Does managerial ability reduce ESG controversies?

Ahmed Younas
ahmedyounas76@gmail.com
Department of Management Sciences, COMSATS University Islamabad (Lahore Campus), Lahore, Pakistan

Shams Pathan
shams.pathan@gmail.com
Newcastle University

Anis Samet
asamet@aus.edu
Bank of Sharjah Endowed Chair
American University of Sharjah

Abstract

This study examines the impact of managerial ability on firms' ESG (Environmental, Social, and Governance) controversies. Using a panel of US publicly traded firms from 2010-2022, we document that higher managerial ability is associated with fewer ESG controversies. This effect is particularly pronounced in firms with strong external monitoring and in low-polluting industries. These findings highlight managerial ability as a key intangible asset in managing ESG risks and offer actionable insights for boards, investors, and regulators concerned with sustainable corporate governance.

Keywords: Managerial ability, ESG controversies, corporate governance

Does managerial ability reduce ESG controversies?

1. Introduction

ESG controversies—negative events tied to a firm's Environmental (E), Social (S), or Governance (G) practices—can lead to lawsuits, regulatory penalties, reputational damage, and significant financial loss. Between 2014 and 2019, large US firms involved in major ESG-related controversies collectively lost USD 534 billion in market capitalization, underscoring the severe consequences of ESG failures.[1] Emerging studies have begun to explore both determinants and consequences of ESG controversies across country and firm-level contexts. For instance, from a country-level perspective, Beckmann and Rogmann (2024) document that countries with higher income and under both left and right-wing governments exhibit higher ESG controversies. Further, they demonstrate that higher controversies reduce the economic growth. Focusing on corporate ESG controversies, Li et al. (2025) find that peer ESG controversies constrain the earnings management practices. Ab Aziz et al. (2025) reveal that firms with fewer ESG controversies tend to have greater performance. Similarly, a growing body of research investigates the potential mechanisms that help firms avoid such ESG controversies. In this research vein, Treepongkaruna et al. (2024) document that firms with larger board size exhibit fewer ESG controversies. Ghafoor & Gull, (2024) find that CEOs of firms with a higher proportion of co-opted directors experience fewer ESG-related controversies. Muhammad and Farooq (2025) document that board gender diversity and the sustainability committee mitigate ESG controversies. Despite these advances, the role of managerial ability in mitigating ESG controversies remains largely unexplored.

In this study, we argue that firms led by high-ability managers are less prone to ESG controversies. Drawing on upper echelons theory (Hambrick and Mason, 1984), we contend that managerial ability—a multidimensional construct reflection strategic acumen, industry knowledge, and accumulated experience—plays pivotal role in shaping organizational outcomes. We consider that managers with superior capabilities are more adept at navigating complex ESG challenges, aligning corporate actions with evolving environment, social, and governance standards. We further anchor our argument in resource dependence theory (Pfeffer and Salancik, 1978), which views managerial ability as a critical intangible resource. High-ability managers are better equipped to efficiently allocate resources, anticipate ESG risks, and proactively implement policies that mitigate reputational and regulatory exposure. By aligning firm practices with societal expectations, governance regulations, and industry norms, these managers enhance operational resilience and reduce the incidence of ESG controversies. The stakeholder theory (Freeman, 1984) reinforces this view by emphasizing that the normative responsibility of managers to act in the best interests of all stakeholders. High-ability managers are more likely to internalize this obligation, adopting a long-term perspective that prioritizes stakeholder trust and safeguard against ESG-related misconduct. Empirical evidence substantiates this view. Welch and Yoon (2023) show that high-ability managers allocate ESG resources in ways that enhance shareholder value. Similarly, Gaganis et al., (2023) find that such managers are linked to lower

[1] See more details at: https://en.sustainablevalueinvestors.com/2019/12/14/us-534-bn-of-market-value-has-been-lost-due-to-esg-controversies/

greenhouse gas emissions, while Wali Ullah et al. (2024) report a negative relationship between managerial ability and climate change exposure. Collectively, these findings suggest that high managerial ability acts as a protective mechanism, reducing a firm's vulnerability to ESG controversies.

Using a panel of 13,454 firm-year observations from US publicly listed firms over the period 2010–2022, we find that higher managerial ability is associated with fewer ESG controversies. Further analysis indicates that this effect is particularly pronounced in firms with stringent external monitoring and in climate-insensitive industries, where such controversies tend to be more frequent. These findings are robust to a range of alternative measures and econometric techniques, including two-stage least square (2SLS) and two-step system GMM estimations.

This study makes three important contributions to the literature on ESG risk and corporate leadership. First, it is among the earliest empirical studies to examine the role of managerial ability in reducing ESG controversies, a critical but overlooked area in the growing body of ESG research. By focusing on the competence of top executives rather than structural governance features, the study shifts the conversation toward leadership quality as a strategic lever for ESG risk management. Second, the study extends key theoretical frameworks—upper echelons theory, resource dependence theory, and stakeholder theory—by demonstrating that managerial ability serves as a vital intangible resource that enables firms to better anticipate ESG risks, align with evolving stakeholder and regulatory expectations, and adopt proactive, sustainability-oriented strategies. Third, it offers practical implications for boards, investors, and regulators by identifying managerial ability as a measurable and impactful attribute that can enhance firms' resilience against reputational and regulatory ESG risks. Collectively, these contributions advance both theoretical understanding and practical knowledge, highlighting executive ability as a critical factor in shaping responsible corporate behavior and sustainable performance.

The remainder of the paper proceeds as follows. Section 2 outlines the research methodology including sample selection, variables and model. Section 3 presents empirical findings, subsample analyses and robustness tests. Section 4 concludes.

2. Research methodology

2.1. Data and variable

Our sample comprises US publicly listed firms from 2010 to 2022, sourced from Refinitiv. We exclude firms in financial services, real estate, and utilities due to their distinct regulatory environment. After dropping missing observations with missing data on ESG controversies and control variables, we merge the sample with managerial ability data (MA-Score) from Demerjian et al., (2012), resulting in 13,454 firm-year observations across 2,197 firms.

The dependent variable is the ESG Controversies Score from Refinitiv, calculated based on 23 ESG controversy topics.[2] A higher score indicates fewer controversies. A firm without any

[2] The detailed information on construction of ESG controversies score is available at: https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf

controversies is assigned a score of 100, while a firm with controversies is given a baseline score of 0 (Dorfleitner et al., 2020; Ghafoor and Gull, 2024). To ease the interpretation, we divide the raw score by 100. Our key independent variable is *Managerial Ability*, measured via the MA-score developed by Demerjian et al. (2012). As a robustness check, we also use an industry-year normalized rank of MA-score (*Managerial_Ability_Rank*). Following Treepongkaruna et al., (2024), we include control variables related to financial characteristics (e.g., leverage, firm size, capital expenditure, cash holdings, asset tangibility, and ROA) and corporate governance (e.g., board size, board independence, and CEO duality) along with firm's ESG engagement. Table 1 provides definitions and data sources for all variables. Variables are winsorized at the 1st and 99th percentiles to minimize outlier influence.

--Table 1 Here--

Table 2 presents the descriptive statistics. Particularly, the mean value of ESG controversies is 0.889 which is close to the average value of 0.873 reported by Ghafoor & Gull, (2024) over a period of 2002-2018 in US. The mean managerial ability score of 0.008 aligns closely with the average value of 0.006 reported by Atawnah et al., (2024). The overall correlation coefficients reported in Table 3 indicate that multicollinearity is not of major concern for the study. In addition, the untabulated values of Variance Inflation Factor (VIF) confirm the absence of multicollinearity.

--Table 2 & 3 Here--

2.2. Regression model

The baseline model to examine the impact of managerial ability on ESG controversies is as follows:

$$ESG\_Controversies_{i,t} = a + b(Managerial\_Ability)_{i,t-1} + c(Controls)_{i,t-1} + \varepsilon_{i,t} \quad \textbf{(1)}$$

where i and t refer to firm and year[3], respectively. The dependent variable is the ESG controversies score. The independent variable (*Managerial_Ability*) is the MA-Score, a measure of managerial ability developed by Demerjian et al., (2012) which has been widely used in literature (see Anggraini & Sholihin, 2023). Controls represents the set of control variables. ε is the error term. To mitigate potential simultaneity and endogeneity bias, we included one-year lag of *Managerial_Ability* as well as one-year lagged values of all control variables in the regression model. Given that a higher ESG controversies score shows that the firm is involved in fewer ESG controversies, we expect a positive coefficient on Managerial Ability. We estimate the model using a panel data fixed-effects econometric specification.

3. Empirical results

3.1. Baseline findings

Table 4 reports the main results for the impact of managerial ability on ESG controversies. In column (1), the univariate regression model (consists of only ESG controversies and managerial ability) shows a positive and statistically significant (at 1% level) association between managerial ability and ESG controversies score. This suggests that firms led by more capable managers tend to experience fewer ESG controversies. In column (2), after controlling for firm-level financial variables, the coefficient on managerial ability remains positive and statistically significant at 1% level. Since the corporate governance variables may also impact ESG controversies and companies that are more socially responsible are potentially less likely to engage in contentious activities, therefore, we further control for corporate governance variables and firm's ESG engagement in column (3) and find the same results.

For robustness, we replace our main variable of interest with the managerial ability rank (*Managerial Ability_Rank*), which is also computed by Demerjian et al., (2012). Table 1 provides the definition of managerial ability rank. Similar to the main findings, columns (4) to (6) report that ESG controversies are less prevalent in firms with high-ability managers.

--Table 4 here--

[3] In Refinitiv, ESG controversies scores are continuously updated (see, https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf)

3.2. Managerial ability and ESG controversies: The role of Analysts

The effectiveness of corporate governance is not solely determined by internal mechanisms but is also shaped by broader external pressures. As Aguilera et al. (2015) highlight, internal governance is shaped by external forces. Building on this, we investigate how external monitoring—specifically sell-side analysts covering the security—influences the relationship between managerial ability and ESG controversies. We create a dummy variable which takes the value of one if the number of analysts following a firm in a given year is above the industry-year average, and zero otherwise. The significant coefficient on managerial ability in column (1) of Table 5 indicates that high-ability managers are more effective in reducing ESG controversies when external monitoring is strong.

--Table 5 here--

3.3. Industry heterogeneity: Climate-sensitive versus climate-insensitive industries?

To assess industry-level variation in ESG controversies, we begin by examining how ESG controversies differ between climate-sensitive (high-polluting) and climate-insensitive (low-polluting) industries. Since materials, energy and industrial sectors are considered the most carbon-intensive industries in ranking provided by S&P Global's analysis of 2019-2020[4] (utilities sector is also included in high-polluting industries but this sector is dropped in this study as discussed above in the methodology), therefore, we create dummy variable equal to one if a firm operates in climate-sensitive industry and zero otherwise. Column (1) of Table 6 shows that firms in climate-sensitive industries are associated with fewer ESG controversies whereas those operating in climate-insensitive tend to experience higher ESG controversies[5]. These findings may be attributed to the heightened regulatory oversight and public scrutiny faced by firms in climate-sensitive industries due to their significant environmental impact.

In climate-sensitive industries such as energy and mining, ESG controversies—particularly those related to environmental impact—are often inherent to the operational nature of these sectors and therefore less responsive to managerial discretion. By contrast, in climate-insensitive industries, where environmental risks are lower and social and governance issues are more salient, stakeholder expectations are typically higher and reputational consequences of ESG failures more severe (Khan et al., 2016). In such contexts, we expect managerial ability to play a more pronounced role in mitigating ESG controversies. Specifically, in low-polluting sectors like technology and services, managerial decisions related to governance practices, stakeholder engagement, and transparency can have a substantial influence on ESG outcomes (Christensen et al., 2021). Supporting this expectation, column (2) of Table 6 shows no significant impact of managerial ability within subsample of climate-sensitive industries. In contrast, we find that firms with high-ability managers tend to face fewer ESG controversies operating in climate-insensitive industries. This suggests that managerial ability serves as an important mechanism for mitigating ESG controversies in industries where such issues are more widespread.

[4] See "Ranked: The Most Carbon-Intensive Sectors in the World," Visual Capitalist, October 1, 2023).
[5] The sector dummy variable was dropped in the fixed effects model due to time invariance, so we used random effects model to examine its impact.

--Table 6 here--

3.4. Controlling for potential endogeneity issues

To address potential endogeneity concerns associated with the estimated coefficients, we re-estimate the model using a two-stage least squares (2SLS) instrumental variable approach. Following Gaganis et al., (2023), assumed endogenous variable i.e., managerial ability is instrumented with the supply of managerial ability within industry and year. Thus, we compute average industry-year value of managerial ability excluding the focal firm (*Avg_MA*) and employ two-years lagged value of *Avg_MA* as an instrument. The column 1 of Table 7 contains first-stage regression results whereas results for the second-stage are reported in column 2. The positive and statistically (at 1% level) significant coefficient on *Fitted Managerial_Ability* in column 2, once again, confirm that firms operated by high-ability managers tend to face fewer ESG controversies. In the 2SLS estimation, the different statistical tests confirm that the instrument is not weak.

To further address the endogeneity problem, we execute two-step system generalized method of moments (GMM) specification and report the results in column (3) of Table 7. These results confirm our main findings. Regarding the GMM estimation, the validity of our instruments is supported by standard diagnostic tests: the Arellano-Bond tests for autocorrelation (AR(1) and AR(2)), the Sargan test for over-identifying restrictions, and the Hansen test for instrument exogeneity all indicate that the GMM estimators are valid.

--Table 7 here--

4. Conclusion

This paper investigates the relationship between managerial ability and firms' ESG controversies using a large panel of US firms from 2010 to 2022. Drawing on resource dependence, upper echelons and stakeholder theories, we show that firms led by more capable managers experience fewer ESG controversies—particularly when external monitoring is heightened and in climate-insensitive industries. Our findings are robust to various model specifications, alternative measures, and endogeneity controls.

The study offers several practical implications. First, boards may consider managerial ability as a key intangible asset in ESG risk management. Second, regulators could incorporate managerial quality assessments into corporate governance guidelines. Like other empirical studies, this paper has some limitations. Our managerial ability score measure reflects collective entire management ability, limiting analysis of role-specific effects (e.g., CEO vs. CFO). Future research could decompose managerial ability across executive roles.

References

Aguilera, R. V., Desender, K., Bednar, M. K., & Lee, J. H. (2015). Connecting the dots: Bringing external corporate governance into the corporate governance puzzle. *Academy of Management Annals*, 9(1), 483-573.

Ab Aziz, N. H., Alshdaifat, S. M., & Al Amosh, H. (2025). ESG Controversies and Firm Performance in ASEAN: Do Board Gender Diversity and Sustainability Committee Matter?. *Business Strategy and Development*, 8(1), e70094.

Anggraini, P. G., & Sholihin, M. (2023). What do we know about managerial ability? A systematic literature review. *Management Review Quarterly*, 73(1), 1-30.

Atawnah, N., Eshraghi, A., Baghdadi, G. A., & Bhatti, I. (2024). Managerial ability and firm value: A new perspective. *Research in International Business and Finance*, 67, 102133.

Beckmann, J., & Rogmann, J. (2024). Determinants and effects of country ESG controversy. *Energy Economics*, 131, 107326.

Christensen, D. M., Serafeim, G., & Sikochi, A. (2021). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*, 97(1), 147–175.

Demerjian, P., Lev, B., & McVay, S. (2012). Quantifying managerial ability: A new measure and validity tests. *Management Science*, 58(7), 1229-1248.

Dorfleitner, G., Kreuzer, C., & Sparrer, C. (2020). ESG controversies and controversial ESG: about silent saints and small sinners. *Journal of Asset Management*, 21(5), 393-412.

Freeman, R. E. (1984). Strategic management: A stakeholder approach. Boston: Pitman.

Gaganis, C., Galariotis, E., Pasiouras, F., & Tasiou, M. (2023). Managerial ability and corporate greenhouse gas emissions. *Journal of Economic Behavior & Organization*, 212, 438-453.

Ghafoor, A., & Gull, A. A. (2024). Do co-opted boards protect CEOs from ESG controversies? *Finance Research Letters*, 63, 105263.

Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of management review*, 9(2), 193-206.

Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review*, 91(6), 1697–1724.

Li, M. L., Li, M. D., Yu, M. Q., & Liu, M. X. (2025). Peer ESG controversies and enterprise earnings management. *Energy Economics*, 108736.

Muhammad, H., & Farooq, M. (2025). The effectiveness of board gender diversity and sustainability committees in mitigating ESG controversies. *Meditari Accountancy Research.*

Pfeffer J and Salancik GR (1978) *The External Control of Organizations: A Resource Dependence Perspective*. New York: Harper & Row.

Treepongkaruna, S., Kyaw, K., & Jiraporn, P. (2024). ESG controversies and corporate governance: Evidence from board size. *Business Strategy and the Environment*, 33(5), 4218-4232.

Wali Ullah, G. M., Khan, I., & Abdullah, M. (2024). Managerial ability and climate change exposure. *International Journal of Managerial Finance,* 20(3), 651-676.

Welch, K., & Yoon, A. (2023). Do high-ability managers choose ESG projects that create shareholder value? Evidence from employee opinions. *Review of Accounting Studies*, 28(4), 2448-2475.

Table 1: Variables' definitions

Variables	Definition	Source
ESG_Controversies	ESG controversies score from Refinitiv (The score is divided by 100). A higher score shows that the firm has fewer ESG controversies. The score of 1 means that the firm has zero ESG controversies.	Refinitiv
Managerial Ability	Managerial ability score (MA-score) developed by Demerjian et al., (2012)	Demerjian et al., (2012)
Managerial Ability_Rank	MA-score ranked from 1 to 10, by industry and year, and then scaled by 10 resulting in a range from 0.10 to 1.0.	Demerjian et al., (2012)
Board_Size	The natural logarithm of number of members on board of directors.	Refinitiv, Authors' calculations
Ind_Dir	The proportion of independent directors on board.	Refinitiv
CEO_Duality	Dummy variable coded '1' if chairperson and CEO are the same and '0' otherwise.	Refinitiv
LEV	The ratio of total liabilities to total assets.	Refinitiv, Authors' calculations
Firm_Size	The natural logarithm of total assets.	Refinitiv, Authors' calculations
CAPEX	Capital expenditure scaled by total assets.	Refinitiv, Authors' calculations
Cash/TA	The ratio of cash and cash equivalents to total assets.	Refinitiv, Authors' calculations
Tangibility	The ratio of property, plant and equipment to total assets.	Refinitiv, Authors' calculations
ROA	Income before discontinued operations and extraordinary items scaled by average total assets.	Refinitiv
ESG score	ESG score obtained from Refinitiv and divided by 100. It indicates the percentile rank score of a firm's engagement in ESG activities relative to its industry peers. A higher score indicates greater engagement in ESG activities by the firm.	Refinitiv
Climate_Sensitivity	A dummy variable, equals to one for firms belonging to polluting sectors and zero otherwise.	Refinitiv, Authors' calculations

This table discusses the definitions of the variables.

Table 2: Descriptive statistics

Variables	N	Mean	SD	Median	Min	Max
ESG Controversies	13,454	.889	0.250	1	.038	1
Managerial Ability	13,454	.008	0.160	-.03	-.244	.578
Managerial Ability_Rank	13,454	.544	0.302	.5	.1	1
Board_Size	13,454	2.186	0.258	2.197	1.386	2.708
Ind_Dir	13,454	.784	0.136	.818	.3	.933
CEO_Duality	13,454	.429	0.495	0	0	1
LEV	13,454	.57	0.264	.556	.073	1.551
Firm_Size	13,454	21.667	1.749	21.642	17.616	25.921
CAPEX	13,454	.042	0.044	.029	.001	.246
Cash/TA	13,454	.142	0.148	.096	.001	.751
Tangibility	13,454	.244	0.223	.163	.006	.889
ROA	13,454	.014	0.162	.045	-.729	.337
ESG score	13,454	.419	0.202	.389	.069	.868

This table represents the descriptive statistics. All the variables are winsorized at 1% and 99% levels. The definitions of the variables are provided in Table 1.

Table 3: Correlation matrix

Variables	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*
(1) ESG Controversies	1.000												
(2) Managerial Ability	-0.138*	1.000											
(3) Managerial Ability_Rank	-0.113*	0.861*	1.000										
(4) Board_Size	-0.232*	0.099*	0.066*	1.000									
(5) Ind_Dir	-0.084*	0.029*	0.009*	0.218*	1.000								
(6) CEO_Duality	-0.091*	0.048*	0.044*	0.016*	0.069*	1.000							
(7) LEV	-0.093*	0.012*	0.029*	0.195*	0.056*	0.032*	1.000						
(8) Firm_Size	-0.413*	0.188*	0.132*	0.595*	0.186*	0.127*	0.232*	1.000					
(9) CAPEX	-0.031*	0.047*	0.080*	-0.027*	-0.065*	0.018*	0.006*	0.048*	1.000				
(10) Cash/TA	0.075*	0.087*	0.116*	-0.246*	-0.062*	-0.041*	-0.185*	-0.409*	-0.150*	1.000			
(11) Tangibility	-0.060*	-0.006	-0.007*	0.051*	-0.050*	0.020*	0.108*	0.171*	0.608*	-0.307*	1.000		
(12) ROA	-0.066*	0.178*	0.176*	0.191*	0.081*	0.050*	-0.086*	0.363*	0.060*	-0.315*	0.084*	1.000	
(13) ESG score	-0.298*	0.118*	0.105*	0.475*	0.405*	0.032*	0.145*	0.616*	-0.063*	-0.197*	0.028*	0.243*	1.000

Table 3 shows the pair-wise correlation matrix. * indicates significance at the 5% level. The definitions of the variables are provided in Table 1.

Table 4 The effect of managerial ability on ESG controversies: The role of analysts

Dependent variable: ESG Controversies

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	**Univariate**	**Financial Controls included**	**Financial and Corporate governance controls**	**Univariate**	**Financial Controls included**	**Financial and Corporate governance controls**
Managerial Ability$_{(t-1)}$	0.070***	0.070***	0.069***			
	(3.21)	(3.14)	(3.09)			
Managerial Ability_Rank$_{(t-1)}$				0.050***	0.049***	0.048***
				(4.54)	(4.41)	(4.34)
Board_Size$_{(t-1)}$			-0.005			-0.005
			(-0.27)			(-0.27)
Ind_Dir$_{(t-1)}$			0.068*			0.067*
			(1.93)			(1.91)
CEO_Duality$_{(t-1)}$			-0.012			-0.011
			(-1.54)			(-1.46)
LEV$_{(t-1)}$		-0.004	-0.002		-0.006	-0.005
		(-0.19)	(-0.12)		(-0.32)	(-0.24)
Firm_Size$_{(t-1)}$		-0.063***	-0.059***		-0.063***	-0.058***
		(-11.21)	(-9.28)		(-11.17)	(-9.23)
CAPEX$_{(t-1)}$		0.226**	0.220**		0.213**	0.207**
		(2.39)	(2.32)		(2.25)	(2.18)
Cash/TA$_{(t-1)}$		-0.003	-0.002		-0.002	-0.002
		(-0.08)	(-0.06)		(-0.07)	(-0.05)
Tangibility$_{(t-1)}$		0.003	0.005		0.001	0.003
		(0.07)	(0.12)		(0.02)	(0.07)
ROA$_{(t-1)}$		-0.020	-0.022		-0.027	-0.029
		(-0.69)	(-0.76)		(-0.95)	(-1.02)
ESG score$_{(t-1)}$			-0.061**			-0.061**
			(-2.36)			(-2.36)
Constant	0.875***	2.241***	2.131***	0.849***	2.211***	2.101***
	(426.99)	(18.15)	(16.05)	(132.82)	(17.89)	(15.82)
Observations	9,991	9,991	9,991	9,991	9,991	9,991
F-statistics	10.29***	23.39***	15.70***	20.59***	24.77***	16.56***
Overall R^2	0.0171	0.159	0.163	0.0101	0.157	0.161

This table reports the results examining the impact of managerial ability on ESG controversies. ***, **, and * represent statistical significance at 1%, 5% and 10%, respectively. The definitions of the variables are provided in Table 1.

Dependent variable: ESG Controversies

Variables	(1) High external monitoring (Number of analysts above the industry-year average)	(2) Low external monitoring (Number of analysts below the industry-year average)
Managerial Ability$_{(t-1)}$	0.090**	0.045
	(2.51)	(1.41)
Board_Size$_{(t-1)}$	-0.003	-0.016
	(-0.07)	(-0.68)
Ind_Dir$_{(t-1)}$	0.135*	0.022
	(1.92)	(0.51)
CEO_Duality$_{(t-1)}$	-0.009	-0.018*
	(-0.65)	(-1.80)
LEV$_{(t-1)}$	0.011	-0.001
	(0.29)	(-0.05)
Firm_Size$_{(t-1)}$	-0.063***	-0.040***
	(-5.36)	(-4.58)
CAPEX$_{(t-1)}$	0.398**	0.205*
	(2.08)	(1.88)
Cash/TA$_{(t-1)}$	-0.079	0.065*
	(-1.21)	(1.73)
Tangibility$_{(t-1)}$	-0.016	0.068
	(-0.20)	(1.36)
ROA$_{(t-1)}$	-0.036	-0.002
	(-0.60)	(-0.07)
ESG score$_{(t-1)}$	-0.144***	-0.032
	(-3.04)	(-0.98)
Constant	2.198***	1.772***
	(8.65)	(9.93)
Observations	4,163	4,939
F-statistics	8.329***	4.520***
Overall R^2	0.191	0.0435

This table reports the results examining the role of analysts' monitoring on the association between managerial ability and ESG controversies. ***, **, and * represent statistical significance at 1%, 5% and 10%, respectively. The definitions of the variables are provided in Table 1.

Table 6: The effect of managerial ability on ESG controversies: Climate-sensitive versus climate-insensitive industries

Dependent variable: ESG Controversies

	(1)	(2)	(3)
Variables		**Climate Sensitive Industries (High polluting)**	**Climate Insensitive Industries (Low polluting)**
$Climate\_Sensitivity_{(t-1)}$	0.043***		
	(5.69)		
$Managerial\ Ability_{(t-1)}$		0.024	0.088***
		(0.60)	(3.29)
$Board\_Size_{(t-1)}$	0.019	0.015	-0.017
	(1.41)	(0.51)	(-0.68)
$Ind\_Dir_{(t-1)}$	0.056**	0.024	0.088**
	(2.53)	(0.42)	(1.98)
$CEO\_Duality_{(t-1)}$	-0.017***	-0.010	-0.012
	(-3.07)	(-0.79)	(-1.21)
$LEV_{(t-1)}$	0.008	-0.086**	0.026
	(0.65)	(-2.24)	(1.10)
$Firm\_Size_{(t-1)}$	-0.059***	-0.069***	-0.055***
	(-22.08)	(-5.90)	(-7.08)
$CAPEX_{(t-1)}$	0.026	0.329**	0.165
	(0.35)	(2.48)	(1.24)
$Cash/TA_{(t-1)}$	-0.123***	-0.130*	0.024
	(-5.83)	(-1.80)	(0.67)
$Tangibility_{(t-1)}$	-0.023	0.030	-0.035
	(-1.30)	(0.45)	(-0.64)
$ROA_{(t-1)}$	0.082***	-0.094**	0.013
	(4.36)	(-1.96)	(0.36)
$ESG\ score_{(t-1)}$	-0.086***	-0.004	-0.093***
	(-4.63)	(-0.10)	(-2.68)
Constant	2.116***	2.418***	2.043***
	(40.12)	(9.40)	(12.70)
Observations	9,991	3,392	6,599
F-statistics		5.626***	11.68***
Overall R^2	0.196	0.134	0.181

This table shows the results of climate sensitivity on ESG controversies in Column (1) and the impact of managerial ability on ESG controversies across climate-sensitive industries in Column (2) and their climate-insensitive peers in Column (3). ***, **, and * represent statistical significance at 1%, 5%, and 10%, respectively. The definitions of the variables are provided in Table 1.

Table 7: Addressing endogeneity issue using 2SLS and Two-step system GMM

	(1)	(2)	(3)
	2SLS- First-stage	**2SLS-Second-stage**	**Two-step system GMM**
Variables	**Managerial Ability (lagged)**	**ESG Controversies**	**ESG Controversies**
Industry_year_average_Managerial _Ability (lagged)	0.450***		
	(8.15)		
Fitted Managerial_Ability		0.584***	
		(2.93)	
$ESG\ Controversies_{(t-1)}$			0.066***
			(3.97)
$Managerial\ Ability_{(t-1)}$			0.295***
			(4.89)
$Board\_Size_{(t-1)}$	-0.007	0.057***	-0.084***
	(-0.80)	(3.74)	(-2.70)
$Ind\_Dir_{(t-1)}$	-0.025	0.072***	0.169**
	(-1.59)	(2.78)	(2.42)
$CEO\_Duality_{(t-1)}$	0.011***	-0.026***	-0.040***
	(2.91)	(-4.13)	(-3.36)
$LEV_{(t-1)}$	0.020***	-0.004	-0.062
	(2.59)	(-0.32)	(-1.36)
$Firm\_Size_{(t-1)}$	0.024***	-0.089***	-0.030***
	(14.22)	(-15.39)	(-2.77)
$CAPEX_{(t-1)}$	0.310***	-0.286**	0.219
	(5.64)	(-2.47)	(0.83)
$Cash/TA_{(t-1)}$	0.262***	-0.377***	0.010
	(16.21)	(-6.27)	(0.10)
$Tangibility_{(t-1)}$	-0.021*	-0.003	0.312**
	(-1.91)	(-0.18)	(2.40)
$ROA_{(t-1)}$	0.262***	-0.027	-0.155*
	(16.53)	(-0.46)	(-1.90)
$ESG\ score_{(t-1)}$	-0.012	-0.093***	-0.266***
	(-0.99)	(-4.56)	(-2.94)
Constant	-0.545***	2.756***	1.447***
	(-15.94)	(21.64)	(4.57)
Industry and Year Effects	NO	NO	YES
F-statistics	93.49***	146.5***	571.317***
R^2	0.129	0.189	N/A
Observations	6,944	6,944	9,991
Anderson canon. corr. LM statistic	65.936		N/A
	(p=0.000)		
Cragg-Donald Wald F-statistics	66.453		N/A
Stock–Yogo weak ID test critical values at 10% IV size	16.38		N/A
Arellano-Bond test AR (1) (z, p-value):	N/A	N/A	-12.291
			(p=0.000)
Arellano-Bond test AR (2) (z, p-value):	N/A	N/A	0.001
			(p=0.999)
Sargan test (Chi-square, p-value):	N/A	N/A	181.647
			(p=0.000)
Hansen test (Chi-square, p-value):	N/A	N/A	120.372
			(p=0.161)

This table addresses endogeneity issue using 2SLS (Column (1) reports the first-stage and Column (2) reports the second-stage results) and two-step system GMM (Column (3)) econometric specifications. ***, **, and * represent statistical significance at 1%, 5%, and 10%, respectively. The definitions of the variables are provided in Table 1.