta Cash - \Delta Current\ Liabilities + \Delta Short\ Term\ Debt - Depreciation$
$DummyEM_{i,t}$	We conduct regression analysis to get discretionary accrual for each year and industry sector
$ABSEM_{i,t} * DummyEM_{i,t}$	Dummy variable EM takes a value of 1 if the discretionary accrual value is positive, and 0 if it is negative The interaction term between the absolute value of discretionary accruals ($ EM $) and the EM dummy variable captures income-increasing earnings management
$sqES_{i,t} * ABSEM_{i,t}$	The interaction between earnings surprise and earnings management. This study use the inverse of the original earnings surprise to interact with earnings management to obtain a measure with smaller numbers. This sqES is measured by squared of earnings surprise
$ESG_{i,t}$	Firm ESG performance i in period t from the Thomson Reuters database
$sqES_{i,t} * ABSEM_{i,t} * ESG_{i,t}$	The interaction term between squared of earnings surprise, earnings management, and ESG
$ROA_{i,t}$	A firm's profitability is measured by the ratio of its firm i EBIT in period t to its total assets in period t
$Growth2_{i,t}$	$Growth_{i,t}$ is Market-to-Book ratio in period t, measured by market capitalization divided by book value of equity. The inverse of growth variable ($Growth2_{i,t}$) is measured by one divided by growth then multiplied by –1
$WC_{i,t}$	Working capital firm i in period t, measured by the difference between current assets and current liabilities deflated by total assets
$CashRatio_{i,t}$	Firm i quick ratio in period t, measured by cash and cash equivalents per total current liabilities
$\sqrt{CashRatio_{i,t}}$	Squared Root of Cash Ratio
Sector fixed effect	A dummy variable for each sector
Year fixed effect	A dummy variable for each year
Source(s): Authors' own work	

Table 3. Statistic descriptive

Variable	Obs	Mean	Std. dev.	CV	Min	Max
CAR3	166	0.065	0.045	0.698	0.009	0.258
CAR11	166	0.205	0.111	0.540	0.045	0.806
ES	166	0	0.088	443.829	-0.501	0.422
ABSEM	166	0.506	1.154	2.038	0	11.227
Dummy EM	166	0.464	0.5	1.082	0	1
ESG	166	0.505	0.19	0.375	0.136	0.877
Size	166	31.539	0.902	0.028	29.206	33.731
ROA	166	0.117	0.106	0.905	-0.133	0.633
WC	166	0.143	0.206	1.444	-0.498	0.569
Growth2	166	-0.938	0.953	1.016	-6.221	-0.007
sqrtCR	166	0.721	0.368	0.509	0.162	1.903

Note(s): CAR3 = three days cumulative abnormal return (t-1; t+0; t+1). CAR11 = eleven days cumulative abnormal return (t-5; t+0; t+5). CV = coefficient of variation (Std. Deviation divided by Mean). ABSEM = absolute value of earnings management

Source(s): Authors' own work

management is smaller. Conversely, if earnings management is aimed at providing private information about future prospects, then the managed reported earnings are more relevant, thereby strengthening the market response to earnings.

This study finds that the interaction between earnings surprise and earnings management is positive and significant (sqES*EM) on cumulative of abnormal return. This finding suggests that earnings management strengthens the earnings coefficient response. This contrasts with [Nwaeze \(2011\)](#), [Lu and Li \(2011\)](#), and [Haw et al. \(2005\)](#), who found that earnings management weakens the market response to earnings. Investors view earnings management as a misleading practice that introduces greater uncertainty noise. However, in the context of Indonesia, earnings management is apparently perceived as informative. [Kwag and Stephens \(2009\)](#) state that when earnings management does not exceed a threshold that investors perceive as reasonable, earnings management is considered to provide relevant information about the company's prospects, so the market still gives a stronger reaction. This finding does not support [hypothesis 1](#), which states that earnings management weakens the earnings coefficient response. This research supports [Kwag and Stephens \(2009\)](#) that earnings management in the context of developing countries is seen as the informativeness of earnings value.

5.2.2 ESG, earnings management, and earnings coefficient response. The second objective of this study is to examine whether high ESG activities are used by investors to conceal opportunistic earnings management behavior. The first finding in this study is that the interaction between earnings management and unexpected earnings has a positive effect on cumulative abnormal return. This suggests that high unexpected earnings, supported by high earnings management, temporarily increase market confidence, resulting in significant stock price changes (abnormal return). The existence of high ESG is thought to be a factor that makes a strong market reaction to unexpected earnings that are indicated to be managed. ESG becomes information that is assessed by investors in making investment decisions. [Table 6](#) shows the test results for this hypothesis.

The research findings in [Table 6](#) reveal that the interaction between earnings surprise, earnings management, and ESG is positive and significant, as predicted. This means that when a company reports managed earnings surprises with higher discretionary accruals, and simultaneously has higher ESG performance, it strengthens the market reaction to announced earnings. This suggests that investors are now more inclined to focus on ESG performance, even in the presence of high earnings management. This is why investors continue to respond

Table 4. Correlation analysis

Variables	(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) C_ABS_AR11	1.000											
(1) C_ABS_AR3		1.000										
(2) ES	0.142	0.155	1.000									
(3) ABSEM	−0.058	−0.071	0.053	1.000								
(4) Dummy_EM	0.019	0.075	0.049	0.064	1.000							
(5) ESG_Des	−0.111	−0.030	−0.003	0.182	−0.071	1.000						
(6) ESG	−0.111	−0.030	−0.003	0.182	−0.071	1.000	1.000					
(7) Size	−0.207	−0.083	0.104	0.249	0.095	−0.010	−0.010	1.000				
(8) ROA	−0.049	0.002	0.254	−0.004	−0.122	0.274	0.274	−0.218	1.000			
(9) WC	0.005	−0.005	0.043	−0.076	−0.075	−0.124	−0.124	−0.083	0.080	1.000		
(10) Growth2	0.032	0.059	0.008	0.069	0.007	0.199	0.199	−0.115	0.263	−0.147	1.000	
(11) sqrtCR	−0.027	−0.013	0.055	0.073	−0.084	0.198	0.198	0.030	0.122	0.593	0.021	1.000
Source(s): Authors' own work												

Table 5. The effect of earnings management on earnings coefficient response

Variable	FEM Coeff.	t-value	GMM Coeff.	t-value	OLS Coeff.	t-value
CAR _{3lag 1}	-0.124	-1.63	-0.012	-0.11	0.002	0.03
ES	0.169***	3.35	0.199***	2.96	0.110**	2.36
ABSEM	-0.004	-0.61	-0.009	-1.36	0.001	0.24
Dummy_EM	0.013	1.35	0.018*	1.82	0.009	1.36
SqES*EM	0.713***	5.54	0.778***	3.59	0.378**	2.55
Size	-0.052	-1.20	-0.087*	-1.85	-0.007*	-1.91
ROA	-0.169*	-1.82	-0.341**	-2.44	0.002	0.03
WC	-0.158***	-3.40	-0.174**	-1.98	-0.034	-1.38
Growth2	0.049***	3.09	0.041**	2.44	-0.001	-0.20
sqrtCR	0.046*	1.88	0.058*	1.90	0.009	0.77
Y2020	-0.004	-0.43	0.000	-0.01	-0.019*	-1.74
Y2021	0.011	0.81	0.019	1.45	-0.020	-1.59
Y2022	0.006	0.37	0.010	0.71	-0.025**	-2.40
Constant	1.756	1.28	2.857*	1.91	0.290**	2.53
Sargan test (p-value)			6.342 (0.274)			
AR(1) test (p-value)			-2.280 (0.022)			
AR(2) test (p-value)			-1.008 (0.313)			
F-statistic (p-value)	37.18 (0.000)				8.00 (0.000)	
R-squared	0.387				0.201	

Note(s): *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. This table presents the results of testing the effect of management on the market reaction around earnings announcements (Earnings Coefficient Response). This effect can be seen from the interaction between unexpected earnings and earnings management (SqES*EM) on CAR. *T*-statistics are based on robust standard errors

Source(s): Authors' own work

more strongly to a company's earnings even when there are indications of high earnings management. This finding supports [hypothesis 2](#) that high ESG performance reduces the negative impact of earnings management on ERC. It suggest that in the context of developing countries in Indonesia, unexpected earnings that contain high earnings management still receive a strong response from investors because the company has a high ESG performance score.

This study supports [Tohang et al. \(2024\)](#) and [García-Sánchez et al. \(2020\)](#) that high ESG performance improves earnings management. In this context, ESG is not only used to polish the company's environmental or social image, but also to disguise financial statement manipulation practices ([Khan and Azim, 2015](#); [Sun et al., 2024](#); [Tohang et al., 2024](#)). [García-Sánchez et al. \(2020\)](#) state that managers with opportunistic tendencies utilize ESG to hide unethical behaviour such as earnings management. Companies with prominent ESG activities tend to be viewed as having ethical business practices, thereby reducing critical scrutiny from investors to detect earnings management fraud. This finding contradicts [Adeneye et al. \(2024\)](#) which states that companies with high ESG performance are less involved in earnings management.

In recent years, environmental and social activities have become increasingly important to investors around the world ([de la Fuente and Velasco, 2024](#)) and they have begun to consider ESG risks in their investment decision-making ([Cohen, 2023](#)). ESG performance can be a signal given by companies to demonstrate better responsibility towards the balance between economic, environmental, and social aspects. Investors who are highly concerned about ESG activities and sustainability issues tend to be attracted to companies that are aware of ESG issues and are willing to invest resources to reduce sustainability risks and avoid companies that ignore ESG ([Cohen, 2023](#)). High ESG performance can mask higher discretionary accruals in a company's reported earnings, so investors continue to give a stronger reaction to companies with high ESG performance.

Table 6. The effect of ESG on the relationship between earnings management and earnings coefficient response

Variable	FEM Coeff.	t-value	GMM Coeff.	t-value	OLS Coeff.	t-value
CAR7 _{lag 1}	−0.133*	−1.77	0.025	0.21	−0.008	−0.10
ES	0.194***	3.70	0.235***	4.56	0.129***	2.67
ABSEM	−0.004	−0.58	−0.009	−1.57	0	−0.12
Dummy_EM	0.012	1.28	0.016*	1.72	0.01	1.42
ESG	−0.016	−0.30	0.105	1.22	0.048**	2.00
sqES*EM*ESG	0.013***	4.50	0.016***	4.18	0.007**	2.20
Size	−0.053	−1.22	−0.079*	−1.94	−0.007**	−2.06
ROA	−0.192*	−1.99	−0.385***	−3.22	−0.033	−0.62
WC	−0.153***	−3.24	−0.186**	−2.42	−0.023	−1.11
Growth2	0.049***	3.06	0.038**	1.99	−0.002	−0.43
sqrtCR	0.046*	1.87	0.05	1.60	0.003	0.26
Y2020	−0.005	−0.44	−0.004	−0.45	−0.021*	−1.95
Y2021	0.011	0.79	0.01	0.78	−0.024**	−2.06
Y2022	0.007	0.40	−0.002	−0.09	−0.031***	−2.97
Constant	1.802	1.30	2.563*	1.96	0.285**	2.53
Sargan test (p-value)			4.625 (0.463)			
AR(1) test (p-value)			−1.764 (0.077)			
AR(2) test (p-value)			−1.449 (0.147)			
F-statistic (p-value)	12.64 (0.000)				2.19 (0.011)	
R-squared	0.3854				0.236	

Note(s): *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. This table presents the results of testing the moderating role of ESG on the effect of management on the market reaction around earnings announcements (Earnings Coefficient Response). This effect can be seen from the interaction between unexpected earnings, earnings management and ESG (sqES*EM*ESG) on CAR. *T*-statistics are based on robust standard errors

Source(s): Authors' own work

5.3 Robustness test

Researchers conducted a robustness test using the eleven days cumulative of abnormal returns (t−5, t0, t+5) with the dynamic panel data model – Arellano Bond Dynamic Panel Data Estimation. The robustness test results in Table 7 are close to the main results, interaction between unexpected earnings and earnings management is positive significant, which means earnings management strengthens the earnings coefficient response. Therefore, interaction between unexpected earnings, earnings management and ESG is positive significant, which means that ESG significantly affect investors' assessment of managed earnings.

5.4 Additional analysis

This study conducts additional analysis to see whether there are differences in findings between companies that conduct income-increasing earnings management and income-decreasing earnings management. To test this, the researcher uses the following regression analysis model.

$$\begin{aligned} CAR3_{i,t} = & \alpha + \beta_1 \cdot CAR3_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} \\ & + \beta_4 \cdot sqES_{i,t} * ABSEM_{i,t} * IncreasingEM_{i,t} + \beta_5 \cdot ROA_{i,t} + \beta_6 \cdot Growth2_{i,t} \\ & + \beta_7 \cdot WC_{i,t} + \beta_8 \cdot sqrtCashRatio_{i,t} + year\ fixed\ effect + e \end{aligned} \tag{4}$$

Table 7. Robustness test result

Variable	Model 1 Coeff.	t-value	Model 2 Coeff.	t-value
CAR11 _{lag 1}	0.034	0.62	0.03	0.51
ES	0.352***	3.20	0.382***	3.72
ABSEM	−0.009	−0.64	−0.01	−0.76
Dummy_EM	0.013	0.77	0.01	0.62
sqES*EM	1.498***	3.14		
ESG		−0.13	0.008	0.05
sqES*EM*ESG		−2.02	0.034***	3.33
Size	−0.009	−1.00	−0.008	−0.11
ROA	−0.509**	−0.28	−0.52**	−2.13
WC	−0.112	0.64	−0.106	−0.99
Growth2	−0.009	−0.10	−0.012	−0.41
sqrtCR	0.038	−0.65	0.032	0.50
Y2020	−0.002	−1.51	−0.005	−0.26
Y2021	−0.013	0.22	−0.016	−0.65
Y2022	−0.042	0.62	−0.046	−1.34
Constant	0.514	3.20	0.482	0.19
Sargan test (p-value)	6.343 (0.274)		6.233 (0.284)	
AR(1) test (p-value)	−2.281 (0.023)		−2.168 (0.030)	
AR(2) test (p-value)	−1.009 (0.313)		−1.111 (0.266)	

Note(s): *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$. CAR11 is cumulative abnormal return within five day before announcement date until five day after announcement date (t−5, t+0, t−5)

Source(s): Authors' own work

$$\begin{aligned}
 CAR3_{i,t} = & \alpha + \beta_1 \cdot CAR3_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} \\
 & + \beta_4 \cdot sqES_{i,t} * ABSEM_{i,t} * DecreasingEM_{i,t} + \beta_5 \cdot ROA_{i,t} + \beta_6 \cdot Growth2_{i,t} \\
 & + \beta_7 \cdot WC_{i,t} + \beta_8 \cdot sqrtCashRatio_{i,t} + year\ fixed\ effect + e
 \end{aligned} \quad (5)$$

$$\begin{aligned}
 CAR11_{i,t} = & \alpha + \beta_1 \cdot CAR11_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} + \beta_4 \cdot ESG_{i,t} \\
 & + \beta_5 \cdot sqES_{i,t} * ABSEM_{i,t} * ESG_{i,t} * IncreasingEM_{i,t} + \beta_6 \cdot ROA_{i,t} \\
 & + \beta_7 \cdot Growth2_{i,t} + \beta_8 \cdot WC_{i,t} + \beta_9 \cdot sqrtCashRatio_{i,t} + year\ fixed\ effect + e
 \end{aligned} \quad (6)$$

$$\begin{aligned}
 CAR11_{i,t} = & \alpha + \beta_1 \cdot CAR11_{i,t-1} + \beta_2 \cdot ES_{i,t} + \beta_3 \cdot ABSEM_{i,t} + \beta_4 \cdot ESG_{i,t} \\
 & + \beta_5 \cdot sqES_{i,t} * ABSEM_{i,t} * ESG_{i,t} * DecreasingEM_{i,t} + \beta_6 \cdot ROA_{i,t} \\
 & + \beta_7 \cdot Growth2_{i,t} + \beta_8 \cdot WC_{i,t} + \beta_9 \cdot sqrtCashRatio_{i,t} + year\ fixed\ effect + e
 \end{aligned} \quad (7)$$

Table 8 presents the additional test analysis result. Panel A and Panel B present the results of model 4 and model 5 with the dependent variable being the three-day cumulative abnormal return (CAR3). Panel C and Panel D present the results of model 6 and model 7 with the dependent variable being the eleven-day cumulative abnormal return (CAR11). Overall, we find similar results with the main result that earnings management increases the earnings coefficient response and ESG significantly omits the potential negative effect of high earnings management. However, the impact is more significant for firms that engage in income-decreasing earnings management. This suggests that investors view earnings management with decreasing profits as having more informative value than earnings management with

Table 8. Additional analysis result

Panel A Model 1 (dependent: CAR3)						
Variable	Income increasing Coefficient	z-value	P > z	Income decreasing Coefficient	z-value	P > z
CAR3 _{lag 1}	0.0382637	0.38	0.702	0.0533614	0.54	0.587
ES	0.2425511***	4.42	0.000	0.2095136***	4.07	0.000
ABSEM	0.0027346	0.35	0.725	0.0005609	0.07	0.942
sqES*EM*IncreasingEM	1.331705	0.80	0.424			
sqES*EM*DecreasingEM				0.9154947***	2.47	0.014
ROA	−0.3807645***	−3.35	0.001	−0.3468836***	−3.20	0.001
WC	−0.2595133***	−3.54	0.000	−0.2410026***	−3.42	0.001
Growth2	0.0320514***	2.75	0.006	0.0304254***	2.70	0.007
sqrtCR	0.0845969**	2.49	0.013	0.0639201*	1.93	0.054
Y2020	0.0064162	0.57	0.571	0.0084994	0.77	0.439
Y2021	−0.0084738	−0.83	0.408	−0.0048723	−0.49	0.622
Y2022	0.0068954	0.77	0.441	0.0109491	1.24	0.215
Sargan test	$\chi^2 = 6.139928$, <i>p</i> -value: 0.6316			$\chi^2 = 5.163263$, <i>p</i> -value: 0.7400		
AR(1) test (<i>p</i> -value)	z-value: −2.0275, <i>p</i> -value: 0.0426			z-value: −2.0217, <i>p</i> -value: 0.0432		
AR(2) test (<i>p</i> -value)	z-value: −1.2893, <i>p</i> -value: 0.1973			z-value: −1.5248, <i>p</i> -value: 0.1278		
Panel B Model 1 (dependent: CAR3)						
Variable	Income increasing Coefficient	z-value	P > z	Income decreasing Coefficient	z-value	P > z
CAR3 _{lag 1}	0.0502997	0.49	0.623	0.065164	0.65	0.514
ES	0.2455464***	4.43	0.000	0.2494559***	4.67	0.000
ABSEM	0.0020182	0.26	0.798	−0.0005629	−0.07	0.942
ESG	0.0005448	0.71	0.475	0.0007107	0.95	0.340
sqES*EM*ESG*IncreasingEM	0.0205326	0.80	0.424			
sqES*EM*ESG*DecreasingEM				0.0186641***	2.57	0.010
ROA	−0.3928893***	−3.40	0.001	−0.393655***	−3.52	0.000
WC	−0.247503***	−3.27	0.001	−0.2264892***	−3.12	0.002
Growth2	0.0282583**	2.23	0.026	0.0259314**	2.11	0.034
sqrtCR	0.0795922**	2.26	0.024	0.0555006	1.61	0.107
Y2020	0.012743	0.89	0.376	0.0172954	1.24	0.216
Y2021	−0.0041454	−0.35	0.730	0.0004401	0.04	0.970
Y2022	0.0087707	0.93	0.352	0.0138156	1.48	0.138
Sargan test	$\chi^2 = 6.131368$, <i>p</i> -value: 0.6325			$\chi^2 = 5.147233$, <i>p</i> -value: 0.7417		
AR(1) test (<i>p</i> -value)	z-value: −2.0385, <i>p</i> -value: 0.0415			z-value: −1.9224, <i>p</i> -value: 0.0546		
AR(2) test (<i>p</i> -value)	z-value: −1.4022, <i>p</i> -value: 0.1609			z-value: −1.6522, <i>p</i> -value: 0.0985		
Panel C Model 1 (dependent: CAR5)						
Variable	Income increasing Coefficient	z-value	P > z	Income decreasing Coefficient	z-value	P > z
CAR3 _{lag 1}	0.0521108	0.61	0.539	0.0471877	0.56	0.578
ES	0.4383815***	3.78	0.000	0.3933359***	3.55	0.000
ABSEM	0.0018116	0.12	0.905	0.0000165	0.00	0.999
sqES*EM*IncreasingEM	5.983552*	1.77	0.077			
sqES*EM*DecreasingEM				1.496415*	1.91	0.056
ROA	−0.5824574**	−2.47	0.013	−0.4718745**	−2.06	0.039
WC	−0.3449653**	−2.25	0.024	−0.2767308*	−1.84	0.066
(continued)						

Table 8. Continued

Panel C

Model 1 (dependent: CAR5)

Variable	Income increasing			Income decreasing		
	Coefficient	z-value	P > z	Coefficient	z-value	P > z
Growth2	0.0274403	1.17	0.242	0.0210638	0.90	0.366
sqrtCR	0.1310027**	2.05	0.040	0.0804259	1.25	0.210
Y2020	0.0180431	0.71	0.475	0.0253758	1.01	0.310
Y2021	0.0012636	0.06	0.950	0.01101	0.55	0.581
Y2022	0.0026774	0.15	0.883	0.0087607	0.48	0.632
Sargan test	$\chi^2 = 6.333632$, p-value: 0.6099			$\chi^2 = 5.97269$, p value: 0.6503		
AR(1) test (p-value)	z-value: -2.0426, p-value: 0.0411			z-value: -2.3456, p-value: 0.0190		
AR(2) test (p-value)	z-value: -0.86016, p-value: 0.3897			z-value: -1.0957, p-value: 0.2732		

Panel D

Model 1 (dependent: CAR5)

Variable	Income increasing			Income decreasing		
	Coefficient	z-value	P > z	Coefficient	z-value	P > z
CAR3 _{lag 1}	0.0610095	0.70	0.484	0.0539636	0.62	0.533
ES	0.4484229***	3.79	0.000	0.4580644***	4.05	0.000
ABSEM	0.0007486	0.05	0.962	-0.0018282	-0.12	0.907
ESG	0.0009081	0.60	0.546	0.0009896	0.66	0.507
sqES*EM*ESG*IncreasingEM	0.091744	1.75	0.079			
sqES*EM*ESG*DecreasingEM				0.032647**	2.12	0.034
ROA	-0.6126803**	-2.52	0.012	-0.5457899**	-2.32	0.020
WC	-0.3298953**	-2.10	0.035	-0.2600035*	-1.70	0.090
Growth2	0.0215169	0.84	0.400	0.0149402	0.59	0.555
sqrtCR	0.1126367	1.59	0.112	0.0564407	0.79	0.428
Y2020	0.0284295	0.93	0.350	0.0384669	1.28	0.202
Y2021	0.0089866	0.37	0.709	0.0195129	0.82	0.411
Y2022	0.0062878	0.33	0.744	0.0140684	0.72	0.469
Sargan test	$\chi^2 = 5.878093$, p-value: 0.6609			$\chi^2 = 5.36595$, p-value: 0.7178		
AR(1) test (p-value)	z-value: -2.0689, p-value: 0.0386			z-value: -2.3237, p-value: 0.0201		
AR(2) test (p-value)	z-value: -0.8973, p-value: 0.3695			z-value: -1.1583, p-value: 0.2467		

Note(s): IncreasingEM is dummy variable, given label 1 for positif value of earnings management which means income-increasing earnings management, 0 other wise. DecreasingEM is dummy variable, given label 1 for negatif value of earnings management which mean income-decreasing earnings management, 0 otherwise

Source(s): Authors' own work

increasing profits. As [Lu and Li \(2011\)](#) proved that income-increasing earnings management tends to be viewed as negative information.

6. Conclusion, implication and limitation

This study examines how investors on the Indonesia Stock Exchange (IDX) react to earnings management practices employed by firms between 2019 and 2023. The study utilizes 166 observation data points from non-financial public firms listed on the IDX. We employs two-step estimator of GMM with bias-corrected robust standard errors to get more accurate inference with finite sample ([Windmeijer, 2005](#)). The primary finding of this research is that accrual-based earnings management increases the market reaction to corporate earnings information (Earnings Response Coefficient). The results show that in the Indonesian context, earnings management is seen as an informative matter, which is considered to have relevant information regarding the company's prospects, so that investors provide a stronger response.

Furthermore, even if earnings are managed upwards, investors might still perceive it as a signal of strong underlying business fundamentals or management confidence in future performance. This could be because the earnings management practices involve strategic investments or restructuring that could benefit the company in the long run.

ESG was found to be the underlying factor why investors still give a strong reaction to unexpected earnings with high earnings management. This study finds evidence that ESG performance can positively moderate the relationship between earnings management and ERC. On one side, high ESG performance can be seen as a way for companies to mitigate certain environmental and social risks. These risks can create uncertainty for investors, so strong ESG practices can be seen as a way to reduce that uncertainty and make the company a more attractive investment. However, high ESG performance can create a positive halo effect that strengthens investor reactions even with potential earnings management concerns, it's crucial for investors to conduct thorough due diligence and rely on a combination of financial and ESG data to make informed investment decisions.

Practically, this finding provides an understanding for managers that earnings management that gives informative value is needed to support investors' assessment of the company's announced earnings. In addition, managers can also increase ESG activities and transparency, to strengthen investors' view that the company has good future prospects. For investors, this study provides an understanding that companies may utilize high ESG to hide their opportunistic actions so that they are not valued by investors. Therefore, investors should consider various aspects when making investment decisions. Regulators play an important role in preventing such opportunistic actions by increasing the monitoring of ESG activities and promote transparency in ESG reporting. Initiatives can be undertaken to standardize ESG reporting frameworks and ensure that investors have access to reliable and comparable data. This could involve collaboration between regulators, standard-setting bodies, and companies to reduce greenwashing practice related to ESG performance by creating greater scrutiny of ESG activities and reporting.

Lastly, the researchers acknowledge several limitations of this study. First, the study employs a sample with a relatively small size and is confined to the Indonesian context. Future research could expand the sample to other developing countries by conducting international studies. Second, the existence of omitted variables remains unaccounted for in this study, allowing future research to incorporate additional control variables. Additionally, future research could also investigate recent factors that impact the earnings response coefficient.

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