



## ESG Performance and Earnings Management: Does Board Diversity Matter?

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**Abstract.** Environmental, Social, and Governance (ESG) performance has become an important indicator of corporate sustainability and accountability, yet its relationship with earnings management remains inconclusive. While firms with strong ESG performance are generally expected to exhibit higher financial reporting quality, previous studies have produced mixed findings regarding whether ESG initiatives effectively reduce managerial opportunism. This study aims to examine the effect of ESG performance on earnings management and to investigate whether board diversity strengthens this relationship. The study employs a quantitative research design using panel data from publicly listed non-financial companies observed during the 2021–2025 period. Secondary data are obtained from annual reports, sustainability reports, and the Refinitiv ESG database. The hypotheses are tested using panel data regression, with robustness analysis conducted through alternative estimation techniques. The findings indicate that ESG performance is negatively associated with earnings management, suggesting that firms with stronger sustainability practices are less likely to engage in opportunistic financial reporting. Furthermore, board diversity strengthens the negative relationship between ESG performance and earnings management by improving monitoring effectiveness and corporate governance quality. These findings contribute to the literature by integrating ESG performance, earnings management, and board diversity into a unified analytical framework. The study also provides practical implications for regulators, investors, and corporate managers in promoting transparent financial reporting, effective corporate governance, and sustainable business practices.

**Keywords:** Board Diversity; Corporate Governance; Earnings Management; ESG Performance; Panel Data.

### 1. INTRODUCTION

The increasing emphasis on Environmental, Social, and Governance (ESG) practices has transformed the way firms demonstrate accountability, transparency, and long-term sustainability ((Shakil, 2021); (Yadav & Prashar, 2022); (Romano, Cirillo, Favino, & Netti, 2020)). Investors, regulators, and other stakeholders increasingly consider ESG performance as an indicator of corporate quality beyond traditional financial measures. At the same time, the credibility of financial reporting remains a major concern due to earnings management practices, which may reduce the reliability of accounting information and undermine stakeholder confidence ((Muhammad, Migliori, & Di Berardino, 2024); (Adeneye, Fasihi, Kammoun, & Albitar, 2023)). Previous studies suggest that ESG initiatives are associated with higher reporting quality and ethical corporate behavior; however, empirical evidence regarding the relationship between ESG performance and earnings management remains inconclusive. While some studies report that firms with superior ESG performance are less likely to engage in earnings management, others argue that ESG activities may be strategically employed to conceal opportunistic financial reporting ((Adeneye et al., 2023); (Primacintya & Kusuma, 2025)).

Corporate governance has been widely recognized as an important mechanism for enhancing both ESG performance and financial reporting quality ((Jing, Hussin, & Othman, 2025); (Hadisurya, Joni, En, & Setiana, 2025)). Among governance characteristics, board diversity has attracted considerable attention because diverse boards provide broader perspectives, strengthen monitoring effectiveness, and improve strategic decision-making. Prior research demonstrates that gender and cultural diversity on corporate boards contribute positively to ESG performance and corporate sustainability ((Menicucci & Paolucci, 2022); (Ismail, Kamarudin, Hassan, & Ahmad, 2025); (Jeyhunov, Kim, & Bae, 2025)). Similarly, board diversity has been associated with lower earnings management through enhanced oversight and greater board independence (Muhammad et al., 2024). Other studies further indicate that board diversity moderates the relationship between ESG initiatives and organizational outcomes, including firm performance and financial risk (Al-ahdal et al., 2024; (Alodat & Hao, 2024); (Wu, Gao, Luo, Xu, & Shi, 2023)). Despite these advances, the interaction between ESG performance, earnings management, and board diversity has not yet been comprehensively examined, particularly within a single integrated framework.

The existing literature presents several important research gaps. First, previous studies predominantly investigate the direct relationship between ESG performance and earnings management or focus separately on the influence of board diversity on ESG outcomes. Second, empirical findings remain inconsistent across countries and institutional settings, suggesting that governance characteristics may explain these variations ((Guedes, Neves, & Vieira, 2025); (Yasin, 2025)). Third, most studies concentrate on board gender diversity, while recent evidence highlights the importance of broader dimensions of board diversity, including cultural diversity, in enhancing ESG effectiveness (Ismail et al., 2025). Consequently, there remains limited understanding of whether board diversity functions as an effective governance mechanism that strengthens or weakens the influence of ESG performance on earnings management. Addressing these gaps is important because improving the credibility of ESG reporting and financial reporting has become a strategic priority for regulators, investors, and corporate decision-makers.

Based on these considerations, this study aims to examine the effect of ESG performance on earnings management and to investigate whether board diversity moderates this relationship. Using a quantitative approach and panel data analysis, this research is expected to provide updated empirical evidence on the governance mechanisms that improve reporting quality and corporate sustainability. The findings are expected to enrich the literature on ESG and corporate governance by integrating ESG performance, earnings management, and board

diversity into a single analytical framework. Furthermore, the study is expected to provide practical implications for policymakers, investors, and corporate managers in strengthening governance practices that promote transparent financial reporting and sustainable business performance.

## **2. LITERATURE REVIEW**

### **Environmental, Social, and Governance (ESG) Performance**

Environmental, Social, and Governance (ESG) performance represents a firm's ability to integrate environmental responsibility, social commitment, and sound governance into its business strategy and operational practices. ESG has evolved from a voluntary sustainability initiative into a strategic performance indicator that influences corporate reputation, investment decisions, access to capital, and long-term firm value. Stakeholder theory suggests that companies create sustainable value by balancing the interests of shareholders and broader stakeholder groups, while legitimacy theory argues that ESG disclosures enhance organizational legitimacy by demonstrating accountability and responsible business conduct. Consequently, firms with superior ESG performance are expected to exhibit higher transparency, stronger governance structures, and greater commitment to ethical behavior. Empirical evidence consistently supports this perspective, showing that effective governance structures, particularly diverse boards, improve ESG implementation and disclosure quality ((Menicucci & Paolucci, 2022); (Romano et al., 2020); (Yadav & Prashar, 2022)). Recent international studies further demonstrate that both gender and cultural diversity strengthen ESG performance by broadening board expertise, increasing monitoring effectiveness, and encouraging more balanced strategic decisions that promote sustainability ((Shakil, 2021); (Ismail et al., 2025); (Jeyhunov et al., 2025); (Guedes et al., 2025)). These findings indicate that ESG performance is closely associated with the effectiveness of corporate governance and the quality of board oversight.

### **Earnings Management and ESG Performance**

Earnings management refers to managerial discretion in financial reporting intended to influence reported earnings within the flexibility permitted by accounting standards. Agency theory explains that conflicts of interest between managers and shareholders may motivate managers to manipulate accounting information to achieve personal or organizational objectives. In this context, ESG performance has received considerable attention as a potential mechanism for improving reporting quality and reducing opportunistic managerial behavior. Several studies conclude that firms with stronger ESG performance exhibit lower levels of

earnings management because sustainability-oriented organizations tend to adopt more transparent reporting practices and stronger governance mechanisms (Adeneye et al., 2023). However, other scholars argue that ESG initiatives may also serve as a reputational shield, enabling managers to gain stakeholder trust while simultaneously engaging in earnings manipulation, thereby producing inconsistent empirical findings across different institutional environments (Primacintya & Kusuma, 2025). These mixed results suggest that the ESG earnings management relationship is complex and may depend on governance characteristics capable of strengthening monitoring effectiveness and limiting managerial opportunism.

### **Board Diversity as a Corporate Governance Mechanism**

Board diversity has emerged as one of the most influential corporate governance mechanisms in promoting accountability, transparency, and sustainable corporate performance. Resource dependence theory argues that diverse boards provide organizations with broader knowledge, professional expertise, external networks, and cognitive perspectives that improve strategic decision-making and organizational effectiveness. In addition, agency theory suggests that diverse boards enhance monitoring quality because heterogeneous directors are more likely to challenge managerial decisions and reduce information asymmetry. Numerous empirical studies have confirmed that board diversity positively influences ESG performance by improving board independence, strengthening stakeholder engagement, and encouraging long-term sustainability strategies (Al-ahdal et al., 2024; (Alotaibi & Al-Dubai, 2024); (Wu et al., 2023)). Similarly, gender-diverse boards have been shown to reduce earnings management by increasing oversight of financial reporting and limiting managerial discretion (Muhammad et al., 2024). More recent evidence also highlights the importance of cultural diversity, demonstrating that directors with diverse cultural backgrounds contribute to more comprehensive governance practices and improved ESG outcomes (Ismail et al., 2025). Therefore, board diversity is increasingly recognized as a strategic governance mechanism capable of simultaneously enhancing sustainability performance and financial reporting quality.

### **Research Gap and Conceptual Framework**

Although substantial progress has been made in understanding ESG performance, earnings management, and board diversity, several important research gaps remain. First, most previous studies examine the direct relationship between ESG performance and earnings management or investigate the impact of board diversity on ESG performance and firm value independently, resulting in fragmented evidence regarding the interaction among these variables ((Adeneye et al., 2023); (Alodat & Hao, 2024)). Second, empirical findings remain

inconsistent across countries, industries, and governance environments, suggesting that contextual factors influence the effectiveness of ESG initiatives in reducing earnings management ((Primacintya & Kusuma, 2025); (Guedes et al., 2025)). Third, while the majority of studies focus primarily on board gender diversity, recent research emphasizes that broader forms of diversity, including cultural diversity, may provide additional governance benefits that have not been sufficiently incorporated into empirical models ((Ismail et al., 2025); (Jeyhunov et al., 2025)). Furthermore, limited evidence exists regarding the moderating role of board diversity in explaining how ESG performance influences earnings management. Accordingly, this study develops an integrated conceptual framework that positions board diversity as a moderating governance mechanism linking ESG performance and earnings management. By combining these three constructs within a single empirical model, the study seeks to provide a more comprehensive explanation of how governance characteristics strengthen the credibility of sustainability practices and improve the quality of corporate financial reporting.

### **3. METHOD**

#### **Research Design**

This study employs a quantitative research design using secondary panel data to examine the effect of Environmental, Social, and Governance (ESG) performance on earnings management and to investigate the moderating role of board diversity. Panel data analysis is selected because it enables the observation of both cross-sectional and time-series variations, thereby producing more efficient estimates while controlling for firm-specific heterogeneity. This approach has been widely adopted in previous ESG and corporate governance studies ((Adeneye et al., 2023); (Primacintya & Kusuma, 2025)). The conceptual model positions ESG performance as the independent variable, earnings management as the dependent variable, board diversity as the moderating variable, and several firm-specific characteristics as control variables, including firm size, leverage, profitability, firm age, and board size.

#### **Population and Sample**

The population of this study consists of all publicly listed non-financial companies included in the Refinitiv ESG Database during the period 2021–2025. Financial institutions are excluded because they operate under different regulatory environments and financial reporting standards that may affect earnings management behavior. The sample is selected using purposive sampling based on the following criteria: (1) companies are continuously listed during the 2021–2025 observation period; (2) companies publish complete annual reports and

audited financial statements; (3) companies have complete ESG performance scores available in the Refinitiv ESG database; (4) companies disclose information regarding board diversity; and (5) companies possess complete financial data required to estimate earnings management and control variables. Companies with incomplete observations during the study period are excluded to maintain the consistency and reliability of the panel dataset.

### **Data Collection and Variable Measurement**

This study utilizes secondary data collected from annual reports, sustainability reports, corporate governance reports, and the Refinitiv ESG database. ESG performance is measured using the overall ESG Score reported by Refinitiv, which evaluates corporate environmental, social, and governance practices. Earnings management is measured using discretionary accruals estimated through the Modified Jones Model, one of the most widely accepted proxies in accounting research. Board diversity is measured by the proportion of female directors on the board, while an additional analysis may incorporate cultural diversity where such information is available. Control variables include firm size (natural logarithm of total assets), leverage (total liabilities divided by total assets), profitability (return on assets), firm age, and board size, as these variables have been shown to influence both ESG performance and earnings management in previous studies.

### **Research Model and Data Analysis**

The hypotheses are tested using panel data regression analysis. Model selection begins with the Chow test and Hausman test to determine whether the pooled ordinary least squares (OLS), fixed-effects model, or random-effects model provides the most appropriate estimation. To address potential endogeneity between ESG performance and earnings management, robustness analysis is performed using the Generalized Method of Moments (GMM), following prior ESG research. The moderating effect of board diversity is examined by incorporating an interaction term between ESG performance and board diversity into the regression model.

The empirical model is specified as follows:

$$EM_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 BD_{it} + \beta_3 (ESG_{it} \times BD_{it}) + Controls_{it} + \varepsilon_{it}$$

where EM represents earnings management, ESG denotes ESG performance, BD represents board diversity,  $ESG \times BD$  is the interaction term measuring the moderating effect of board diversity, Controls include firm size, leverage, profitability (ROA), firm age, and board size, while  $\varepsilon$  denotes the error term.

## 4. RESULTS AND DISCUSSION

### Data Collection

The study employs secondary data collected from the Refinitiv ESG database, companies' annual reports, sustainability reports, and corporate governance reports for the period 2021–2025. The population consists of publicly listed non-financial companies with available ESG scores. After applying the sampling criteria, 180 firms were selected, resulting in 900 firm-year observations. Companies with incomplete ESG scores, missing financial information, or unavailable board diversity disclosures were excluded to ensure data consistency and reliability.

**Table 1.** Sample Selection.

| Criteria                              | Number of Firms |
|---------------------------------------|-----------------|
| Listed non-financial firms            | 265             |
| Less: Incomplete ESG data             | (38)            |
| Less: Missing governance information  | (25)            |
| Less: Incomplete financial statements | (22)            |
| Final sample                          | 180             |

Observation period: 2021–2025

Total observations: 900 firm-years

*Source: Processed by the authors (2026).*

### Descriptive Statistics

Table 2 presents the descriptive statistics of the research variables. The average ESG score is 61.84, indicating that the sampled firms demonstrate a moderate level of ESG performance. The mean discretionary accrual (earnings management) is 0.061, suggesting relatively low earnings manipulation among the sampled companies. The average proportion of female directors is 24.6%, indicating that board gender diversity remains relatively limited.

**Table 2.** Descriptive Statistics.

| Variable            | Mean  | Std. Dev. | Minimum | Maximum |
|---------------------|-------|-----------|---------|---------|
| ESG Score           | 61.84 | 15.27     | 22.45   | 91.83   |
| Earnings Management | 0.061 | 0.044     | -0.092  | 0.186   |
| Board Diversity     | 0.246 | 0.118     | 0.000   | 0.667   |
| Firm Size           | 28.91 | 1.64      | 25.02   | 33.15   |
| Leverage            | 0.451 | 0.183     | 0.041   | 0.891   |
| ROA                 | 0.078 | 0.056     | -0.145  | 0.281   |

*Source: Processed by the authors (2026).*

### Regression Results

Panel regression analysis indicates that ESG performance has a significant negative effect on earnings management ( $\beta = -0.132$ ;  $p < 0.01$ ), suggesting that firms with better ESG performance are less likely to engage in opportunistic financial reporting. Furthermore, the interaction between ESG performance and board diversity is negative and statistically

significant ( $\beta = -0.085$ ;  $p < 0.05$ ), indicating that board diversity strengthens the ability of ESG practices to reduce earnings management. Among the control variables, firm size and profitability exhibit significant negative relationships with earnings management, whereas leverage shows a positive association.

**Table 3.** Panel Regression Results.

| Variable                     | Coefficient | t-value | p-value |
|------------------------------|-------------|---------|---------|
| ESG Performance              | -0.132      | -3.87   | 0.000   |
| Board Diversity              | -0.056      | -2.11   | 0.035   |
| ESG $\times$ Board Diversity | -0.085      | -2.58   | 0.010   |
| Firm Size                    | -0.029      | -2.96   | 0.003   |
| Leverage                     | 0.041       | 2.19    | 0.029   |
| ROA                          | -0.064      | -2.75   | 0.006   |
| Firm Age                     | -0.012      | -1.18   | 0.239   |
| Board Size                   | -0.018      | -1.96   | 0.051   |

$R^2 = 0.43$

Prob (F-statistic) = 0.000

Source: Processed by the authors (2026).

## Discussion

The findings indicate that ESG performance significantly reduces earnings management, supporting the argument that firms with stronger sustainability commitments are more likely to maintain transparent and ethical financial reporting. This result is consistent with Adeneye et al., (2023), who reported that effective corporate governance enhances the relationship between ESG and financial reporting quality, and with Primacintya & Kusuma (2025), who found that higher ESG performance discourages earnings manipulation. The significant moderating effect of board diversity further demonstrates that diverse boards improve monitoring effectiveness and strengthen the governance role of ESG. This finding aligns with Muhammad et al., (2024), who concluded that gender-diverse boards reduce managerial opportunism, as well as Al-ahdal et al. (2024), who found that board diversity enhances the effectiveness of ESG initiatives. Overall, the results support stakeholder theory and agency theory, suggesting that diverse boards improve accountability, reduce agency conflicts, and reinforce the credibility of sustainability practices.

## Research Implications

The findings provide several theoretical and practical implications. Theoretically, this study extends the ESG literature by integrating ESG performance, earnings management, and board diversity into a single analytical framework, thereby explaining how governance



mechanisms influence the quality of financial reporting. Practically, the results suggest that regulators should encourage stronger board diversity policies to improve corporate transparency and sustainability. Investors may also consider board diversity as an important governance indicator when evaluating the credibility of ESG performance. For corporate managers, the findings emphasize that ESG initiatives should be accompanied by effective governance structures to ensure sustainable value creation and high-quality financial reporting.

## 5. CONCLUSION

This study examines the effect of Environmental, Social, and Governance (ESG) performance on earnings management and investigates the moderating role of board diversity. The findings indicate that ESG performance has a significant negative effect on earnings management, suggesting that firms with stronger sustainability practices are more likely to produce transparent and reliable financial reports. Furthermore, board diversity significantly strengthens this relationship, implying that diverse boards enhance monitoring effectiveness and reinforce the governance role of ESG in reducing opportunistic financial reporting. These findings contribute to the corporate governance and sustainability literature by demonstrating that effective governance mechanisms complement ESG initiatives in improving financial reporting quality.

The results provide important theoretical and practical implications. Theoretically, this study extends previous research by integrating ESG performance, earnings management, and board diversity into a single empirical framework, offering a more comprehensive explanation of the governance mechanisms that influence financial reporting behavior. Practically, the findings suggest that regulators and policymakers should encourage greater board diversity as part of corporate governance reforms to strengthen ESG implementation and enhance reporting transparency. Investors may also consider board diversity as an additional governance indicator when evaluating the credibility of corporate ESG performance and financial reporting quality.

Despite these contributions, several limitations should be acknowledged. The study focuses on publicly listed non-financial firms with available ESG data during the 2021–2025 period; therefore, the findings should be generalized cautiously to other industries or institutional settings. In addition, board diversity is primarily measured using gender diversity, which may not fully capture other dimensions of diversity, such as age, educational background, expertise, or nationality. Future studies are encouraged to examine broader measures of board diversity, extend the observation period, compare different countries or industries, and employ alternative econometric approaches to further validate and enrich the

understanding of the relationship between ESG performance, corporate governance, and earnings management.

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