



ESG Controversies and Non-Audit Service Fees: European Evidence

Tabi Frankline Tambe¹ · Sun Min Kang¹

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Abstract

Lapses in environmental, social, and governance (ESG) conduct often manifest through controversies like environmental violations, social misconduct, or governance failures, creating reputational and informational risks for firms and their auditors. While many studies focus on how ESG performance influences audit and assurance outcomes, few examine how adverse ESG events, particularly controversies, shape auditor behavior and market pricing. This study examines whether such controversies affect non-audit services (NAS) pricing and explores how auditors incorporate ESG-related reputational risks into advisory engagements. Drawing on a panel of 4,552 firm-year observations from European listed firms between 2014 and 2023, ESG controversy data from Refinitiv Eikon are analyzed with two-way fixed-effects and instrumental variable (IV) estimations. The findings suggest that ESG controversies and NAS fees are positive and significantly correlated only for severe controversies, indicating that auditors selectively respond to material ethical risks. Supplementary analyses indicate that, in Europe, this relationship is not systematically conditioned by cross-country institutional strength or firm-level governance characteristics, suggesting their limited moderating role. The IV analysis reveals a weak instrumental relationship, implying the observed associations may partially reflect correlated omitted factors rather than definitive causal effects. Overall, the findings suggest ESG controversies have economic repercussions for firms through advisory cost adjustments, particularly when reputational risk is salient. The study enhances understanding of how auditors price ethical and reputational risks, contributing to ongoing debates regarding auditor independence, ESG accountability, and corporate ethics in assurance markets, while offering insights for regulators, managers, and auditors regarding pricing of ESG-related advisory risk.

Keywords ESG controversies · Non-audit services (NAS) · Audit pricing · Reputational risk · Auditor independence · ESG disclosure

Introduction

Over the past decade, environmental, social, and governance (ESG) considerations have transitioned from marginal issues to core pillars of corporate accountability and ethical conduct. As firms face increasing stakeholder scrutiny, lapses in ESG conduct often manifest through controversies such as environmental violations, social misconduct, or governance failures, threatening organizational legitimacy and reputational standing. Although prior research has predominantly focused on the beneficial externalities of ESG investments,

such as improved transparency, stakeholder trust, and long-term value creation (Beard, 2019; Hales, 2018; Mooneapen et al., 2022), the potential for ESG controversies to trigger additional external advisory costs remains underexplored.

The audit literature offers contrasting perspectives on ESG-related activities. Some scholars view ESG engagement as a signal of ethical governance and reduced information asymmetry (Rabarison et al., 2024; Song et al., 2023), while others interpret it as a form of managerial opportunism or symbolic legitimacy-seeking (Barnea & Rubin, 2010; Groening & Kanuri, 2013). However, social irresponsibility is not merely the inverse of social responsibility (Arora & Dharwadkar, 2011; Strike et al., 2006). As negative, event-driven manifestations of unethical or irresponsible conduct, ESG controversies introduce distinct reputational and operational risks that may influence how external assurance providers evaluate client risk and advisory needs. Auditors' pricing of non-audit services (NASs) provides a useful

✉ Sun Min Kang
skang@cau.ac.kr

Tabi Frankline Tambe
tabift19@cau.ac.kr

¹ Department of Accounting, School of Business
Administration, Chung-Ang University, Seoul, Korea

framework for examining how ethical and reputational failures are internalized in professional service relationships.

This study examines whether firms entangled in ESG controversies are subject to higher NAS fees. It examines whether the strength of this association varies across the environmental, social, and governance domains, as well as if it is contingent upon the severity and nature of the controversy. Drawing on 4,552 firm-year panel observations from European listed companies between 2014 and 2023, ESG controversy data are sourced from Refinitiv Eikon, which aggregates and normalizes media and NGO reports to provide a systematic measure of controversy exposure. Using a two-way fixed-effects framework that accounts for firm- and year-level heterogeneity, we examine the association between controversy intensity and NAS fees and investigate cross-domain differences across the environmental (E), social (S), and governance (G) domains. We posit that ESG controversies increase NAS fees due to heightened reputational risk, and that this relationship is heterogeneous across ESG dimensions, firm size, and controversy severity.

The results indicate a positive relationship between ESG controversies and NAS fees, with economic and statistical significance confined to high-severity incidents. This effect is primarily driven by environmental controversies, consistent with their greater visibility and regulatory exposure, whereas the social and governance controversies have weaker and less consistent associations. Robustness analyses, including industry-weighted specifications, excluding dominant markets, and instrumental variable (IV) estimation, confirm that although the association remains positive, its statistical significance weakens under stricter identification conditions. This pattern implies that the evidence is more consistent with correlational than causal effects. Supplementary analyses indicate that, in Europe, cross-country institutional strength or firm-level governance characteristics do not systematically condition the relationship between ESG controversies and NAS fees. Overall, the results show that auditors adjust NAS pricing in response to salient ESG-related reputational risks, with the magnitude and persistence of this response primarily driven by controversy severity rather than institutional or governance heterogeneity.

This study advances literature in several respects. First, it extends ethical and auditing research by focusing on ESG controversies as adverse ethical events, offering a counterpoint to the emphasis on ESG engagement's positive effects. Second, it introduces the notion of controversy severity as a determinant of auditor risk perception, demonstrating that only material reputational failures elicit pricing responses. Third, by situating ESG controversies within the audit pricing framework, the study advances understanding of how professional service providers price reputational and ethical risk in response to stakeholder-driven legitimacy pressures. The findings are also informative for regulators and

standard setters concerned with the boundary between audit independence and ESG-related advisory work, an issue of increasing relevance in the era of sustainability assurance.

The rest of this paper is organized as follows. The second section reviews previous research and develops testable hypotheses. The third section explains the dataset creation and empirical method. The fourth section presents the main findings, while the fifth section discusses robustness checks and additional analyses. The final section synthesizes the study's key contributions and outlines directions for future scholarly inquiry.

Literature Review and Hypotheses Development

Theoretical Review

Leveraging a range of theoretical frameworks, this study examines the mechanisms through which ESG controversies shape firms' demand for non-audit services, especially those delivered by statutory auditors.

First, agency theory provides a fundamental rationale. ESG controversies often reveal governance weaknesses and information asymmetry issues between managers and stakeholders. Such incidents heighten agency conflicts, leading firms to seek external expertise to restore accountability and stakeholder trust. In this context, auditors serve as external monitors who evaluate their clients' non-financial and financial activities for potential misstatements, compliance issues, and going-concern risks (Messier et al., 2019; PCAOB, 2010). Simunic's (1980) classic audit pricing framework offers a useful economic explanation of this relationship, suggesting that audit and non-audit fees systematically vary with firm-specific risk, complexity, and auditor effort. As ESG controversies raise perceived client risk and engagement complexity, they increase the effort required by auditors for both assurance and advisory services. Therefore, audit pricing reflects an economic measure of underlying risk exposure and information asymmetry, which are key features of ESG-related crises.

Next, the resource-based view (RBV) considers auditors as strategic partners in ESG crisis management. Their expertise in sustainability reporting, regulatory compliance, and internal control design acts as a valuable and scarce organizational resource. Firms confronting ESG challenges may depend on auditors' dual assurance and advisory skills not only to ensure compliance but also to restore legitimacy and repair reputational damage (Asante-Appiah & Lambert, 2023). Thus, procuring NAS goes beyond a simple transactional exchange; it signifies a strategic investment in external resources that boosts resilience and credibility after ESG failures.

Finally, contingency theory explains this relationship by recognizing that the ESG–NAS link is influenced by external and organizational contingencies. Industry sensitivity, regulatory pressures, and governance quality all influence the extent to which ESG controversies impact NAS demand (Bonaparte, 2024; Brinette et al., 2023). For example, firms in environmentally sensitive industries face more intense stakeholder scrutiny, which increases their dependence on auditor-provided advisory services. By contrast, those with stronger internal controls or established ESG governance mechanisms may require fewer external interventions. These theoretical perspectives, supported by Simunic's (1980) audit pricing framework, clarify both the strategic motivations and contextual variation in NAS demand in response to ESG-related controversies.

ESG Controversies and NAS Demand

When firms face ESG-related scandals such as environmental violations, workplace misconduct, or governance failures, they encounter immediate reputational and financial consequences, including market devaluation and investor distrust (Bang & Ryu, 2022; Liu et al., 2024). In such situations, firms often turn to their auditors for NAS to assist in managing disclosure credibility and stakeholder perceptions. These services may include:

- ESG assurance and reporting remediation, where auditors verify sustainability disclosures to restore credibility (Boiral et al., 2024; Rawat, 2025).
- Reputation management consulting, in which auditors assist in developing crisis response strategies, communicating with stakeholders, and making compliance adjustments (Asante-Appiah & Lambert, 2023).
- Governance and risk advisory services, where auditors help strengthen internal controls and ESG oversight (Bonrath et al., 2022).

Empirical research supports the idea that firms facing greater risk or reputational pressure tend to incur higher NAS expenditures. Consistent with Simunic (1980), higher risk and operational complexity necessitate additional auditor effort, resulting in higher fees. Francis and Ke (2006) demonstrate that NAS fee disclosures affect how investors perceive auditor independence and earnings quality, suggesting that non-audit engagements convey significant signals to capital markets regarding auditor–client relationships. High NAS fees may therefore reflect both increased advisory demand and a perceived potential for compromised independence. In the ESG context, such dynamics are especially relevant, as firms involved in controversies must balance the need for advisory support with the risk of signaling excessive auditor dependence.

Building on this logic, ESG controversies can be seen as amplifying both risk-based pricing (which reflects audit effort) and signaling effects (which reflect market perceptions of integrity). Firms facing severe ESG controversies might employ auditors for comprehensive advisory assistance to restore credibility, leading to higher NAS fees. However, these engagements can also raise concerns among investors regarding the auditor's objectivity. The dual role of NAS as both a tool for regaining legitimacy and potential threat to independence highlights the ethical and economic complexity at the intersection of ESG risk, audit pricing, and stakeholder trust.

Hypotheses The contemporary business landscape has witnessed a paradigm shift in corporate accountability, as ESG performance has become a key driver of organizational resilience and stakeholder trust. This evolution has created a complex regulatory and reputational environment where firms increasingly seek external expertise to navigate ESG-related risks, particularly when facing high-profile controversies. Public accounting firms, by virtue of their institutional knowledge and risk management expertise, particularly through guidelines such as COSO's Enterprise Risk Management (ERM) framework (COSO, 2004, 2018), are uniquely positioned to provide specialized advisory services that help firms proactively address ESG challenges (Hales, 2018; Manetti & Becatti, 2009).

The regulatory landscape has further amplified this dynamic by introducing mandatory sustainability disclosure systems, such as the SEC's climate rules and the EU's Corporate Sustainability Reporting Directive (CSRD). These frameworks compel firms to report ESG metrics with the same rigor as that required for financial statements, creating substantial demand for ESG advisory services, risk management consulting, and assurance readiness (AICPA, 2025; CAQ, 2020). For organizations embroiled in ESG controversies, NASs provide a critical mechanism for rebuilding stakeholder trust, managing media scrutiny, and mitigating investor backlash (CAQ, 2020)—needs that are particularly acute under heightened ESG sensitivity.

Building on reputation management theory (McDonnell et al., 2013; Renn, 2017), we posit that, compared to their peers, firms facing ESG controversies exhibit significantly greater reliance on external auditors' NAS. This relationship arises from three complementary mechanisms. First, the technical complexity of ESG compliance necessitates specialized expertise that audit firms are particularly well equipped to provide. Second, the reputational urgency of ESG crises creates demand for rapid, credible interventions that leverage existing auditor–client relationships. Third, incumbent auditors' institutional knowledge reduces

transaction costs for implementing corrective measures (Knechel et al., 2012).

Empirical evidence supports this theoretical foundation.¹ Research demonstrates that NAS effectively enhances organizational risk management (Goldwasser, 2002) and that firms systematically turn to their auditors for support during reputational distress. The nature of this demand varies predictably by controversy type: Governance failures frequently trigger comprehensive internal control reviews, while environmental incidents drive demand for sustainability assurance services (DeFond et al., 2002; Ferguson et al., 2004). These patterns are further evidenced by observable spikes in NAS fees following ESG-related reputational events. Moreover, professional bodies such as the American Institute of CPAs and the Centre for Audit Quality continue to advocate for auditor involvement in ESG assurance and advisory services (American Institute of Certified Public Accountants, 2021a, 2021b; Centre for Audit Quality, 2020).

Based on this integrated theoretical and empirical foundation, we formalize our first hypothesis:

H1 Firms experiencing ESG controversies incur higher non-audit service fees.

Prioritization of ESG dimensions varies among key stakeholders: Investors emphasize governance, consumers focus on social concerns, and regulators concentrate on environmental issues, creating divergent risk exposures and remediation demands (Hrazdil et al., 2024). These heterogeneous patterns imply that the three types of ESG controversies have different effects on NAS fees, as auditors' roles and value propositions shift based on the controversy's nature. We theorize that such variations arise from two interrelated factors: Auditors' competitive positioning and stakeholder urgency, which shape the demand for and pricing of remediation services.

First, auditors' competitive positioning determines their ability to command premium fees when addressing ESG controversies. Governance scandals, which often involve financial misreporting or internal control failures, are closely aligned with auditors' core competencies, allowing them to leverage their expertise in risk assessment and compliance (Jensen & Meckling, 1976). By contrast, environmental

Table 1 Sample distribution

Selection procedure	Observations
Total sample of non-financial firms (2014–2023)	12,281
Less: Observations with no ESG data	(4,195)
Less: Observations with missing NAS fees	(3,534)
Final sample	4,552

crises like pollution incidents or climate-related liabilities require specialized technical knowledge (e.g., environmental engineering, regulatory compliance), relegating auditors to secondary roles and limiting their pricing power (Knechel et al., 2012). This asymmetry suggests that governance-related controversies exert a stronger positive influence on NAS fees than environmental controversies.

Second, stakeholder urgency influences the demand for auditors' remediation services. Social controversies, such as labor violations or data breaches, trigger immediate reputational risks, prompting firms to seek rapid solutions through advisory services (Nofsinger et al., 2019). Their existing client relationships and multidisciplinary expertise give auditors a competitive advantage in providing these cross-sold services. However, environmental remediation often follows lengthy regulatory timelines, making demand for auditor involvement less urgent. Consequently, NAS fees for social controversies are expected to be higher than those of environmental incidents, reinforcing evidence of the uneven impact of individual ESG dimensions on audit firms' revenue streams.

Building on the foregoing theoretical and empirical considerations, we develop the following hypothesis:

H2 How ESG controversies impact non-audit service fees varies across the ESG dimensions.

Research Design

Sample Selection and Data

This study utilizes annual data for listed non-financial firms from 11 European countries: Denmark, Finland, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom, from 2014 to 2023. Data for all dependent and control variables were sourced from Refinitiv Eikon. Financial firms and those lacking ESG controversy or NAS data were excluded, resulting in 4,552 firm-year observations (Table 1). The sample comprises a heterogeneous range of non-financial industries and firm sizes, offering representative coverage of European firms exposed to ESG controversies. Given Europe's stringent ESG regulatory environment, the findings may have limited

¹ Audit Analytics data (British Petroleum, 2010) reveal that after four consecutive years of declining non-audit fees through 2010, British Petroleum saw a sharp increase in these fees from around \$8 million annually in 2009 and 2010 to about \$11 million in 2011 (a 37.5% rise) and \$21 million in 2012 (more than a 200% jump). This change, which occurred after the Deepwater Horizon disaster in the Gulf of Mexico (April 2010), was primarily attributable to elevated expenditures in audit-related and other NAS, marking a stark contrast between the pre- and post-scandal periods.

generalizability to other institutional contexts. However, because they indicate how a stronger ESG regulatory environment impacts the behaviors of various stakeholders, the empirical findings of this study are significant even for countries in the process of developing related regulations or those whose ESG regulatory environments are still lenient.

Table 2 presents the sample composition by country and industry. Panel A presents the country-level distribution, while Panel B outlines the industry representation. This structured approach ensures a robust dataset for examining the relationship between ESG controversies and NAS fees.

Construction of Main Variables

The dependent variable, non-audit service (NAS) fees, is measured as the natural logarithm of a firm's non-audit fees.

Table 2 Sample composition by country and industry

Panel A: Country composition		
Countries	Observations	Percentage
Denmark	241	5.29%
Finland	231	5.07%
France	289	6.35%
Germany	620	13.62%
Italy	302	6.63%
Netherland	122	2.68%
Norway	263	5.78%
Spain	256	5.62%
Sweden	875	19.22%
Switzerland	305	6.70%
United Kingdom	1,048	23.02%
Total	4552	100%
Panel B: Industry composition		
Industry sector code and name	Frequency	Percentage
10–Energy	164	3.60%
15–Material	370	8.13%
20–Industrials	1,329	29.20%
25–Consumer discretionary	700	15.38%
30–Consumer staples	356	7.82%
35–Health care	448	9.84%
45–Information technology	344	7.56%
50–Communication services	370	8.13%
55–Utilities	204	4.48%
60–Real estate	267	5.87%
Total	4552	100%

Panels A and B present the sample composition by country and industry, respectively

Higher values indicate greater auditor effort or risk premiums associated with NAS.

The primary explanatory variable, *ESGC*, represents the aggregate ESG controversy score from Refinitiv Eikon. To examine dimension-specific effects, we disaggregate *ESGC* into its three components: Environmental (*ENV_C*), social (*SOC_C*), and governance (*GOV_C*) controversies. To address the inverse scaling of Refinitiv's ESG controversy scores (where lower values indicate greater severity), we multiply all scores by (−1) so higher values reflect more severe controversies.

Empirical Specification

To identify the effect of ESG controversies on NAS fees, we estimate models with firm- and year-fixed effects. This choice is supported by a Hausman test, which favors a fixed rather than a random effects specification. This approach effectively accounts for unobserved, time-invariant heterogeneity across firms, thereby isolating within-firm variation in NAS fees attributable to ESG controversies.

The primary model (H1) is shown in Eq. (1):

$$NAS_{i,t} = \beta_0 + \beta_1 ESGC_{i,t} + \sum Controls_{i,t} + Firm + Year + \epsilon_{i,t} \quad (1)$$

- *ESGC*: aggregate ESG controversy score * (−1).
- Controls: time-varying firm characteristics (defined in Appendix A).
- Fixed effects: firm and year.

A positive β_1 supports H1 (ESG controversies increase NAS).

The dimensional analysis model (H2) is shown in Eq. (2):

$$NAS_{i,t} = \beta_0 + \beta_1 ENV_C_{i,t} + \beta_2 SOC_C_{i,t} + \beta_3 GOV_C_{i,t} + \sum Controls_{i,t} + Firm + Year + \epsilon_{i,t} \quad (2)$$

where *ENV_C*, *SOC_C*, and *GOV_C* represent the individual environmental, social, and governance controversy scores.

Our model incorporates standard control variables identified in the literature: Firm size (*SIZE*), Big 4 auditor status (*BIG4*), leverage (*LEV*), profitability (*ROA*), growth opportunities (*MTB*), receivables intensity (*REC*), inventory intensity (*INV*), board size (*BD_SIZE*), board independence (*BD_IND*), and earnings restatement (*E_RES*). Appendix A outlines the definitions of all variables, each of which is measured on a firm-year basis.

Empirical Results

Descriptive Statistics

Table 3 provides descriptive statistics for the test, dependent, and control variables (Panel A) and displays Pearson correlations for the primary variables (Panel B).

In Panel A, the mean and median of NAS fees (*NAS*) are 12.174 and 12.199, respectively. The mean and median of ESG controversies (*ESGC*) show that, on average, most controversies are rated above 50%. The mean and median values for the environmental (*ENV_C*), social (*SOC_C*), and governance (*GOV_C*) controversies indicate that governance controversies are more severe than either environmental or social controversies. The control variables' descriptive statistics are generally consistent with those reported in the literature, suggesting that the data are suitable for further analysis.

Panel B displays the correlation for the main variables. The correlation coefficient between *ESGC* and *NAS* is

0.309, which is significantly positive at the 1% level and supports H1. ESG controversies at the individual level are also positively associated with NAS fees.

Multivariate Analysis

Hypothesis 1 (H1) Findings

This section analyzes the relationship between ESG controversies and NAS fees in detail, while accounting for firm-specific heterogeneity and potential econometric dependencies, as detailed in Table 4. Table 4 displays the estimation results of Eq. (1), examining how exposure to ESG controversies impact the level of NAS fees. The findings show that firms facing ESG controversies are consistently linked to higher NAS fees across different error structures.

In column (1), using two-way clustered standard errors, the results account for within-firm and within-year dependence, capturing idiosyncratic shocks that may persist over time or simultaneously affect multiple firms. The coefficient of *ESGC* is positive and statistically significant at the 5%

Table 3 Descriptive statistics and correlation analysis

Panel A: Descriptive statistics						
Variables	Obs.	Mean	Median	SD	Min	Max
<i>NAS</i>	4,552	12.174	12.199	1.320	5.951	19.899
<i>ESGC</i>	4,552	52.704	54.386	5.746	3.583	56.925
<i>ENV_C</i>	4,412	54.410	54.260	0.783	52.050	55.910
<i>SOC_C</i>	4,552	53.369	55.728	7.638	8.333	68.192
<i>GOV_C</i>	4,483	52.029	53.443	4.599	13.158	54.342
<i>SIZE</i>	4,552	22.285	22.264	1.693	15.823	27.220
<i>LEV</i>	4,552	0.592	0.601	0.186	0.009	1.444
<i>BIG4</i>	4,552	0.205	0.000	0.403	0.000	1.000
<i>BD_IND</i>	4,552	51.602	51.545	27.056	0.380	99.810
<i>BD_SIZE</i>	4,552	2.223	2.197	0.359	1.099	3.526
<i>ROA</i>	4,552	6.646	5.700	11.595	− 114	249.3
<i>REC</i>	4,552	0.119	0.099	0.111	− 0.017	2.845
<i>INV</i>	4,552	0.139	0.083	0.418	0.000	15.356
<i>MTB</i>	4,552	1.958	0.895	5.453	0.002	127.53
<i>E_RES</i>	4,552	0.009	0.000	0.092	0.000	1.000
Panel B: Pearson correlations						
	(1)	(2)	(3)	(4)	(5)	
<i>NAS</i>	1					
<i>ESGC</i>	0.309***	1				
<i>ENV_C</i>	0.086***	0.109***	1			
<i>SOC_C</i>	0.311***	0.834***	0.038	1		
<i>GOV_C</i>	0.260***	0.700***	0.010	0.640***	1	

Panel A reports the descriptive statistics for this study's primary and control variables. Panel B presents the Pearson correlation coefficients for the main variables. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. See Appendix A for detailed variable definitions

Table 4 ESG controversies and non-audit fees

	Non-audit fees (log measure)			
	(1)		(2)	
<i>ESGC</i>	0.007**	(0.003)	0.007***	(0.002)
<i>SIZE</i>	0.495***	(0.112)	0.531***	(0.046)
<i>LEV</i>	0.355	(0.248)	0.355***	(0.083)
<i>BIG4</i>	0.005	(0.110)	0.005	(0.091)
<i>BD_IND</i>	− 0.001	(0.001)	− 0.001	(0.001)
<i>BD_SIZE</i>	− 0.030	(0.190)	− 0.030	(0.136)
<i>ROA</i>	− 0.001	(0.002)	− 0.001	(0.002)
<i>REC</i>	0.118**	(0.554)	0.118	(0.526)
<i>INV</i>	0.073	(0.086)	0.073	(0.077)
<i>MTB</i>	− 0.006	(0.005)	− 0.006**	(0.004)
<i>E_RES</i>	0.279**	(0.122)	0.279***	(0.079)
FE (Firm & Year)	Included		Included	
Std errors clustered at	Firm & Year		Driscoll-Kraay	
Adj. R2	0.021		0.021	
N	4,552		4,552	

Table 4 presents the regression results of the direct effects between ESG controversies and NAS fees. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively

level, indicating that auditors charge higher NAS fees to firms involved in ESG-related controversies. Column (2) employs Driscoll–Kraay standard errors, which correct for both cross-sectional and temporal dependence, conditions particularly relevant in ESG research given the market-wide and time-correlated nature of ESG events. The association shown in Column (2) is even stronger, reaching significance at the 1% level. This robustness under different error structures highlights the stability and credibility of the observed relationship.

To complement the statistical significance of the coefficient estimates, we assess the economic impact of ESG controversies on NAS fees. Due to the semi-logarithmic form of the model, the coefficient related to ESG controversy severity is transformed using the exponential function to yield meaningful percentage effects. Holding all other covariates at their sample means, a one-unit increase in ESG controversy severity corresponds to an estimated 0.67% rise in NAS fees. Moving from the 25th to the 75th percentile of ESG controversy (a change of 0.881 units) results in a 0.59% increase in NAS fees, while a one standard deviation increase (5.746 units) equates to a 3.92% rise. Although minor changes in ESG controversy severity have limited effects, larger or sustained increases in controversy intensity produce significant economic impacts, reflecting the higher advisory demand and risk management costs faced

by controversial firms. This underscores the audit market's financial repercussions of reputational risk exposure.²

These results partly align with the work of Asante-Appiah and Lambert (2023), who provide evidence of a significantly positive connection between ESG controversies and non-audit fees. Their results suggest that auditors' risk management expertise, including compliance reviews and governance restructuring under frameworks like COSO ERM, offers critical value to firms managing ESG controversies. This specialized demand drives the observed rise in NAS fees for firms with high ESG controversy levels.

While the overall ESG controversy score offers valuable insight into a company's ethical and reputational risks, it may mask the diverse nature of controversies across various dimensions. During negotiations for non-audit engagements, auditors and firms likely have different reactions to the unique ethical and reputational challenges associated with each type of controversy. To better understand these subtle effects, hypothesis 2 (H2) separates ESG controversies into their individual dimensions to investigate their connection with NAS fees.

Hypothesis 2 (H2) Findings

Table 5 presents the estimates from Equation (2), which investigates the differential impacts of environmental (ENV_C), social (SOC_C), and governance (GOV_C) controversies on NAS fees. The findings show that only the environmental controversy dimension has a positive and statistically significant (at the 1% level) link with NAS fees. In contrast, the coefficients for social and governance controversies, though positive as expected, are statistically insignificant.

The strong and positive link between environmental controversies and NAS fees indicates that environmental issues are a particularly prominent source of perceived risk and advisory demand. Environmental controversies tend to be more visible, measurable, and subject to regulatory and public scrutiny than other controversies, which likely increases auditors' awareness of potential compliance, reputation, and litigation risks. By contrast, social controversies typically develop more slowly and often do not have immediate financial or regulatory consequences. Meanwhile, governance

² Economic significance is calculated using standard exponential transformations for semi-logarithmic models. For a coefficient β in the model $\ln(\text{NAS}) = \beta X + \epsilon$, the percentage change is computed as $100 \times (e^{\beta} - 1)$. For larger shifts in X , such as the interquartile range (IQR) or one standard deviation (SD), the expression becomes $100 \times (e^{\beta \Delta X} - 1)$, where ΔX is the IQR or SD of the ESG controversy variable. These formulas produce the reported effects: 0.67% for a one-unit increase, 0.59% for an IQR change of 0.881, and 3.92% for a one-SD change of 5.746.

Table 5 The differential effects of *E*, *S*, and *G* controversies on NAS fees

	Pred. Sign	NAS Fees (log measure)		
		(1)	(2)	(3)
<i>ENV_C</i>	+	0.071*** (0.021)		
<i>SOC_C</i>	+		0.003 (0.003)	
<i>GOV_C</i>	+			0.004 (0.004)
<i>SIZE</i>		0.258*** (0.082)	0.204** (0.079)	0.204** (0.079)
<i>LEV</i>		0.453 (0.283)	0.517* (0.281)	0.515* (0.281)
<i>BIG4</i>		0.044 (0.134)	0.047 (0.127)	0.051 (0.127)
<i>BD_IND</i>		− 0.002 (0.001)	− 0.002 (0.001)	− 0.002 (0.001)
<i>BD_SIZE</i>		0.004 (0.188)	0.005 (0.183)	− 0.002 (0.183)
<i>ROA</i>		− 0.001** (0.003)	− 0.001** (0.003)	0.001** (0.003)
<i>REC</i>		0.237 (0.471)	0.242 (0.475)	0.243 (0.475)
<i>INV</i>		0.077 (0.076)	0.074 (0.073)	0.074 (0.073)
<i>MTB</i>		− 0.008* (0.004)	− 0.007* (0.004)	− 0.007* (0.004)
<i>E_RES</i>		0.385*** (0.147)	0.423*** (0.149)	0.417*** (0.150)
FE (Firm & Year)		Included	Included	Included
Std errors clustered at		Firm & Year	Firm & Year	Firm & Year
Adj. R2		0.013	0.010	0.010
N		4,412	4,552	4,550

Table 5 shows the regression results for the relationship between the three ESG controversy dimensions (environmental, social, and governance) and non-audit service fees (NAS). *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

controversies, although significant, might already be incorporated into existing corporate control and oversight systems, thereby reducing their additional impact on external advisory needs.

Overall, these findings indicate that firms and auditors respond asymmetrically to ESG-related risks, focusing on controversies with clearer financial externalities and stricter enforcement implications. This pattern is consistent with a **risk-based economic rationale**, in which audit-related pricing and advisory decisions are more strongly driven by quantifiable exposure to environmental and regulatory risks than by a uniform ethical concern for all ESG dimensions. To ensure that these findings are not influenced by model specification, measurement biases, or industry concentration effects, the following section presents a series of robustness tests. These tests assess whether the main results remain consistent under different sample restrictions and weighting schemes, thereby confirming that the observed

relationships are not artifacts of estimation methods or sample composition.

Robustness Tests

Weighted Estimation by Industry

To mitigate the potential effects of uneven industry representation, we re-estimate our fixed-effects regression model with industry-level weighting to account for overrepresented sectors.

As shown in Table 6, the results of this approach indicate that the coefficient of ESGC remains positive and statistically significant. However, the significance level, compared to our primary analysis, declined from 5% to 10%. This indicates that while specific industries do not solely drive the observed relationship between ESG controversies and

Table 6 ESG controversies and NAS fees (weighted estimation by industry)

	Pred. sign	NAS fees (log measure)	
<i>ESGC</i>	+	0.007*	(0.004)
<i>SIZE</i>		0.474***	(0.062)
<i>LEV</i>		0.456**	(0.203)
<i>BIG4</i>		0.158	(0.140)
<i>BD_IND</i>		− 0.002	(0.001)
<i>BD_SIZE</i>		− 0.092	(0.135)
<i>ROA</i>		0.002	(0.003)
<i>REC</i>		− 0.327	(0.326)
<i>INV</i>		0.090*	(0.048)
<i>MTB</i>		− 0.008*	(0.005)
<i>E_RES</i>		0.233	(0.151)
<i>N</i>		4,552	
Adj. R2		0.020	
F statistic		8.197***	

Table 6 displays the regression results for the robustness test of the relationship between ESG controversy and NAS fees using weighted industry estimates. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

NAS fees, the strength of the association weakens when accounting for differences in sectoral representation. The result underscores the heterogeneous role of ESG controversies across industries and suggests that auditor responses to ESG risk may vary depending on industry-specific exposure and stakeholder pressure.

Excluding Dominant Markets

To mitigate the influence of market-driven significance on our results, we re-estimate our primary model after excluding the three dominant markets in our sample (the United Kingdom, Sweden, and Germany).

The results in Table 7 show that when dominant markets are excluded from the sample, the previously significant association between ESG controversy and NAS fees becomes statistically insignificant. This suggests that our main findings are mainly driven by firms in countries with more developed audit markets and stronger ESG disclosure norms. The loss of significance may be due to both smaller sample size and differences across European economies, where the prominence of ESG controversies depends on governance standards and stakeholder expectations. Rather than proving no relationship exists, this highlights the importance of context in the ESGC–NAS fees link. It indicates that auditors' pricing of NAS in response to ESG controversies is clearer in environments with more transparency and stronger regulatory enforcement, emphasizing the role of institutional factors in shaping the economic impacts of ESG-related risks.

Table 7 ESG controversies and NAS fees excluding dominant markets

	Pred. sign	NAS fees (log measure)	
<i>ESGC</i>	+	0.008	(0.007)
<i>SIZE</i>		0.338**	(0.175)
<i>LEV</i>		0.654*	(0.533)
<i>BIG4</i>		0.005	(0.242)
<i>BD_IND</i>		0.001	(0.002)
<i>BD_SIZE</i>		0.067	(0.135)
<i>ROA</i>		− 0.002	(0.006)
<i>REC</i>		0.311	(1.032)
<i>INV</i>		0.722**	(0.307)
<i>MTB</i>		− 0.009*	(0.005)
<i>E_RES</i>		0.202	(0.262)
FE (Firm & Year)		Included	
Std errors clustered at		Firm & Year	
Adj. R2		0.015	
<i>N</i>		2,009	

Table 7 shows the regression results for the robustness test of the relationship between ESG controversy and NAS fees, excluding dominant markets. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

Addressing Endogeneity: Instrumental Variable (IV) Approach

We use an IV approach to address potential endogeneity arising from reverse causality or omitted-variable bias. Endogeneity may occur if firms that spend more on NAS are also more likely to face ESG controversies due to external stakeholder pressure or internal governance weaknesses. To address this bias, our study employs an external instrument: The industry-year-average ESG controversy score for a firm (excluding the focal firm), which captures the wider ESG context in the firm's operating environment while remaining independent of the firm's specific audit fee decisions. The findings of this analysis are shown in Table 8.

The first-stage results in Table 8 show that the instrument is only weakly linked to firm-level ESG controversy severity, as indicated by a first-stage F statistic of 3.148, which is below the usual threshold of 10 for recognizing weak instruments (Staiger & Stock, 1997). This suggests that the selected instrument may not provide enough exogenous variation to accurately identify the causal effect of ESG controversies on NAS fees.

In the second-stage regression (Table 8), the coefficient of ESG controversy severity remains statistically insignificant, suggesting no strong evidence of a causal relationship. However, the weak first-stage statistics necessitate a cautious interpretation of this result, which should be viewed as correlational and indicative rather than strongly causal, given the potential for bias and imprecision in the IV estimates.

Table 8 Instrumental variable (2SLS) estimation of the effect of ESG controversies on NAS fees

	1 st stage (ESG Severity)		2 nd stage (Log NAS fees)	
<i>Instrument_ESG</i>	0.219	0.013*		
<i>ESGC</i>			− 0.051	0.282
<i>SIZE</i>	0.547	0.016*	0.629	0.000***
<i>LEV</i>	0.786	0.357	0.778	0.000***
<i>BIG4</i>	− 1.068	0.070	0.138	0.012*
<i>BD_IND</i>	0.008	0.073	− 0.001	0.213
<i>BD_SIZE</i>	− 0.340	0.544	0.208	0.014*
<i>ROA</i>	− 0.005	0.694	− 0.002	0.264
<i>REC</i>	1.443	0.294	0.623	0.002**
<i>INV</i>	0.061	0.747	0.063	0.315
<i>MTB</i>	− 0.021	0.283	0.003	0.598
<i>E_RES</i>	− 2.334	0.001***	0.564	0.013*
Constant			− 5.517	0.208
F. statistic	3.148			
N	4,552		4,552	
R ²	0.009		0.318	

Table 8 displays the regression results addressing endogeneity in the relationship between ESG controversy and NAS fees using IV (2SLS) estimation. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

Overall, the findings imply that while ESG controversies do not appear to exert a robust influence on auditors' pricing of NAS, the weak instrument issue limits the reliability of the causal inference.

Evidence From a Sample Split: Controlling for Controversy Severity and Firm Size

To further validate our baseline results, which indicate that ESG controversies are positively associated with NAS fees, we perform a sample split analysis by partitioning firms according to the severity of their ESG controversies and firm size. This approach helps determine whether the observed association between ESG controversies and NAS fees is driven primarily by firms facing more severe reputational challenges or if it holds consistently across firms of varied sizes.

The analysis results in Table 9 show that the ESG controversy coefficient is statistically significant (at the 1% level) only for the high-severity controversy group. This finding suggests that the observed association between ESG controversies and NAS fees is concentrated among firms facing intense stakeholder scrutiny and elevated reputational risk, where the demand for auditor-provided advisory services may rise as part of a broader risk management and legitimacy restoration effort. Conversely, the absence of statistical significance among low-severity or size-based subsamples implies that minor controversies or firm scale alone do not systematically influence the demand for NAS once other firm characteristics are controlled for.

These findings collectively suggest that auditor pricing and advisory services are context-dependent, intensifying when firms face more material ESG-related controversies that could threaten their credibility or increase audit risk. The results also mitigate concerns regarding sample

Table 9 ESG controversies and non-audit fees: Evidence from sample splits

	ESG controversy severity levels				Firm size			
	LOW		HIGH		SMALL		LARGE	
<i>ESGC</i>	0.012	(0.019)	0.017***	(0.006)	0.018	(0.013)	0.005	(0.004)
<i>SIZE</i>	0.496***	(0.098)	0.246	(0.357)	0.469***	(0.149)	0.698***	(0.172)
<i>LEV</i>	0.229	(0.288)	1.997*	(1.159)	0.126	(0.354)	0.950*	(0.551)
<i>BIG4</i>	− 0.117	(0.122)	0.577*	(0.315)	0.195***	(0.046)	0.084*	(0.048)
<i>BD_IND</i>	− 0.001	(0.002)	− 0.003	(0.004)	− 0.001	(0.001)	− 0.003***	(0.001)
<i>BD_SIZE</i>	0.018	(0.189)	− 0.415	(0.547)	− 0.106	(0.072)	− 0.072	(0.068)
<i>ROA</i>	− 0.001	(0.003)	0.002	(0.019)	− 0.007***	(0.002)	− 0.003	(0.004)
<i>REC</i>	0.057	(0.409)	4.312	(3.970)	− 0.037	(0.147)	0.791***	(0.262)
<i>INV</i>	0.074	(0.086)	3.298	(2.410)	0.015	(0.025)	− 0.792***	(0.191)
<i>MTB</i>	− 0.006	(0.006)	0.203*	(0.119)	− 0.001	(0.004)	− 0.002	(0.003)
<i>E_RES</i>	0.260	(0.181)	0.468	(0.294)	0.095	(0.278)	0.647***	(0.209)
FE (Firm & Year)	Included		Included		Included		Included	
Std errors clustered at	Firm & Year		Firm & Year		Firm & Year		Firm & Year	
Adj. R ²	0.021		0.063		0.017		0.039	
N	3,962		590		2,276		2,276	

Table 9 displays the regression results for our sample splits, utilized for sensitivity analysis. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

composition bias, as they reveal that the baseline relationship is not merely an artifact of firm size or sample dominance, but rather reflects a genuine response to the magnitude of reputational and ethical risk exposure inherent in high-severity ESG events.

Supplemental Analysis: Institutional Environment and Firm-level Governance

As a supplementary analysis, we investigate whether the link between ESG controversies and NAS fees varies across institutional environments and firm-level governance structures. This analysis tests the robustness of the initial findings and examines whether auditors' pricing of ESG-related ethical risks depends on the legal, regulatory, or governance contexts.

At the institutional level, we consider the rule of law (*ROL*) and regulatory quality (*REGQ*). As shown in Table 10, panel A, NAS fees are positively and significantly associated with the rule of law (*ROL*), indicating that auditors charge higher advisory fees in jurisdictions with stronger legal enforcement and greater litigation risk. However, the interaction between *ROL* and ESG controversies is positive but not statistically significant, implying that although legal strength impacts the overall level of NAS fees, it does not significantly alter auditors' incremental pricing responses to ESG-related ethical risks. Regulatory quality (*REGQ*) does not exhibit a significant relationship with NAS fees, either directly or through its interaction with ESG controversies, suggesting limited moderation of ESG-related advisory pricing by overall regulatory effectiveness.

At the firm level, we explore board size (*BDSIZE*) and Big 4 auditor status (*BIG4*) as governance moderators. Table 10, panel B, shows that neither variable has a significant direct link with NAS fees nor do their interaction terms with ESG controversies reach statistical significance. These results suggest that firm-level governance capacity and auditor reputation do not systematically influence auditors' pricing responses to ESG-related ethical risks.

Overall, the supplementary analyses in Table 10 support the robustness of the main findings by demonstrating that specific institutional or governance environments do not influence the positive relationship between ESG controversies and NAS fees. Instead, auditors' pricing responses primarily relate to the severity and materiality of the ESG controversies themselves.

Although the moderation effects are not statistically significant, their inclusion is justified on theoretical grounds. Prior research highlights that legal enforcement, regulatory oversight, and firm governance structures influence auditor exposure to litigation risk, reputational concerns, and advisory incentives. The lack of significant heterogeneity effects in this analysis likely stems from the high level of institutional and

Table 10 Supplemental: Controlling for institutional environment and firm-level governance

Panel A: Institutional environment		
	NAS fees (log measure)	NAS fees (log measure)
<i>ESGC</i>	0.001 (0.015)	0.004 (0.019)
<i>ROL</i>	1.484*** (0.553)	–
<i>ESGC*ROL</i>	0.003 (0.010)	–
<i>REGQ</i>	–	0.270 (0.696)
<i>ESGC*REGQ</i>	–	0.002 (0.012)
<i>Control variables</i>	Yes	Yes
FE (Firm & Year)	Included	Included
Std errors clustered at	Firm & Year	Firm & Year
Adj. R2	0.027	0.021
N	4552	4552
Panel B: Firm-level governance		
	NAS fees (log measure)	NAS fees (log measure)
<i>ESGC</i>	0.002 (0.027)	0.006 (0.005)
<i>BDSIZE</i>	0.061 (0.590)	–
<i>ESGC*BDSIZE</i>	0.002 (0.011)	–
<i>BIG4</i>		0.124 (0.445)
<i>ESGC*BIG4</i>		0.002 (0.008)
<i>Control variables</i>	Yes	Yes
FE (Firm & Year)	Included	Included
Std errors clustered at	Firm & Year	Firm & Year
Adj. R2	0.021	0.021
N	4552	4552

Table 10 displays the regression results from the supplementary analysis of the institutional environment and firm-level governance. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively

governance uniformity across European capital markets, where baseline standards of the rule of law, regulatory enforcement, and corporate governance are relatively strong and harmonized. This convergence may reduce cross-country and -firm differences, limiting opportunities for differential pricing responses. Consequently, the results imply that ESG controversies act as salient signals of ethical risk, with their economic consequences for auditors remaining broadly consistent across well-regulated environments, rather than depending on incremental institutional or governance differences.

Discussion and Conclusion

The risk that ESG scandals may emerge and damage a firm's reputation, value, and long-term sustainability has become a key concern for investors and regulators (COSO, 2018). While ESG controversies have increased in frequency and visibility across European capital markets, their implications for NAS remain insufficiently explored. This study addresses this gap by examining whether auditors consider ESG-related reputational risk when making NAS pricing decisions. Breaking down ESG controversies into their environmental, social, and governance components offers a more detailed view of how different ethical risks are perceived and priced in advisory engagements.

The empirical findings yield several key insights. First, ESG controversies are positively associated with NAS fees, indicating that auditors price the reputational and compliance risks arising from ethical failures. This effect is economically and statistically significant only for high-severity controversies, suggesting that auditors respond selectively to material ethical threats compared to routine or low-impact incidents. Second, environmental controversies have the strongest influence on NAS fees, consistent with their heightened visibility, regulatory scrutiny, and societal salience. Social and governance controversies, while directionally consistent, exhibit weaker and less robust effects. Third, robustness tests—including industry weighting, exclusion of dominant markets, and IV estimation—show that the relationship between ESG controversies and NAS fees attenuates under more stringent identification strategies. Given the weak first-stage strength, the IV estimates should be interpreted as providing correlational evidence consistent with the baseline findings rather than definitive causal effects.

Supplementary analyses further examine whether institutional and firm-level governance characteristics condition auditors' pricing of ESG-related risk. NAS fees are higher in countries that have a stronger rule of law, reflecting their stronger legal enforcement and litigation exposure. However, interactions of ESG controversies with the rule of law and regulatory quality are not statistically significant, indicating that institutional strength affects the overall level of advisory pricing rather than auditors' marginal pricing responses to ESG controversies. Similarly, board size and Big 4 auditor status do not moderate the ESGC–NAS relationship. These findings suggest that, within Europe, institutional and governance differences do not systematically shape auditors' responses to ESG controversies, likely reflecting the relatively high degree of regulatory and governance homogeneity across European capital markets.

Collectively, these findings advance the ethics and auditing literatures in several ways. The study identifies

ESG controversies as economically meaningful ethical signals that shape advisory pricing, thereby extending research on the ethical dimensions of audit markets beyond traditional assurance settings. It also highlights controversy severity as a critical threshold in auditors' risk assessments, demonstrating that ethical risk is internalized primarily when it poses material reputational or compliance consequences. More broadly, the results underscore the ethical tensions inherent in NAS provision, as firms facing ESG failures increasingly rely on auditors for advisory support, raising important considerations regarding auditor independence.

From a practical perspective, the findings offer implications for multiple stakeholders. For auditors, the results emphasize the role of ethical and reputational risk in advisory pricing decisions. Audit committees can use these insights to better anticipate how ESG failures influence both the cost and scope of external engagements. For corporate managers, the evidence suggests that ethical lapses entail measurable financial consequences through increased advisory costs. Regulators and standard setters may draw on these findings when designing sustainability assurance frameworks, ensuring that auditor independence is preserved while firms address growing ESG-related advisory needs.

Several limitations warrant acknowledgment. The available NAS data do not distinguish between specific advisory service types, limiting the interpretive granularity. The focus on European firms, where ESG disclosure and governance standards are relatively mature, may constrain generalizability to other institutional settings. In addition, ESG controversy measures derived from Refinitiv Eikon, while comprehensive, may differ from alternative rating frameworks. Finally, the identification strategy relies on industry-level variation with limited first-stage explanatory power, restricting causal inference. Future research could address these limitations by exploiting service-level NAS disclosures, extending analyses to less harmonized regulatory environments, or leveraging natural experiments linked to ESG regulation and assurance mandates.

Overall, this study demonstrates that ESG controversies—particularly high-severity and environmental incidents—have tangible implications for how auditors assess and price advisory risk. These findings contribute to a more ethically grounded understanding of audit markets, showing that ESG failures are not merely reputational events but also economically consequential phenomena that shape firm–auditor relationships. As ESG assurance becomes increasingly embedded in global reporting regimes, auditors and policymakers must continue to refine approaches that balance ethical accountability, professional independence, and stakeholder trust.

Appendix A: Variable Definitions

Types	Symbols	Variables	Variable definition
Dependent variable	<i>NAS</i>	Non-audit service fees	Natural logarithm of non-audit service fees
Independent or explanatory variables	<i>ESGC</i>	Aggregate ESG controversy score	Refinitiv aggregate ESG controversy score
	<i>ENV_C</i>	Environmental controversy score	Average of three environmental controversies (biodiversity, product impact, and environmental resource impact controversies) from Refinitiv
	<i>SOC_C</i>	Social controversy score	Average of 11 social controversies (social exclusion, public health, bribery, corruption, and fraud, freedom of association, child labor, human rights, diversity, wages and working conditions, health and safety, critical countries-indigenous people, and customer controversies) from Refinitiv
	<i>GOV_C</i>	Governance controversy score	Average of two governance controversies (compensation and shareholder controversies) from Refinitiv
	<i>ESG Severity</i>	Based on the Refinitiv ESG controversy grade	A+ low controversies and D- severe controversies. We group the grades into two groups: < C for high controversy and >= C for low controversy

Types	Symbols	Variables	Variable definition
Control variables	<i>SIZE</i>	Firm size	Natural logarithm of total assets
	<i>LEV</i>	Gearing ratio	Ratio of total liabilities to total assets
	<i>BIG4</i>	Auditor size	Dummy variable that equals 1 if the firm's auditor is PWC, Deloitte, KPMG, or E&Y and zero otherwise
	<i>BD_IND</i>	Board independence	Ratio of independent directors to the total number of directors
	<i>BD_SIZE</i>	Board size	Natural logarithm of the number of directors
	<i>ROA</i>	Return on total assets	Ratio of net income to total assets
	<i>REC</i>	Ratio of receivables to assets	Ratio of accounts receivable to total assets
	<i>INV</i>	Ratio of inventory to assets	Ratio of inventory to total assets
	<i>MTB</i>	Market-to-book ratio	Ratio of book value of total assets to market value of total assets
	<i>E_RES</i>	Earnings restatements	A dummy variable that equals 1 if the firm restates earnings and 0 otherwise.
	<i>ROL</i>	Rule of law	Estimate from the World Governance Index (WGI) provided annually by the World Bank
	<i>REGQ</i>	Regulatory quality	Estimate from the World Governance Index (WGI) provided annually by the World Bank
Supplementary variables			

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References

- American Institute of Certified Public Accountants (AICPA). (2021a). ESG reporting and attestation: A road map for audit practitioners. Retrieved from <https://www.aicpa.org/content/dam/aicpa/interestareas/businessindustryandgovernment/resources/sustainability/downloadabledocuments/caq-esg-reporting-andattestation-roadmap-2021-Feb-v2.pdf>
- American Institute of Certified Public Accountants (AICPA). (2021b). Sustainability assurance. Retrieved from <https://www.aicpa.org/interestareas/businessindustryandgovernment/resources/sustainability/sustainability-assuranceand-other-services.html>
- American Institute of Certified Public Accountants (AICPA). (2025). More global companies seek assurance on sustainability reporting, study by IFAC, AICPA & CIMA shows. Retrieved from <https://www.aicpa-cima.com/news/article/more-global-companies-seek-assurance-on-sustainability-reporting-study-by>
- Arora, P., & Dharwadkar, R. (2011). Corporate governance and corporate social responsibility (CSR): The moderating roles of attainment discrepancy and organization slack. *Corporate Governance*, 19(2), 136–152. <https://doi.org/10.1111/j.1467-8683.2010.00843.x>
- Asante-Appiah, B., & Lambert, T. A. (2023). The role of the external auditor in managing environmental, social, and governance (ESG) reputation risk. *Review of Accounting Studies*, 28(4), 2589–2641. <https://doi.org/10.1007/s11142-022-09706-z>
- Bang, J., & Ryu, D. (2022). Esg controversies and stock market returns: Using a natural language processing. *Korean Management Review*, 51(6), 1739–1764. <https://doi.org/10.17287/kmr.2022.51.6.1739>
- Barnea, A., & Rubin, A. (2010). Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics*, 97(1), 71–86. <https://doi.org/10.1007/s10551-010-0496-z>
- Beard, A. (2019). Why it's time to finally worry about ESG (Harvard Business Review) [Podcast]. Retrieved from <https://hbr.org/podcast/2019/05/why-its-time-to-finally-worry-about-esg>
- Boiral, O., Brotherton, M.-C., & Talbot, D. (2024). What you see is what you get? Building confidence in ESG disclosures for sustainable finance through external assurance. *Business Ethics, the Environment & Responsibility*, 33(4), 617–632. <https://doi.org/10.1111/beer.12630>
- Bonaparte, I. (2024). Environmental, social, and governance controversies and earnings quality. *Corporate Ownership & Control*, 21(4), 89–105. <https://doi.org/10.22495/cocv21i4art8>
- Bonrath, A., Eulerich, M., & Lopez Kasper, V. I. (2022). Internal auditor's role in ESG disclosure and assurance: An analysis of practical insights. *Corporate Ownership and Control*. <https://doi.org/10.2139/ssrn.4070755>
- Brinette, S., Sonmez, F., & SenerTournus, P. (2023). ESG controversies and firm value: Moderating role of board gender diversity and board independence. *IEEE Transactions on Engineering Management*. <https://doi.org/10.1109/TEM.2023.3236667>
- British Petroleum. (2010). Annual report and Form 20-F 2010. Retrieved from <https://www.bp.com/content/dam/bp/businesssites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2010.pdf>
- Center for Audit Quality (CAQ). (2020). The auditor's role in ESG: Present and future. Retrieved from <https://publication.thecaq.org/rotaesg/introduction/>
- Committee of Sponsoring Organizations (COSO) of the Treadway Commission. (2004). Executive Summary: Enterprise Risk Management – Integrated Framework. (No Title).
- Committee of Sponsoring Organizations (COSO) of the Treadway Commission. (2018). Applying Enterprise Risk Management to Environmental, Social and Governance-Related Risks. (No Title).
- DeFond, M. L., Raghunandan, K., & Subramanyam, K. R. (2002). Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research*, 40(4), 1247–1274. <https://doi.org/10.1111/1475-679X.00088>
- Ferguson, M. J., Seow, G. S., & Young, D. (2004). Non-audit services and earnings management: UK evidence. *Contemporary Accounting Research*, 21(4), 813–841. <https://doi.org/10.1506/MFV5-9T3Q-H5RK-VC20>
- Francis, J. R., & Ke, B. (2006). Disclosure of fees paid to auditors and the market valuation of earnings surprises. *Review of Accounting Studies*, 11(4), 495–523. <https://doi.org/10.1007/s11142-006-9014-z>
- Goldwasser, L. (2002). The accounting profession's regulatory dilemma. *The CPA Journal*, 72(5), 8–11.
- Groening, C., & Kanuri, V. K. (2013). Investor reaction to positive and negative corporate social events. *Journal of Business Research*, 66(10), 1852–1860. <https://doi.org/10.1016/j.jbusres.2013.02.006>
- Hales, J. (2018). The future of accounting is now. *The CPA Journal*, 88(7), 6–9.
- Hrazdil, K., Anginer, D., Li, J., & Zhang, R. (2024). Climate reputation and bank loan contracting. *Journal of Business Ethics*, 192(4), 875–896. <https://doi.org/10.1007/s10551-023-05517-7>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)

- Knechel, W. R., Sharma, D. S., & Sharma, V. D. (2012). Non-audit services and knowledge spillovers: Evidence from New Zealand. *Journal of Business Finance & Accounting*, 39, 60–81. <https://doi.org/10.1111/j.1468-5957.2011.02268.x>
- Liu, G., Qian, H., Shi, Y., Zhang, Y., & Wu, F. (2024). Does ESG report greenwashing increase stock price crash risk? *China Journal of Accounting Studies*. <https://doi.org/10.1080/21697213.2024.2303070>
- Manetti, G., & Becatti, L. (2009). Assurance services for sustainability reports: Standards and empirical evidence. *Journal of Business Ethics*, 87(suppl 1), 289–298. <https://doi.org/10.1007/s10551-008-9809-x>
- McDonnell, M. H., King, B., & Soule, S. (2013). Keeping up appearances: Reputational threat and impression management after social movement boycotts. *Administrative Science Quarterly*, 58(3), 387–419. <https://doi.org/10.1177/0001839213500032>
- Messier, W., Glover, S., & Prawitt, D. 2019. *Auditing & assurance services: A systematic approach* (11th ed.). McGraw-Hill.
- Mooneeapen, O., Abhayawansa, S., & Mamode Khan, N. M. (2022). The influence of the country governance environment on corporate environmental, social and governance (ESG) performance. *Sustainability Accounting, Management & Policy Journal*, 13(4), 953–985. <https://doi.org/10.1108/SAMPJ-07-2021-0298>
- Nofsinger, J. R., Sulaeman, J., & Varma, A. (2019). Institutional investors and corporate social responsibility. *Journal of Corporate Finance*, 58, 700–725. <https://doi.org/10.1016/j.jcorpfin.2019.07.012>
- Public Company Accounting Oversight Board (PCAOB). 2010. Auditing standards related to the auditor's assessment of and response to risk and related amendments to PCAOB standards. Release No. 2010–004. *Public Company Accounting Oversight Board*, 291.
- Rabarison, M. K., Siraj, I., & Qiu, B. (2024). Environmental policy and audit pricing. *Journal of Business Finance & Accounting*, 51, 2820–2847. <https://doi.org/10.1111/jbfa.12799>
- Rawat, P. (2025). Sustainability reporting and assurance: The role of auditors in verifying corporate environmental and social performance. *Journal of Informatics Education and Research*. <https://doi.org/10.52783/jier.v5i1.2017>
- Renn, O. (2017). *Risk governance: Coping with uncertainty in a complex world*. Routledge. <https://doi.org/10.4324/9781849772440>
- Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of Accounting Research*, 18(1), 161. <https://doi.org/10.2307/2490397>
- Song, Y., Wu, H., & Ma, Y. (2023). Does ESG performance affect audit pricing? Evidence from China. *International Review of Financial Analysis*, 90, Article 102890. <https://doi.org/10.1016/j.irfa.2023.102890>
- Staiger, D., & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica*, 65(3), 557–586. <https://doi.org/10.2307/2171753>
- Strike, V. M., Gao, J., & Bansal, P. (2006). Being good while being bad: Social responsibility and the international diversification of US firms. *Journal of International Business Studies*, 37(6), 850–862. <https://doi.org/10.1057/palgrave.jibs.8400226>

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