Do Banks' ESG Controversies Lead to Earnings Management?

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Abstract

This study investigates 707 banks across 68 countries from 2002 to 2023, identifying a significant positive relationship between banks' ESG controversies and income-increasing earnings management. This association is more pronounced among large, public, and high ESG-performing banks, banks in low-GDP countries, and banks in countries without mandatory IFRS adoption. Bank managers tend to realise security gains more than underreport loan loss provisions following an ESG controversy. They adopt this strategy promptly after the controversy, rather than employing a delayed response approach. This behaviour is evident after governance controversies but not after environmental or social controversies. Banks in the Asia-Pacific region, as well as those in the United States and Canada, are more likely to engage in this upward earnings management practice. The study's outcomes are robust to alternative samples, model specifications, and earnings management measures.

Keywords: Earnings management, ESG controversy, agency theory, banking industry.

1. Introduction

As concerns about sustainability continue to grow in the business world, public attention to environmental, social, and governance (ESG) controversies has also increased. ESG controversies refer to corporate events, such as questionable social practices or product-related scandals, that draw media attention and, in turn, capture the focus of investors (Cai *et al.*, 2012; Aouadi and Marsat, 2018). In this context, banks involved in more ESG controversies tend to exhibit greater risk-taking behaviour (Galletta and Mazzù, 2023) while also achieving higher profitability (Agnese *et al.*, 2024). Since firms with higher risk-taking tendencies often engage in more earnings management (Alharbi *et al.*, 2021), banks with high ESG controversies may use income-increasing earnings management to mitigate the negative effects of those controversies. Hence, this study aims to explore the impact of banks' ESG controversies on earnings management, addressing the limited evidence on this relationship.

Previous research indicates that controversies bring negative consequences for a firm. High levels of corporate social irresponsibility are linked to heightened financial risk (Kölbel *et al.*, 2017). ESG controversies decrease a firm's investment efficiency (Xue *et al.*, 2023), profitability (Treepongkaruna *et al.*, 2022), and predictability of future earnings (Schiemann and Tietmeyer, 2022). Corporate controversies negatively impact the market performance of firms (Soschinski *et al.*, 2024). Stocks involved in major controversies tend to underperform significantly, leading to a drop in share prices (De Franco, 2019; Luo, 2021). Domestic institutions divest from stocks facing controversies (Bang *et al.*, 2023). These controversies result in increased cost of equity (La Rosa and Bernini, 2022), reduced firm value (Brinette *et al.*, 2023), and heightened reputational risk (Cicchiello *et al.*, 2023). However, to mitigate the negative effects of ESG controversies, companies do not implement more rigorous ESG practices (DasGupta, 2022), since these actions are not perceived by shareholders as effective in alleviating the repercussions of such controversies (Nirino *et al.*, 2021). In this regard, firms

may engage in showing higher profitability through earnings management to divert the attention of the stakeholders from these controversies.

Operating under the influence of diverse stakeholder pressures, managers are often motivated to use questionable accounting practices to shape stakeholder perceptions of company performance (Bowen *et al.*, 1992). They manage earnings to mitigate costs associated with errors in their earnings forecasts (Kasznik, 1999). Managers of US firms exercise accounting discretion to avoid reporting minor declines in earnings (Burgstahler and Dichev, 1997). They prioritise manipulating earnings to create long-term values (Graham *et al.*, 2005). They are also incentivised to adopt earnings management to meet regulatory capital requirements (Barth *et al.*, 2017). Additionally, they present enhanced profitability metrics through earnings management to secure their personal financial benefits (Healy and Wahlen, 1999). Consequently, these self-serving actions by managers could mislead shareholders regarding the true financial health of the firm (Cheng and Warfield, 2005). In this context, banks are more susceptible to earnings management than non-financial organisations (Greenawalt and Sinkey Jr, 1988).

Against this background, we analyse a sample of 707 banks from 68 countries over a 22-year period (2002–2023) to investigate whether banks' ESG controversies lead to earnings management. Apart from using fixed effects regressions, we employ two step system generalised method of moments (SYS-GMM) approach to address any possible endogeneity issues. We measure banks' ESG controversies by externally determined scores provided by the LSEG database which has been extensively used in the banking ESG controversy research (Agnese *et al.*, 2023; Galletta and Mazzù, 2023). Following previous studies (Cornett *et al.*, 2009; Grougiou *et al.*, 2014), we measure earnings management using loan loss provisions and realised gains and losses on securities as proxies for identifying the discretionary actions taken

by bank managers to manipulate earnings. Our baseline finding suggests that banks adopt income-increasing earnings management following an ESG controversy.

This research provides multiple valuable contributions to the existing body of literature in several aspects. First, this is the first study (to the best of our knowledge) to provide empirical evidence that banks engage in income-increasing earnings management following ESG controversies. Second, the study adds to the literature on agency theory highlighting that agents (i.e., bank managers) tend to protect their interests following ESG controversies, even if it involves manipulating financial information. Third, this study is the first to differentiate between types of ESG controversies, revealing that bank managers are more likely to involve in upward earnings manipulation following governance controversies rather than environmental or social ones. It also specifies the components of ESG controversies that trigger this behaviour the most. Fourth, it identifies characteristics of banks adopting income-increasing earnings management after an ESG controversy. It also notes regional differences in showing this behaviour.

This study has noteworthy implications for various stakeholders: (1) shareholders and investors, as they will be motivated to adjust their investment strategies and demand more transparent financial reporting from the banks with ESG controversies; (2) regulators and policymakers, as they will be encouraged to increase scrutiny of the banks with ESG controversies and develop more stringent regulations around bank earnings management; (3) supervisors and auditors, as they will have enhanced motivation to apply stricter audit procedures for the banks with ESG controversies; and (4) ESG advocates, as they will be better positioned to pressure banks for better ESG practices and greater corporate accountability.

The subsequent sections of the paper are structured in the following manner. Section 2 analyses related literature to develop the study hypothesis. Section 3 elaborates on the employed data and methodology. The baseline results are outlined and discussed in Section 4.

The heterogeneity analysis is explained in Section 5. Robustness tests are conducted in Section 6. Finally, the paper is concluded in Section 7.

2. Literature review and hypothesis development

Previous studies indicate that three theories are mostly pertinent to the discussion of ESG controversies – agency theory, legitimacy theory, and stakeholder theory (Treepongkaruna *et al.*, 2022). First, the agency theory suggests that managers, serving as agents for shareholders, may pursue actions that do not align with the best interests of the shareholders due to agency conflicts (Jensen and Meckling, 1976). Agency problems arise when the interests of managers do not align with those of shareholders (Treepongkaruna *et al.*, 2022). In this context, managers driven by self-interest may involve in controversial actions to prioritise their personal benefits, potentially at the cost of shareholders.

Second, according to Suchman (1995), legitimacy is defined as "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions". When firms are exposed to ESG controversies, their legitimacy is called into question (Palazzo and Scherer, 2006). Third, the stakeholder theory posits that engaging in socially responsible actions enhances a company's value by fostering positive relationships with its stakeholders (Donaldson and Preston, 1995; Brinette *et al.*, 2023). Conversely, controversial activities exacerbate stakeholder doubt and perception of corporate deception (Du *et al.*, 2010), thereby diminishing the company's credibility (Godfrey *et al.*, 2009). In this regard, banks strive to avoid involvement in ESG controversies to safeguard their reputation amid rising competitive pressure from consumers and rivals (Cicchiello *et al.*, 2023).

On the other hand, earnings management is the strategic manipulation of financial reporting by corporate insiders to mislead other stakeholders and secure private gains (Healy

and Wahlen, 1999). For several reasons, banks have a greater motivation to manage their earnings compared to non-financial firms. First, to maintain depositor confidence, banks may be more inclined to manipulate their loan loss provisions to comply with capital requirements or manage earnings to avoid reporting losses (Ahmed *et al.*, 1999; Beatty *et al.*, 2002). Second, their diversified financial activities and products are marked by significant opacity and information asymmetry (Levine, 2004; Mülbert, 2013), which fundamentally complicates their financial reporting (Hatherly and Kretzschmar, 2011) and makes earnings management less visible to diligent stakeholders and analysts (Morgan, 2002). Third, due to the stringent regulations governing banks, managers may be more motivated to manipulate financial reports to evade regulatory constraints (Allen and Saunders, 1992; Kim and Kross, 1998).

Existing literature largely suggests that firms engaged in socially responsible activities tend to exhibit reduced earnings management (Velte, 2020), particularly through accruals (Almahrog *et al.*, 2018). Firms with superior ESG performance are also found to be associated with reduced earnings management (Sun *et al.*, 2024). This includes both accrual-based (Velte, 2019) and real (Chouaibi and Zouari, 2022) earnings management, where ESG performance exerts a negative effect. The relationship between ESG disclosures and earnings management is more pronounced in family firms compared to non-family firms (Borralho *et al.*, 2022). Additionally, high ESG-performing banks tend not to engage in income-increasing earnings manipulation through abnormal loan loss provisions (Kolsi *et al.*, 2023). Conversely, these findings indicate that banks' ESG controversies would lead to heightened income-increasing earnings management behaviour.

Although shareholders appreciate strong ESG performance (Fatemi *et al.*, 2018), the enduring impact of corporate social irresponsibility often outweighs the benefits of corporate social responsibility initiatives (Price and Sun, 2017). Consequently, ESG practices should serve as preventive measures to avoid controversies, rather than tools for managing the fallout

from controversies (Nirino *et al.*, 2021). Besides, firms are unable to control ESG controversies since these issues are spread by the media (Galletta and Mazzù, 2023). Past ESG controversies also impact the current levels of such disputes (Agnese *et al.*, 2023). Hence, with limited suitable alternatives in the short term, firms may aim to divert stakeholder attention from these controversies to increased profitability.

In the context of banks, Galletta and Mazzù (2023) highlight that banks experiencing more ESG controversies tend to engage in higher risk-taking. Interestingly, these banks also demonstrate superior profitability (Agnese *et al.*, 2024). Since firms with greater risk-taking tendencies are more likely to engage in higher earnings management (Alharbi *et al.*, 2021), it is plausible that banks with higher ESG controversies may resort to upward earnings management. This behaviour could be a strategy to offset the negative impact of ESG controversies, as suggested by the preceding arguments. Consequently, we formulate the following hypothesis for this study.

H: Banks' ESG controversies positively impact earnings management.

3. Data and method

3.1 Data

The sample construction process starts with the intersection of the London Stock Exchange Group (LSEG) and S&P Capital IQ Pro. Annual data on banks' ESG controversies are collected from the LSEG (previously Thomson Reuters' Refinitiv). All the bank-level data, except for the ESG performance and thirteen controversy-related variables, are collected from S&P Capital IQ Pro. This is because most earnings management-specific variables are unavailable in LSEG Workspace, and the available variables contain insufficient data. The LEI code, ISIN code, CUSIP code, SEDOL code, and Ticker symbol are used to match the bank-level data between the LSEG Workspace and S&P Capital IQ Pro databases. When these identifiers are

not available, fuzzy matching by bank name is employed to match the remaining banks in the sample. To avoid survival bias, both active and inactive banks are included in this study. Since LSEG Workspace provides bank-level ESG controversies scores from 2002, the timeline of this study spans 22 years, ranging from 2002 to 2023.

To control for variations in bank regulations across countries, we adopt the approach of Miller *et al.* (2021) and construct five indices that measure the bank regulatory and supervisory policies of a country. In quantifying these policies, we utilise the Bank Regulation and Supervision Survey data provided by the World Bank[1] and apply the methodology outlined by Barth *et al.* (2013). The indices are restrictions on bank activities, capital regulation, official supervisory power, private monitoring, and overall bank regulation. To address international differences in following financial disclosure standards, we incorporate country-level mandatory adoption of International Financial Reporting Standards (IFRS) data as provided by Song and Trimble (2022).

To proxy for the level of investor protection, we calculate the mean of Worldwide Governance Indicators, following the methodology used by Karolyi and Taboada (2015). Data for the rest of the country-specific variables are collected from the World Bank. Competition data are sourced from the G20 Financial Inclusion Indicators database, while gross domestic product (GDP) and inflation data are obtained from the World Development Indicators database. The sources of each variable are specified in Table 1.

(Insert Table 1 about here)

To reduce the impact of extreme outliers, all variables are winsorised at the 1% level for both the upper and lower tails. The final dataset comprises an unbalanced panel with a total of 6,449 observations from 707 banks across 68 countries. Table 2 presents the number of banks,

[1] The Bank Regulation and Supervision Survey provides a distinctive set of comparable data on the regulatory and supervisory frameworks governing banks across different countries. See details at https://www.worldbank.org/en/research/brief/BRSS

the number of observations, and the percentage of observations from each country along with respective names.

(Insert Table 2 about here)

3.2 Measuring earnings management

Prior studies suggest that banks use loan loss provisions (LLPs) and realised gains and losses on securities (RGLSs) to adopt earnings management (Beatty *et al.*, 2002; Anandarajan *et al.*, 2007). These variables are also widely used in measuring earnings management in banking-specific research (Cornett *et al.*, 2009; Grougiou *et al.*, 2014). Hence, we measure earnings management using both LLPs and RGLSs for the baseline analysis in this study. However, we also use alternative measures of earnings management (i.e., discretionary loan loss allowance and income smoothing) to check the robustness of our findings.

LLP is an expense presented on the income statement, indicating bank managers' anticipation of loan losses for the current period (Grougiou *et al.*, 2014). A reduction in LLPs increases net income and vice versa. In this regard, banks have the potential to manipulate earnings through discretionary adjustments in the LLP reporting (Cornett *et al.*, 2009). On the other hand, an RGLS represents the difference between the latest mark-to-market valuation and the amount received from selling or redeeming securities (Grougiou *et al.*, 2014). A gain is realised when the proceeds from selling a security exceed its latest mark-to-market valuation and vice versa. RGLSs are discretionary management actions that typically face minimal regulation and oversight (Cornett *et al.*, 2009). When managers decide to sell an investment security to adjust earnings, it is highly unlikely that stakeholders, especially auditors and supervisors, will challenge the decision afterwards. Consequently, RGLSs provide an additional method for management to smooth or manipulate earnings.

In measuring earnings management, we follow Kanagaretnam *et al.* (2010) and estimate the discretionary LLP using the following model:

$$LLP_{i,t} = \beta_0 + \beta_1 BEGLLA_{i,t} + \beta_2 LCO_{i,t} + \beta_3 LOANS_{i,t} + \beta_4 CHLOANS_{i,t} + \beta_5 NPL_{i,t} + \beta_6 CON_{i,t} + \beta_7 LEASE_{i,t} + \beta_8 NLB_{i,t} + \beta_9 FOR_{i,t} + \beta_{10} OTH_{i,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (1)$$

where

LLP	Provisions for loan losses deflated by beginning total assets
BEGLLA	Beginning loan loss allowance deflated by beginning total assets
LCO	Net loan charge-offs deflated by beginning total assets
LOANS	Total loans deflated by beginning total assets
CHLOANS	Change in total loans deflated by beginning total assets
NPL	Total nonperforming loan deflated by beginning total assets
CON	Total consumer loans deflated by beginning total assets
LEASE	Total lease finance deflated by beginning total assets
NLB	Net loans to banks deflated by beginning total assets
FOR	Total foreign loans deflated by beginning total assets
OTH	Total other loans deflated by beginning total assets
τ and λ	Time and bank fixed effects respectively

The variables are detailed in Table 1 along with their sources. The residuals from Equation (1) represent the discretionary portion of LLP, labelled as DISC_LLP. To estimate discretionary RGLSs, we follow both Beatty *et al.* (2002) and Cornett *et al.* (2009). The model used for the estimation purpose is mentioned below:

$$RGLS_{i,t} = \beta_0 + \beta_1 LNASSET_{i,t} + \beta_2 UGLS_{i,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (2)$$

where

RGLS	Total realised gains and losses on securities deflated by beginning total assets
LNASSET	Natural logarithm of total assets at the beginning of the year
UGLS	Total unrealised gains and losses on securities deflated by beginning total assets
τ and λ	Time and bank fixed effects respectively

The variables are detailed in Table 1 along with their sources. The residuals from Equation (2) represent the discretionary portion of RGLS, labelled as DISC_GAINS. Table 3 presents the regression results of the Equations (1) and (2).

(Insert Table 3 about here)

Finally, again following Cornett *et al.* (2009), we define earnings management in a way that associates higher levels of earnings management with an increase in earnings, and lower

levels with a decrease. Specifically, while greater LLPs tend to reduce earnings, larger RGLSs lead to higher earnings. Based on this, we define earnings management as:

$$DISC\_EARN_{i,t} = DISC\_GAINS_{i,t} - DISC\_LLP_{i,t} \quad (3)$$

Positive values of DISC_EARN would indicate that LLPs are understated and/or higher security gains are realised, both of which inflate reported income. Conversely, negative values of DISC_EARN suggest overstatement of LLPs and/or fewer realisations of security gains, reducing the reported income.

3.3 Measuring ESG controversies

We use the ESG controversies score from LSEG Workspace to measure the ESG controversies of banks. The database provided by LSEG has been widely used particularly in the existing banking ESG controversy literature, such as in Galletta and Mazzù (2023) and Agnese *et al.* (2023). This score assesses a firm's exposure to environmental, social, and governance controversies and adverse incidents, as reported in global media.[2] If an ESG scandal occurs during a year, the ESG controversies score of the firm involved is affected. The event's impact may extend into the subsequent year if new developments arise, such as lawsuits, ongoing legislative disputes, or fines. As the controversy evolves, all relevant media coverage is documented. The controversies score also accounts for the market capitalisation bias affecting large-cap firms, which tend to receive more media attention than smaller-cap firms.

The ESG controversies score is determined by assessing 23 ESG controversy topics. The components used include business ethics controversies, customer complaints controversies, insider dealings controversies, and responsible marketing controversies etc. According to the

[2] The methodology of calculating ESG controversies score is explained by LSEG Data & Analytics. See details at https://www.lseg.com/content/dam/data-analytics/en_us/documents/methodology/lseg-esg-scores-methodology.pdf

LSEG framework, the default value of all controversies measures is 0, and companies with no controversies are assigned a score of 100. To facilitate our analysis, the controversies score in this paper is calculated as 100 – LSEG controversies score. This transformation inverts the LSEG controversies score, ensuring that a higher controversies score indicates a greater number of controversies. Besides, controversies are evaluated based on industry-specific benchmarks and no controversy is double-counted. Severity weights are assigned to mitigate any market capitalisation bias. Since the ESG controversies score is the best representative of a bank's ESG-related controversies, the component scores are not used for the baseline analysis. However, we have utilised the component scores for additional insights into their impact on earnings management.

3.4 Empirical model

In panel data analysis, fixed effects models are commonly used to control for time-invariant and temporal unobserved heterogeneity (Wooldridge, 2010; Bliese *et al.*, 2020). Therefore, to address the unobserved variable issue, analyses in this study consider the potential association between banks' ESG controversies and earnings management by using the following fixed-effects model:[3]

$$EM_{i,t} = \beta_0 + \beta_1 ESGC_{i,t} + \sum_{n=2}^{8} \beta_n X_{n,i,t} + \sum_{n=9}^{17} \beta_n C_{n,j,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (4)$$

The subscripts *i*, *t*, and *j* represent bank *i*, year *t*, and country *j* respectively in Equation (4). Discussions ahead omit these subscripts for convenience, unless essential. *EM* stands for earnings management which takes three alternative measures. These measures are discretionary loan loss provisions, discretionary realised gains and losses on securities, and

[3] Due to high missing observations in the audit firm variable, we follow Kanagaretnam *et al.* (2010) and employ the 'modified zero-order regression' technique proposed by Maddala (1977) and Greene (2003). This approach involves replacing missing values with 0 and introducing an indicator variable that takes the value of 1 to denote the presence of missing data.

discretionary earnings. *ESGC* is the main variable of interest that refers to a bank's level of ESG controversies as represented by the ESG controversies scores from the LSEG Workspace database. *X* includes a total of seven bank-specific control variables based on bank fundamentals that may have effects on banks' earnings management – size, growth opportunities (Cornett *et al.*, 2009); audit firm (Kanagaretnam *et al.*, 2010); capital risk, leverage, profitability (Grougiou *et al.*, 2014); and ESG performance (Sun *et al.*, 2024).

C represents nine country-specific control variables that may have influences on the earnings management of banks – mandatory IFRS adoption, restrictions on bank activities, capital regulation, official supervisory power, private monitoring, gross domestic product, inflation (Miller *et al.*, 2021); competition (Markarian and Santalo, 2014), and investor protection (Leuz *et al.*, 2003). The independent variables are not lagged following the previous studies on bank ESG controversies (Agnese *et al.*, 2023; Galletta and Mazzù, 2023). Besides, it is reasonable that banks would react promptly through earnings management after a controversy within the same year. The definitions and notations of all the variables are detailed in Table 1. ε is the error term.

3.5 Endogeneity concerns

The results using Equation (4) control for bank-fixed effects and time-fixed effects to reduce the likelihood of endogeneity. However, Equation (4) may still be affected by endogeneity. Banks with higher earnings management may be claimed to face higher controversies due to presenting an inaccurate picture of their financial health. This represents an example of simultaneity. On the other hand, it is not possible for a regression-focused study to claim that all the variables used in the study perfectly represent the actual economic relationship (Wooldridge, 2015). There may be some relevant variables excluded from

Equation (4) which is a case of omitted variable bias. As a result, Equation (4) may provide biased estimates leading to incorrect inferences.

To overcome these possible endogeneity issues and allow for causal inference, we follow Galletta and Mazzù (2023) and employ the two-step system generalised method of moments (SYS-GMM) (Blundell and Bond, 1998) in this study. By applying this methodology, we improve our results using regressors with their own lags and endogenous variables as instruments. Given the difficulty of identifying and theoretically justifying a bank-specific instrument for this study, we employ lagged values of the financial variables as the most suitable instruments (Köhler, 2015). We also use time dummies to control for time-specific effects and enhance the validity of the instruments.

Additionally, we employ least squares dummy variable corrected (LSDVC) estimator (Kiviet, 1995; Judson and Owen, 1999; Bun and Kiviet, 2003) as it has better small sample properties compared to GMM (Bruno, 2005). This approach begins with a dynamic panel estimation and applies a recursive adjustment to correct the bias inherent in the fixed effects estimator (Bogliacino *et al.*, 2012). Bruno (2005) adapts the LSDVC method for application to unbalanced panels, such as the one in this study. Through Monte Carlo simulations, the author demonstrates that the LSDVC estimator outperforms both the original LSDV and the GMM estimators, especially in cases with a small number of observations and highly unbalanced panels. Given that our dataset meets both criteria, we use the LSDVC estimator suggested by Bruno (2005). Furthermore, since Bun and Kiviet (2001) indicate that asymptotic standard errors may be unreliable in small samples, we evaluate the statistical significance of the LSDVC coefficients using bootstrapped standard errors based on 50 iterations, following Bogliacino *et al.* (2012).

4. Baseline results

4.1 Descriptive statistics

The summary statistics are presented in Table 4 where the values remain within the expected ranges. The dependent variables (i.e., discretionary loan loss provisions, discretionary realised gains and losses on securities, and discretionary earnings) are expressed as a percent of total assets. These variables show negative values and zeros in mean, minimum, 25th percentile, and median, consistent with Cohen *et al.* (2014), Cornett *et al.* (2009), and Grougiou *et al.* (2014). The substantial variations in the main independent variable (ESG controversies) may be attributed to the increased public interest in ESG controversies. Discretionary loan loss provisions and discretionary earnings also show slightly higher standard deviations. One possible explanation for such variations could be that banks have started to adopt higher earnings management due to the above-mentioned increase in public interest. This possibility will be investigated in subsequent analyses.

(Insert Table 4 about here)

All the independent variables used in the regression model of this study are tested to check the possibility of multicollinearity issues. Table 5 presents Pearson correlation coefficients among all the baseline independent variables. The variables do not present potential multicollinearity issues since all the coefficients are below 0.8 which is a general rule of thumb (Senaviratna and A Cooray, 2019). Similarly, the variance inflation factors (VIF) are calculated and the VIF values range from 1.09 to 4.93 in this study. Since a VIF value above 10 indicates a multicollinearity problem (Neter *et al.*, 1989), the VIF statistics of this study's independent variables also demonstrate the nonexistence of multicollinearity.

(Insert Table 5 about here)

4.2 Baseline regression results

Table 6 presents the results from Equation (4) based on three measures of earnings management i.e., discretionary loan loss provisions, discretionary realised gains and losses on securities, and discretionary earnings. Columns (1), (3), and (5) include all the variables of the baseline Equation (4). The four country-level bank regulation variables are replaced with the overall bank regulation variable in Columns (2), (4), and (6).

(Insert Table 6 about here)

Columns (1) and (2) show that banks' ESG controversies have a negative relationship with discretionary LLPs. The coefficients demonstrate statistical significance at a 5% level confirming the same findings. Based on Column (1), the baseline result implies that a one standard deviation increase in ESG controversies leads to a 0.062 decrease in discretionary LLPs. This decrease in DISC_LLP indicates an increase in bank earnings. On the other hand, Columns (3) and (4) present that banks' ESG controversies have a positive relationship with discretionary realised gains and losses on securities (RGLSs). The coefficients exhibit statistical significance at a 5% level confirming the same findings. Based on Column (3), the result suggests that a one standard deviation increase in ESG controversies results in a 0.005 increase in discretionary RGLSs. This increase in DISC_GAINS points to an increase in bank earnings.

Columns (5) and (6) illustrate that banks' ESG controversies have a positive relationship with discretionary earnings. The coefficients exhibit statistical significance at a 1% level confirming the same findings. Based on Column (5), the baseline result indicates that a one standard deviation increase in ESG controversies contributes to a 0.067 increase in discretionary earnings. This increase in DISC_EARN implies an increase in bank earnings. The positive coefficients show that banks are more likely to engage in realising higher security

gains than in underreporting LLPs during instances of earnings management after an ESG controversy.

Thus, the results from different model specifications of Table 6 confirm that banks' ESG controversies lead to income-increasing earnings management. Additionally, the ESG controversies are lagged by one year to examine whether the current year's earnings management is affected by the previous year's ESG controversies. However, the lagged coefficients (unreported) of ESG controversies do not demonstrate a significant influence on the current year's earnings management. This suggests that banks respond to ESG controversies immediately through earnings management, rather than adopting a delayed approach.

4.3 Addressing endogeneity

Equation (4) may not establish a causal relationship due to various endogeneity issues, as discussed in Section 3.5. Recognising the limitations of the results obtained from Equation (4), we employ the two-step SYS-GMM approach. Additionally, we utilise the LSDVC method, which offers superior small-sample properties compared to the GMM approach. Table 7 presents the results of both the approaches. The outputs from Columns (1) and (2) exhibit that banks' ESG controversies have a negative relationship with DISC_LLP, statistically significant at a 1% level. On the other hand, the results from Columns (3) to (6) of Table 7 illustrate that banks' ESG controversies have a positive relationship with DISC_GAINS and DISC_EARN where the statistical significances are at 5% to 10% levels for DISC_GAINS and at a 1% level for DISC_EARN.

(Insert Table 7 about here)

In our analysis, time dummy variables are employed as exogenous variables in the two-step SYS-GMM approach for all three models. We also report the results of the test for

autocorrelation and the Arellano–Bond test in Columns (1), (3), and (5). The AR(1) test p-value confirms that the idiosyncratic error term exhibits first-order serial correlation in differences, as expected. In contrast, the AR(2) test p-value is insignificant, indicating the absence of second-order serial correlation. This outcome validates the instruments, as their validity depends on the lack of higher-order serial correlation. Consequently, we reject the null hypothesis of no first-order serial correlation in differences (AR(1) test) but do not reject the null hypothesis of no second-order serial correlation in differences (AR(2) test). Besides, the Hansen test results do not reject the null hypothesis that the instruments are exogenous in all cases. As a practical rule of thumb, the number of instruments in each model also remains fewer than the number of groups. Thus, the findings from six models demonstrate consistency with the baseline results, reinforcing their validity.

4.4 Discussion

The baseline results suggest that banks actively manage earnings upward following ESG controversies. This finding aligns with Galletta and Mazzù (2023), who highlight that banks facing higher ESG controversies often exhibit greater risk-taking behaviours. The observed earnings management could be indicative of such risk-taking tendencies, as reported by Alharbi *et al.* (2021), who find that firms inclined toward higher risk-taking are more likely to manipulate earnings. Moreover, the enhanced profitability of banks involved in more ESG controversies, as noted by Agnese *et al.* (2024), could be attributable to the income-increasing earnings management identified in these banks.

The economic significance of the findings lies in the substantial impact even small changes in controversies have on earnings components: a one standard deviation increase in ESG controversies is associated with a 0.062 decrease in loan loss provisions, a 0.005 increase in realised gains and losses on securities, and a 0.067 increase in earnings. The magnitude of the

coefficients aligns with the findings of Grougiou *et al.* (2014), where a one standard deviation increase in CSR performance is associated with a 0.0021 decrease in earnings management. These adjustments in the earnings components can accumulate and lead to a significant material misrepresentation of a bank's financial health. Such distortions can mislead investors and stakeholders who rely on these earnings reports to assess risk, value, and long-term viability. Ultimately, this distortion of market perceptions may result in mispriced assets or misguided investment decisions.

Bank managers may show this behaviour to restore investor confidence, stabilise stock prices, and mitigate potential reputational damage. ESG controversies can erode market trust (Cicchiello *et al.*, 2023) and trigger adverse investor sentiment (Brinette *et al.*, 2023), prompting managers to adopt earnings-increasing strategies to signal stability and maintain recent performance trends, consistent with Park (2015). Given the sensitivity of financial markets to ESG-related news, upward earnings management may help mitigate stock price declines (Hribar *et al.*, 2006) and adverse market reactions (Richardson *et al.*, 2002). Moreover, ESG controversies could amplify regulatory oversight and legal risks, motivating banks to demonstrate resilience through improved reported earnings. As noted by Cunningham *et al.* (2020) and Francis *et al.* (2016), firms often favour real earnings management over accrual-based strategies in such environments.

Similarly, earnings smoothing practices may serve to preserve credit ratings (Jung *et al.*, 2013) or avoid downgrades (Hill *et al.*, 2019) that could exacerbate the fallout from ESG-related issues. From a stakeholder perspective, banks may aim to manage perceptions among suppliers and customers about their future financial prospects post-ESG controversies (Raman and Shahrur, 2008). CEO incentive-based compensation further compounds this behaviour (Jouber and Fakhfakh, 2014), as managers facing performance pressure are more inclined to manipulate earnings to align with market expectations (Achilles *et al.*, 2013).

The study findings align with the agency theory, which suggests that managers may prioritise personal incentives, such as securing executive compensation, over shareholder interests (Jensen and Meckling, 1976). In the context of ESG controversies, earnings management may be a strategy bank managers use to protect their reputation and personal gains, rather than acting in the best interest of shareholders. By managing earnings upward, they may aim to restore investor confidence, stabilise stock prices, and maintain credit ratings, which could reduce regulatory scrutiny and legal risks. However, this short-term approach could harm shareholders in the long term if it leads to diminished trust and sustainability concerns, indicating a misalignment between the agents' actions and the principals' broader interests in long-term value creation.

5. Heterogeneity analysis

5.1 Heterogeneity analysis of ESG controversies

The baseline analysis indicates that banks' ESG controversies positively impact upward earnings management. To better understand this impact, we conduct a heterogeneity analysis of ESG controversies. Initially, we investigate the effects of environmental, social, and governance controversies on earnings management separately. Then, we analyse the impact of individual components of ESG controversies on earnings management. Since the LSEG database does not provide us with the social and governance controversies scores, we calculate the scores based on the available component scores related to social and governance controversies. First, we categorise the available component scores following the categories outlined in the LSEG ESG framework.[4] For example, while calculating the social controversies score, we include the strikes score and the wages working condition controversies score under

[4] According to the LSEG ESG framework, the social pillar score has four categories (community, human rights, product responsibility, and workforce) and the governance pillar score has three categories (shareholders, CSR strategy, and management).

the ‘workforce’ category. Then, we utilise the weights used in the LSEG ESG pillar score calculation.[5] Since all the scores related to governance controversies fall under the ‘shareholders’ category, we do not assign any weight in calculating the governance controversies score. The notations, definitions, and sources of all the components are mentioned in Table 1.

Panel A of Table 8 presents the effects of environmental, social, and governance controversies on earnings management. Among the three controversies, only governance controversies have a positive relationship with upward earnings management, statistically significant at a 10% level in Columns (7) and (9).

(Insert Table 8 about here)

To better address potential endogeneity bias and strengthen the robustness of our findings, we utilise the two-step SYS-GMM estimator. The results are presented in Panel A of Table 9. Unlike the other two types of controversies, we find a statistically significant positive association between governance controversies and income-increasing earnings management at a 10% level in Columns (7) to (9). This suggests that bank managers do not adopt earnings management following any environmental or social controversies. However, governance controversies are critical drivers of bank earnings management practices. Bank managers may engage in earnings management following governance controversies, as governance factors significantly influence stakeholder perceptions in the banking industry (Oladapo *et al.*, 2019).

(Insert Table 9 about here)

Besides, Panels B and C of Table 8, in most cases, indicate that the accounting controversies, business ethics controversies, customer complaints controversies, insider dealings controversies, product quality controversies, and responsible marketing controversies,

[5] According to the LSEG ESG framework, social pillar score = (community score * 0.28) + (human rights score * 0.17) + (product responsibility score * 0.13) + (workforce score * 0.43)

have a statistically significant positive relationship with upward bank earnings management. We also employ the two-step SYS-GMM approach to mitigate endogeneity issues and enhance the reliability of our results. As presented in Panels B and C of Table 9, the results align with the above findings. These insights will motivate investors and regulators to monitor banks involved in any of the aforementioned ESG controversies.

5.2 Bank- and country-based subsample analysis

As publicly traded companies incorporate more external stakeholders, the impact of their earnings announcements and financial statements as signals increases (Beatty *et al.*, 2002). Similarly, the results from Panel A of Table 10 show that public banks engage in income-increasing earnings management after an ESG controversy more than private banks. This aligns with previous research by Beatty and Harris (1999) and Beatty *et al.* (2002), which demonstrate that publicly traded banks are more likely to smooth earnings compared to privately owned banks. Besides, large banks may be better positioned to adopt earnings management following an ESG controversy compared to small banks due to more resources, complex financial structures, and higher influence over investors and regulators. Likewise, the finding from Panel B of Table 10 indicates that large banks tend to involve in upward earnings manipulation following an ESG controversy more than small banks.[6] This insight is consistent with the research by Chong *et al.* (2012), which highlights that larger banks use accounting standards to smooth earnings more compared to smaller banks.

(Insert Table 10 about here)

Additionally, high ESG-performing banks may manage earnings after an ESG controversy to protect their reputation, meet market expectations, handle regulatory scrutiny, and secure

[6] Banks with values greater than the median bank size (17.541) are grouped as large banks; otherwise, they are classified as small banks.

performance-based compensation. Correspondingly, the results from Panel C of Table 10 exhibit that banks with high ESG performance adopt income-increasing earnings management following an ESG controversy more than those with low ESG performance.[7] This finding aligns with a prior research by Almubarak *et al.* (2023) suggesting that ESG disclosure has a positive and significant influence on earnings manipulation.

Countries with poor financial disclosure standards may reflect weaker regulatory oversight. In this case, the finding from Panel D of Table 10 illustrates that banks in countries without mandatory IFRS adoption engage in upward earnings management after an ESG controversy. The results are consistent with the study by Ewert and Wagenhofer (2005) showing that stricter accounting standards lead to a decrease in earnings manipulation. Moreover, banks in low-GDP countries may engage in earnings management to attract foreign investment, comply with capital requirements, manage high default rates, exploit weaker regulations, and respond to political pressures. In this regard, the results from Panel E of Table 10 present that banks in low-GDP countries involve in income-increasing earnings management more than those in high-GDP countries.[8] This finding aligns with a prior study by Chen *et al.* (2020) highlighting that firms in China are more likely to manage earnings when provincial GDP growth lags national levels or neighbouring provinces.

5.3 Geography-based subsample analysis

The S&P Capital IQ Pro database categorises the bank-level data into six regions worldwide – Africa, Asia-Pacific, Europe, Latin America and the Caribbean, the Middle East, and the United States and Canada. Following these categories, we examine the impact of banks' ESG controversies on earnings management across these six regions. Table 11 demonstrates

[7] Banks with values greater than the median ESG performance (0.382) are grouped as banks with high ESG performance; otherwise, they are classified as banks with low ESG performance.
[8] Banks with values greater than the median gross domestic product (1.597) are grouped as banks in high-GDP countries; otherwise, they are classified as banks in low-GDP countries.

the results from the geography-based subsample analysis. The findings indicate that banks in Africa, Europe, Latin America and the Caribbean, and the Middle East do not involve in earnings management following an ESG controversy. However, banks in the Asia-Pacific and the United States and Canada regions are more likely to engage in upward earnings manipulation after an ESG controversy. These findings are supported by the prior studies on earnings management in Africa (Pududu and De Villiers, 2016), Asia-Pacific (Charoenwong and Jiraporn, 2009), Europe (Glaum *et al.*, 2004), Latin America and the Caribbean (Eiler *et al.*, 2022), the Middle East (Salem *et al.*, 2021), and the United States and Canada (Glaum *et al.*, 2004).

(Insert Table 11 about here)

6. Robustness tests

6.1 Banks' ESG controversies and loan loss allowance

Bank managers often exercise accounting discretion over loan loss allowance (LLA) to align reported earnings with managerial targets (Hasan and Wall, 2004). Specifically, a reduction in the loan loss provisions (LLP) results in a decrease in the LLA and an increase in earnings, assuming other factors remain constant. Consequently, banks experiencing lower earnings may lower their LLA to better meet earnings targets. Hence, the discretionary portion of LLA can be considered as a measure of earnings management. In estimating the discretionary LLA, we follow Hasan and Wall (2004) and use the following model:

$$LLA_{i,t} = \beta_0 + \beta_1 NPL_{i,t} + \beta_2 LCO_{i,t} + \beta_3 LOANS_{i,t} + \beta_4 EQ_{i,t} + \beta_5 EBTP_{i,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (5)$$

where

LLA	Total loan loss allowance deflated by beginning total assets
NPL	Total nonperforming loan deflated by beginning total assets
LCO	Net loan charge-offs deflated by beginning total assets
LOANS	Total loans deflated by beginning total assets
EQ	Total equity to total assets
EBTP	Earnings before taxes and loan loss provisions deflated by total assets at the beginning of the year

τ and λ	Time and bank fixed effects respectively

The definitions, notations, and sources of all the variables are detailed in Table 1. The residuals from Equation (5) represent the discretionary portion of LLA, labelled as DISC_LLA. Then, we use DISC_LLA as the dependent variable in Equation (4). The variable is expressed as a percent of total assets. Table 12 exhibits the results where the four country-level bank regulation variables are replaced with the overall bank regulation variable in Column (2). Both columns illustrate that banks' ESG controversies have a negative relationship with discretionary LLA at a 10% significance level. Based on Column (1), the result implies that a one standard deviation increase in ESG controversies contributes to a 0.062 decrease in discretionary LLA. This decrease in DISC_LLA indicates an increase in bank earnings.

(Insert Table 12 about here)

Additionally, we utilise the two-step SYS-GMM estimation technique to address endogeneity concerns and strengthen the credibility of our findings. As outlined in Table 13, the results are consistent with the above findings. Thus, the outcomes from Equation (5) align with the baseline finding that banks' ESG controversies lead to income-increasing earnings management.

(Insert Table 13 about here)

6.2 Banks' ESG controversies and income smoothing

Managers smooth earnings for subjective purposes, providing insiders with private control benefits (Fonseca and Gonzalez, 2008). While smoothing, they strive to decrease the fluctuation in reported earnings by adjusting the accounting elements (Leuz *et al.*, 2003). Banks may engage in income smoothing by adjusting loan loss provisions – understating them when earnings are expected to be low and overstating them when earnings are high (Bouvatier *et al.*, 2014). Following Bushman and Williams (2012) and Miller *et al.* (2021), we use income

smoothing as an alternative measure of earnings management and estimate the impact of banks' ESG controversies on this measure by employing the following OLS model:

$$LLP_{i,t} = \beta_0 + \beta_1 ESGC_{i,t} * EBTP_{i,t} + \beta_2 ESGC_{i,t} + \beta_3 EBTP_{i,t} + \beta_4 \Delta NPL_{i,t+1} + \beta_5 \Delta NPL_{i,t} + \beta_6 \Delta NPL_{i,t-1} + \sum_{n=7}^{13} \beta_n X_{n,i,t} + \sum_{n=14}^{22} \beta_n C_{n,j,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (6)$$

where

LLP	Total loan loss provision deflated by beginning total assets
ESGC	ESG controversies score
EBTP	Earnings before taxes and loan loss provisions deflated by total assets at the beginning of the year
ΔNPL	Percentage change in nonperforming loans at time *t* and *t-1*
X	7 bank-level baseline Equation (4) control variables
C	9 country-level baseline Equation (4) control variables
τ and λ	Time and bank fixed effects respectively

The definitions, notations, and sources of all the variables are detailed in Table 1. A positive relationship between EBTP and LLP suggests income smoothing, as LLPs are increased when earnings are high, thereby reducing net income (Miller *et al.*, 2021). Therefore, if banks' ESG controversies lead to earnings management, we should observe a statistically significant positive relationship between the interaction of ESGC and EBTP with LLP. Table 14 illustrates the results where the four country-level bank regulation variables are replaced with the overall bank regulation variable in Column (2). Both columns present that the interaction between ESGC and EBTP has a positive relationship with LLP at a 10% significance level, indicating that banks' ESG controversies motivate managers to involve in earnings management.

(Insert Table 14 about here)

Furthermore, we apply the two-step SYS-GMM estimator to mitigate potential endogeneity bias and enhance the reliability of our results. As presented in Table 15, the results align with the above findings. Thus, the outcomes from Equation (6) confirm the baseline finding that banks' ESG controversies lead to earnings management.

(Insert Table 15 about here)

6.3 Additional robustness tests

Our analysis covers the years 2002 to 2023, which includes the 2008 Global Financial Crisis. In line with Flannery *et al.* (2013), we classify the crisis period as 2007–2009 and re-estimate the baseline regression models excluding this distinct period. As demonstrated in Panel A of Table 16, our results remain consistent. Besides, our sample period includes the COVID-19 period. Following Aljughaiman *et al.* (2023), we designate 2020–2021 as the COVID period and exclude this period while estimating our baseline models. As shown in Panel B of Table 16, our findings remain the same. We also run the baseline regression models excluding the 2020-2022 years considering them to be the COVID period and our results (unreported) continue to hold.

(Insert Table 16 about here)

To ensure a balanced representation across various countries and enhance the reliability of the results, the baseline regression analysis is re-run using a sample that includes at least three banks per country. The coefficients in Panel C of Table 16 indicate that our findings remain the same. As indicated in Table 2, the United States (US) represents the largest portion of our sample, comprising 34.63% of the total observations. To address the potential issue that our findings may be disproportionately influenced by data from a single country, we follow Kanagaretnam *et al.* (2015) and re-estimate the baseline regression models after excluding the US data. As illustrated in Columns (1) and (3) of Panel D in Table 16, our results remain consistent.

7. Conclusion

This research seeks to provide empirical evidence regarding the link between banks' ESG controversies and their earnings management. Overall, the results show that banks' ESG controversies lead to income-increasing earnings management. Bank managers are more likely to engage in realising higher security gains than in underreporting LLPs during instances of earnings management after an ESG controversy. They exhibit this behaviour promptly after the controversy, rather than taking a delayed response approach. The study findings are robust to alternative samples, model specifications, and earnings management measures.

Bank managers may adopt upward earnings management after an ESG controversy to restore investor confidence, stabilise stock prices, mitigate regulatory scrutiny, manage legal risks, maintain credit ratings, secure executive compensation, and protect stakeholder relationships. This behaviour can be seen as agents (i.e., bank management) attempting to mitigate the negative impacts of ESG controversies on their positions, compensation, and reputation, even if it involves manipulating financial results. Thus, the finding adds to the existing literature on agency theory.

Our heterogeneity analysis reveals that banks tend to involve in income-increasing earnings manipulation following governance controversies. However, they do not show this behaviour after environmental or social controversies. Besides, they are more likely to adopt upward earnings management after accounting controversies, business ethics controversies, customer complaints controversies, insider dealings controversies, product quality controversies, and responsible marketing controversies.

From the subsample analysis, we find that large, public, and high ESG-performing banks are engaged in income-increasing earnings manipulation following an ESG controversy. Banks operating in countries without mandatory IFRS adoption and in low-GDP countries also present this behaviour. Moreover, banks in the Asia-Pacific and the United States and Canada

regions tend to adopt upward earnings management after an ESG controversy. However, banks in Africa, Europe, Latin America and the Caribbean, and the Middle East do not demonstrate this evidence.

This study suggests several policy implications for both banks and regulatory bodies. Our heterogeneity analysis highlights that banks in countries with mandatory IFRS adoption avoid earnings management after ESG controversies. Consequently, policymakers should implement a multifaceted approach that strengthens financial disclosure requirements, particularly concerning ESG risks. Additionally, regional regulatory adjustments – especially in the Asia-Pacific and the United States and Canada regions – should focus on robust reporting requirements to address the tendency toward income manipulation following controversies. Incorporating earnings management metrics into ESG scorings would hold banks accountable for governance-related behaviours that affect financial reporting. Large and public banks would benefit from policies prioritising long-term stability over short-term earnings pressures. Global or region-specific standards are essential for low GDP and non-IFRS countries to ensure transparency across financial markets. Moreover, stronger governance controls within banks can pre-emptively mitigate governance issues and the manipulation that often follows. Together, these measures would promote a more resilient, consistent, and transparent financial reporting environment in the banking industry.

One limitation of our study is its exclusive focus on banks. A promising avenue for future research would be extending this analysis to encompass non-bank financial institutions or non-financial firms. We also do not empirically identify the reasons for which banks involve in income-increasing earnings management following an ESG controversy. Future research may investigate the motives for this behaviour. Additionally, there is potential in future research to expand upon the findings of this study by investigating the effect of banks' non-ESG controversies on earnings management.

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Table 1: The notations, definitions, and sources of study variables

Variables	Notations	Definitions	Sources
Earnings management variables			
Beginning loan loss allowance	BEGLLA	Beginning loan loss allowance deflated by beginning total assets. The allowances are made after a review of the recoverability of the loans made. They are provided to absorb possible future losses from loans.	S&P Capital IQ Pro
Beginning total assets	LNASSET	Natural logarithm of total assets at the beginning of the year	S&P Capital IQ Pro
Change in loans	CHLOANS	Change in total loans deflated by beginning total assets	S&P Capital IQ Pro
Consumer loans	CON	Total consumer loans deflated by beginning total assets	S&P Capital IQ Pro
Foreign loans	FOR	Total foreign loans deflated by beginning total assets. The total foreign loan includes the amount of loans given by the bank to customers outside its native country through its foreign branches and subsidiaries.	S&P Capital IQ Pro
Lease finance	LEASE	Total lease finance deflated by beginning total assets. Total lease finance includes the total loans given by the bank in the form of a lease, including equipment lease financing and direct lease financing.	S&P Capital IQ Pro
Loan charge-offs	LCO	Net loan charge-offs deflated by beginning total assets	S&P Capital IQ Pro
Loan loss provisions	LLP	Provisions for loan losses deflated by beginning total assets	S&P Capital IQ Pro
Loans to banks	NLB	Net loans to banks deflated by beginning total assets. Net loans to banks include net loans and advances made to banks after deducting any allowance for impairment.	S&P Capital IQ Pro
Nonperforming loans	NPL	Total nonperforming loan deflated by beginning total assets. Total nonperforming loan is the amount reported by the company or, where not available, calculated as the sum of loans classified as substandard, doubtful, and loss. If not available, for Brazilian banks, it is calculated as the sum of loans classified in categories D-H. Nonperforming loans are the sum of non-accruing and renegotiated loans for US banks.	S&P Capital IQ Pro
Other loans	OTH	Total other loans deflated by beginning total assets	S&P Capital IQ Pro
Realised gains and losses on securities	RGLS	Total realised gains and losses on securities deflated by beginning total assets. Total realised gains and losses on securities include net gain on the sale of securities. For US banks, it includes net gain realised during the calendar year-to-date from the sale, exchange, redemption, or retirement of all securities reported as held-to-maturity securities and available-for-sale securities.	S&P Capital IQ Pro
Total loans	LOANS	Total loans deflated by beginning total assets	S&P Capital IQ Pro
Unrealised gains and losses on securities	UGLS	Total unrealised gains and losses on securities deflated by beginning total assets. Total unrealised gains and losses on securities include the difference between market value and historical cost of securities. For US banks, it includes total unrealised gains on equity securities not held for trading.	S&P Capital IQ Pro
Controversy variables			
Accounting controversies	AC	A score measuring a company's exposure to controversies linked to aggressive or non-transparent accounting issues in global media	LSEG Workspace
Business ethics controversies	BEC	Number of controversies published in the media linked to business ethics in general, political contributions or bribery, and corruption	LSEG Workspace
Customer complaints controversies	CCC	Number of controversies published in the media linked to customer complaints or dissatisfaction directly linked to a company's products or services	LSEG Workspace

Environmental controversies score	ECS	A score measuring a company's exposure to controversies related to the environmental impact of the company's operations on natural resources or local communities	LSEG Workspace
ESG controversies score	ESGC	A score measuring a company's exposure to environmental, social, and governance controversies and negative events reflected in global media	LSEG Workspace
Governance controversies score	GCS	Average of accounting controversies score, insider dealings controversies score, and executive compensation controversies score	LSEG Workspace
Insider dealings controversies	IDC	A score measuring a company's exposure to controversies linked to insider dealings and other share price manipulations	LSEG Workspace
Product quality controversies	PQC	A score measuring a company's exposure to controversies linked to its product or service quality and responsibilities in global media	LSEG Workspace
Responsible marketing controversies	RMC	Number of controversies published in the media linked to a company's marketing practices	LSEG Workspace
Social controversies score	SCS	(Average of anti-competition controversies score and bribery, corruption, and fraud controversies score) * 0.28 + (Average of product quality controversies score, consumer complaints controversies score, and responsible marketing controversies score) * 0.13 + (Average of strikes score and wages working condition controversies score) * 0.43	LSEG Workspace
Bank-level control variables			
Audit firm	BIG4	An indicator variable that equals one if the auditor of a bank is one of the Big 4 audit firms, zero otherwise	S&P Capital IQ Pro
Size	SIZE	Natural logarithm of total assets at the end of the year	S&P Capital IQ Pro
Capital risk	CR	Tier 1 capital to total risk-weighted assets	S&P Capital IQ Pro
ESG performance	ESG	A score measuring a company's environmental, social, and governance performance based on verifiable reported data in the public domain	LSEG Workspace
Growth opportunities	GO	Total market capitalisation to total book value of common equity. Total market capitalisation includes aggregate market capitalisation of all issues of common equity whether traded or non-traded, including convertible common stock on a one-to-one basis until the conversion window opens, and then at the conversion rate. If pricing is not available for secondary classes, the price of the primary class is applied.	S&P Capital IQ Pro
Leverage	LEV	Total debt to total common equity	S&P Capital IQ Pro
Profitability	EBTP	Earnings before taxes and loan loss provisions deflated by total assets at the beginning of the year	S&P Capital IQ Pro
Country-level control variables			
Capital regulation	CRI	Natural logarithm of an index measuring the amount of capital that banks must hold, as well as the nature and source that are considered as capital by regulators	Barth *et al.* (2013) and World Bank
Competition	COM	The natural logarithm of the number of commercial bank branches per 100,000 adults	World Bank
Gross domestic product	GDP	GDP per capita growth (annual %)	World Bank
Inflation	INF	Inflation, GDP deflator (annual %)	World Bank
Investor protection	IP	The average of all six Worldwide Governance Indicators: voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption	World Bank
Mandatory IFRS adoption	IFRS	An indicator variable that equals one if a country adopts IFRS mandatorily in the banking sector, zero otherwise	Song and Trimble (2022)

Official supervisory power	OSP	Natural logarithm of an index measuring the power of supervisors to obtain information from banks, take action to change bank behaviours and act as they see fit to prevent or correct bank problems	Barth *et al.* (2013) and World Bank
Overall bank regulation	OBR	Natural logarithm of the first principal component of Restrictions on Banking Activities, Capital Regulatory Index, Official Supervisory Power Index, and Private Monitoring Index	Barth *et al.* (2013) and World Bank
Private monitoring	PM	Natural logarithm of an index measuring the incentives and ability of private investors to monitor banks	Barth *et al.* (2013) and World Bank
Restrictions on bank activities	RBA	Natural logarithm of an index measuring regulatory restrictions on nontraditional bank activities (securities, insurance, and real estate)	Barth *et al.* (2013) and World Bank
Alternative earnings management variables			
Cash flow from operating activities	CFO	Net increase in cash and cash equivalents from operating activities	S&P Capital IQ Pro
Change in accounts receivable	ΔAR	Change in total accounts receivable at time *t* and *t-1*	S&P Capital IQ Pro
Discretionary expenses	DISC_EXP	The sum of advertising expenses, and selling, general, and administrative expenses	S&P Capital IQ Pro
Equity	EQ	Total equity to total assets	S&P Capital IQ Pro
Loan loss allowance	LLA	Total loan loss allowance deflated by beginning total assets. The allowances are made after a review of the recoverability of the loans made. They are provided to absorb possible future losses from loans.	S&P Capital IQ Pro
Loss avoidance	LOSS_ AVOID	An indicator variable taking the value one if the bank has a small ROA (income before taxes including non-recurring items divided by total assets) in the interval between 0 and 0.002, zero otherwise	S&P Capital IQ Pro
Property, plant, and equipment	PPE	Total property, plant, and equipment, net of accumulated depreciation	S&P Capital IQ Pro
Revenue	REV	Total revenue	S&P Capital IQ Pro
Total accruals	TA	Change in (current assets – cash and cash equivalents) − change in current liabilities + change in current portion of long-term debt − depreciation and amortisation expense	S&P Capital IQ Pro

Table 2: Banks and observations per country

Country	No. of banks	No. of observations	Percentage of observations	Cumulative percentage of observations
Argentina	6	40	0.620	0.620
Australia	9	132	2.047	2.667
Austria	3	45	0.698	3.365
Bahrain	6	38	0.589	3.954
Belgium	1	21	0.326	4.280
Bermuda	1	7	0.109	4.388
Brazil	8	95	1.473	5.861
Canada	9	153	2.372	8.234
Chile	5	60	0.930	9.164
China	47	302	4.683	13.847
Colombia	5	50	0.775	14.622
Czech Republic	2	21	0.326	14.948
Denmark	6	69	1.070	16.018
Egypt	4	31	0.481	16.499
Faroe Islands	1	3	0.047	16.545
Finland	3	28	0.434	16.979
France	3	62	0.961	17.941
Georgia	1	7	0.109	18.049
Germany	2	25	0.388	18.437
Greece	4	84	1.303	19.739
Hong Kong	4	46	0.713	20.453
Hungary	1	15	0.233	20.685
Iceland	2	5	0.078	20.763
India	32	198	3.070	23.833
Indonesia	15	99	1.535	25.368
Ireland	3	57	0.884	26.252
Israel	4	55	0.853	27.105
Italy	9	146	2.264	29.369
Japan	25	414	6.420	35.788
Jordan	5	27	0.419	36.207
Kazakhstan	1	2	0.031	36.238
Kuwait	7	64	0.992	37.231
Lebanon	1	2	0.031	37.262
Liechtenstein	1	5	0.078	37.339
Malaysia	10	118	1.830	39.169
Mexico	5	56	0.868	40.037
Morocco	5	25	0.388	40.425
Netherlands	2	29	0.450	40.875
New Zealand	1	9	0.140	41.014
Nigeria	4	20	0.310	41.324
Norway	7	49	0.760	42.084
Oman	6	48	0.744	42.828
Pakistan	8	30	0.465	43.294
Peru	5	33	0.512	43.805
Philippines	8	70	1.085	44.891
Poland	9	120	1.861	46.751

Portugal	2	27	0.419	47.170
Qatar	8	61	0.946	48.116
Romania	2	11	0.171	48.287
Russia	2	27	0.419	48.705
Saudi Arabia	10	72	1.116	49.822
Singapore	3	59	0.915	50.737
Slovakia	1	2	0.031	50.768
Slovenia	1	2	0.031	50.799
South Africa	4	57	0.884	51.682
South Korea	9	103	1.597	53.280
Spain	6	104	1.613	54.892
Sweden	4	66	1.023	55.916
Switzerland	5	39	0.605	56.520
Taiwan	12	141	2.186	58.707
Thailand	8	74	1.147	59.854
Togo	1	2	0.031	59.885
Türkiye	8	95	1.473	61.358
Uganda	1	5	0.078	61.436
United Arab Emirates	16	78	1.209	62.645
United Kingdom	12	173	2.683	65.328
United States	285	2233	34.626	99.953
Vietnam	1	3	0.047	100.000
Total	707	6449		

Table 3: Estimating discretionary loan loss provisions and discretionary realised gains and losses on securities

This table presents the regression results used in estimating discretionary loan loss provisions and discretionary realised gains and losses on securities. The results are derived using Equations (1) and (2) fixed-effect estimations, in Columns (1) and (2) respectively. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. Due to high missing observations in lease finance and unrealised gains and losses on securities, we follow Kanagaretnam *et al.* (2010) and employ the 'modified zero-order regression' technique proposed by Maddala (1977) and Greene (2003). This approach involves replacing missing values with 0 and introducing an indicator variable that takes the value of 1 to denote the presence of missing data. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Loan loss provisions (1)	Realised gains and losses on securities (2)
Beginning loan loss allowance	-0.027**	
	(0.013)	
Loan charge-offs	0.123***	
	(0.007)	
Total loans	0.00009***	
	(0.00004)	
Change in loans	-0.002***	
	(0.001)	
Nonperforming loans	0.054***	
	(0.010)	
Consumer loans	0.001	
	(0.001)	
Lease finance	0.003	
	(0.004)	
Loans to banks	-0.004***	
	(0.002)	
Foreign loans	0.002**	
	(0.001)	
Other loans	0.001	
	(0.001)	
Beginning total assets		0.0004*
		(0.0002)
Unrealised gains and losses on securities		0.023***
		(0.004)
Bank fixed effects	Yes	Yes
Time fixed effects	Yes	Yes
R-squared	0.370	0.078
Observations	6449	6449

Table 4: Summary statistics

This table presents summary statistics of the study variables based on annual data covering 2002 to 2023. Table 1 includes the definitions of the variables. All the variables are winsorised at the 1st and 99th percentiles.

	Mean	Standard Deviation	Minimum	25th Percentile	Median	75th Percentile	Maximum
Discretionary loan loss provisions (%)	0.000	0.195	-2.313	-0.093	-0.001	0.086	1.003
Discretionary realised gains and losses on securities (%)	0.000	0.024	-0.738	-0.008	-0.001	0.009	0.088
Discretionary earnings (%)	0.000	0.196	-1.090	-0.089	0.001	0.095	2.308
ESG controversies score	0.083	0.219	0.000	0.000	0.000	0.000	0.995
Audit firm	0.857	0.351	0.000	1.000	1.000	1.000	1.000
Size	17.364	1.751	12.474	16.060	17.580	18.701	19.812
Capital risk	0.129	0.030	0.065	0.108	0.127	0.151	0.180
ESG performance	0.445	0.205	0.014	0.288	0.411	0.603	0.957
Growth opportunities	0.001	0.001	0.000	0.001	0.001	0.002	0.004
Leverage	11.012	4.190	3.315	7.575	10.188	14.429	18.004
Profitability	0.460	1.744	-0.005	0.012	0.017	0.024	8.558
Restrictions on bank activities	1.943	0.210	1.609	1.792	1.946	2.079	2.398
Capital regulation	1.799	0.258	0.693	1.792	1.792	1.946	2.303
Official supervisory power	2.451	0.167	1.099	2.398	2.485	2.565	2.674
Private monitoring	2.157	0.145	1.609	2.079	2.197	2.197	2.398
Overall bank regulation	2.944	0.165	1.386	2.944	2.944	2.996	3.178
Mandatory IFRS adoption	0.097	0.296	0.000	0.000	0.000	0.000	1.000
Gross domestic product	1.618	3.454	-19.748	0.628	1.759	3.032	23.305
Inflation	2.873	5.337	-25.958	1.002	1.900	3.842	85.542
Competition	3.102	0.555	0.820	2.691	3.378	3.469	4.648
Investor protection	0.789	0.682	-1.185	0.260	1.049	1.228	1.889

Table 5: Correlation matrix

This table presents correlations among the study variables based on annual data covering 2002 to 2023. Table 1 includes the notations of the variables. Statistically significant correlations, determined at a significance level of 5% or lower, are presented in bold type.

	ESGC	BIG4	SIZE	CR	ESG	GO	LEV	EBTP	RBA	CRI	OSP	PM	IFRS	GDP	INF	COMP
BIG4	**0.045**															
SIZE	**0.363**	**0.490**														
CR	-0.015	0.029	**-0.230**													
ESG	**0.378**	**0.256**	**0.566**	**0.065**												
GO	**-0.047**	0.000	**-0.128**	-0.012	**-0.035**											
LEV	**0.238**	**0.148**	**0.573**	**-0.500**	**0.254**	**-0.176**										
EBTP	**-0.073**	**0.120**	**0.106**	**-0.103**	**-0.042**	**0.064**	**0.080**									
RBA	**-0.124**	**-0.061**	-0.016	**-0.224**	**-0.216**	**-0.031**	-0.019	**0.207**								
CRI	0.008	**-0.068**	-0.006	**-0.114**	**-0.041**	**0.049**	**-0.088**	**-0.037**	**0.395**							
OSP	-0.003	**-0.107**	**-0.157**	**0.107**	**-0.037**	**0.064**	**-0.189**	**0.071**	**0.135**	**0.073**						
PM	**-0.035**	**-0.165**	**-0.042**	**-0.109**	**-0.225**	-0.013	**0.034**	**0.095**	**0.362**	**0.267**	**0.185**					
IFRS	-0.014	**0.158**	**0.065**	**0.149**	**0.124**	**-0.079**	**-0.149**	**0.033**	0.001	**0.117**	**0.034**	**-0.164**				
GDP	**-0.039**	-0.015	**0.059**	**-0.084**	-0.022	**0.135**	**0.042**	**0.029**	**0.182**	**0.085**	**-0.073**	-0.007	**-0.070**			
INF	-0.015	**-0.035**	**-0.045**	**0.028**	**0.079**	**0.092**	**-0.107**	**-0.027**	**-0.033**	**0.157**	**-0.112**	0.006	**0.072**	**0.164**		
COMP	**0.041**	**-0.127**	**-0.146**	**-0.193**	**-0.096**	**-0.070**	**0.144**	-0.009	**-0.155**	**-0.199**	**0.070**	**0.241**	**-0.305**	**-0.155**	**-0.206**	
IP	**0.083**	-0.018	**-0.057**	**-0.095**	**-0.043**	**-0.094**	**0.255**	**-0.028**	**-0.277**	**-0.246**	**-0.035**	**0.067**	**-0.261**	**-0.160**	**-0.293**	**0.630**

Table 6: Banks' ESG controversies and earnings management

This table presents the relationship between banks' ESG controversies and earnings management. The results are derived using Equation (4) fixed-effect estimation. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	DISC_LLP	DISC_LLP	DISC_GAINS	DISC_GAINS	DISC_EARN	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
ESG controversies	-0.062**	-0.057**	0.005**	0.005**	0.067***	0.062***
	(0.024)	(0.024)	(0.002)	(0.002)	(0.024)	(0.023)
Audit firm	-0.027	-0.031	-0.000	-0.000	0.027	0.031
	(0.023)	(0.023)	(0.002)	(0.002)	(0.023)	(0.023)
Size	0.008*	0.008*	0.001*	0.001	-0.008	-0.008
	(0.005)	(0.005)	(0.001)	(0.000)	(0.005)	(0.005)
Capital risk	-0.074	-0.090	-0.036**	-0.035**	0.038	0.054
	(0.122)	(0.121)	(0.015)	(0.015)	(0.125)	(0.123)
ESG performance	-0.003	-0.006	-0.001	-0.002	0.002	0.004
	(0.030)	(0.030)	(0.003)	(0.003)	(0.030)	(0.030)
Growth opportunities	-19.009**	-19.302**	3.248***	3.231***	22.257***	22.533***
	(7.564)	(7.580)	(0.881)	(0.891)	(7.735)	(7.752)
Leverage	0.006**	0.006**	-0.001*	-0.001*	-0.007**	-0.007**
	(0.003)	(0.003)	(0.001)	(0.001)	(0.003)	(0.003)
Profitability	0.008	0.007	-0.001***	-0.001***	-0.008*	-0.008*
	(0.005)	(0.005)	(0.000)	(0.000)	(0.005)	(0.005)
Restrictions on bank activities	0.108**		-0.001		-0.109**	
	(0.047)		(0.004)		(0.046)	
Capital regulation	-0.072**		-0.002		0.070**	
	(0.031)		(0.003)		(0.030)	
Official supervisory power	-0.001		-0.002		-0.001	
	(0.028)		(0.002)		(0.028)	
Private monitoring	-0.009		-0.002		0.007	
	(0.039)		(0.002)		(0.039)	
Overall bank regulation		0.015		-0.003***		-0.018*
		(0.011)		(0.001)		(0.011)
Mandatory IFRS adoption	-0.056	-0.061	0.005*	0.004	0.061	0.064
	(0.038)	(0.041)	(0.003)	(0.003)	(0.038)	(0.041)
Gross domestic product	-0.019***	-0.019***	0.000*	0.000*	0.019***	0.019***
	(0.003)	(0.003)	(0.000)	(0.000)	(0.003)	(0.003)
Inflation	-0.001	-0.001	0.000	0.000	0.001	0.001
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Competition	0.049***	0.048***	0.001	0.001	-0.048***	-0.047***
	(0.010)	(0.010)	(0.001)	(0.001)	(0.010)	(0.010)
Investor protection	-0.021	-0.011	-0.001	-0.002	0.020	0.009
	(0.037)	(0.037)	(0.002)	(0.002)	(0.037)	(0.037)
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.057	0.054	0.015	0.014	0.059	0.056
Observations	6449	6449	6449	6449	6449	6449

Table 7: Two-step system GMM and least squares dummy variable corrected estimator

This table presents the relationship between banks' ESG controversies and earnings management using the two-step system GMM and least squares dummy variable corrected approaches. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. Columns (1), (3), and (5) show the results of the two-step system GMM approach and Columns (2), (4), and (6) show the results of the least squares dummy variable corrected approach. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	DISC_LLP (1)	DISC_LLP (2)	DISC_GAINS (3)	DISC_GAINS (4)	DISC_EARN (5)	DISC_EARN (6)
ESG controversies	-0.043***	-0.056***	0.015**	0.004*	0.046***	0.060***
	(0.013)	(0.017)	(0.007)	(0.002)	(0.013)	(0.017)
Audit firm	-0.015	-0.016	0.029***	-0.003	0.014	0.013
	(0.010)	(0.015)	(0.010)	(0.002)	(0.012)	(0.016)
Size	-0.000	0.016***	-0.004**	0.001	0.000	-0.015**
	(0.001)	(0.006)	(0.002)	(0.001)	(0.001)	(0.006)
Capital risk	-0.016	-0.021	0.135	-0.042***	0.007	-0.013
	(0.052)	(0.094)	(0.103)	(0.013)	(0.058)	(0.094)
ESG performance	0.017	0.005	0.030***	0.002	-0.017	-0.004
	(0.016)	(0.029)	(0.011)	(0.004)	(0.017)	(0.029)
Growth opportunities	-6.674**	-14.898***	19.226***	2.787***	7.918**	17.209***
	(3.304)	(5.109)	(5.409)	(0.692)	(3.356)	(5.144)
Leverage	0.002***	0.006***	-0.003*	-0.001***	-0.002***	-0.006***
	(0.001)	(0.002)	(0.002)	(0.000)	(0.001)	(0.002)
Profitability	0.000	0.006**	-0.001	-0.001*	-0.000	-0.006**
	(0.002)	(0.003)	(0.001)	(0.000)	(0.002)	(0.003)
Restrictions on bank activities	0.037***	0.065**	0.037	-0.001	-0.031**	-0.066**
	(0.014)	(0.027)	(0.029)	(0.004)	(0.014)	(0.027)
Capital regulation	-0.005	-0.026	0.007	0.000	-0.001	0.026
	(0.013)	(0.025)	(0.016)	(0.003)	(0.013)	(0.025)
Official supervisory power	-0.024**	-0.006	-0.028	-0.003	0.022*	0.003

	(0.012)	(0.018)	(0.027)	(0.002)	(0.011)	(0.018)
Private monitoring	0.002	-0.005	-0.005	-0.001	-0.000	0.004
	(0.021)	(0.017)	(0.019)	(0.002)	(0.021)	(0.017)
Mandatory IFRS adoption	-0.030	0.005	-0.004	0.002	0.041	-0.004
	(0.057)	(0.023)	(0.006)	(0.003)	(0.059)	(0.023)
Gross domestic product	-0.010***	-0.007***	-0.000	0.000	0.011***	0.007***
	(0.002)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)
Inflation	0.000	0.001	-0.000	0.000	0.000	-0.001
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Competition	0.002	0.015***	0.014*	-0.000	-0.002	-0.015***
	(0.003)	(0.004)	(0.008)	(0.001)	(0.003)	(0.004)
Investor protection	-0.021***	-0.017	0.006	-0.002	0.023***	0.014
	(0.006)	(0.019)	(0.004)	(0.003)	(0.007)	(0.020)
L.DISC_LLP	0.439***	0.472***				
	(0.021)	(0.014)				
L.DISC_GAINS			0.154***	0.303***		
			(0.047)	(0.016)		
L.DISC_EARN					0.439***	0.473***
					(0.021)	(0.013)
Time dummies	Yes		Yes		Yes	
AR(1): *p-value*	0.000		0.002		0.000	
AR(2): *p-value*	0.281		0.541		0.229	
Hansen test: *p*-value	0.146		0.439		0.133	
Groups	707		707		707	
Instruments	309		302		309	
Observations	5739	5739	5739	5739	5739	5739

Table 8: Banks' ESG component controversies and earnings management

This table presents the relationship between banks' ESG component controversies and earnings management. The results are derived using Equation (4) fixed-effect estimation, with ECS, SCS, GCS, AC, BEC, CCC, IDC, PQC, and RMC replacing ESGC in Columns (1) to (3), (4) to (6), (7) to (9), (10) to (12), (13) to (15), (16) to (18), (19) to (21), (22) to (24), (25) to (27) respectively. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of the control variables are not reported. The standard errors are mentioned within the parentheses. Except for Columns (13), (22), and (24), they are clustered by banks and robust to heteroscedasticity. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A

	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)	DISC_LLP (4)	DISC_GAINS (5)	DISC_EARN (6)	DISC_LLP (7)	DISC_GAINS (8)	DISC_EARN (9)
Environmental controversies	-0.005	-0.026	-0.021						
	(0.094)	(0.019)	(0.092)						
Social controversies				-0.106	0.013	0.119			
				(0.099)	(0.011)	(0.097)			
Governance controversies							-0.326*	-0.002	0.318*
							(0.193)	(0.021)	(0.192)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
R-squared	0.099	0.050	0.101	0.100	0.049	0.102	0.080	0.048	0.079
Observations	2618	2618	2618	2618	2618	2618	2618	2618	2618

Panel B

	DISC_LLP (10)	DISC_GAINS (11)	DISC_EARN (12)	DISC_LLP (13)	DISC_GAINS (14)	DISC_EARN (15)	DISC_LLP (16)	DISC_GAINS (17)	DISC_EARN (18)
Accounting controversies	-7.859**	-0.105	7.754***						
	(3.089)	(0.377)	(2.930)						
Business ethics controversies				-0.006**	0.001***	0.005*			
				(0.003)	(0.000)	(0.003)			
Customer complaints controversies							-0.021**	0.002**	0.023**
							(0.009)	(0.001)	(0.009)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
R-squared	0.100	0.048	0.102	0.031	0.015	0.058	0.057	0.014	0.058
Observations	2618	2618	2618	6449	6449	6449	6449	6449	6449

	Panel C								
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Insider dealings	-2.239*	-0.030	2.209*						
controversies	(1.335)	(0.156)	(1.326)						
Product quality				-0.062*	-0.001	0.061*			
controversies				(0.034)	(0.003)	(0.034)			
Responsible marketing							-0.014*	0.003**	0.016**
controversies							(0.008)	(0.001)	(0.008)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
R-squared	0.100	0.048	0.101	0.070	0.048	0.072	0.030	0.015	0.057
Observations	2618	2618	2618	2618	2618	2618	6449	6449	6449

Table 9: Banks' ESG component controversies and earnings management – Two-step system GMM

This table presents the relationship between banks' ESG component controversies and earnings management using the two-step system GMM approach to address endogeneity concerns. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of all the control variables are not reported. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Panel A								
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Environmental controversies	-0.050	-0.028	0.074						
	(0.114)	(0.017)	(0.106)						
Social controversies				-0.114	0.006	0.116			
				(0.076)	(0.008)	(0.072)			
Governance controversies							-0.362*	0.084*	0.344*
							(0.212)	(0.051)	(0.200)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(1): p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
AR(2): p-value	0.879	0.357	0.835	0.867	0.301	0.834	0.779	0.257	0.830
Hansen test: p-value	0.436	0.519	0.463	0.343	0.505	0.393	0.401	0.877	0.618
Groups	503	503	503	503	503	503	503	212	503
Instruments	253	236	253	253	236	253	233	227	229
Observations	2582	2582	2582	2582	2582	2582	2582	1118	2582
	Panel B								
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Accounting controversies	-29.535*	-3.436	28.844*						
	(17.455)	(2.199)	(16.464)						
Business ethics controversies				-0.003*	0.001*	0.003*			
				(0.002)	(0.000)	(0.002)			
Customer complaints controversies							-0.317**	0.000	0.457*
							(0.125)	(0.001)	(0.271)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(1): p-value	0.000	0.000	0.000	0.002	0.067	0.004	0.012	0.351	0.001
AR(2): p-value	0.782	0.425	0.907	0.673	0.191	0.550	0.815	0.420	0.462
Hansen test: p-value	0.574	0.467	0.522	1.000	1.000	1.000	1.000	1.000	1.000

Groups	450	503	450	140	140	140	24	85	18
Instruments	228	229	228	260	258	260	173	211	157
Observations	2236	2582	2236	547	547	547	101	256	57
				Panel C					
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Insider dealings	-7.496*	2.474*	6.913*						
controversies	(4.253)	(1.403)	(4.028)						
Product quality				-0.200**	-0.002	0.226**			
controversies				(0.101)	(0.003)	(0.094)			
Responsible marketing							-0.087***	0.008**	0.035***
controversies							(0.023)	(0.004)	(0.012)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AR(1): p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.047	0.087	0.059
AR(2): p-value	0.808	0.886	0.766	0.870	0.367	0.844	0.375	0.316	0.169
Hansen test: p-value	0.827	0.809	0.934	0.750	0.659	0.713	1.000	1.000	1.000
Groups	243	357	243	501	503	501	12	19	12
Instruments	247	241	247	240	253	242	48	85	48
Observations	1702	1505	1702	2321	2582	2321	25	35	25

Table 10: Bank- and country-based subsample analysis

This table presents the relationship between banks' ESG component controversies and earnings management in different bank- and country-based subsamples. The results are derived using Equation (4) fixed-effect estimation, covering 2002 to 2023. Since the median bank size, ESG performance, and gross domestic product of this study's sample are 17.541, 0.382, and 1.597 respectively, banks with values more than 17.541, 0.382, and 1.597 are grouped as large banks, banks with high ESG performance, and banks in countries with high GDP respectively. Conversely, banks with values below these medians are classified as small banks, banks with low ESG performance, and banks in countries with low GDP. Table 1 presents the definitions of the variables. To conserve space, the results of the control variables are not reported. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A – Bank type						
	Public banks			Private banks		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
ESG controversies	-0.064***	0.005**	0.069***	-0.001	0.008	0.009
	(0.025)	(0.002)	(0.024)	(0.064)	(0.005)	(0.064)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.061	0.015	0.062	0.796	0.820	0.798
Observations	6319	6319	6319	130	130	130
Panel B – Bank size						
	Large banks			Small banks		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(7)	(8)	(9)	(10)	(11)	(12)
ESG controversies	-0.051*	0.006**	0.057**	-0.054	-0.001	0.054
	(0.026)	(0.003)	(0.026)	(0.053)	(0.003)	(0.053)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.108	0.028	0.110	0.033	0.018	0.033
Observations	3226	3226	3226	3226	3226	3226
Panel C – ESG performance						
	Banks with high ESG performance			Banks with low ESG performance		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(13)	(14)	(15)	(16)	(17)	(18)
ESG controversies	-0.080***	0.005*	0.085***	-0.032	0.007	0.039
	(0.026)	(0.003)	(0.025)	(0.056)	(0.005)	(0.055)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.075	0.024	0.078	0.046	0.031	0.047
Observations	3223	3223	3223	3233	3233	3233

Panel D – Mandatory IFRS adoption						
	Banks in countries with mandatory IFRS adoption			Banks in countries without mandatory IFRS adoption		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(19)	(20)	(21)	(22)	(23)	(24)
ESG controversies	-0.071	0.000	0.071	-0.061**	0.006**	0.068***
	(0.078)	(0.003)	(0.078)	(0.024)	(0.002)	(0.024)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.176	0.165	0.169	0.067	0.019	0.069
Observations	625	625	625	5824	5824	5824
Panel E – Gross domestic product						
	Banks in countries with high GDP			Banks in countries with low GDP		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(25)	(26)	(27)	(28)	(29)	(30)
ESG controversies	-0.050	0.004	0.054	-0.056**	0.004*	0.059**
	(0.039)	(0.003)	(0.039)	(0.024)	(0.002)	(0.024)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.121	0.035	0.121	0.060	0.025	0.061
Observations	3471	3471	3471	3235	3235	3235

Table 11: Geography-based subsample analysis

This table presents the relationship between banks' ESG component controversies and earnings management in different geography-based subsamples. The results are derived using Equation (4) fixed-effect estimation, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of the control variables are not reported. The standard errors are mentioned within the parentheses. Except for Column (16), they are clustered by banks and robust to heteroscedasticity. ** and * denote statistical significance at the 5% and 10% levels, respectively.

Panel A									
	Africa			Asia-Pacific			Europe		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ESG controversies	-0.143	0.000	0.143	-0.089*	-0.000	0.089*	-0.044	0.002	0.046
	(0.114)	(0.005)	(0.112)	(0.048)	(0.001)	(0.048)	(0.035)	(0.003)	(0.035)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.580	0.504	0.583	0.204	0.112	0.204	0.190	0.129	0.187
Observations	109	109	109	1798	1798	1798	1339	1339	1339
Banks	15	15	15	192	192	192	104	104	104
Countries	5	5	5	15	15	15	29	29	29
Panel B									
	Latin America and the Caribbean			Middle East			United States and Canada		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
ESG controversies	0.021	0.022	0.002	-0.111	-0.011	0.100	-0.035*	0.020**	0.046**
	(0.109)	(0.029)	(0.115)	(0.085)	(0.007)	(0.089)	(0.020)	(0.008)	(0.021)
Bank-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.314	0.182	0.318	0.232	0.071	0.231	0.001	0.088	0.001
Observations	334	334	334	476	476	476	2393	2393	2393
Banks	34	34	34	67	67	67	295	295	295
Countries	6	6	6	10	10	10	3	3	3

Table 12: Robustness tests – Banks' ESG controversies and discretionary loan loss allowance

This table presents the relationship between banks' ESG controversies and discretionary loan loss allowance. The results are derived using Equation (4) fixed-effect estimation, with DISC_LLA replacing EM. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of all the control variables are not reported. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. **, and * denote statistical significance at the 5% and 10% levels, respectively.

	Discretionary loan loss allowance (1)	Discretionary loan loss allowance (2)
ESG controversies	-0.062*	-0.067*
	(0.035)	(0.036)
Restrictions on bank activities	-0.068	
	(0.070)	
Capital regulation	-0.019	
	(0.067)	
Official supervisory power	0.004	
	(0.048)	
Private monitoring	0.098**	
	(0.038)	
Overall bank regulation		0.035**
		(0.014)
Bank-level controls	Yes	Yes
Remaining country-level controls	Yes	Yes
Bank fixed effects	Yes	Yes
Time fixed effects	Yes	Yes
R-squared	0.029	0.028
Observations	6449	6449

Table 13: Banks' ESG controversies and discretionary loan loss allowance – Two-step system GMM

This table presents the relationship between banks' ESG controversies and discretionary loan loss allowance using the two-step system GMM approach to address endogeneity concerns. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of all the control variables are not reported. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Discretionary loan loss allowance (1)	Discretionary loan loss allowance (2)
ESG controversies	-0.029*	-0.042**
	(0.016)	(0.017)
Restrictions on bank activities	-0.000	
	(0.034)	
Capital regulation	0.014	
	(0.023)	
Official supervisory power	0.023	

	(0.018)	
Private monitoring	-0.002	
	(0.025)	
Overall bank regulation		0.056
		(0.039)
L. discretionary loan loss allowance	0.582***	0.581***
	(0.025)	(0.027)
Bank-level controls	Yes	Yes
Remaining country-level controls	Yes	Yes
Time dummies	Yes	Yes
AR(1): p-value	0.000	0.000
AR(2): p-value	0.828	0.808
Hansen test: p-value	0.339	0.215
Groups	707	681
Instruments	307	304
Observations	5739	5391

Table 14: Robustness tests – Banks' ESG controversies and income smoothing

This table presents the relationship between banks' ESG controversies and income smoothing. The results are derived using Equation (6) fixed-effect estimation. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of all the control variables are not reported. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. ** and * denote statistical significance at the 5% and 10% levels, respectively.

	Loan loss provision (1)	Loan loss provision (2)
ESG controversies × Profitability	0.030*	0.028*
	(0.015)	(0.016)
ESG controversies	-0.095**	-0.092**
	(0.045)	(0.044)
Profitability	0.001	-0.001
	(0.006)	(0.006)
Restrictions on bank activities	-0.203	
	(0.262)	
Capital regulation	-0.052	
	(0.088)	
Official supervisory power	-0.455*	
	(0.246)	
Private monitoring	-0.190	
	(0.432)	
Overall bank regulation		-0.114
		(0.159)
Bank-level controls	Yes	Yes
Remaining country-level controls	Yes	Yes
Bank fixed effects	Yes	Yes
Time fixed effects	Yes	Yes
R-squared	0.296	0.292
Observations	1463	1454

Table 15: Banks' ESG controversies and income smoothing – Two-step system GMM

This table presents the relationship between banks' ESG controversies and income smoothing using the two-step system GMM approach to address endogeneity concerns. The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. Table 1 presents the definitions of the variables. To conserve space, the results of all the control variables are not reported. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Loan loss provision (1)	Loan loss provision (2)
ESG controversies × Profitability	0.059*	0.060*
	(0.034)	(0.034)
ESG controversies	-0.093	-0.186**
	(0.084)	(0.079)
Profitability	-0.002	-0.011
	(0.008)	(0.010)
Restrictions on bank activities	0.314**	
	(0.130)	
Capital regulation	-0.128	
	(0.090)	
Official supervisory power	0.055	
	(0.126)	
Private monitoring	-0.137	
	(0.160)	
Overall bank regulation		-0.008
		(0.097)
L. loan loss provision	0.438***	0.403***
	(0.094)	(0.085)
Bank-level controls	Yes	Yes
Remaining country-level controls	Yes	Yes
Time dummies	Yes	Yes
AR(1): p-value	0.000	0.000
AR(2): p-value	0.531	0.197
Hansen test: p-value	0.950	0.980
Groups	391	212
Instruments	222	222
Observations	1388	1227

Table 16: Additional robustness tests

This table presents the relationship between banks' ESG controversies and earnings management. The results are derived using Equation (4) fixed-effect estimation. Table 1 presents the definitions of the variables. To conserve space, the results of the control variables are not reported. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Excluding the global financial crisis period (2007-09)			
	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
ESG controversies	-0.069***	0.003*	0.073***
	(0.023)	(0.002)	(0.023)
Bank-level controls	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
R-squared	0.051	0.013	0.052
Observations	5895	5895	5895
Panel B: Excluding the COVID-19 period (2020-21)			
	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
ESG controversies	-0.060**	0.007**	0.066***
	(0.024)	(0.003)	(0.024)
Bank-level controls	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
R-squared	0.067	0.015	0.069
Observations	5148	5148	5148
Panel C: Excluding the countries with less than three banks			
	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
ESG controversies	-0.059**	0.005**	0.064**
	(0.026)	(0.002)	(0.025)
Bank-level controls	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
R-squared	0.017	0.004	0.017
Observations	6219	6219	6219
Panel D: Excluding the United States			
	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
ESG controversies	-0.079***	0.001	0.080***
	(0.027)	(0.002)	(0.027)
Bank-level controls	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
R-squared	0.081	0.067	0.082
Observations	4216	4216	4216