Do banks' ESG controversies lead to earnings management?

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Do banks' ESG controversies lead to earnings management?

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Abstract

Amid mounting stakeholder scrutiny of sustainability, understanding how banks manage earnings to mitigate reputational and financial damage becomes essential. Examining a global sample of banks over two decades, we find a significant positive relationship between banks' environmental, social, and governance (ESG) controversies and income-increasing earnings management. This association is more pronounced among banks with high capital risk, banks in low gross domestic product (GDP) countries, and banks in countries without mandatory International Financial Reporting Standards (IFRS) adoption. Bank managers respond to the controversies within the same reporting period rather than adopting a delayed approach. This behaviour is evident during social or governance controversies, but not while facing environmental controversies. The evidence further extends the literature on agency theory by highlighting the role of agency incentives, as managers appear to manipulate results to shield their positions, compensation, and reputations from the negative effects of ESG controversies. Our findings remain robust across alternative samples, model specifications, earnings management measures, and endogeneity correction methods.

JEL Codes: G21, M41, G34, M14, Q56

Keywords: ESG controversy, earnings management, agency theory, banking industry

The views expressed are those of the author and do not necessarily represent the official views of Eesti Pank or the Eurosystem.

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Non-technical summary

Banks depend on public trust. Customers need confidence that their deposits are safe, while investors and regulators rely on financial reports to assess banks' performance and financial strength. Controversies involving misconduct, unfair treatment of customers or poor working conditions can undermine this confidence. They may also put managers under pressure to demonstrate that the bank remains profitable. This study examines whether banks facing environmental, social and governance controversies respond by using accounting judgements and investment transactions to increase reported profits.

Environmental, social and governance issues, commonly referred to as ESG, cover a broad range of business responsibilities. Environmental controversies concern a bank's involvement in activities that harm the natural environment. Social controversies relate to its treatment of people, including customers and employees. Governance controversies concern how the bank is managed and may involve bribery, corruption, fraud or insider dealing. Unlike assessments of a bank's sustainability policies or commitments, controversy measures capture adverse incidents reported in the media. This distinction matters because a bank can have extensive sustainability policies while still becoming involved in misconduct.

The study analyses 707 banks across 68 countries between 2002 and 2023, using 6,449 annual observations. It combines media-based ESG controversy scores from the London Stock Exchange Group with financial information from S&P Capital IQ Pro. The analysis accounts for differences in banks' financial characteristics, sustainability performance and national economic and regulatory conditions. It also takes account of stable differences between individual banks and developments affecting banks in a given year.

The research focuses on two ways in which managers can influence reported earnings. The first concerns loan loss provisions, which are expenses recognised to reflect expected losses on lending. Estimating these losses requires judgement. Recognising a smaller provision increases current reported profit, even though the bank's underlying lending business may not have improved. The second concerns the sale of investment securities. Managers can choose when to sell investments and recognise gains, potentially increasing profits in a particular reporting period. Neither a reduction in provisions nor the sale of an investment necessarily indicates inappropriate reporting. The study therefore estimates the portions of these activities that are not explained by the financial characteristics included in its models and uses them as indicators of earnings management.

The main finding is that greater exposure to ESG controversies is associated with discretionary reporting choices and securities gains that increase reported earnings. Banks facing more controversies tend to report lower discretionary loan loss provisions and higher discretionary gains from securities sales. Taken together, these patterns suggest that reported profitability may present a more favourable picture than would otherwise emerge. The relationship is concentrated in the same reporting year as the controversy. The analysis does not find a statistically reliable relationship when controversies are used to explain earnings management in the following year. This pattern is consistent with managers facing pressure to present stronger results during the year of a controversy, although the annual data cannot establish whether the reporting decisions occurred before or after the controversy became public.

The findings also differ by the type of controversy. Social and governance controversies are associated with income-increasing earnings management, while the study finds no statistically reliable evidence of a comparable relationship for environmental controversies. More detailed analysis identifies links involving bribery, corruption and fraud, customer complaints, insider

dealing, product quality, and wages and working conditions. One possible explanation is that these issues present particularly direct threats to customer trust, managers' reputations and regulatory relationships. However, the study does not directly test why managers respond differently to different controversies.

Subsample analyses suggest that the relationship is stronger among banks with higher capital risk, banks in lower-GDP countries and banks in countries without mandatory IFRS adoption. These banks may face greater pressure to maintain confidence in their financial position when adverse publicity arises. The relationship is also stronger among banks in countries with lower GDP and in countries without mandatory adoption of International Financial Reporting Standards. These results suggest that financial pressures and the national reporting environment matter. They do not, however, establish that lower GDP necessarily means weaker oversight or that adopting international standards alone would prevent earnings management.

Several additional analyses support the main findings. These include alternative earnings management measures, different sample selections, and comparisons between banks with similar observable characteristics. The researchers also use statistical approaches intended to address the possibility that other factors explain both controversies and reporting decisions. Nevertheless, the evidence remains observational. It supports a consistent relationship but does not conclusively establish that ESG controversies cause earnings management. The explanation that managers inflate earnings to protect their jobs, compensation or reputations is plausible, rather than directly demonstrated.

The findings have practical implications for investors, auditors, regulators and bank boards. Strong reported profits during an ESG controversy should not automatically be interpreted as evidence that the bank is unaffected. Closer examination of loan loss estimates and securities gains may be warranted, particularly where capital pressures are already high. Audit committees and supervisors can also consider whether reporting decisions are adequately supported and whether remuneration arrangements place excessive emphasis on short-term profits. The broader message is that responsible business conduct and reliable financial reporting should be assessed together. Understanding a bank's response to controversy requires attention not only to its public statements, but also to the judgements underlying its reported earnings.

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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). Within this context, research suggests that 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), it is plausible that banks with high ESG controversies may use income-increasing earnings management to mitigate the negative reputational and financial consequences of such controversies. Hence, this study aims to investigate the potential impact of banks' ESG controversies on earnings management.

The propensity for earnings management is particularly pronounced in the banking sector compared to non-financial organisations for several reasons (Greenawalt and Sinkey Jr, 1988), amplifying the relevance of this investigation. 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).

To empirically explore these issues, we analyse a sample of 707 banks from 68 countries over a 22-year period (2002–2023) to examine whether banks' ESG controversies lead to earnings management. In addressing this question, we adopt a robust empirical strategy, employing fixed effects regressions alongside the instrumental variable method, Oster test, propensity score matching, and entropy balancing to mitigate endogeneity concerns. We measure banks' ESG controversies by externally determined scores provided by the London Stock Exchange Group (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 proxy earnings management through discretionary loan loss provisions and realised gains and losses on securities, capturing managerial discretion in financial reporting.

Our baseline finding suggests that ESG controversies motivate banks to adopt income-increasing earnings management. Bank managers adopt this strategy in the same year rather than postponing their actions. Further disaggregation shows that social and governance controversies, rather than environmental issues, trigger this upward manipulation of earnings. Within the spectrum of governance-related incidents, events involving anti-competitive practices, bribery and fraud, customer grievances, insider trading, product defects, and labour disputes are linked to income-increasing earnings management. Subsample examinations indicate that these effects are most pronounced in banks with significant capital risk exposure. Moreover, the propensity to inflate earnings amid ESG controversies is heightened in countries lacking mandatory IFRS adoption and in economies with lower GDP levels.

Building on these findings, our study contributes to the literature in several ways. First, it provides novel empirical evidence that banks engage in income-increasing earnings management when confronted with ESG controversies. Second, it extends the agency theory literature by indicating that agents (i.e., bank managers) tend to strategically manipulate financial reporting to protect their interests during periods of ESG controversies. Third, the study differentiates between types of ESG controversies and documents that upward earnings management is more pronounced during social and governance controversies than environmental ones. Fourth, it identifies the specific controversy components that most strongly trigger such behaviour. Finally, the study highlights the characteristics of banks associated with income-increasing earnings management when facing ESG controversies.

These insights carry important implications for a range of stakeholders. For shareholders and investors, our results suggest a need to adjust investment strategies and demand greater transparency from banks embroiled in ESG controversies. For regulators and policymakers, the evidence underscores the importance of heightened scrutiny and more stringent regulations surrounding banks' earnings management practices. For supervisors and auditors, it signals the necessity of applying stricter audit procedures when examining banks with ESG controversies. Finally, ESG advocates can leverage these findings to exert additional pressure on banks, pushing for more robust ESG practices and stronger 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 results are outlined and discussed in Sections 4 and 6, respectively. Robustness tests are conducted in Section 5. Finally, the paper is concluded in Section 7.

2. Literature review and hypothesis development

2.1 Theoretical background and literature review

Extant literature consistently demonstrates that corporate controversies and irresponsible ESG practices impose significant economic and reputational costs on firms. At the operational level, elevated social irresponsibility is associated with greater financial risk exposure (Kölbel et al., 2017). ESG controversies decrease investment effectiveness (Xue et al., 2023), undermine profitability (Treepongkaruna et al., 2022), and weaken the predictability of future earnings (Schiemann and Tietmeyer, 2022). At the market level, controversial firms experience under-performance and share-price declines (De Franco, 2019; Luo, 2021; Soschinski et al., 2024), leading to domestic institutional divestment (Bang et al., 2023), higher cost of equity (La Rosa and Bernini, 2022), lower firm value (Brinette et al., 2023), and greater reputational risk that increases payout requirements (Cicchiello et al., 2023). Under such pressures, managers may resort to earnings management, a strategic manipulation of financial reporting intended to mislead stakeholders and secure private gains (Healy and Wahlen, 1999).

This behaviour is further explained by agency theory, which posits that managers may engage in opportunistic reporting when their interests diverge from those of shareholders (Jensen and Meckling, 1976). These conflicts are amplified in banks due to depositor sensitivity and reputational concerns (Diamond and Dybvig, 1983), alongside asset opacity and reporting discretion (Bushman and Williams, 2012), which provide managers both the flexibility and incentive to manage earnings. Managers are therefore motivated to mitigate forecasting penalties (Kasznik, 1999), avoid small earnings declines (Burgstahler and Dichev, 1997), and meet regulatory capital requirements (Barth et al., 2017). Additional incentives include enhancing long-term value metrics (Graham et al., 2005) and securing compensation tied to

performance (Healy and Wahlen, 1999). While such practices shape performance perceptions (Bowen et al., 1992), they risk concealing the actual economic condition of the firm and mis-leading investors (Cheng and Warfield, 2005), especially during periods of ESG controversies.

A growing stream of literature 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 protective effect of ESG is even stronger in family-controlled firms (Borralho et al., 2022). In the banking sector, high ESG-performing institutions refrain from inflating income through abnormal loan loss provisions (Kolsi et al., 2023). While these studies highlight the mitigating role of ESG performance in earnings management, ESG performance and ESG controversies capture different dimensions of corporate behaviour (Aouadi and Marsat, 2018). Thus, it remains unclear whether ESG controversies, as adverse events, may instead exacerbate income-increasing earnings management.

Although stakeholders appreciate strong ESG performance (Fatemi et al., 2018; Islam et al., 2025b), the lasting impact of corporate social irresponsibility often outweighs the benefits of corporate social responsibility initiatives (Price and Sun, 2017). Consequently, firms are reluctant to adopt more rigorous ESG practices to mitigate the adverse effects of ESG controversies (DasGupta, 2022), as shareholders generally perceive these actions as ineffective at counteracting reputational harm (Nirino et al., 2021). Moreover, once an ESG-related controversy gains media attention, firms have limited ability to contain its spread (Galletta and Mazzù, 2023), and past controversies continue to fuel ongoing disputes (Agnese et al., 2023). As such market uncertainty rises, managers often resort to both accrual and real earnings management (Yao et al., 2024). They may engage in this behaviour to report higher profitability and divert stakeholders' attention from these controversies.

In the context of banks, such behaviour often manifests through the use of accounting discretion to avoid reporting earnings declines when facing performance pressure (Beatty et al., 2002). In particular, banks may adjust discretionary loan loss provisions or realise securities gains to influence reported profitability. Evidence suggests that loan loss provisions are commonly used for upward earnings smoothing in banks (Kanagaretnam et al., 2010), while realised gains on securities portfolios also provide a flexible mechanism to increase reported income when performance deteriorates (Beatty et al., 2002). These discretionary reporting choices allow managers to improve reported earnings without immediate changes to underlying operations. Consequently, when ESG controversies threaten stakeholder confidence and increase performance pressure, managers have stronger incentives to engage in income-increasing earnings management rather than adopt conservative reporting.

Prior research highlights that banks experiencing more ESG controversies tend to engage in higher risk-taking (Galletta and Mazzù, 2023). 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. Despite these theoretical arguments and related evidence, empirical research directly examining this relation-ship remains limited, particularly regarding how bank characteristics and national contexts may shape it.

2.2 Hypothesis development

2.2.1 ESG controversies and accrual-based earnings management

Banks exercise considerable discretion over loan loss provisions (LLP), and a large empirical literature shows that managers use LLP for income smoothing and capital management in response to incentives and shocks (Kanagaretnam et al., 2003; Cornett et al., 2009). When ESG controversies threaten a bank's reputation or regulatory standing, managers face pressure, motivating them to inflate earnings and capital ratios. Since LLP directly reduces reported profit and affects regulatory capital, managers opportunistically reduce discretionary LLP to inflate current earnings or preserve capital buffers (Bushman and Williams, 2012). This accrual-based channel is therefore a primary mechanism through which banks may respond to controversy-induced pressure.

H1: Banks' ESG controversies negatively impact loan loss provisions.

2.2.2 ESG controversies and real earnings management

In addition to accrual-based discretion, banks have a transactional mechanism to influence earnings through the selective realisation of gains on securities. Prior research shows that banks strategically time the sale of securities to recognise gains when needed, using this flexibility to smooth earnings (Beatty et al., 1995; Barth et al., 2017). Unlike accrual-based adjustments, this channel relies on actual transactions and produces an immediate effect on reported earnings, making it particularly effective under short-term performance pressure (Roychowdhury, 2006). In the context of ESG controversies, heightened reputational concerns and external scrutiny may incentivise managers to rely on realised gains as a timely mechanism to increase earnings.

H2: Banks' ESG controversies positively impact gains on securities.

2.2.3 ESG controversies and net earnings management

The overall effect of ESG controversies on earnings management reflects both the direction of earnings management, whether income-increasing or income-decreasing, and the combined use of different managerial tools. Prior literature shows that firms employ multiple earnings management channels simultaneously, and aggregate measures are commonly used to determine whether managerial discretion results in upward or downward earnings manipulation (Cohen and Zarowin, 2010; Zang, 2012). In the banking context, discretionary loan loss provisions and realised gains on securities capture distinct but complementary channels, and their combined effect reveals whether managers, on net, inflate or deflate reported earnings (Cornett et al., 2009). Building on the evidence that managerial discretion is often used to smooth banks' reported earnings (Bushman and Williams, 2012), ESG controversies are expected to intensify reputational and performance concerns, thereby increasing incentives for bank managers to engage in income-increasing earnings management to offset potential negative market perceptions.

H3: Banks' ESG controversies lead to income-increasing earnings management.

3. Data and method

3.1 Data

3.1.1 Database matching

Our sample construction begins with the intersection of two comprehensive databases: the London Stock Exchange Group (LSEG) Workspace (formerly Thomson Reuters' Refinitiv) and S&P Capital IQ Pro. From LSEG Workspace, we collect annual data on banks' ESG controversies, ESG performance and ten controversy-related variables, while all other bank-level variables are sourced from S&P Capital IQ Pro. This choice comes from the fact that most earnings management variables are unavailable in LSEG Workspace and those that are available lack sufficient coverage. To accurately merge records across these databases, we employ unique identifiers including the LEI, ISIN, CUSIP, SEDOL, and ticker symbols. When these identifiers are not available, we rely on fuzzy matching by bank name to match the remaining banks in the sample. By including both active and inactive banks, we mitigate the risk of survival bias. Given that LSEG Workspace provides controversy data dating back to 2002, our analysis spans a 22-year period from 2002 through 2023.

To account for cross-country regulatory heterogeneity, we follow Miller et al. (2021) in constructing five indices of national bank regulation and supervision. Utilising the Bank Regulation and Supervision Survey data provided by the World Bank[1] and applying the methodology outlined by Barth et al. (2013), we measure restrictions on bank activities, capital regulation, official supervisory power, private monitoring, and overall bank regulation, the latter being a composite of the first four indices. We further capture country-level differences in financial reporting by integrating data on the mandatory adoption of International Financial Reporting Standards (IFRS) from 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 remaining country-specific variables were obtained from the World Bank: competition data from the G20 Financial Inclusion Indicators database[2], and gross domestic product (GDP) and inflation data from the World Development Indicators database[3]. The notations, definitions, and sources of each variable are specified in Table 1.

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

[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.

[2] The G20 Financial Inclusion Indicators database offers comprehensive data on both users and providers of financial services. See details at https://databank.worldbank.org/source/g20-financial-inclusion-indicators.

[3] The World Development Indicators database provides the most up-to-date and reliable statistics on development worldwide, offering estimates at national, regional, and global levels. See details at https://databank.worldbank.org/source/world-development-indicators.

Variables	Notations	Definitions	Sources
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. Non-performing 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

Variables	Notations	Definitions	Sources
Controversy variables			
Anti-competition controversies	AC	A score measuring a company's global exposure to controversies linked to anti-competitive behaviour (e.g., anti-trust and monopoly), price-fixing or kickbacks	LSEG Workspace
Bribery, corruption, and fraud controversies	BCFC	A score measuring a company's global exposure to controversies linked to bribery and corruption, political contributions, improper lobbying, money laundering, parallel imports or any tax fraud	LSEG Workspace
Customer complaints controversies	CCC	A score measuring a company's global exposure to controversies because of consumer complaints or dissatisfaction directly linked to its products or services	LSEG Workspace
Environmental controversies	ECS	A score measuring a company's global exposure to controversies related to the environmental impact of the company's operations on natural resources or local communities	LSEG Workspace
ESG controversies	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	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 global exposure to controversies linked to insider dealings and other share price manipulations	LSEG Workspace
Product quality controversies	PQC	A score measuring a company's global exposure to controversies linked to its product or service quality and responsibilities	LSEG Workspace
Social controversies	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. Since LSEG does not provide a human rights controversies score, the social controversies measure is constructed using the available categories and their corresponding LSEG weights.	LSEG Workspace
Wages and working condition controversies	WWCC	A score measuring a company's global exposure to controversies linked to the company's employees, contractors or suppliers due to wage, layoff disputes or working conditions	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

Variables	Notations	Definitions	Sources
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			
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

To reduce the impact of extreme outliers, we winsorise all variables at the 1% level in both tails. The final dataset comprises an unbalanced panel with a total of 6,449 observations from 707 banks across 68 countries. Table OA1 in the Online Appendix reports the number of banks, the number of observations, and the percentage of observations from each country along with respective names.

3.1.2 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., absolute earnings management and discretionary loan loss allowance) 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 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 above are detailed in Table 1 along with their sources. The residuals from Equation (1) represent the discretionary portion of LLP, labelled as DISC_LLP. Although we follow Cornett et al. (2009) in using the signed DISC_LLP in Equation (1), we also conduct

a robustness test using the absolute value of DISC_LLP in Section 5.1. To estimate discretionary RGLSs, we follow both Beatty et al. (2002) and Cornett et al. (2009). The model used for estimation purposes 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 above 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 OA2 in the Online Appendix presents the regression results of Equations (1) and (2). 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. These three earnings management measures are expressed as a percentage of total assets.

3.1.3 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.[4] 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. Besides, they are evaluated based on industry-specific benchmarks, and no controversy is double-counted.

The ESG controversies score is determined by assessing 23 ESG controversy topics. The components used include customer complaints controversies, insider dealings controversies, and working condition controversies etc. Since the ESG controversies score best represents a bank's overall ESG-related controversies, the component scores (e.g., customer complaints controversies, insider dealings controversies etc.) are not used in the baseline analysis.

[4] 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

However, we have utilised the component scores for additional insights into their impact on earnings management.

According to the LSEG framework, the default value of all controversy measures is 0, and companies with no controversies are assigned a score of 100. To enhance interpretability, we transform the original LSEG controversies score, where higher values indicate fewer controversies, by computing 100 − score. This inversion ensures that higher values directly correspond to greater controversy exposure. We then rescale the transformed score to lie between 0 and 1. This rescaling allows the variable to be interpreted as a relative intensity of controversies, where 0 represents no controversy exposure and 1 reflects the highest observed level of controversy in the sample. Accordingly, a one-unit increase in the rescaled measure represents a shift from no controversies to the maximum observed controversy intensity, while smaller changes (e.g., 0.1) reflect economically meaningful increases in controversy exposure. Importantly, this transformation also facilitates comparability with other scaled financial variables (e.g., earnings management measures expressed relative to total assets), ensuring that coefficient magnitudes reflect economically interpretable effects rather than differences in measurement scales.

3.1.4 Descriptive statistics

The summary statistics are presented in Table 2, 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) show mean values close to zero and negative mean and minimum values, 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.

All the independent variables used in the regression model of this study are tested to check the possibility of multicollinearity issues. Table OA3 in the Online Appendix 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 Cooray, 2019). Similarly, the variance inflation factors (VIF) are calculated, and the VIF values range from 1.11 to 3.13 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.

Table 2: Summary statistics

	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
Discretionary loan loss provisions	6449	0.000	0.195	–2.313	1.003
Discretionary realised gains and losses on securities	6449	0.000	0.040	–1.955	0.150
Discretionary earnings	6449	–0.000	0.199	–1.775	2.303
ESG controversies	5836	0.083	0.219	0.000	0.995
Audit firm	4330	0.857	0.351	0.000	1.000
Size	6335	17.364	1.751	12.474	19.812
Capital risk	5053	0.129	0.030	0.065	0.180
ESG performance	5846	0.445	0.205	0.014	0.957
Growth opportunities	5377	0.001	0.001	0.000	0.004
Leverage	5894	11.012	4.190	3.315	18.004
Profitability	6134	0.460	1.744	–0.005	8.558
Restrictions on bank activities	6231	1.943	0.210	1.609	2.398
Capital regulation	6235	1.799	0.258	0.693	2.303
Official supervisory power	6207	2.451	0.167	1.099	2.674
Private monitoring	6201	2.157	0.145	1.609	2.398
Overall bank regulation	6070	2.944	0.165	1.386	3.178
Mandatory IFRS adoption	6449	0.097	0.296	0.000	1.000
Gross domestic product	6180	1.618	3.454	–19.748	23.305
Inflation	6180	2.873	5.337	–25.958	85.542
Competition	5628	3.102	0.555	0.820	4.648
Investor protection	6278	0.789	0.682	–1.185	1.889

Note: 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.

3.2 Methods

3.2.1 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 relationship between banks' ESG controversies and earnings management by using the following fixed-effects model:[5]

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

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 discretionary

[5] 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.

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 an influence 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 previous studies on bank ESG controversies (Agnese et al., 2023; Galletta and Mazzù, 2023). It is reasonable to expect that banks would react promptly through earnings management during a controversy within the same year. The definitions and notations of all the variables are detailed in Table 1. ε is the error term.

3.2.2 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. One possible concern is simultaneity. Banks that engage in higher earnings management may attract more controversies because they present an inaccurate picture of their financial health, while controversies themselves may also create incentives for managers to engage in earnings management. This bidirectional relationship may bias the estimated coefficients. In addition, as noted by Wooldridge (2015), 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 between the dependent and independent variables. There may be 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 (Gan, 2019) and use the country-year median of ESG controversies as an instrumental variable (IV). We implement instrumental variable estimation using two-stage least squares (2SLS), a long-standing technique in classical econometrics, drawing on the clear exposition in Angrist and Imbens (1995). The first and second stages are defined in Equations (5) and (6), respectively:

$$ESGC_{i,t} = \gamma_0 + \gamma_1 IV_{i,t} + \sum \gamma_n X_{n,i,t} + \sum \gamma_n C_{n,j,t} + \tau_t + \alpha_i + u_{i,t} \quad (5)$$

$$EM_{i,t} = \delta_0 + \delta_1 \widehat{ESGC}_{i,t} + \sum \delta_n X_{n,i,t} + \sum \delta_n C_{n,j,t} + \tau_t + \alpha_i + \vartheta_{i,t} \quad (6)$$

In the first stage (Equation 5), we obtain a predicted value of the endogenous variable ($\widehat{ESGC}$) by regressing the selected instrument (*IV*) on the original endogenous variable (*ESGC*). In the second stage (Equation 6), these fitted values ($\widehat{ESGC}$) are then used to explain the outcome variable of interest (*FC*). The error terms for the first and second stages are denoted by u and ϑ, respectively. A detailed description of the remaining variables and subscripts is provided in Section 3.2.1.

The proposed instrumental variable must satisfy the three classical requirements. First, the relevance condition implies that the instrument (i.e., country-year median of ESG controversies) should have a relationship with the endogenous regressor (i.e., banks' ESG controversies) (Wooldridge, 2015). This relationship is grounded in institutional theory, which posits

that organisations operating in the same environment respond similarly to common regulatory and informational pressures (DiMaggio and Powell, 1983). In any given year, tighter ESG reporting mandates, spikes in media scrutiny (Dyck et al., 2008), and waves of stakeholder activism elevate controversy disclosures across all banks in a country. High-profile events, like environmental disasters or political scandals, further amplify oversight by regulators and journalists, lifting both the national median and each bank's individual controversies. As shown by the scatter plot in Figure OA1 of the Online Appendix, the fitted line confirms this positive relationship, and Section 4.2 will report formal statistical tests supporting its strength. Thus, it may reasonably be assumed that the instrument is strongly correlated with the banks' ESG controversies.

Second, the exclusion restriction condition requires that the instrument affects the dependent variable only through the endogenous regressor and does not exert any direct influence on the outcome (Angrist and Pischke, 2009). Prior research suggests that earnings management is primarily driven by firm-specific characteristics such as capital risk, leverage, profitability, and choice of auditor (Cornett et al., 2009; Kanagaretnam et al., 2010; Grougiou et al., 2014). Because the country-year median of ESG controversies captures macro-environmental factors external to any specific bank, it is unlikely to directly influence each bank's earnings management. To further assess this condition, we estimate a fixed-effects regression including both the instrument and bank-level ESG controversies, along with the full set of control variables. The results (unreported) show that the instrument is generally statistically insignificant, whereas ESG controversies remain significant, suggesting that the instrument does not exert an independent effect on the outcome.

We further perform additional robustness tests to examine instrument validity. To address concerns that the instrument may reflect firm-level behaviour in countries with few banks, we re-estimate the IV regressions after excluding countries with fewer than three banks, and the results remain qualitatively unchanged. We then turn to standard diagnostic tests, where the reduced-form estimates show that the instrument is significantly associated with earnings management measures in directions consistent with the corresponding first- and second-stage results, despite differences in sign across outcomes. In contrast, using a lagged version of the instrument in the IV specification shows insignificant coefficients, indicating the absence of a persistent or delayed direct effect. Additionally, forward-looking placebo tests indicate that the instrument does not predict future values of the outcome variables. Collectively, these findings provide consistent evidence that our instrument affects earnings management primarily through the endogenous regressor rather than via a direct channel.

Third, concerning the exogeneity condition, the instrument should be uncorrelated with the model's error term (Wooldridge, 2010), which encompasses omitted factors affecting earnings management. While one may argue that shifts in a bank's asset concentration could impact both earnings management and the instrument, it is not plausible that such bank-level changes would systematically influence the national median of ESG controversies. Besides, identifying unobserved variables is inherently challenging, as there may be an infinite number of such factors, many of which are unidentifiable (Wooldridge, 2015). Accordingly, the instrument can reasonably be regarded as exogenous.

Nevertheless, the country-year median of ESG controversies may also capture broader institutional, regulatory, or macroeconomic conditions that could simultaneously influence banks' earnings management. Although we incorporate extensive controls and fixed effects to mitigate such concerns, we cannot fully rule out the possibility that the instrument reflects residual country-year factors, so the exclusion restriction and instrument exogeneity may not hold perfectly. Accordingly, we view the IV estimates as one component of a broader

identification strategy: they complement the baseline results and robustness analyses by providing evidence that is consistent with and reinforces our causal interpretation, while not on their own establishing causality conclusively.

To further address concerns about potential omitted variable bias, we follow Heimer et al. (2019) and apply the stability test developed by Oster (2019). This approach involves calculating a δ statistic, which measures the degree of selection on unobservables relative to observables required to invalidate the estimated coefficient. An absolute value of δ exceeding 1 suggests that unobservables are unlikely to fully account for the observed effects. We also derive an identifiable set of β statistics (Oster bounds) using this estimation technique. If these bounds exclude zero, the null hypothesis of potential omitted variable bias is rejected.

We also employ the propensity score matching (PSM) method as it enhances causal inference in quasi-experimental and observational studies by mitigating selection bias (Randolph and Falbe, 2014). Since PSM requires a binary treatment, we classify banks implicated in at least one ESG controversy as the treatment group, and banks with no recorded controversies as the control group. This definition is consistent with prior study by Aouadi and Marsat (2018) that contrasts firms with versus without ESG controversies. Using seven bank-level covariates drawn from our baseline regression model, we match each treated bank to its two closest non-controversial control counterparts within a caliper of 0.1, yielding a matched sample of 352 banks.

Following Treepongkaruna et al. (2022), we conduct a diagnostic test to ensure the validity of our matching process. The test results are presented in Table OA4 in the Online Appendix. Column (1) employs a logistic regression with a binary dependent variable set to 1 for banks in the treatment group and 0 for those in the control group, using the full sample prior to matching. Column (2) applies the same logistic regression to the post-match sample with propensity score matching. The coefficients across both columns present similar levels of statistical significance, indicating that the treatment and control banks are equal across all measurable bank-level characteristics. Finally, we re-estimate the baseline specification (Equation 4) using fixed-effects regression on the matched sample, comprising 204 banks from 51 countries in the treatment group and 148 banks from 39 countries in the control group.

Moreover, we utilise the entropy balancing method suggested by Hainmueller (2012) to further address issues of selection bias and observable confounding. This approach tackles covariate imbalance in observational studies involving binary treatments. It employs a maximum entropy reweighting method to adjust unit weights, ensuring that the reweighted treatment and control groups meet predefined balance criteria. The technique enhances the theoretical advantages of "propensity score adjustment" method by addressing its practical limitations, utilising numerous moment conditions, and ensuring exact balance (Watson and Elliot, 2016). Here, we apply the same treatment and control groups as those used in the PSM method (banks with at least one ESG controversy versus those without). Subsequently, we employ entropy balancing to align the mean, variance, and skewness of the observations between the two groups.

4. Results

4.1 Baseline regression results

Table 3 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). Since the overall bank regulation variable is derived from the four country-level bank regulation variables, we replace the latter with the overall variable in Columns (2), (4), and (6).

Table 3: Banks' ESG controversies and earnings management

	DISC_LLP	DISC_LLP	DISC_GAINS	DISC_GAINS	DISC_EARN	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	–0.132	–0.063	–0.001	–0.010	0.131	0.053
	(0.117)	(0.107)	(0.015)	(0.014)	(0.115)	(0.104)
ESG controversies	–0.062**	–0.056**	0.007*	0.007*	0.069***	0.063***
	(0.024)	(0.024)	(0.004)	(0.004)	(0.024)	(0.023)
Audit firm	–0.027	–0.031	–0.005	–0.005	0.022	0.026
	(0.023)	(0.023)	(0.006)	(0.006)	(0.024)	(0.024)
Size	0.009*	0.009*	0.002*	0.001*	–0.007	–0.007
	(0.005)	(0.005)	(0.001)	(0.001)	(0.005)	(0.005)
Capital risk	–0.075	–0.091	–0.058**	–0.056**	0.017	0.034
	(0.122)	(0.121)	(0.025)	(0.024)	(0.125)	(0.124)
ESG performance	–0.002	–0.005	–0.001	–0.001	0.001	0.004
	(0.030)	(0.030)	(0.003)	(0.003)	(0.030)	(0.030)
Growth opportunities	–20.138**	–20.312**	4.183***	4.176***	24.321***	24.488***
	(8.055)	(8.080)	(1.409)	(1.414)	(8.306)	(8.331)
Leverage	0.006**	0.006**	–0.001**	–0.001**	–0.007**	–0.008***
	(0.003)	(0.003)	(0.001)	(0.001)	(0.003)	(0.003)
Profitability	0.008	0.007	–0.001***	–0.001***	–0.009*	–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)		(0.001)		(0.047)	
Capital regulation	–0.072**		–0.001		0.067**	
	(0.031)		(0.003)		(0.031)	
Official supervisory power	–0.001		–0.001		0.000	
	(0.029)		(0.003)		(0.029)	
Private monitoring	–0.009		–0.001		0.008	
	(0.039)		(0.002)		(0.039)	
Overall bank regulation	–0.057	0.015	0.005*	–0.003***	0.062	–0.018*
	(0.037)	(0.011)	(0.003)	(0.001)	(0.038)	(0.011)
Mandatory IFRS adoption	–0.019***	–0.061	0.001**	0.005*	0.019***	0.065
	(0.003)	(0.041)	(0.000)	(0.003)	(0.003)	(0.041)
Gross domestic product	–0.001	–0.019***	0.001	0.001**	0.001	0.020***
	(0.001)	(0.003)	(0.000)	(0.000)	(0.001)	(0.003)
Inflation	0.049***	–0.001	0.002**	–0.000	–0.047***	0.001
	(0.010)	(0.001)	(0.001)	(0.000)	(0.010)	(0.001)
Competition	–0.021	0.048***	0.005	0.002*	0.025	–0.046***
	(0.037)	(0.010)	(0.005)	(0.001)	(0.037)	(0.010)
Investor protection	–0.062**	–0.011	0.007*	0.004	0.069***	0.015
	(0.024)	(0.037)	(0.004)	(0.005)	(0.024)	(0.038)
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.057	0.054	0.010	0.009	0.058	0.055
Observations	6449	6449	6449	6449	6449	6449

Note: 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.

Columns (1) and (2) show that an increase in banks' ESG controversies leads to a decrease in discretionary LLPs. This decrease in DISC_LLP indicates an increase in bank earnings. The coefficients demonstrate statistical significance at a 5% level, confirming the same findings. On the other hand, Columns (3) and (4) present that an increase in banks' ESG controversies results in an increase in discretionary realised gains and losses on securities (RGLSs). This increase in DISC_GAINS points to an increase in bank earnings. The coefficients exhibit statistical significance at a 10% level, confirming the same findings. Moreover, Columns (5) and (6) illustrate that an increase in banks' ESG controversies contributes to an increase in discretionary earnings. This increase in DISC_EARN implies an increase in bank earnings. The coefficients exhibit statistical significance at a 1% level, confirming the same findings. Thus, the results from different model specifications of Table 3 confirm that banks' ESG controversies lead to income-increasing earnings management.

Additionally, we lag ESG controversies by one year to examine whether earnings management responses persist beyond the contemporaneous period or follow a delayed approach. Although ESG controversies may extend over multiple periods due to ongoing media attention, regulatory actions, or legal developments, the lagged coefficients (unreported) are statistically insignificant. This indicates that banks do not systematically adopt a delayed approach in adjusting earnings in response to such controversies. Instead, managerial responses are concentrated in the same year in which the controversy arises. A plausible explanation is that the initial disclosure of ESG controversies triggers immediate scrutiny from investors, regulators, and other stakeholders, creating strong incentives for managers to inflate reported performance promptly. Once this initial pressure is absorbed into market expectations, the incentive to engage in further earnings manipulation diminishes. These findings suggest that earnings management responses to ESG controversies are primarily contemporaneous rather than delayed or persistent.

4.2 Addressing endogeneity

Equation (4) may not establish a causal relationship due to various endogeneity issues, as discussed in Section 3.2.2. Recognising the limitations of the results obtained from Equation (4), we employ the instrumental variable approach where country-year median of ESG controversies is the instrument. The findings are summarised in Table 4. In Panel A, the first-stage estimates (Columns 1–3) demonstrate a positive and highly significant (1% level) association between the instrument and bank-level ESG controversies. These results are identical across specifications, as each employs the same instrument, model, and sample.

The reported first-stage F-statistics are all significant at the 1% level, suggesting that the instrument is not weak. Consistent with this, weak-instrument diagnostics based on the Wald F statistic Cragg and Donald (1993) and the critical values provided by Stock and Yogo (2005) support the relevance of the instrument. Panel B presents the second-stage results, where the predicted ESG controversies are negatively associated with DISC_LLP (significant at the 1% level) and positively associated with both DISC_GAINS (significant at the 10% level) and DISC_EARN (significant at the 1% level). While these results are consistent with the baseline estimates and robustness analyses, we interpret them with caution. Given the challenges in fully satisfying the exclusion restriction and instrument exogeneity, as discussed in Section 3.2.2, we treat the IV estimates as reinforcing the robustness of the main findings rather than providing conclusive evidence of causality.

Table 4: Instrumental variable regression

Panel A – First stage output			
	ESGC (1)	ESGC (2)	ESGC (3)
Country-year median ESG controversies	0.605*** (0.017)	0.605*** (0.017)	0.605*** (0.017)
Bank-level controls	Yes	Yes	Yes
Country-level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
F statistic	54.16***	54.16***	54.16***
Weak identification test	1311.577†	1311.577†	1311.577†
R-squared	0.280	0.280	0.280
Observations	6449	6449	6449
Panel B – Second stage output			
	DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
ESG controversies (predicted)	–0.172*** (0.042)	0.017* (0.009)	0.189*** (0.042)
Bank-level controls	Yes	Yes	Yes
Country level controls	Yes	Yes	Yes
Bank fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
F statistic	8.50***	1.35*	8.64***
R-squared	0.051	0.008	0.051
Observations	6449	6449	6449

Note: This table presents the results of Equations (5) and (6) in a two-stage least squares regression approach. The instrumental variables are country-year median of ESG controversies. Table 1 presents the definitions of the variables. The standard errors are mentioned within the parentheses. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. The weak identification test reports the Cragg and Donald (1993) Wald F statistic, where † indicates that the statistic exceeds the 10% maximal IV-size critical value of Stock and Yogo (2005). The sample represents a total of 707 banks and 68 countries, covering 2002 to 2023. To conserve space, the results of the control variables are not reported.

We also perform the stability test proposed by Oster (2019) to further address the risk of omitted variable bias. The test results are presented in Table 5. The delta (δ) statistics indicate that unobserved variables would need to be more than 25 times, 9 times, and 21 times as strong – in the opposite direction – in Columns (1), (2), and (3), respectively, to fully explain away the observed effect. Additionally, the bounds of the identifiable set for beta (β) statistics, under the same specifications as in Columns (1) to (3), do not include zero. These findings suggest that the baseline coefficient estimates are less likely to be influenced by selection resulting from unobserved variables.

Table 5: Selection on unobservables in regression estimates

		DISC_LLP (1)	DISC_GAINS (2)	DISC_EARN (3)
Controlled	Beta (β) statistic	–0.062	0.0065	0.069
	R-squared	0.057	0.009	0.058
Uncontrolled	Beta (β) statistic	–0.049	0.004	0.053
	R-squared	0.001	0.000	0.002
Delta (δ) statistic ($\beta = 0$, $R^2max = 1.3*R^2$)		–24.625	–9.253	–21.177
Oster bounds ($\delta = 1$, $R^2max = 1.3*R^2$)		[–0.067, –0.062]	[0.0065, 0.0074]	[0.069, 0.074]

Note: This table presents results from the stability test proposed by Oster (2019). The coefficient of interest (β) and r-squared (R^2) in rows 'Controlled' and 'Uncontrolled' are employed as inputs. Controlled inputs refer to estimates from the baseline regression with observed controls included, while uncontrolled inputs come from a regression without those controls. Controlled R^2 is used to calculate the maximum attainable R^2 (R^2max).

Additionally, we employ the propensity score matching (PSM) and entropy balancing methods to mitigate concerns related to selection bias and observable confounding. Columns (1) to (3) of Table 6 exhibit the regression results from Equation (4) based on the matched sample, where the significant coefficients align with the baseline results. The significant results in most cases across Columns (4) to (6), obtained using the entropy balancing method, also support our income-increasing earnings management hypothesis. Given that our findings are consistent even after applying PSM and entropy balancing approaches, it is unlikely that our conclusion is influenced by endogeneity.

Table 6: Propensity score matching and entropy balancing

	Propensity score matching			Entropy balancing		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
ESG controversies	–0.058**	0.005	0.064***	–0.058**	0.005	0.063***
	(0.024)	(0.003)	(0.024)	(0.025)	(0.003)	(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	0.075	0.037	0.078	0.143	0.065	0.140
Observations	4154	4154	4154	4154	4154	4154

Note: This table presents the relationship between banks' ESG controversies and earnings management using the propensity score matching and entropy balancing methods. Columns (1) to (3) and (4) to (6) show the results based on the propensity score matching approach and the entropy balancing approach, respectively. The standard errors, clustered by banks, are robust to heteroscedasticity and are mentioned within the parentheses. Table 1 presents the definitions of the variables. To conserve space, the results of the control variables are not reported. *** and ** denote statistical significance at the 1% and 5% levels, respectively.

4.3 Additional analysis

4.3.1 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.[6] For example, while calculating the social controversies score, we include the strikes score and the wages working condition controversies score under the "workforce" category. Then, we utilise the weights used in the LSEG ESG pillar score

[6] 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).

calculation.[7] Because LSEG does not provide a human rights controversies score, this component could not be included. Consequently, our social controversies measure is constructed using the available community (0.28), product responsibility (0.13), and workforce (0.43) categories. We retain the original LSEG weights to preserve their relative importance. 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 7 presents the effects of environmental, social, and governance controversies on earnings management. Among the three controversies, social and governance controversies each show a positive relationship with upward earnings management. Except Column (8), these relationships are statistically significant at the 1–10% levels in Columns (4) and (9). This suggests that bank managers do not adopt earnings management during environmental controversies. However, social and governance controversies are critical drivers of bank earnings management practices. Besides, Panels B and C of Table 7 indicate that, in most cases, bribery, corruption, and fraud controversies; customer complaints controversies; insider dealings controversies; product quality controversies; and wages and working condition controversies all have statistically significant positive relationships with upward bank earnings management.

Table 7: Banks' ESG component controversies and earnings management

	Panel A					
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
Environmental controversies	0.030	–0.005	–0.035			
	(0.062)	(0.012)	(0.063)			
Social controversies				–0.157**	0.023*	0.181***
				(0.066)	(0.013)	(0.065)
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	0.058	0.011	0.059	0.059	0.012	0.060
Observations	5836	5836	5836	5836	5836	5836

[7] According to the LSEG ESG framework, the social pillar score is calculated as (community score × 0.28) + (human rights score × 0.17) + (product responsibility score × 0.13) + (workforce score × 0.43). Because LSEG does not report a human rights controversies score, our social controversies measure excludes this component and is constructed using the remaining available categories.

Panel B						
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(7)	(8)	(9)	(10)	(11)	(12)
Governance controversies	–0.213*	0.000	0.213*			
	(0.125)	(0.020)	(0.128)			
Bribery, corruption, and fraud controversies				–0.022	0.006*	0.028
				(0.021)	(0.004)	(0.021)
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	0.058	0.011	0.059	0.058	0.012	0.059
Observations	5836	5836	5836	5836	5836	5836
Panel C						
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(13)	(14)	(15)	(16)	(17)	(18)
Customer complaints controversies	–0.066*	0.010**	0.076**			
	(0.035)	(0.004)	(0.035)			
Insider dealings controversies				–3.278*	0.453	3.731**
				(1.922)	(0.291)	(1.788)
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	0.059	0.012	0.060	0.058	0.011	0.059
Observations	5836	5836	5836	5836	5836	5836
Panel D						
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(19)	(20)	(21)	(22)	(23)	(24)
Product quality controversies	–0.062*	–0.001	0.062*			
	(0.033)	(0.005)	(0.033)			
Wages and working condition controversies				–0.074*	0.014**	0.087**
				(0.038)	(0.006)	(0.037)
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	0.059	0.011	0.059	0.058	0.012	0.059
Observations	5836	5836	5836	5836	5836	5836

Note: 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, BCFC, CCC, IDC, PQC, and WWCC 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), and (22) to (24) 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 (7), (9), and (12), they are clustered by banks and robust to heteroscedasticity. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

4.3.2. Bank- and country-based subsample analysis

Banks with high capital risk may manage earnings amid ESG controversies to preserve regulatory capital ratios, maintain market confidence, reduce funding costs, and avoid rating downgrades. Supporting this view, the results in Panel A of Table 8 indicate that, in most cases, banks with high capital risk are more likely to engage in income-increasing earnings management during ESG controversies than banks with low capital risk.[8] Countries with poor financial disclosure standards may also reflect weaker regulatory oversight. Consistently, the finding from Panel B of Table 8 indicates that ESG controversies increase the likelihood of upward earnings management by banks in countries without mandatory IFRS adoption. 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. Accordingly, the results from Panel C of Table 8 suggest that, in most cases, banks in low-GDP countries are involved in income-increasing earnings management more than those in high-GDP countries while facing ESG controversies.[9]

Table 8: Bank- and country-based subsample analysis

Panel A – Capital risk						
	Banks with high capital risk			Banks with low capital risk		
	DISC_LLP	DISC_GAINS	DISC_EARN	DISC_LLP	DISC_GAINS	DISC_EARN
	(1)	(2)	(3)	(4)	(5)	(6)
ESG controversies	–0.077**	0.008	0.085***	–0.015	0.006	0.021
	(0.031)	(0.006)	(0.032)	(0.031)	(0.005)	(0.030)
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	0.071	0.043	0.066	0.078	0.045	0.085
Observations	3186	3186	3186	3263	3263	3263
Panel B – 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
	(7)	(8)	(9)	(10)	(11)	(12)
ESG controversies	–0.069	0.000	0.069	–0.061**	0.008*	0.069***
	(0.078)	(0.003)	(0.078)	(0.024)	(0.004)	(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	0.178	0.193	0.171	0.067	0.012	0.067
Observations	625	625	625	5824	5824	5824

[8] Banks with values greater than the median capital risk (0.127) are grouped as banks with high capital risk; otherwise, they are classified as banks with low capital risk.

[9] Banks in countries 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.

Panel C – 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
	(13)	(14)	(15)	(16)	(17)	(18)
ESG controversies	–0.045	0.004	0.049	–0.056**	0.004	0.060**
	(0.040)	(0.004)	(0.040)	(0.024)	(0.005)	(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	0.127	0.019	0.125	0.060	0.022	0.062
Observations	3203	3203	3203	3246	3246	3246

Note: This table presents the relationship between banks' ESG 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 capital risk and gross domestic product of this study's sample are 0.117 and 1.597 respectively, banks with values more than 0.117 and 1.597 are grouped as banks with high capital risk and banks in countries with high GDP respectively. Conversely, banks with values at or below these medians are classified as banks with low capital risk 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.

5. Robustness tests

We conduct a series of robustness checks to ensure that our baseline findings are not driven by the specific measurement of earnings management. First, following Kanagaretnam et al. (2015), we replace the signed DISC_LLP in Equation (1) with the absolute value of negative DISC_LLP to capture the magnitude of income-increasing earnings management. We then calculate DISC_EARN by adding DISC_LLP and DISC_GAINS. The variables are expressed as a percentage of total assets. Table OA5 in the Online Appendix presents the results that are statistically significant at the 5% level across all columns, indicating that banks' ESG controversies motivate managers to engage in earnings management.

We further employ an alternative proxy based on discretionary loan loss allowance (DISC_LLA), following Hasan and Wall (2004). Specifically, we estimate the following model:

$$LLA_{i,t} = \beta_0 + \beta_1 NPL_{i,t} + \beta_2 LCO_{i,t} + \beta_3 LOANS_{i,t} + \beta_4 EQ_{i,t} + \beta_5 EBTP_{i,t} + \tau_t + \lambda_i + \varepsilon_{i,t} \quad (7)$$

The definitions, notations, and sources of all the variables are detailed in Table 1. τ and λ are time and bank fixed effects respectively. The residuals from Equation (7) capture DISC_LLA, which we use as the dependent variable in Equation (4). The variable is expressed as a percentage of total assets. Table OA6 in the Online Appendix exhibits the results where both columns show a negative and statistically significant relationship between ESG controversies and DISC_LLA, consistent with the income-increasing earnings management hypothesis.

We also perform additional tests, including alternative sample restrictions, exclusion of the COVID-19 period, inclusion of additional controls, use of lagged variables, and exclusion of the United States, and find that our results remain qualitatively unchanged. Overall, the

robustness evidence reinforces our baseline conclusion that ESG controversies are linked with upward earnings management by banks.

6. Discussion

The baseline results suggest that banks are more likely to engage in upward earnings management during 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 may be indicative of such risk-taking tendencies, as reported by Alharbi et al. (2021), who find that firms inclined toward higher risk-taking tend to manipulate earnings. Moreover, the enhanced profitability of banks involved in more ESG controversies, as noted by Agnese et al. (2024), may be associated with the income-increasing earnings management identified in these banks.

Our heterogeneity analysis highlights that banks are inclined to engage in income-increasing earnings management when confronted with social or governance controversies, but not in the context of environmental controversies. Bank managers may engage in earnings management amid social or governance controversies, as stakeholder perception is more strongly affected by social and governance issues than by environmental concerns (Cohen, 2023). This is consistent with stakeholder salience theory, which suggests that managerial responses are stronger when issues carry greater urgency, legitimacy, and stakeholder pressure (Mitchell et al., 1997). In the banking context, governance failures and social misconduct, such as customer-related issues or labour violations, pose direct threats to regulatory relationships, reputational capital, and customer trust (Krüger, 2015; Nguyen et al., 2016). These pressures may create incentives for short-term reputational repair through financial reporting discretion.

In contrast, environmental controversies are typically more diffuse, longer-horizon, and less directly linked to banks' core operations, often arising through indirect exposures such as lending relationships. As a result, they are more likely to be addressed through disclosure, risk management, and strategic adjustments rather than through opportunistic earnings manipulation (Dhaliwal et al., 2011; Eccles et al., 2014). Moreover, capital market reactions tend to be less immediate and less severe for environmental issues relative to governance and social controversies (Krüger, 2015). This may weaken managerial incentives to engage in income-increasing earnings management as a reputational response. Furthermore, banks appear more prone to upward earnings manipulation during periods of bribery, corruption, and fraud controversies; customer complaints controversies; insider dealings controversies; product quality controversies; and wages and working condition controversies. These insights may help motivate investors and regulators to monitor banks involved in any of such ESG component controversies.

Subsample analysis indicates that ESG controversies are associated with a higher likelihood of income-increasing earnings manipulation among banks with elevated capital risk. This tendency appears more pronounced among banks located in non-IFRS and low GDP countries. These results are in line with prior research: for example, Alharbi et al. (2021) find that higher corporate risk-taking is associated with increased real earnings management. Moreover, Ewert and Wagenhofer (2005) show that stricter accounting standards reduce earnings manipulation, supporting the observed variation across IFRS and non-IFRS countries. Furthermore, the country-level heterogeneity resonates with Chen et al. (2020), who find that firms in China are more likely to manage earnings when provincial GDP growth lags national levels or neighbouring provinces.

The economic significance of our baseline findings lies in the substantial impact changes in controversies have on earnings components: a one-standard-deviation increase in ESG controversies is associated with a 6.963% (=0.062*0.219/0.195) decrease in discretionary loan loss provisions, a 3.833% (=0.007*0.219/0.040) increase in discretionary realised gains and losses on securities, and a 7.593% (=0.069*0.219/0.199) increase in discretionary earnings.[10] These adjustments in the earnings components can accumulate and may lead to a significant material misrepresentation of a bank's financial health. Such distortions may 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 be associated with mispriced assets or misguided investment decisions.

Our empirical findings are consistent with agency theory, which suggests that managers may prioritise personal incentives, such as securing compensation, over shareholder interests (Jensen and Meckling, 1976). During ESG controversies, earnings management may reflect a strategy through which bank managers seek to protect their reputation and personal gains, rather than acting in the best interest of shareholders. Upward earnings management may help them restore investor confidence, stabilise stock prices, and maintain credit ratings, which could reduce regulatory scrutiny and legal risks. This mechanism is consistent with evidence of bank-specific reporting discretion under stress and social media criticisms motivating earnings management (Beccalli et al., 2015; Li et al., 2023). However, such reporting approach may harm shareholders over time if it leads to diminished trust and sustainability concerns, indicating that the actions of agents may be misaligned with the broader interests of principals in long-term value creation.

This study suggests several concrete policy implications for banks and regulators. Given that earnings management is lower in countries with mandatory IFRS adoption, policymakers in non-IFRS jurisdictions should prioritise adopting high-quality accounting standards alongside stronger enforcement. Regulators should require more transparent and standardised disclosures linking ESG controversies to key financial reporting items such as loan loss provisions and securities gains. ESG rating agencies should integrate earnings management indicators into ESG scores to better capture opportunistic behaviour. At the bank level, stronger internal governance is needed, including enhanced audit committee oversight, more forward-looking provisioning practices, and compensation structures that reduce incentives for within-year earnings manipulation. For banks with high capital risk, regulators could impose targeted supervisory reviews, higher capital buffers, and focused audits of discretionary accounting. In low-GDP and weak institutional environments, policymakers should strengthen audit oversight, enforce compliance, and mandate minimum disclosure standards.

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 resort to this behaviour within the same reporting year rather than taking a delayed response approach. The study findings are robust to alternative samples, model specifications, endogeneity correction methods, and earnings management measures. This behaviour can be seen as agents (i.e., bank

[10] Table 2 presents the standard deviations for the discretionary loan loss provisions, discretionary realised gains and losses on securities, discretionary earnings, and ESG controversies as 0.195, 0.040, 0.199, and 0.219, respectively.

management) attempting to mitigate the negative impacts of ESG controversies on their positions, compensation, and reputation, even if it involves manipulating financial results. Thus, this finding adds to the existing literature on agency theory.

Our heterogeneity analysis presents that banks tend to involve in income-increasing earnings manipulation while facing social or governance controversies. However, they do not show this behaviour amid environmental controversies. Besides, they are more likely to adopt upward earnings management amid bribery, corruption, and fraud controversies; customer complaints controversies; insider dealings controversies; product quality controversies; and wages and working condition controversies. From the subsample analysis, we find that ESG controversies motivate banks with high capital risk to engage in income-increasing earnings manipulation. Banks operating in countries without mandatory IFRS adoption and in low-GDP countries are also more likely to present this behaviour.

One limitation of our study is its exclusive focus on banks. A promising avenue for future research would be to extend this analysis to non-bank financial institutions or non-financial firms. Moreover, the impact of banks' ESG controversies on other unexplored earnings management measures may be examined in future studies. We also do not empirically identify the reasons why banks engage in income-increasing earnings management when facing ESG controversies, and future research could investigate the underlying motives for this behaviour. Additionally, there is scope for future work to build on our findings by examining the effect of banks' non-ESG controversies on earnings management. Finally, due to data constraints, particularly the availability of ESG controversy measures only at an annual level and the lack of higher-frequency panel data, we are unable to assess whether earnings management is used as a within-year distraction mechanism, which remains an important avenue for future research.

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