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Beyond Good Intentions: Peer E&S Incidents and the Unravelling of CSR Value

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Abstract

This paper investigates the impact of peer environmental and social (E&S) incidents on the value of corporate social responsibility (CSR) for non-incident firms. We find that high-CSR engagement backfires in the presence of peer E&S incidents. Following negative peer events, non-incident firms with high-CSR ratings experience a 3.2% greater decline in firm value than those with low CSR ratings. The negative impact of peer E&S incidents on the value of CSR operates through two mechanisms: (1) cash flow effect, driven by reduced sales growth and profitability, and (2) cost of capital effect, evidenced by increased implied cost of equity and decreased institutional ownership for high-CSR firms. Cross-sectional analyses further reveal that the impact is more pronounced among larger firms, when incident peers have high-CSR standing, and in industries characterized by stronger CSR norms, greater competitive intensity, and more standardized products. Our findings challenge the view of CSR as an "insurance-like" mechanism during uncertain times, showing that peer E&S incidents can trigger the industry-wide spillovers of mistrust and raise concerns about industry ethics, ultimately diminishing the value of CSR.

Keywords CSR · Peer E&S incidents · Stakeholder trust · Spillover effect · Firm value · Ethics

JEL Classification G14 · M14

Introduction

Investment in social capital is often considered as an “insurance-like” policy that pays off when public trust in corporations and markets suffers a negative shock. In line with this view, firms with high corporate social responsibility (CSR) ratings earned relatively higher stock returns during the 2008–2009 financial crisis, the COVID-19 market crash, and

politically uncertain periods (Albuquerque et al., 2020; Hu & Yin, 2024; Lins et al., 2017). While there is a widespread view that a firm’s CSR activities generate social capital and trust that are value-enhancing during challenging times, prior studies focus mainly on situations where the overall confidence in the stock markets deteriorates. Rather than examining market-wide shocks to trust in financial stability, this paper adopts a different perspective by investigating the

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unintended consequences of peer environmental or social (E&S) incidents, i.e., direct and negative shocks to CSR trust and social capital itself, on the focal firm's value of CSR.¹

As firms in the same industry share similar operational environments, relevant empirical evidence suggests that negative peer events can have a spillover effect on the value of non-incident firms. For example, the 2008 SanLu milk-powder melamine scandal negatively affected the Chinese dairy industry's export performance, while the 2015 Volkswagen emissions scandal reduced sales for all German car manufacturers by an estimated \$5.2 billion (Bai et al., 2022). Beyond this, understanding whether this spillover effect enhances or destroys the social capital value of non-incident firms is of significant importance, particularly for mandatory CSR disclosure regulations. If negative peer E&S events enhance the value of other firms with high-CSR ratings, then it could encourage further CSR investments and will provide an important economic justification for reporting mandates (Christensen et al., 2021). In contrast, if high-CSR engagement backfires following peer ethics failures, then decision-makers should carefully evaluate their CSR practices, especially in industries where peer E&S incidents are prevalent, and develop effective strategies to mitigate such impacts. This highlights the need for further research.

Whether CSR is value-enhancing in the presence of peer E&S incidents remains ambiguous and represents an empirical question. On the one hand, firms with strong CSR credentials may benefit from peer incident events, as stakeholders could perceive them as more ethical and trustworthy alternatives within the industry. Drawing on stakeholder theory, high-CSR firms often build strong relational assets with their stakeholders, creating a reservoir of moral capital that acts as insurance protection when negative events occur (see, e.g., Freeman, 1984; Shiu & Yang, 2017). Additionally, signaling theory suggests that high-CSR firms send clear signals of ethical commitment and long-term value that differentiate themselves (Spence, 1973; Zhang et al., 2022). Following peer scandals, these signals may be magnified. In turn, high-CSR firms could be perceived as belonging to a distinct, "responsible" subgroup, distancing themselves from negative associations within the industry. Such differentiation may reinforce stakeholder trust and lead to a "flight to quality" where investors and customers favor firms seen as safer (Albuquerque et al., 2020). This dynamic has the potential to enhance customer loyalty and investor interest,

ultimately providing competitive advantages that sustain the value of high-CSR firms during industry turmoil.

On the other hand, peer E&S incidents can expose high-CSR firms to the risks of signal incongruence (Stern et al., 2014), where contradictory stakeholder perceptions erode the trust built through CSR efforts. While CSR activities are meant to signal altruism and ethical integrity, peer scandals may undermine this signal by casting doubt on the authenticity of CSR across the industry. The contagion effect, in Lang and Stulz (1992), amplifies these risks as stakeholders may generalize peer misconduct to other firms with similar products. This is particularly the case in sectors with high institutional isomorphism where similar CSR practices are adopted across firms (DiMaggio & Powell, 1983), making it harder for stakeholders to differentiate between the genuine and the superficial. As a result, misconduct by a single firm can convey bad news about others. For high-CSR firms, the heightened stakeholder expectations and signal incongruence can lead to disproportionate reputational damage and erosion of trust. Under this dynamic, high-CSR firms may face larger declines in demand and firm value, suggesting that CSR engagement can backfire in the presence of industry-wide ethics skepticism.

To test these two opposing views, we use data from RepRisk, a database that tracks negative ESG events since 2007, to construct our test variable, *Peer_E&S_Incident* (i.e., a binary variable for whether the firm's industry peers encounter one or more negative environmental or social incidents in a given year). Our sample is exclusively restricted to non-incident firms in order to examine the spillover effects. We employ the traditional Tobin's q as a measure of firm value and regress it on the interaction between *Peer_E&S_Incident* and firm-level CSR performance measured using the MSCI ESG KLD STATS database. Our regressions include both year- and firm-fixed effects to capture within-firm variation and time trends.

Using a sample of 10,599 firm-year observations over 2007–2019, we find that while CSR is value-enhancing on average, CSR incidents have a negative effect on the value of non-incident peer firms. Importantly, we document a negative and significant coefficient on the interaction between peer E&S incidents and firms' CSR performance, suggesting that peer E&S incidents destroy the value of CSR investments in non-incident firms. In terms of economic significance, the value of firms with high-CSR ratings (i.e., in the 90th percentile) experiences a drop of 3.2% more than the value of firms with low CSR ratings (i.e., in the 10th percentile) following negative peer E&S events. Further, we find that the effect is significant in the first two years but attenuates thereafter. Our findings are robust to the instrumental variable approach to address endogeneity, as well as to alternative definitions of peer E&S events, different measures of

¹ Throughout the paper, we use the term "CSR value" or "value of CSR" to refer to the extent to which a firm's CSR efforts are reflected in its market valuation. This concept captures how investors and other stakeholders perceive and price a firm's CSR engagement. Prior research shows that CSR activities have beneficial impacts on firm value and the cost of capital (e.g., El Ghoual et al., 2011; Ferrell et al., 2016).

CSR performance, alternative samples, and propensity score matching technique.

In a next step, we investigate potential underlying mechanisms through which peer E&S incidents reduce the value of high-CSR firms. First, we explore the cash flow effect, hypothesizing that peer E&S incidents erode consumer trust in CSR. We find that firms with high-CSR ratings experience a larger reduction in sales growth and profitability than their counterparts, suggesting that consumers, as a key stakeholder, respond sensitively to reputational shocks within the product markets. In this case, negative peer events heighten consumer skepticism, leading to mistrust that disproportionately affects firms with higher CSR ratings.

Second, we investigate the cost of capital effect, conjecturing that peer E&S incidents alter investor perceptions, leading to increased risk premiums and reduced confidence in CSR investments. Our analysis reveals that high-CSR firms face a greater increase in the implied cost of equity and a decline in institutional ownership (especially from transient investors) compared to low-CSR firms following peer E&S incidents. These findings suggest that equity investors and institutional stakeholders reassess the credibility and value of CSR commitments in the aftermath of negative peer incidents, perceiving CSR investments as riskier or less reliable. Together, these mechanisms highlight the dual role of consumer and investor responses in driving the value destruction associated with peer E&S incidents.

Last, we proceed to explore the heterogeneous effects across firms and industries to further our understanding of the spillover impact of peer E&S incidents. At the firm level, we find that the negative impact of peer incidents on the value of CSR is more pronounced among larger firms, consistent with their being more susceptible to reputational damage due to their higher visibility and greater stakeholder scrutiny. The effect is also larger when the CSR standing of the incident peers is higher. This aligns with a trust-based contagion mechanism, where scandals involving high-CSR peers are more likely to trigger stakeholder skepticism and concerns about symbolic or exaggerated CSR claims. At the industry level, we show that the spillover effect is amplified in more competitive industries, in sectors where CSR norms are stronger, and in industries producing standardized products. These patterns suggest that reputational contagion is more likely when firms are harder to distinguish from peers or are embedded in CSR-intensive environments, both of which heighten the perceived generalizability and salience of peer misconduct.

Our study makes several contributions. First, we contribute to the extant literature on the capital markets implications of peer events. For example, Gleason et al. (2008) find that non-restating firms experience a decrease in firm value when a peer discloses an accounting restatement and this contagion effect is stronger among high-accrual firms.

Similarly, Giannetti and Wang (2016) document that following financial misconduct revelation, households' stock market participation in the state where the fraudulent firm is headquartered reduces.² Another stream of studies investigates the real effects of peer incidents. Using cybersecurity incidents, Ashraf (2022) shows that peer data breaches are associated with an improvement in corporate governance for non-breached firms. Moreover, Banerjee et al. (2024) find that the cost of capital of peer firms increases following an adverse transparency shock, prompting more disclosure. Our research work also relates to Derrien et al. (2024), who examine how ESG incidents reduce expected future cash flows and market value of firms themselves, highlighting the financial consequences of sustainability failures. However, the focus of our research is on peer incidents related to CSR, an increasingly critical dimension of corporate behavior, and add to a more complete understanding of how peer-driven perceptions of CSR integrity influence its market valuation, which is different from previous studies in this area.

Second, our work extends prior studies that examine the value of CSR during uncertain times. CSR resilience theory argues that CSR activities generate a type of moral capital or goodwill for firms, serving as a form of "insurance-like" protection during negative events (Godfrey et al., 2009; Jiraporn et al., 2014). For example, Godfrey et al. (2009) find that high-CSR firms tend to experience a less negative market reaction to bad news, suggesting an insurance-like effect of CSR. Moreover, investments in CSR activities are value-enhancing during unfavorable times such as during the financial crises (Lins et al., 2017), the Covid-19 pandemic (Albuquerque et al., 2020; Garel & Petit-Romec, 2021), the cyber security breach event (Bamiatzi et al., 2023), the announcement of an acquisition event (Zhang et al., 2022), and politically uncertain periods (Hu & Yin, 2024). To the best of the authors' knowledge, this study is the first of its kind to demonstrate that peer E&S incidents can undermine the value of CSR by spreading CSR skepticism, thereby contributing to the ongoing debate about the resilience of CSR in adverse situations. Unlike the "insurance-like" role of CSR highlighted in prior studies, our findings reveal a contrasting dynamic where negative peer events expose vulnerabilities in CSR value, offering further insights into the conditions under which CSR strengthens or weakens firm resilience in response to external shocks.

The rest of this paper is organized as follows. Sect. "Related literature and hypothesis development" discusses relevant literature and develops the research

² Other studies on the market effects include peer earnings announcements (Foster, 1981; Ramnath, 2002), peer shareholder litigation (Grade and Lewis, 2009), and peer SEC enforcement actions (Silvers, 2016).

hypotheses. Sect. "Data and research design" describes the data, variables, and research design. Sect. "The effect of peer E&S incidents on CSR value" reports our main results and findings. Sect. "Mechanisms" explores the underlying mechanisms through which peer E&S incidents affect CSR value. Sect. "Cross-sectional analyses" discusses the heterogeneous effects of peer E&S incidents on CSR value across different firm and industry groups. Sect. "Additional robustness checks" highlights the findings of our additional robustness checks and related analyses. Finally, Sect. "Discussion, implications and limitations" concludes the paper by summarising the main outcome of this research work and explains the research implications.

Related Literature and Hypothesis Development

In this section, we build upon several theoretical frameworks and empirical studies to explore the effects of peer E&S incidents on the value of CSR, proposing two competing hypotheses.

Stakeholder Theory and Signaling

Stakeholder Theory and Corporate Resilience

Stakeholder theory posits that a firm's success is embedded in its ability to build and maintain strong relationships with stakeholders (Freeman, 1984). These relationships are governed by explicit contracts, such as formal agreements, and implicit contracts, which depend on trust, reciprocity, and moral capital (Harrison and Freeman,). While explicit contracts can be protected through legal mechanisms, implicit contracts lack coercive enforcement and often rely on the goodwill cultivated by firms through socially responsible and ethical behavior for self-enforcement between the involved parties (Bull, 1987). In this context, CSR plays a pivotal role in building the intangible relational assets, creating greater reciprocity between stakeholders. This goodwill is particularly valuable during adverse events when stakeholders' support acts as a crucial buffer against reputational and financial losses.

Supporting stakeholder theory, prior studies document that CSR can build corporate resilience by accruing positive moral capital that protects firms' implicit contracts with stakeholders and preserves firm value when negative events occur and harm stakeholder interests. In an influential study, Lins et al. (2017) find that high-CSR firms experience significantly higher returns during the 2008–2009 financial crisis, highlighting the value of trust built through CSR. Similarly, Albuquerque et al. (2020) demonstrate that stocks

with high-CSR ratings outperform during the COVID-19 pandemic. Furthermore, while the findings of Zhang et al. (2022) show that high-CSR acquirers maintain superior returns during acquisition announcements, Bamiatzi et al. (2023) document that CSR serves as "insurance-like" protection during cybersecurity breaches. Therefore, in the face of harmful events such as peer E&S incidents, high-CSR firms may be better equipped to preserve their market value given their greater reservoir of moral capital.

Signaling Theory, Corporate Ethics and CSR

While stakeholder theory provides valuable insights into the benefits of CSR for existing stakeholder relationships, it does not fully address how CSR influences potential stakeholders. Signaling theory, as developed by Spence (1973, 2002), complements stakeholder theory by explaining how firms use CSR as a mechanism to communicate their ethical commitment and intentions to those who lack direct interactions with the firm. These signals help reduce information asymmetry, affecting the decisions of both existing and potential stakeholders regarding whether to bind themselves with the firms (Stiglitz, 2000; Zerbini, 2017).

High-CSR firms might act as signallers, sending signals about their commitment to social and ethical standards as well as sustaining the quality of their products (Fisman et al., 2008). When a peer firm is involved in a CSR-related scandal, it creates an opportunity for non-incident firms with strong CSR reputations to differentiate themselves from that firm. By sending signals of trustworthiness and business ethics, high-CSR firms can leverage their reputation to stand out from their peers and capitalize on the erosion of trust caused by the peer incident. For example, Banerjee et al. (2024) show that firms respond to peer incidents by enhancing transparency and disclosure, thereby reinforcing their credibility with stakeholders. This dynamic encourages stakeholders—consumers, investors, and other interested parties—to redirect their trust toward firms perceived as more responsible, strengthening the competitive advantage of high-CSR firms.

Together, stakeholder and signaling theories suggest that peer E&S incidents may enhance the value of high-CSR firms by offering an opportunity to reinforce their ethical reputation and gain stakeholder trust. Based on this perspective, we propose:

Hypothesis 1a: CSR is value-increasing following peer E&S incidents.

The Contagion Effect and Perceived Signal Incongruence

Contagion Effect

The contagion effect refers to the tendency of stakeholders to generalize negative perceptions from one firm to others within the same industry, particularly during crises or reputational scandals (Lang & Stulz, 1992). This phenomenon arises because stakeholders often view firms in the same industry as sharing similar practices, ethical standards, or vulnerabilities. Such contagion effect is particularly pronounced in industries characterized by high institutional isomorphism, where firms adopt similar operational and strategic approaches (DiMaggio & Powell, 1983).

In this regard, existing research highlight that firms' CSR behavior is shaped by peer effects (Cao et al., 2019; Li & Wang, 2022; Liu & Wu, 2016). For example, Cao et al. (2019) show that the passage of a close-call CSR proposal and its subsequent implementation often lead product-market peer firms to adopt similar CSR practices. Similarly, Li and Wu (2016) find that the CSR behavior of firms is positively affected by the CSR level of their competitors, particularly in highly competitive industries. Hence, similar CSR practices among peer firms would amplify the risks of reputational spillovers from peer E&S incidents. Bai et al. (2022) document such spillovers during the 2015 Volkswagen emissions scandal, where reputational damage extended to other German automakers, irrespective of their involvement in the scandal. This suggests that stakeholders may generalize negative perceptions following a high-profile CSR scandal, thus undermining stakeholder trust in non-incident firms if they are perceived as being part of the same system.

Signal Incongruence and its Interaction with the Contagion Effect

Congruent signals are essential for firms to effectively communicate with stakeholders, as they simplify stakeholders' interpretation of the firm's intentions (Connelly et al., 2011; Lamberg et al., 2009; Stern et al., 2014). In contrast, signal incongruence can undermine the credibility of positive signals, potentially wiping out their benefits (Stern et al., 2014). Stakeholders often struggle to interpret conflicting signals due to their contradictions, which can lead them to question the firm's true motives and doubt the authenticity of the positive messages being communicated (Cording et al., 2014; Stern et al., 2014).

In the context of peer E&S incidents, the interaction between the contagion effect and signal incongruence can have adverse consequences for high-CSR firms. These firms often differentiate themselves by signaling strong ethical commitments. However, when the contagion effect causes

stakeholders to generalize negative perceptions, peer E&S incidents can send negative signals that clash with the positive messages. Stakeholders may then question whether high-CSR firms' actions genuinely align with their stated values, undermining the perceived authenticity of their ethical commitments (De Roeck et al., 2016; Vergne et al., 2018). The signal incongruence can destroy the benefits of CSR engagement (Zhang et al., 2022).

In addition, high-CSR firms are particularly vulnerable to such negative spillovers due to heightened stakeholder expectations and scrutiny. Stakeholders hold these firms to higher ethical standards, and any perceived association with industry-wide misconduct, even if they are not directly involved, can lead to a disproportionate loss of trust (Mayer et al., 1995). In other words, the greater the perceived social capital, the more severe the reputational damage when there is any perceived misalignment between expectations and reality.

The signal incongruence and mistrust are further exacerbated by widespread concerns about "greenwashing" or "social washing", where firms mislead stakeholders by presenting an overly favorable image of their CSR practices. In this regard, evidence in existing literature shows that firms often engage in symbolic disclosure, exaggerating sustainability achievements while obscuring negative behaviors (Kim & Lyon, 2015; Lyon & Montgomery, 2015). For example, companies may selectively disclose benign environmental metrics (Marquis et al., 2016), exaggerate carbon commitments (Grewal et al., 2024), and misreport gender pay-gap figures (Bailey et al., 2024). The findings of Baker et al. (2024) show that so-called "diversity washers" (i.e., firms that overstate diversity, equity and inclusion efforts) tend to receive higher ESG ratings and attract more capital despite evidence of discrimination violations and weak diversity hiring. These practices lead stakeholders to interpret peer scandals not as isolated events but as signals of potential collective greenwashing. When a peer CSR scandal emerges, especially involving a firm with high-CSR standing, the perceived incongruence between CSR talk and behavior becomes salient across the product market, leading to broader reputational contagion. Even genuinely responsible firms may suffer as stakeholders reassess the legitimacy of all CSR claims. As suggested by Arouri et al. (2021), the reputational risks associated with greenwashing are amplified in competitive product markets where scrutiny is high. Peer scandals thus not only signal misconduct but also activate latent concerns about symbolic CSR, intensifying the reputational costs for firms which are most visible for their social responsibility.

While investigating the relationship between CSR and firm value, Servaes and Tamayo (2013) document that firms achieving alignment between their CSR activities and reputations enjoy higher valuations, whereas inconsistency

between the two decreases stakeholder trust and firm value. Similarly, Barnett (2007) argues that stakeholders' preexisting trust in a firm intensifies their reactions to perceived inconsistencies, leading to larger declines in trust and engagement. Thus, for high-CSR firms, even minor discrepancies in (perceived) CSR performance or messaging during peer incidents may trigger amplified reputational damage, as stakeholders reassess the authenticity of their commitments. This erosion of trust could impact financial performance, as stakeholders reduce their engagement, leading to declines in sales, profitability, and investment attractiveness.

These dynamics suggest that peer E&S incidents can weaken the valuation of CSR for non-incident firms, highlighting the complex interplay of contagion and perceived signal misalignment. Based on this perspective, we propose:

Hypothesis 1b: CSR is value-decreasing following peer E&S incidents.

Data and Research Design

Data

This study focuses on the U.S. market with the data coming from several sources. We obtain data for negative CSR incidents from RepRisk, which started reporting firms' ESG incidents from January 2007.³ Text-based network industry classifications (TNIC) data is generously provided by Hoberg and Phillips (2016).⁴ Relevant firm characteristics and financial information are sourced from Compustat. Data for CSR performance is collected from MSCI KLD database, which has been extensively used as the data source by existing studies due to its large coverage of U.S. firms (e.g., Attig et al., 2013; Krüger, 2015; Lins et al., 2017). Since MSCI KLD data are only available up to 2019, we restrict our sample period between 2007 and 2019.⁵ To investigate the spillover effects on CSR value from peer E&S incidents, we further restrict the sample exclusively to non-incident firms (i.e., focal firms that experience E&S incidents themselves during the period are excluded from the sample). In

addition, due to standard reasons we exclude firms that operate in the financial (SIC codes 6000-6999) and utility (SIC codes 4900-4999) industries.

Research Design and Variables

We examine the impact of peer E&S incidents on CSR value by estimating the following regression model:

$$Tobin'sq_{i,t+1} = \alpha + \beta_1 Peer_ES_Incident_{i,t} + \beta_2 CSR_{i,t} + \beta_3 Peer_ES_Incident_{i,t} \times CSR_{i,t} + \beta_4 Controls_{i,t} + Firm_i + Year_t + \varepsilon_{i,t} \quad (1)$$

where i indexes firm and t indexes year. We lag all independent and control variables by one year to mitigate the potential endogeneity bias from reverse causality. Also, the cash flow effect on firm value triggered by a peer E&S incident might manifest over time till the next period.

Our main dependent variable in this study is *Tobin's q*, measured by dividing the firm's market value by its assets' replacement value. *Tobin's q* reflects the risk-adjusted value a firm generates through its asset base (Fauver et al., 2017; Servaes & Tamayo, 2013). Specifically, we compute *Tobin's q* as the book value of total assets minus the book value of equity plus the market value of equity, divided by the book value of assets.

Peer_E&S_Incident_{i,t} is a dummy variable, which equals one if any of the firm i 's top 5 industry peers experience a negative environmental or social incident (based on RepRisk) during firm i 's year t , and zero otherwise.⁶ Incidents are classified as such when both their severity and novelty scores are at least 2 in the RepRisk database.⁷ Following Ashraf (2022), we identify industry peers based on the Hoberg-Phillips text-based network industry classifications (TNIC). TNIC is an industry classification system that categorizes firms as peers if they operate in a similar product space (Hoberg & Phillips, 2016).⁸ The top 5 industry

⁶ We do not include incidents related to corporate governance because governance issues often have firm-specific implications rather than industry-wide spillover effects. However, our results remain robust to this inclusion and are available upon request.

⁷ RepRisk evaluates ESG incidents based on their severity and novelty, assigning scores on a scale from 1 (low) to 3 (high). **Severity** measures the intensity or seriousness of an incident, and **novelty** assesses whether the issue is new or unprecedented for the company or project. For severity and novelty, incidents classified as 2 or higher indicate a significant and new ESG issue.

⁸ The TNIC classification offers two key advantages over traditional industry classification measures like SIC. First, it identifies firms as peers based on product market similarity, enhancing the likelihood of capturing spillover effects from peer E&S incidents that stakeholders are aware of. Hoberg and Phillips (2016) show that TNIC classifications align with managers' perceptions of actual competitors, unlike SIC codes, which are indirect proxies for competitive relationships. Second, TNIC is a time-varying intransitive industry classification

³ RepRisk provides ESG-related risk data by gathering information on firms that have been exposed to ESG incidents from more than 100,000 sources in 23 languages (RepRisk, 2022). The RepRisk Index (RRI) ranges from 0 to 1. It increases whenever the firm experiences a new ESG incident. How much the index increases depends on the severity and novelty of the incident as well as on the reach and intensity of the news about the incident.

⁴ Available at: <https://hobergphillips.tuck.dartmouth.edu/industryclass.htm>

⁵ Our findings are robust to utilizing CSR/ESG ratings data from Refinitiv Asset4, which provides granular scores and extends to 2021 in our analysis. However, its coverage of U.S. firms is more limited. See Sect. "Addressing endogeneity concern".

peers are selected based on the five highest similarity scores between firm i and other firms in the TNIC network for year t .⁹

$CSR_{i,t}$ is the CSR rating of firm i in year t and is constructed from MSCI KLD database. As in Di Giuli and Kostovetsky (2014), we consider six CSR categories, including environment, employee relation, community, diversity, human rights, and product. Under each of these categories, MSCI KLD outlines strengths and concerns in subcategory indicators. To address the problem about variations over time in the number of strengths and concerns within each category, we follow prior studies (e.g., Deng et al., 2013; Lins et al., 2017) to divide the number of strengths (concerns) by the maximum number of strengths (concerns) in each category for each firm-year, resulting in a strength (concern) index ranging from 0 to 1. The concern index is then subtracted from the strength index to derive a category-specific index, which ranges from -1 to $+1$. Finally, we aggregate these indices across the six categories to calculate an overall CSR value, ranging from -6 to $+6$, with a higher value indicating stronger CSR performance.

Following existing literature on firm value (e.g., Fauver et al., 2017; Servaes & Tamayo, 2013), we control for the following firm-level variables: *Size* (i.e., the natural logarithm of the firm's total assets), *ROA* (i.e., return on assets, defined as net income over total assets), *Leverage* (i.e., total debts over total assets), *Tangibility* (i.e., property, plant, and equipment to total assets), *Advertising* (i.e., Advertising expenses over total assets), *R&D* (i.e., research and development expenses over total assets), and *Cash* (i.e., cash and short-term investments over total assets). We further include the firm-fixed effects, $Firm_i$, to control for time-invariant differences across firms and the year-fixed effects, $Year_t$, to control for potential confounding market-wide shocks or time trends in CSR issues. We use robust standard error clustered at the firm level to account for potential serial correlations in error terms. Detailed variable definitions are in Appendix A. We winsorize all continuous variables at the 1st and 99th percentiles to mitigate the potential impact of outliers.

Our variable of interest is the interaction term between *Peer_E&S_Incident* and *CSR*. The interaction coefficient, β_3 ,

captures the effect of peer E&S incidents on the relationship between CSR and firm value. If peer E&S incidents enhance (destroy) the value of CSR among non-incident focal firms, we would expect the coefficient β_3 to be positive (negative).

Summary Statistics

Our final sample consists of 10,599 firm-year observations from 1947 unique firms, spanning from 2007 to 2019. Table 1 reports the summary statistics for our sample in Panel A and the pairwise correlation coefficient estimates of the main variables of interests in Panel B. As reported in Panel A, the mean and median *Tobin's q* is 2.278 and 1.711 respectively, suggesting a right-skewed distribution of firm values. The mean value of *Peer_E&S_Incident* is 0.178, implying that 17.8% of firms in our sample experience one or more peer E&S incidents. Figure 1 plots the average *Peer_E&S_Incident* by industry.¹⁰ *Peer_E&S_Incident* is more prevalent among chemicals, energy, consumer non-durables, and manufacturing firms.^{11,12}

Furthermore, we report in Table OA.1 of the Online Appendix the average frequency of *Peer_E&S_Incident* across different categories. 11.1% (16.8%) of firms in our sample experience peer environmental (social) incidents, while 9.7% of them have peer incidents involving both E and S categories during a particular year. Given that we only include major peer incidents that have severity and novelty scores of at least 2 in our sample, we further decompose *Peer_E&S_Incident* along these dimensions. Consistent with Derrien et al. (2024), we observe no incidents labeled as novelty-3 incidents and that there are only 2.1% of firms experiencing peer severity-3 incidents. Also, 10.9% of firms encounter peer incidents with reach-2 and -3 ratings.¹³

With regard to CSR performance, firms in our sample have an average CSR score of 0.020, with a standard deviation of 0.282. In Panel B, we show that firm value is positively associated with CSR performance and R&D and is negatively associated with peer E&S incidents.

Footnote 8 (continued)

system, which reduces noise in our measure by better identifying competitors as a firm's product space evolves over time.

⁹ We use the top 5 peers instead of all firms in the industry to focus on those operating in the most closely related product spaces, as identified by the highest similarity scores in the TNIC network. These firms are likely to have the greatest influence on stakeholders' perceptions of a focal firm. This ensures that the analysis captures the most direct competitive dynamics and spillover effects, avoiding dilution from less relevant firms within the broader industry. In the robustness checks, we also use the top 3 or top 10 industry peers to define the variable, and our main inference is unchanged.

¹⁰ As noted earlier, TNIC is an intransitive industry classification and does not define distinct industry groups. Therefore, for descriptive purposes in Fig. 1, we plot *Peer_E&S_Incident* based on the focal (non-incident) firm's Fama-French 12 industry classification. Our sample does not include finance and utilities firms due to the exclusion criteria.

¹¹ It is important to note that the use of firm-year-fixed effects in our baseline regression mitigates the concern that industry-level characteristics might affect our inferences.

¹² In Figure OA.1 of the Online Appendix, we plot the average *Peer_E&S_Incident* by year. It shows that the average peer incidents increase over time and become more prominent from 2012.

¹³ In the robustness checks, we examine our baseline result along these dimensions and categories.

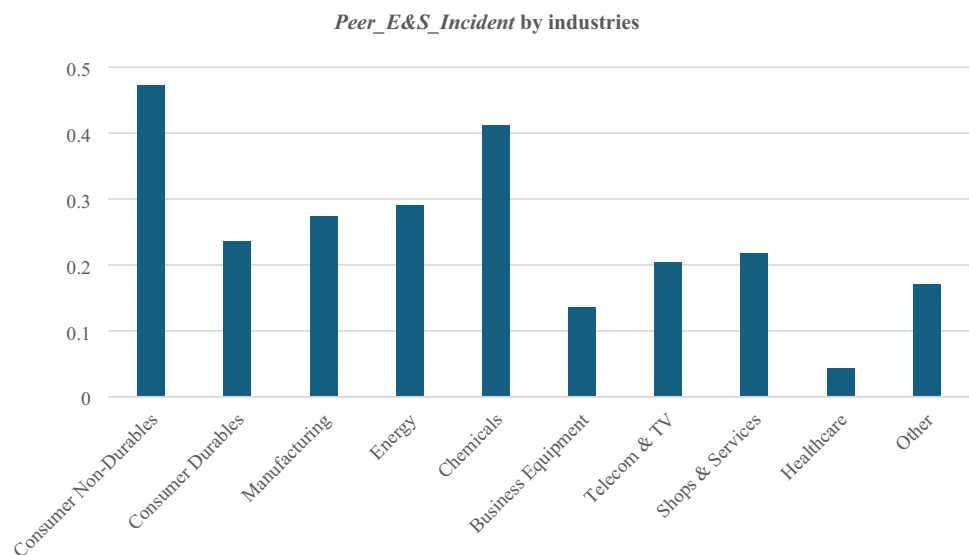
Table 1 Descriptive statistics

Panel A: Summary statistics						
Variable	N	Mean	SD	P10	P50	P90
Tobin's q	10,599	2.278	1.624	1.006	1.711	4.327
<i>Peer_E&S_Incident</i>	10,599	0.178	0.382	0.000	0.000	1.000
CSR	10,599	0.020	0.282	-0.237	0.000	0.237
Size	10,599	6.688	1.251	5.100	6.648	8.366
ROA	10,599	0.000	0.177	-0.184	0.041	0.134
Leverage	10,599	0.201	0.220	0.000	0.144	0.508
Tangibility	10,599	0.206	0.210	0.027	0.130	0.534
R&D	10,599	0.065	0.109	0.000	0.014	0.190
Advertising	10,599	0.012	0.031	0.000	0.000	0.035
Cash	10,599	0.243	0.238	0.017	0.160	0.619

Panel B: Pairwise correlations										
	<i>Tobin's q</i>	<i>Peer Incident</i>	CSR	Size	ROA	Leverage	Tangibility	R&D	Advert	Cash
Tobin's q	1.000									
<i>Peer_E&S_Incident</i>	-0.112	1.000								
CSR	0.164	-0.037	1.000							
Size	-0.304	0.149	0.009	1.000						
ROA	-0.217	0.097	-0.011	0.312	1.000					
Leverage	-0.109	0.037	-0.059	0.344	-0.096	1.000				
Tangibility	-0.233	0.084	-0.131	0.143	0.092	0.249	1.000			
R&D	0.476	-0.167	0.114	-0.419	-0.633	-0.133	-0.306	1.000		
Advertising	0.040	0.032	-0.039	-0.097	0.075	-0.077	0.014	-0.105	1.000	
Cash	0.484	-0.160	0.126	-0.481	-0.393	-0.311	-0.398	0.664	-0.009	1.000

This table presents summary statistics and correlations of variables used in our baseline regression. Panel A reports the number of firm-year observations, mean, standard deviation, 10th, 50th, and 90th percentile values of the main firm-level characteristics. Panel B reports the pairwise correlations of variables in our baseline regression. Appendix A provides detailed definitions of the variables

Fig. 1 Peer E&S incidents by industries. This figure plots the average $Peer_E\&S_Incident_{i,t}$ by Fama–French 12 industries



The Effect of Peer E&S Incidents on CSR Value

In this section, we present our estimation of the spillover effect of peer E&S events on the value of CSR and then perform several tests to address potential endogeneity concern.

Baseline Results

Table 2 reports the estimation results of Eq. (1). In Specification (1) of Table 2, we first estimate the regression equation without the interaction term *Peer_E&S_Incident*×*CSR*, but with year-fixed effects. Consistent with the existing literature (e.g., Servaes & Tamayo, 2013), there is a positive relationship between CSR and firm value (coeff=0.170 with t-statistic=2.657). Interestingly, we find that peer E&S incidents have a negative spillover effect and reduce the value of non-incident firms within the similar product space (coeff=-0.093 with t-statistic=-2.430). In addition, we document that firm profitability measured by ROA, leverage, advertising and R&D are positively associated with firm value.

We then introduce our interaction term of interest, *Peer_E&S_Incident*×*CSR*, in Specifications (2) to (4). In Specification (2), we present the regression results with year-fixed effects. The coefficient estimate is negative and statistically significant at the 5% level. When further adding the industry-fixed effects (based on 2-digit SIC code) to the regression model as reported in Specification (3), we continue to observe the negative and significant interaction term. In Specification (4), where we include both year-fixed effects and firm-fixed effects (which also naturally control for industry-level unobservable characteristics), the coefficient on *Peer_E&S_Incident*×*CSR* remains negative, at -0.153, and statistically significant (t-statistic=-2.207). The negative interaction coefficient means that, following peer E&S incidents, non-incident firms with higher CSR ratings experience a significantly larger drop in firm value than those with lower CSR ratings. In terms of economic magnitude, the negative coefficient of -0.153 in Specification (4) corresponds to a 3.2% decrease in the value of firms with CSR ratings in the 90th percentile relative to those with CSR ratings in the 10th percentile after negative peer E&S events.¹⁴ This value reduction is economically significant. Therefore, negative peer E&S events undermine the value of CSR for firms within similar product space.

Overall, rather than acting as an insurance-like protection during periods of adversity, we find that peer E&S incidents destroy the value of CSR activities in non-incident firms. The results hold after accounting for various firm

characteristics. Our evidence is consistent with contagion theory that stakeholders generalize a negative event to the entire industry, attributing it to an industry-wide ethical failure, and that the effect is magnified among firms with higher reputations in terms of social capital investments.

Addressing Endogeneity Concern

Instrument Variable

While our baseline design mitigates endogeneity concerns by (i) restricting attention to relatively novel peer E&S incidents and (ii) excluding focal firms that experience incidents themselves, it remains possible that unobserved industry-wide shocks jointly influence both peer scandals and CSR devaluation. To strengthen our causal interpretation, we adopt an instrumental variable (IV) strategy, using peer lagged analyst coverage (i.e., natural logarithm of one plus the average number of analysts following the firm's top 5 TNIC peers) as an instrument for *Peer_E&S_Incident*.

We expect that peer analyst coverage can satisfy the relevance condition. Financial analysts play a monitoring role in uncovering corporate misconduct, and greater analyst scrutiny at the peer level can raise the likelihood that peer misconduct is detected and reported. In this regard, Dyck et al. (2010) identify analysts as key external monitors in surfacing wrongdoing, making peer lagged analyst coverage a plausible predictor of peer E&S incidents. As for the exclusion restriction, we argue that lagged analyst coverage of peer firms should affect the focal firm's CSR valuation only through its influence on the likelihood of peer incidents. Since the variable captures scrutiny directed at peer firms, not the focal firm, it is unlikely to directly impact the focal firm's outcomes, especially after controlling for the firm analyst coverage itself and other firm and peer fundamentals.

We then perform the two-stage least squares method. In the first stage, we obtain the fitted value of *Peer_E&S_Incident* by regressing *Peer_E&S_Incident* on firm-level control variables and peer lagged analyst coverage (the instrument). Following Leary and Roberts (2014) and Seo (2021), we further include peer firm averages to control for the contextual effects and denote them by the prefix "Peer_". The first-stage results are reported in Specification (1) of Table 3. As expected, the coefficient on peer lagged analyst coverage is positive and highly significant (coeff=0.091, t-statistic=11.411). The first-stage F-statistic is 130.21, well above the conventional threshold of 10, indicating that the instrument is not weak.

In the second stage, we replace the original *Peer_E&S_Incident* values with the fitted values from the first stage and estimate Eq. (1). Specification (2) of Table 3 presents the results. The interaction term between *CSR* and the instrumented *Peer_E&S_Incident* remains negative and statistically significant at the 10% level (coeff=-0.474,

¹⁴ $-0.153/2.278 \times [0.237 - (-0.237)] = -0.032$

Table 2 The effect of peer E&S incidents on the value of CSR: Baseline regression

Variables	(1) Tobin's q_{t+1}	(2) Tobin's q_{t+1}	(3) Tobin's q_{t+1}	(4) Tobin's q_{t+1}
<i>Peer_E&S_Incident</i> × <i>CSR</i>		− 0.188** (− 1.975)	− 0.199** (− 2.248)	− 0.153** (− 2.207)
<i>Peer_E&S_Incident</i>	− 0.093** (− 2.430)	− 0.092** (− 2.418)	− 0.087** (− 2.542)	− 0.019 (− 0.966)
<i>CSR</i>	0.170*** (2.657)	0.209*** (2.965)	0.208*** (3.017)	0.121* (1.765)
<i>Size</i>	− 0.169*** (− 7.034)	− 0.169*** (− 7.060)	− 0.152*** (− 6.366)	− 0.488*** (− 8.676)
<i>ROA</i>	1.332*** (5.653)	1.331*** (5.651)	1.421*** (6.083)	0.443*** (2.809)
<i>Leverage</i>	0.554*** (4.768)	0.554*** (4.768)	0.617*** (4.946)	0.303** (1.999)
<i>Tangibility</i>	− 0.075 (− 0.855)	− 0.074 (− 0.841)	0.065 (0.435)	− 0.064 (− 0.222)
<i>Advertising</i>	3.610*** (4.379)	3.607*** (4.376)	2.922*** (3.103)	− 0.763 (− 0.419)
<i>R&D</i>	4.948*** (10.263)	4.943*** (10.255)	5.125*** (10.387)	1.588** (2.542)
<i>Cash</i>	1.796*** (11.016)	1.793*** (10.997)	1.814*** (10.724)	0.729*** (3.911)
Constant	2.522*** (14.071)	2.526*** (14.096)	2.358*** (13.057)	5.224*** (12.848)
Observations	10,599	10,599	10,599	10,599
R-squared	0.355	0.355	0.389	0.781
Year FE	Yes	Yes	Yes	Yes
Firm FE	No	No	No	Yes
Industry FE	No	No	Yes	No

This table presents the regression results from our baseline model examining the effect of peer E&S incidents on the value of CSR in non-incident firms. The dependent variable is firm value, proxied by Tobin's q . The independent variable of interest is the interaction between *Peer_E&S_Incident* and *CSR*. *Peer_E&S_Incident_{it}* equals one if any of the firm i 's top 5 industry peers experience a CSR incident in year t , and zero otherwise. *CSR* is firm-level CSR performance, measured by MSCI KLD ratings. The control variables include *Size*, *ROA*, *Leverage*, *Tangibility*, *Advertising*, *R&D*, and *Cash*. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

t-statistic = − 1.795), supporting the robustness of our baseline findings.

Falsification Test

As an additional robustness check, we conduct a falsification test to examine whether the observed effects are plausibly driven by meaningful peer exposure rather than coincidental industry-level events. If our main results are truly driven by reputational spillovers from closely related industry peers, we would not expect similar effects when the incident occurs in less economically relevant peer firms. Conversely, if unobserved industry-wide shocks were driving both peer

E&S incidents and focal firm CSR devaluation, then we might observe similar effects even from more distant peers.

We construct a *Placebo_Peer_E&S_Incident* variable that equals one if any firm outside the top 10 TNIC peers of firm i experiences an environmental or social incident in year t , and no firm within the top 10 peers experiences an incident. This ensures that the placebo exposure is not confounded by direct peer spillovers and allows us to isolate focal firms that are only weakly connected to the incident firms.

We then re-estimate our baseline specification using this placebo incident measure. The results, reported in Table OA.2 of the Online Appendix, show that the interaction between *CSR* and *Placebo_Peer_E&S_Incident* is

statistically insignificant, suggesting that CSR valuation is unaffected by incidents in distant, economically unrelated peers. This supports our expectation that the effects documented in our main analysis are not driven by generalized industry sentiment or macro shocks, but rather reflect reputational contagion transmitted through salient peer networks.

Propensity Score Matched Sample

The firm-level characteristics of companies in our sample that experience peer E&S incidents may differ significantly from those that do not. To alleviate potential selection bias and mitigate concerns that our findings are driven by differences in firm-level attributes, we construct a control group of firms that are similar to those in the treated group. We define treated as the group of firms that are exposed to peer E&S incidents and control as the group of firms that are not exposed to peer E&S incidents. Using the propensity score matching (PSM) approach, we pair each treated firm with a control firm that has a comparable likelihood of experiencing peer E&S incidents.

In the first stage of PSM, we estimate a logistic regression of $Peer_E\&S_Incident$ on other firm-level characteristics, which include CSR ratings, $Size$, ROA , $Leverage$, $Tangibility$, $Advertising$, $R\&D$, and $Cash$. We then compute the propensity score (i.e., the expected likelihood of $Peer_E\&S_Incident = 1$) for each firm in our sample using the estimated coefficients from the logistic model. Lastly, we pair each treated firm with a control firm that has the same nearest-neighbor likelihood score as the treated firm. This is done without replacement. Panel A of Table 4 summarizes the differences in characteristics between treated and control firms. The findings show that the companies in the PSM sample do not exhibit any statistically significant differences in their attributes, validating the matching process.

In the second stage of the PSM, we employ the matched sample to re-estimate our baseline regression model, which includes both year- and firm-fixed effects. Results presented in Panel B of Table 4 confirm that the interaction term $Peer_E\&S_Incident \times CSR$ remains negative (-0.225) and statistically significant at the 1% level (t-statistic = -3.017). Therefore, the results presented in this section further reinforce the robustness of our main findings and alleviate concerns about selection bias and endogeneity.

Mechanisms

This section explains the potential mechanisms through which peer E&S incidents affect the value of CSR. By investigating operational outcomes and financial market metrics following the peer events, we seek to understand the stakeholder effects underlying the observed changes in firm value.

Table 3 IV estimate

Variables	(1)	(2)
	$Peer_E\&S_Incident$ First-stage	Tobin's q_{t+1} Second-stage
$Peer_E\&S_Incident \times CSR$		- 0.474*
$Peer_E\&S_Incident$		(- 1.795)
		- 0.112
		(- 0.320)
CSR		0.187***
		(2.727)
$Peer_Analyst_Coverage[t - 1]$	0.091***	
	(11.411)	
$Size$	0.006	- 0.446***
	(1.530)	(- 13.667)
ROA	- 0.063***	0.422***
	(- 2.825)	(4.367)
$Leverage$	- 0.042**	0.305***
	(- 2.428)	(3.450)
$Tangibility$	- 0.090***	0.031
	(- 2.908)	(0.152)
$Advertising$	0.370***	- 0.542
	(2.712)	(- 0.543)
$R\&D$	- 0.171***	1.777***
	(- 3.980)	(6.359)
$Cash$	- 0.045**	0.738***
	(- 2.131)	(6.644)
$Analyst_Coverage[t - 1]$	- 0.038***	- 0.097***
	(- 6.489)	(- 3.682)
$Peer_Size$	0.090***	0.021
	(18.040)	(0.477)
$Peer_ROA$	- 0.054***	- 0.080**
	(- 3.098)	(- 1.995)
$Peer_Leverage$	- 0.115***	0.036
	(- 4.839)	(0.371)
$Peer_Tangibility$	0.233***	- 0.285
	(6.421)	(- 1.477)
$Peer_Advertising$	0.044	0.732*
	(0.500)	(1.660)
$Peer_R\&D$	- 0.008	- 0.367***
	(- 0.210)	(- 2.844)
$Peer_Cash$	0.132***	0.063
	(4.877)	(0.433)
Constant	- 0.588***	5.024***
	(- 18.252)	(14.888)
First-stage F-statistic	130.21	
Firm and Year FE	Yes	
Observations	10,599	
R-squared	0.783	

This table presents two-stage least squares (2SLS) estimates examining the effect of peer E&S incidents on the value of CSR. In the first stage, $Peer_E\&S_Incident$ is regressed on lagged peer analyst coverage (the instrument), firm-level controls, and peer firm averages of the controls (denoted by the prefix "Peer_"). In the second stage, the fitted values from the first stage replace $Peer_E\&S_Incident$ in the baseline specification. Standard errors are robust to heteroskedasticity

Table 3 (continued)

and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

Cash Flow Effects

To provide a more complete picture on the spillover effects of peer E&S incidents on CSR valuation, we first examine the numerator effect of firm value (i.e., cash flows or to simply put, firm performance) following negative peer E&S events. Specifically, we focus on the consumer impact of peer E&S incidents, examining their influence on sales growth, operating costs growth, and firm profitability.¹⁵ These metrics are directly linked to the cash flow dynamics that are crucial for explaining variations in firm value.

First, we analyse whether negative peer E&S events affect the sales growth of non-incident firms with high-CSR ratings differently from those with low CSR ratings. Sales growth serves as a direct measure of consumer behavior, reflecting shifts in trust and purchasing decisions. Particularly, we compute sales growth as $(Sales_{i,t+1} - Sales_{i,t})/Sales_{i,t}$ and then run a regression similar to Eq. (1) but use sales growth as the dependent variable. Specification (1) of Table 5 shows that the coefficient on $Peer_E\&S_Incident \times CSR$ is negative, at -0.070 , and statistically significant at the 5% level (t-statistic = -2.447), indicating that sales growth experiences a significant drop following peer E&S incidents for firms with high-CSR ratings relative to those with low CSR ratings. This might also imply that consumer loyalty, trust, and purchasing patterns are adversely affected for firms with high-CSR reputations after negative peer E&S events.

Second, we investigate whether focal firms alter their operating expenses following peer E&S incidents. Expenses growth is computed as $(SXGA_{i,t+1} - SXGA_{i,t})/SXGA_{i,t}$, where $SXGA$ is selling, general, and administrative expenses. Using expenses growth as the dependent variable in Specification (2), we find that the coefficient on $Peer_E\&S_Incident \times CSR$ is indistinguishable from zero. Thus, no difference is observed in change in operating expenses between high- and low-CSR firms following peer E&S incidents.

Third, given the relatively large decrease in sales growth and insignificant change in expenses, we expect that high-CSR firms experience a larger reduction in profitability than low-CSR firms. We perform the regression with ROA in

year $t + 1$ as the dependent variable and find a significantly negative interaction between $Peer_E\&S_Incident$ and CSR ratings (coeff = -0.030 , t-statistic = -3.455). Also, the coefficient on CSR is positive and significant. This implies that while high-CSR firms enjoy higher profitability during normal times, peer E&S incidents reduce the valuation of CSR and adversely affect the cash flows of these high-CSR firms.

We further extend our analysis by examining stakeholder-specific outcomes to better capture how different stakeholder groups may respond to peer E&S incidents. Following prior studies (e.g., El Ghouli et al., 2019, 2024), we analyze changes in account receivable, account payable, and the number of employees to identify which stakeholder relationships are most affected. These variables provide a more detailed view of operational impacts and help us identify potential channels through which CSR trust erosion takes place.

The results are reported in Specifications (4)–(6) of Table 5. We find that the coefficient on $Peer_E\&S_Incident \times CSR$ is negative and significant for receivable growth (coeff = -0.081 , t-statistic = -1.808), suggesting that high-CSR firms experience a decrease in receivables following peer incidents. This is not surprising given the lower sales growth, suggesting that weakened stakeholder trust following peer scandals reduces customer demand and, consequently, receivables for high-CSR firms. For payables and employee growth, we do not observe statistically significant interaction effects (though they are negative). These findings suggest that the erosion of stakeholder trust is most evident through the customer channel, rather than through changes in supplier or employee engagement.

Overall, peer E&S incidents undermine the profitability of non-incident firms with high-CSR ratings, and the effect is primarily driven by changes in sales. This analysis highlights the critical role of consumer trust in shaping firm outcomes during negative peer E&S events.

Cost of Capital Effects

In this subsection, we look at the denominator effect of the firm value (i.e., firms' cost of capital). Specifically, we investigate the investor effect of peer E&S incidents by analysing their impact on ex-ante cost of equity, cost of debt, financing, and institutional ownership. Investors represent another stakeholder group whose perceptions of risk and stability are critical to firm value. Based on contagion theory, we hypothesize that negative CSR events in one firm would trigger generalized risk assessments across firms within the same product space, and such effect would be magnified among high-CSR firms due to perceived signal incongruence and larger reputational damage.

First, we focus on the impact of peer E&S incidents on the implied cost of equity capital (ICOE). We extract analyst earnings forecasts and stock price information from the

¹⁵ Using profitability as a measure to capture the cash flow effect is a well-adopted approach in the literature (e.g., Hsu et al., 2023; Pedersen et al., 2021). In an untabulated analysis, we obtain consistent results when using free cash flow, calculated as funds from operations minus capital expenditures and cash dividends, scaled by total assets.

Table 4 The effect of peer E&S incidents on the value of CSR: Propensity Score Matching (PSM)

Panel A: Differences in characteristics of Treated and Control for the PSM sample				
Variables	Treated (Peer incident = 1)	Control (Peer incident = 0)	Difference	t-statistics
CSR	0.025	0.026	- 0.001	- 0.072
Size	7.172	7.145	0.027	0.873
ROA	0.028	0.027	0.002	0.530
Leverage	0.241	0.240	0.002	0.324
Tangibility	0.256	0.253	0.002	0.421
Advertising	0.014	0.014	0.000	0.102
R&D	0.026	0.025	0.001	0.522
Cash	0.158	0.153	0.005	1.170

Panel B: Peer E&S incidents and CSR value for PSM sample	
Variables	(1) Tobin's q_{t+1}
Peer_E&S_Incident × CSR	- 0.225***
<i>Peer_E&S_Incident</i>	(- 3.017)
	- 0.025
	(- 0.968)
CSR	0.150**
	(2.225)
Controls	Yes
Observations	3,639
R-squared	0.814
Year FE	Yes
Firm FE	Yes

This table presents the results from the tests of the effects of peer E&S incidents on the value of CSR for the propensity score-matched sample. Panel A reports the results for the diagnostic statistical difference in means of the firm characteristics between Treated and Control. Treated (Control) represents the group of firms that (do not) experience peer E&S incidents. Panel B reports the results of our baseline regression using the PSM sample. The dependent variable is firm value, proxied by Tobin's q . The independent variable of interest is the interaction between *Peer_E&S_Incident* and *CSR*. *Peer_E&S_Incident_{t,t}* equals one if any of the firm i 's top 5 industry peers experience a CSR incident in year t , and zero otherwise. *CSR* is firm-level CSR performance, measured by MSCI KLD ratings. All control variables are included but suppressed for the sake of brevity. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

I/B/E/S database. Based on the residual income valuation model of Gebhardt et al. (2001), we back out the ICOE as the discount rate that equates the current stock price to the present value of expected future sequence of future residual incomes. ICOE is measured using the price and forecast data in June of year $t + 1$ (see Appendix A for the detailed computation). We then perform a regression similar to Eq. (1) but use ICOE as the dependent variable. Estimation results are reported in Specification (1) of Table 6 Panel A. Consistent with prior studies, we find that firms with larger size, higher profitability, and lower leverage exhibit lower ICOE. Also, in line with El Ghouli et al. (2011) and El Ghouli et al. (2018), high-CSR firms enjoy cheaper equity financing, as indicated by the negative and significant coefficient on *CSR*. Importantly, we find that our coefficient of interest, the

interaction between *Peer_E&S_Incident* and *CSR*, is positive and significant (coeff = 0.010 and t-statistic = 2.358). The positive coefficient implies that the ICOE of high-CSR firms increases relative to that of low-CSR firms following peer E&S incidents.

In addition, we explore whether high-CSR firms reduce their equity financing after peer incidents given the cost of doing so is higher. We calculate net equity issuances as equal to equity issuances minus equity repurchases divided by total assets and use it as the dependent variable in our regression. As shown in Specification (2) of Table 6 Panel A, high-CSR firms issue less equity following peer scandals (interaction coefficient = -0.011, t-statistic = -1.791), consistent with a higher equity financing cost.

Table 5 Cash flow effects

Variables	(1) <i>Sale</i> _{<i>G</i>_{<i>t</i>+1}}	(2) <i>Expenses</i> _{<i>G</i>_{<i>t</i>+1}}	(3) <i>ROA</i> _{<i>t</i>+1}	(4) <i>Receivable</i> _{<i>G</i>_{<i>t</i>+1}}	(5) <i>Payable</i> _{<i>G</i>_{<i>t</i>+1}}	(6) <i>Employee</i> _{<i>G</i>_{<i>t</i>+1}}
<i>Peer_E&S_Incident</i> × <i>CSR</i>	− 0.070** (− 2.447)	0.004 (0.224)	− 0.030*** (− 3.455)	− 0.081* (− 1.808)	− 0.062 (− 1.506)	− 0.009 (− 0.520)
<i>Peer_E&S_Incident</i>	0.001 (0.079)	− 0.002 (− 0.308)	− 0.001 (− 0.461)	− 0.029** (− 1.990)	− 0.007 (− 0.468)	− 0.006 (− 0.894)
<i>CSR</i>	0.025 (1.371)	0.016 (1.613)	0.016** (2.462)	0.027 (0.970)	0.005 (0.180)	0.027** (2.427)
<i>Size</i>	− 0.121*** (− 5.526)	− 0.060*** (− 6.623)	− 0.075*** (− 9.425)	− 0.266*** (− 8.571)	− 0.233*** (− 9.693)	− 0.104*** (− 9.799)
<i>ROA</i>	− 0.648*** (− 7.665)	0.157*** (6.415)	0.111*** (4.892)	− 0.390*** (−3.625)	− 0.039 (− 0.483)	0.073** (2.546)
<i>Leverage</i>	− 0.101 (− 1.490)	− 0.025 (− 0.973)	0.074*** (3.270)	− 0.072 (− 0.811)	− 0.141** (− 2.195)	− 0.127*** (− 4.228)
<i>Tangibility</i>	− 0.127 (− 0.736)	− 0.226*** (− 4.249)	− 0.012 (− 0.329)	0.137 (0.686)	− 0.116 (− 0.815)	− 0.157** (− 2.216)
<i>Advertising</i>	− 1.167** (− 2.356)	− 1.583*** (− 7.004)	0.531*** (3.291)	− 0.230 (− 0.333)	− 1.094* (− 1.927)	− 0.424 (− 1.452)
<i>R&D</i>	− 0.633** (− 2.219)	− 0.634*** (− 6.366)	− 0.175** (− 2.538)	− 0.625* (− 1.672)	− 1.107*** (− 4.771)	− 0.474*** (− 4.756)
<i>Cash</i>	− 0.046 (− 0.630)	0.051* (1.768)	0.018 (0.816)	0.634*** (5.897)	0.458*** (5.941)	0.280*** (7.809)
Constant	1.052*** (6.227)	0.590*** (8.724)	0.487*** (8.477)	1.843*** (7.698)	1.745*** (9.825)	0.808*** (10.330)
Observations	10,599	9,898	10,599	10,531	10,599	10,599
R-squared	0.340	0.411	0.716	0.263	0.210	0.382
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

This table presents the results for the effect of peer E&S incidents on firm performance and stakeholder-related outcomes. The regressions are similar to our baseline regression model in Eq. (1), but with different dependent variables. Specifications (1)–(3) use, respectively, sales growth, SG&A expense growth, and ROA in year $t + 1$ as dependent variables. Specifications (4)–(6) examine receivable growth, payable growth, and employee growth. The independent variable of interest is the interaction between *Peer_E&S_Incident* and *CSR*. All control variables are included. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

Second, we examine the cost of debt, proxied by interest expense over total debt, and find no significant effect for high-CSR firms following peer incidents (coeff = 0.142 and t-statistic = 0.796). Similarly, Specification (4) shows no significant impact on net debt issuances, measured as long-term debt issuances minus long-term debt reductions scaled by total assets. A possible explanation for the insignificant effects is that debt contracts are often long-term, and thus less sensitive to short-term reputational risks.

Then, we turn to institutional investors as it is possible that institutional investors will place less value on CSR investing in firms that experience peer E&S incidents. We examine whether peer E&S incidents correlate with a decrease in institutional ownership for firms with high-CSR engagements. Using institutional ownership (*IO*) in year $t + 1$ as the dependent variable in Specification (1) of

Panel B, we document a negative and significant interaction coefficient on *Peer_E&S_Incident* × *CSR* (coeff = − 0.022 and t-statistic = − 2.182). Hence, the level of institutional ownership decreases for high-CSR firms following peer E&S incidents as investors might consider CSR engagement as costly or risky in this circumstance.

To better capture heterogeneous investor behavior, we use Thomson Reuters Institutional (13F) Holdings database and Institutional Investor Classification Data (Bushee, 2001) to further disaggregate *IO* into dedicated, quasi-indexer, and transient *IO*.¹⁶ We find that the negative effect is mainly

¹⁶ Investor Classification Data are available at: <https://accounting-faculty.wharton.upenn.edu/bushee/iivars/#pky>. We merge the classifications into the 13F database using the fund manager number to calculate the percentage ownership by each type of institution in each firm-year.

driven by transient investors (coeff = -0.018 , t-statistic = -1.722), who tend to respond quickly to short-term risks and sentiment shifts. In contrast, dedicated investors remain largely unresponsive, likely due to their long-term orientation and greater emphasis on firm-specific fundamentals. Furthermore, we follow Cao et al. (2023) to decompose institutional ownership into high- and low-socially responsible (SR) investors. Specifically, we classify institutions based on the CSR characteristics of their portfolios.¹⁷ As shown in Specifications (5) and (6) of Panel B, we find that the interaction effects are negative across both investor groups but not statistically significant. This suggests that high-SR investors, who are generally expected to be more responsive to CSR-related risks, do not exhibit a stronger reaction to peer E&S incidents in our setting.

Overall, our findings indicate that peer E&S incidents significantly impact the value of non-incident firms through both cash flow and cost of capital channels. While cash flow effects primarily arise from changes in consumer trust, as evidenced by the decline in sales growth and profitability for high-CSR firms, the cost of capital effects are driven by heightened investor risk perceptions, leading to increased cost of equity and reduced institutional ownership. Together, these results highlight the dual role of consumer and investor reactions in mediating the spillover effects of peer E&S incidents on the value of CSR.

Cross-Sectional Analyses

We take our analysis a step further to investigate the heterogeneous effects of peer E&S incidents on the value of CSR across different firm groups. These cross-sectional analyses would shed light on how firm-specific characteristics and industry contexts influence the magnitude and direction of the spillover effects, providing further insights into the underlying mechanisms driving these variations.

Cross-Firm Variations

Firm Size

Existing research suggests that larger firms are often more visible and face greater stakeholder scrutiny due to their higher public profile and broader consumer base (Fombrun and Shanley, 1990; Bennett et al., 2023). This visibility

could amplify the reputational risks associated with the incidents of peers within the same product space, making stakeholders more likely to generalize negative perceptions to large, high-CSR firms. Furthermore, larger firms might invest more heavily in CSR, increasing the potential stakes when peer events occur. Therefore, we hypothesise that the negative effect of peer E&S incidents on the value of CSR is more prominent within the group of large firms.

We split our sample into large and small firm groups based on the median value of size of all firm-year observations. We then estimate our baseline regression conditional on firms falling into the two subgroups. The results are presented in Specifications (1) and (2) of Table 7. We find that the interaction coefficient term, *Peer_E&S_Incident* × *CSR*, is negative and statistically significant within the large firm group (coeff = -0.240 and t-statistic = -3.757). However, we do not find a respective significant coefficient on the interaction between *Peer_E&S_Incident* and *CSR* for the small firm group (coeff = 0.211 and t-statistic = 1.124). Also, the interaction coefficients associated with the two subgroups are statistically different (p-value = 0.049), suggesting that the negative effect of peer E&S incidents on the value of CSR is more pronounced among larger firms. Therefore, the findings support the hypothesis that larger firms are more vulnerable to the spillover effects of peer E&S incidents and that stakeholders are more likely to generalize negative perceptions within this group, amplifying the damage to their social capital.

CSR Standing of Incident Peers

One important consideration is whether the reputational impact of peer E&S incidents depends on the CSR standing of the incident firm itself. If stakeholder trust is the underlying mechanism, then incidents involving high-CSR peer firms should be more damaging. This is because stakeholders may interpret misconduct by previously trusted firms as more surprising and credibility-damaging, thus generalizing mistrust across the product market. In contrast, scandals from low-CSR peers may be perceived as less shocking or already expected, and hence less likely to erode stakeholder trust in other firms. This hypothesis is consistent with a moral spillover effect that intensifies when the transgressor previously held high ethical standing (Zavyalova et al., 2016).

To examine this hypothesis, we first focus on the treated firm-year observations (i.e., where *Peer_E&S_Incident* = 1) and calculate the average CSR rating of the peer firms involved in the incidents. We then split the sample into two subgroups: one where the peer incidents involve high-CSR firms and one where they involve low-CSR firms, based on the median of peer CSR ratings. For both subgroups, we include all control observations (*Peer_E&S_Incident* = 0)

¹⁷ Following Cao et al. (2023), we compute each institution's CSR score as the portfolio value-weighted CSR score of the firms it holds. Institutions in the top tercile of this distribution are classified as high-SR investors. Institutional ownership is then decomposed based on the fraction of firm shares held by high-SR versus non-high-SR institutions.

Table 6 Cost of capital effects

Panel A: Effects on the cost of capital and financing behavior						
Variables	(1)	(2)	(3)	(4)		
	<i>ICOE</i>	<i>Equity Issuance</i>	<i>COD</i>	<i>Debt Issuance</i>		
<i>Peer_E&S_Incident</i> × <i>CSR</i>	0.010** (2.358)	- 0.011* (- 1.791)	0.142 (0.796)	0.007 (0.809)		
<i>Peer_E&S_Incident</i>	- 0.002 (- 1.488)	- 0.001 (- 0.295)	0.088 (1.558)	- 0.001 (- 0.375)		
<i>CSR</i>	- 0.009** (- 2.363)	0.002 (0.452)	- 0.092 (- 0.593)	- 0.001 (- 0.159)		
Controls	Yes	Yes	Yes	Yes		
Observations	8,275	9,943	5,395	10,402		
R-squared	0.720	0.634	0.784	0.357		
Year FE	Yes	Yes	Yes	Yes		
Firm FE	Yes	Yes	Yes	Yes		
Panel B: Effects on institutional ownership						
Variables	(1)	(2)	(3)	(4)	(5)	(6)
	<i>IO</i>	<i>Dedicated IO</i>	<i>Transient IO</i>	<i>Quasi-indexer IO</i>	<i>High-CR IO</i>	<i>Low-CR IO</i>
<i>Peer_E&S_Incident</i> × <i>CSR</i>	- 0.022** (- 2.182)	0.008 (1.112)	- 0.018* (- 1.722)	- 0.013 (- 1.264)	- 0.014 (- 1.175)	- 0.009 (- 0.744)
<i>Peer_E&S_Incident</i>	- 0.004 (- 1.277)	- 0.002 (- 0.806)	- 0.005 (- 1.405)	0.003 (0.698)	0.001 (0.199)	- 0.005 (- 1.229)
<i>CSR</i>	- 0.012 (- 1.486)	- 0.003 (- 0.626)	- 0.013** (- 2.292)	0.004 (0.487)	0.012 (1.448)	- 0.025*** (- 3.099)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,198	8,152	8,152	8,152	8,161	8,161
R-squared	0.872	0.766	0.694	0.773	0.804	0.858
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

This table presents the results for the effect of peer E&S incidents on capital market outcomes. The regressions are similar to our baseline regression model in Eq. (1), but with different dependent variables. Panel A examines the implied cost of equity, external financing behavior, and cost of debt. Specification (1) uses the implied cost of equity (*ICOE*), estimated using the Gebhardt et al. (2001) residual income valuation model. Specifications (2) and (4) use equity issuance and debt issuance, respectively, measured as net amounts scaled by total assets. Specification (3) uses the cost of debt (*COD*), proxied by interest expenses over total debt outstanding. Panel B examines institutional investor responses. Specification (1) reports total institutional ownership, and Specifications (2)-(4) break it down by investor type using Bushee's (2001) taxonomy: dedicated, transient, and quasi-indexed institutions. Specifications (5) and (6) further decompose ownership based on institutional investors' portfolio CSR characteristics, following Cao et al. (2023). The independent variable of interest is the interaction between *Peer_E&S_Incident* and *CSR*. All control variables are included. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

to serve as a consistent comparison group. Specifications (3) and (4) of Table 7 report the results of our regression conditional on these subsamples. We find that *Peer_E&S_Incident* × *CSR* is negative and statistically significant (coeff = - 0.272 and t-statistic = - 2.328) if incident peers have high-CSR ratings, while the respective effect is

smaller (coeff = - 0.107 and t-statistic = - 1.321) if incidents originate from low-CSR peers. These results support the trust-based mechanism, suggesting that peer scandals involving previously credible CSR actors have a greater undermining effect on the perceived value of CSR among non-incident firms.

Table 7 Cross-firm variations

Variables	Firm size		CSR standing of incident peers	
	(1)	(2)	(3)	(4)
	Large firms	Small firms	High-CSR	Low-CSR
	<i>Tobin's</i> q_{t+1}	<i>Tobin's</i> q_{t+1}	<i>Tobin's</i> q_{t+1}	<i>Tobin's</i> q_{t+1}
<i>Peer_E&S_Incident</i> × <i>CSR</i>	− 0.240*** (− 3.757)	0.211 (1.124)	− 0.272** (− 2.328)	− 0.107 (− 1.321)
<i>Peer_E&S_Incident</i>	− 0.038* (− 1.758)	− 0.022 (− 0.565)	0.008 (0.254)	− 0.034 (− 1.252)
<i>CSR</i>	0.111* (1.669)	0.155 (0.918)	0.124* (1.725)	0.135* (1.904)
p– value for difference in interaction coefficients between two groups	0.049		0.308	
Controls	Yes	Yes	Yes	Yes
Observations	5,190	5,217	9,412	9,774
R-squared	0.839	0.765	0.780	0.781
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes

This table presents the results from the tests of the effects of peer E&S incidents on the value of CSR conditional on different firm characteristics. In Specifications (1) and (2), we divide firms into large and small firm subgroups, depending on whether the size of the firm in a particular firm-year observation is above or below the median size level for the entire sample, and run our baseline regressions within each subgroup. In Specifications (3) and (4), we divide the sample based on the CSR standing of incident peers, distinguishing between incidents involving high- versus low-CSR firms. The independent variable of interest is the interaction between *Peer_E&S_Incident* and *CSR*. We also report the p-value for the differences in *Peer_E&S_Incident* × *CSR* between the subgroups. All control variables are included. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

Cross-Industry Variations

Industry Competitiveness

Industry competition could play a critical role in determining how peer E&S incidents influence the CSR valuation in non-incident firms. In this regard, evidence in existing research documents that highly competitive industries are characterized by greater isomorphism, where firms adopt similar practices to remain competitive (DiMaggio & Powell, 1983; Liu & Wu, 2016). This homogeneity makes it more challenging for stakeholders to differentiate between firms, amplifying the contagion effect of peer E&S incidents. In addition, competitive markets often feature lower switching costs for consumers, enabling them to shift their preferences more easily away from high-CSR firms that are perceived to be more negatively associated with peer incidents. These arguments lead us to conjecture that the negative impact of peer E&S incidents on the value of CSR is more pronounced in highly competitive industries.

Industry competitiveness is computed by employing the sales-based Herfindahl–Hirschman Index (HHI), calculated

by summing the squares of the market shares (the proportion of a firm's sales relative to the total sales of the industry) of all firms in the industry (based on 2-digit SIC code) each year. We divide our sample into competitive (concentrated) industries if the HHI of a particular industry-year is below (above) the median HHI value for the entire sample. We then perform our baseline regression in each of the two industry subgroups and report the estimation results in Specifications (1) and (2) of Table 8.

We find that the estimated coefficient on *Peer_E&S_Incident* × *CSR* is negative and statistically significant in highly competitive industries (coeff = −0.328 and t-statistic = −2.312), suggesting that peer E&S incidents cause more damage in the value of CSR for this industry group. Conversely, the estimated coefficient on *Peer_E&S_Incident* × *CSR* in concentrated industries is indifferent from zero. Furthermore, the two coefficients are statistically different (p-value = 0.022), confirming our prediction that the effect of peer E&S incidents on the value of CSR is stronger in industries with higher competitiveness. Overall, these results support the hypothesis that peer E&S incidents have a stronger negative effect on the value

of CSR in highly competitive industries, likely due to greater homogeneity and lower switching costs. This highlights the importance of understanding industry dynamics when evaluating the risks and opportunities associated with CSR investments in competitive markets.

Industry CSR Norms

If stakeholder reactions to peer E&S incidents are driven by a loss of trust in industry CSR credibility, then such effects should be stronger in industries where CSR expectations are higher. That is, when CSR is more deeply embedded in industry norms, a peer scandal may be seen as a broader failure of the industry's integrity, undermining trust in the CSR of its peers. In contrast, in industries where CSR is less prominent, peer scandals may be seen as unsurprising. Thus, we hypothesize that peer E&S incidents should be more damaging in industries with higher average CSR engagement, consistent with a norm-based interpretation of reputational spillovers.

To test this idea, we calculate industry-level CSR intensity as the average CSR score across all firms in each 2-digit SIC industry-year. We then classify industries as high-CSR or low-CSR based on the median industry-level CSR score. We re-estimate our baseline model separately for firms in these two industry groups. As shown in Specifications (3) and (4) of Table 8, the interaction between *Peer_E&S_Incident* and CSR is significantly more negative in high-CSR industries. This supports the view that stakeholder trust is more sensitive to incidents in sectors where CSR is the norm. Importantly, this evidence complements our earlier finding on peer firm credibility (Sect. "CSR standing of incident peers") but offers a distinct dimension by highlighting the role of industry-level CSR culture in shaping reputational contagion.

Product Differentiation

While CSR is often considered more valuable in industries with differentiated products, where it supports brand positioning and customer loyalty, it may also be more fragile in industries with standardized products. In these markets, firms are less distinguishable by their offerings, making CSR claims more vulnerable to skepticism when peers are involved in scandals. Stakeholders may also generalize more quickly, applying doubts across firms due to limited product-based differentiation. In contrast, in differentiated industries, CSR is often integrated with strong brand identity, giving firms more control over narratives. Stakeholders may therefore view peer scandals as less relevant or generalizable to other firms.

Following Bae et al. (2019), we classify industries as producing either differentiated or standardized products

using 2-digit SIC codes.¹⁸ We then estimate our baseline model separately for each group. As reported in Specifications (5) and (6) of Table 8, the estimated coefficient on *Peer_E&S_Incident* × CSR is negative and significant in standardized industries (coeff = -0.218 and t-statistic = -1.904), while the effect is weaker (though negative, but insignificant) in differentiated industries. This suggests that stakeholder trust in CSR is more easily undermined when product comparability heightens the visibility and generalizability of peer misbehavior.

Additional Robustness Checks

Alternative Samples and Measures

We conduct several additional tests to investigate the robustness of our main results to alternative samples and measures. First, we follow prior studies (e.g., El Ghouli et al., 2011) to calculate CSR ratings using Refinitiv Asset4 database. Asset4's ratings consist of three components: environmental, social, and governance, based on a scale from zero to 100. We compute the CSR measure as the average score of firms' environmental and social components, and then rescale it by dividing it by 100 so that it ranges from 0 to 1, with a higher value indicating a higher level of CSR engagement. While our sample using Asset4 CSR ratings spans a longer period, from 2007 to 2021, its cross-sectional coverage of U.S. firms is smaller than that of the MSCI KLD database. After merging with peer incidents and financial data, we obtain 7,676 firm-year observations. Specification (1) of Table 4 presents the regression results for Eq. (1) using Asset4 CSR ratings. We find that the interaction term between peer E&S incidents and CSR ratings is still negative and statistically significant at the 5% level (t-statistic = -2.047). Thus, our inference that peer E&S incidents weaken the valuation or benefits of CSR is robust to this alternative CSR measure and sample.

Second, instead of employing the dummy variable to proxy for the occurrence of peer E&S incidents, we use *Peer_Incident_Num*, defined as the natural logarithm of one plus the number of negative CSR incidents experienced by the firm's top 5 industry peers in a given year. This allows us to investigate how the frequency of peer E&S incidents affects the value of CSR of focal firms. We report the estimation results in Specification (2). We observe that the interaction coefficient of interest, *Peer_Incident_Num* × CSR,

¹⁸ Industries with differentiated goods or services have two-digit SIC codes: 25, 27, 30, 32, 34, 35, 36, 37, 38, 39, 41, 42, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 59, 61, 64, 65, 73, 75, 78, and 79, while industries with standardized goods have two-digit SIC codes: 12, 14, 20, 22, 23, 24, 26, 28, 29, 31, and 33.

Table 8 Cross-industry variations

Variables	Industry competitiveness		Industry CSR norms		Product differentiation	
	(1)	(2)	(3)	(4)	(5)	(6)
	Competitive	Concentrated	High-CSR norm	Low-CSR norm	Standardized	Differentiated
	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>
<i>Peer_E&S_Incident</i> × <i>CSR</i>	- 0.328** (- 2.312)	0.036 (0.562)	- 0.376** (- 2.554)	- 0.011 (- 0.158)	- 0.218* (- 1.904)	- 0.117 (- 1.463)
<i>Peer_E&S_Incident</i>	- 0.015 (- 0.404)	- 0.002 (- 0.100)	0.065* (1.778)	- 0.044 (- 1.397)	- 0.014 (- 0.462)	- 0.016 (- 0.566)
<i>CSR</i>	0.066 (0.540)	0.069 (1.055)	0.048 (0.357)	0.038 (0.417)	0.093 (0.798)	0.177** (2.310)
p-value for difference in interaction coefficients between two groups	0.022		0.128		0.507	
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	5,230	5,192	4,657	5,403	5,732	4,867
R-squared	0.771	0.783	0.808	0.817	0.780	0.774
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

This table presents the results from the tests of the effects of peer E&S incidents on the value of CSR conditional on different industry characteristics. In Specifications (1) and (2), we divide firms into concentrated and competitive industry subgroups, depending on whether the HHI of a particular firm's industry-year (based on 2-digit SIC codes) is above or below the median HHI level for the entire sample. In Specifications (3) and (4), we classify industries as high-CSR or low-CSR norms, depending on whether industry-level CSR score (i.e., the average CSR score across all firms in each 2-digit SIC industry-year) is above or below the median industry-level CSR score. In Specifications (5) and (6), we divide industries into ones providing standardized and differentiated products (services). Following Bae et al. (2019), industries with differentiated goods or services have two-digit SIC codes: 25, 27, 30, 32, 34, 35, 36, 37, 38, and 39, while industries with standardized goods or services have two-digit SIC codes: 12, 14, 20, 22, 23, 24, 26, 28, 29, 31, 33, 41, 42, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 59, 61, 64, 65, 73, 75, 78, and 79. The independent variable of interest is the interaction between *Peer_CSR_Incident* and *CSR*. We also report the p-value for the differences in *Peer_E&S_Incident* × *CSR* between the subgroups. All control variables are included. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

remains negative and significant (coeff = - 0.070 with t-statistic = - 1.907), implying that a greater number of peer E&S incidents leads to a larger decrease in the value of high-CSR firms.

Third and fourth, we decompose the peer E&S incident measure by incident type, differentiating between environmental (E) and social (S) dimensions. Specifically, we construct two separate dummy variables: one indicating whether any of firm *i*'s top 5 industry peers experienced an environmental incident (*Peer_E_Incident*) and another for social incidents (*Peer_S_Incident*) in year *t*. In Specifications (3) and (4) of Table 9, we observe that the interaction between *Peer_S_Incident* and *CSR* is negative and significant, while the corresponding interaction for peer environmental incidents is negative but not statistically significant. These findings suggest that the valuation loss associated with peer incidents is primarily driven by social incidents, rather than environmental ones. This result is consistent with Derrien et al. (2024), who show that analyst forecast downgrades following ESG incidents are more pronounced for social issues than for environmental ones. Our evidence indicates that

investors similarly assign greater weight to social transgressions by peer firms, possibly because these incidents, such as labor abuses or human rights violations, are perceived as more salient reputational risks or harder to remediate.

Fifth and sixth, instead of using incidents of the firm's top 5 industry peers to define the variable *Peer_E&S_Incident*, we utilize the top 3 and the top 10 industry peers, respectively. The purpose of this robustness check is twofold: (1) to test the sensitivity of our results to the number of peers used to define peer E&S incidents and (2) to evaluate whether the spillover effects from peer E&S incidents vary depending on competitive proximity. In Specification (5), when using the top 3 industry peers to define *Peer_E&S_Incident* and re-estimating Eq. (1), we find that the interaction coefficient on *Peer_E&S_Incident* × *CSR* is negative and statistically significant at the 1% level (coeff = - 0.204 and t-statistic = - 2.686). This is of larger magnitude than the baseline results presented in Sect. "Baseline results". In Specification (6), when using the top 10 industry peers to define *Peer_E&S_Incident*, we continue to observe that the interaction coefficient remains negative at -0.106, which is

of smaller magnitude, and marginally significant at the 10% level (t-statistic = -1.646). Overall, our results are robust to alternative measures of *Peer_E&S_Incident*, but the documented negative effect of peer E&S incidents on focal firms' value of CSR is magnified for closer competitors and attenuated for more distant ones.

Dynamic Effects

Further, we investigate the dynamic impacts of peer E&S incidents on the value of CSR. This approach allows us to evaluate whether the observed effects emerge strictly after the incident and whether they persist beyond the following year. Specifically, we augment our baseline regression by incorporating a series of lead and lag terms:

$$\begin{aligned} \text{Tobin}'sq_{i,t+\tau} = & \alpha + \beta_1 \text{Peer_ES_Incident}_{i,t} + \beta_2 \text{CSR}_{i,t+\tau-1} \\ & + \beta_3 \text{Peer_ES_Incident}_{i,t} \times \text{CSR}_{i,t+\tau-1} + \beta_4 \text{Controls}_{i,t+\tau-1} + \text{Firm}_i + \text{Year}_t \end{aligned} \quad (2)$$

Figure 2 plots the estimated interaction coefficients for 3 years before ($\tau = -3$ to -1) and 3 years after ($\tau = +1$ to $+3$) the peer incident year, along with their 90% confidence intervals.¹⁹ We observe that the interaction effect turns negative and statistically meaningful in the year following the incident and remains significant at the 10% level in year $t + 2$, before dissipating by year $t + 3$. This pattern suggests that the adverse impact of peer E&S incidents on high-CSR firms is not persistent but rather unfolds over a limited time horizon.

There are several reasons to expect such a temporal dynamic. First, stakeholder and media attention tend to spike immediately following peer incidents, intensifying scrutiny and skepticism in the short term. However, as public attention shifts, the reputational shock may fade. Second, focal firms may actively respond to peer scandals by signaling their own integrity, through strengthened disclosures or reaffirmed commitments, which helps restore trust. These dynamics help explain why the negative effect is most pronounced in the first two years and then attenuates. We leave further investigation of these mechanisms to future research.

Incident Characteristics: Severity, Novelty, and Reach

In the last set of tests, we explore whether the reputational impact of peer E&S incidents varies based on the severity, novelty, and media reach of the incidents (ranging from

1 to 3 in Reprisk database). These characteristics capture the salience and intensity of ESG controversies, which may shape how stakeholders generalize peer misconduct.

Note that in our analysis, we include peer incidents with severity and novelty ratings of 2 or higher, consistent with Derrien et al. (2024), who suggest that level 2 incidents trigger meaningful capital market reactions. Moreover, severity-3 and novelty-3 incidents are rare in both our sample and theirs (see Online Appendix Table OA.1), making it empirically appropriate to group levels 2 and 3 into a "high" category. To assess the validity of this approach and to provide finer granularity, we now include low-severity and low-novelty incidents (rating = 1) in the analysis for comparison. Specifically, we define *Low-severityPeer_E&S_Incident* as one if any of firm i 's top 5 industry peers experienced an severity-1 incident (and no incident involves severity-2 or -3 levels) in year t . *Low-noveltyPeer_E&S_Incident* is defined similarly.

In Specification (1) of Online Appendix Table OA.3, we interact both *High-* and *Low-severityPeer_E&S_Incident* with *CSR* and include them in our regression. We find that high-severity peer incidents (ratings 2 or 3) significantly reduce the value of CSR, whereas low-severity incidents exhibit no effect. Similarly, in Specification (2), high-novelty incidents lead to a significantly negative interaction with *CSR*, while low-novelty incidents do not. These results support the notion that stakeholders respond more strongly to peer incidents that are more serious or unexpected, as such events may raise broader concerns about the authenticity or effectiveness of CSR practices across the market.

Specification (3) examines incident reach, which reflects the extent of media coverage as assessed by RepRisk, with values ranging from 1 (limited) to 3 (broad). In our main sample, we then classify reach-2 and -3 as high-reach incidents. Interestingly, we find that both high- and low-reach peer incidents are associated with negative effects on CSR valuation, though the interaction coefficients differ in magnitude. One possible explanation is that specialized media coverage (low reach) might still be viewed as credible by informed stakeholders.

Collectively, these results provide additional support for our main analysis. The spillover effect of peer incidents on the value of CSR is concentrated in those that are more severe and novel, consistent with expectations that such incidents are more likely to damage CSR credibility at the product-wide level.

¹⁹ In Figure OA.2 of the Online Appendix, we plot the dynamic effects of peer incidents on focal firms' profitability and cost of equity. We also find that the spillover effects emerge after the incidents and attenuate in year 3.

Table 9 Other robustness checks

	(1)	(2)	(3)	(4)	(5)	(6)
	Asset4 CSR	Number of incidents	Environmental Incidents	Social Incidents	Top 3 competitors	Top 10 competitors
Variables	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>	<i>Tobin's q_{t+1}</i>
<i>Peer_E&S_Incident</i> × <i>CSR</i>	- 0.332**				- 0.204***	- 0.106*
	(- 2.047)				(- 2.686)	(- 1.646)
<i>Peer_E&S_Incident</i>	0.041				- 0.023	- 0.000
	(0.608)				(- 0.924)	(- 0.020)
<i>Peer_Incident_Num</i> × <i>CSR</i>		- 0.070*				
		(- 1.907)				
<i>Peer_Incident_Num</i>		- 0.012				
		(- 1.079)				
<i>Peer_E_Incident</i> × <i>CSR</i>			- 0.078			
			(- 1.086)			
<i>Peer_E_Incident</i>			- 0.029			
			(- 1.147)			
<i>Peer_S_Incident</i> × <i>CSR</i>				- 0.167**		
				(- 2.400)		
<i>Peer_S_Incident</i>				- 0.026		
				(- 1.287)		
<i>CSR</i>	0.551**	0.117*	0.100	0.118*	0.123*	0.123*
	(2.384)	(1.713)	(1.545)	(1.786)	(1.812)	(1.725)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,676	10,599	10,599	10,599	10,599	10,599
R-squared	0.784	0.781	0.783	0.783	0.781	0.781
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes

This table presents the robustness checks for the effect of peer E&S incidents on the value of CSR in non-incident firms. Specification (1) employs an alternative measure of CSR, which is the average score of firms' environmental and social components from Refinitiv Asset4 database. Specification (2) uses *Peer_Incident_Num*, defined as the natural logarithm of one plus the number of CSR incidents of the firm's top 5 industry peers. Specifications (3) and (4) use *Peer_E_Incident* and *Peer_S_Incident*, respectively. Specifications (5) and (6) use the top 3 and top 10 industry peers to define the variable *Peer_E&S_Incident* respectively. The dependent variable is firm value, proxied by Tobin's q. The independent variable of interest is the interaction between *Peer_E&S_Incident* (or *Peer_Incident_Num*) and *CSR*. All control variables are included. Appendix A provides detailed definitions of the variables. Standard errors are robust to heteroskedasticity and clustered at the firm level. The associated t-statistics are in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively

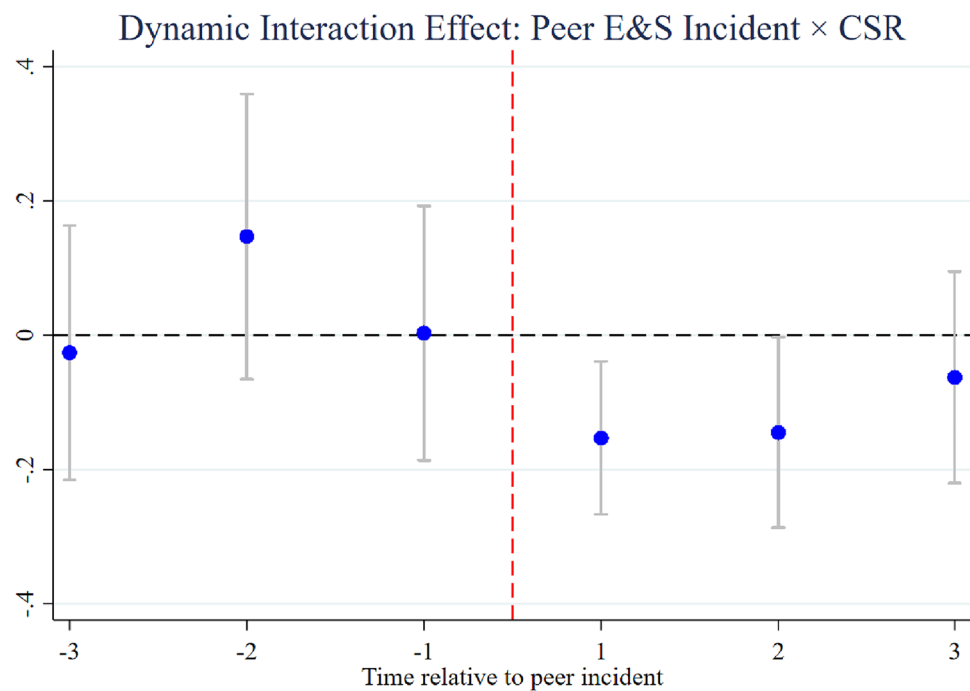
Discussion, Implications and Limitations

Our study provides new insights into the unintended consequences of peer E&S incidents on the value of CSR investments in non-incident firms. While previous literature has often highlighted the resilience and insurance-like benefits of CSR in times of crisis (Albuquerque et al., 2020; Lins et al., 2017), our findings challenge this notion by demonstrating that peer E&S incidents generate negative spillover effects, eroding the value of CSR for non-incident firms. Specifically, we show that non-incident firms with high-CSR ratings experience a 3.2% greater decline in firm value compared to those with lower CSR engagement when peer firms are involved in negative CSR incidents. These results

highlight a critical contradiction in the prevailing perception of CSR's protective effects and suggest that industry-wide CSR trust is highly susceptible to negative externalities.

The observed negative impact operates through two key mechanisms: (1) a cash flow effect, whereby peer E&S incidents reduce consumer trust and lead to declining sales growth and profitability for high-CSR firms, and (2) a cost of capital effect, as institutional investors reassess the reliability of CSR commitments, resulting in increased implied cost of equity and reduced institutional ownership. Furthermore, we find that these adverse effects are more pronounced for larger firms, when the incident peer has a higher CSR profile, and in industries that are more competitive, have stronger CSR norms, and produce standardized products, as

Fig. 2 Dynamic effects. This figure shows the dynamic effects of peer E&S incidents on the value of CSR of non-incident firms. We plot the interaction coefficients for relative years around peer incidents, along with their associated 90% confidence intervals, based on Eq. (2). Standard errors are robust to heteroskedasticity and clustered at the firm level



these are contexts where reputational spillovers are stronger and differentiation between firms is more challenging.

Theoretical Implications

Our findings contribute to multiple streams of literature. First, we extend theories of resilience by demonstrating that CSR does not always function as a protective mechanism. Traditional resilience theories suggest that firms with strong CSR commitments can withstand external shocks by leveraging stakeholder goodwill (Godfrey et al., 2009; Lins et al., 2017). However, our study highlights a boundary condition: when CSR credibility is undermined at an industry level due to peer incidents, the resilience effect diminishes. In this regard, our findings introduce a contextual fragility to the resilience narrative, showing that the benefits of CSR are contingent on industry-wide trust rather than firm-specific efforts alone.

Second, we align with contagion and signal incongruence theories by illustrating how negative CSR incidents create industry-wide reputational spillovers. Similar to financial contagion, where crises spread from one institution to others due to perceived interconnectedness (Lang & Stulz, 1992), our findings suggest that stakeholder trust in CSR is not firm-specific but industry-dependent. This implies that firms in high-CSR industries are collectively exposed to reputational risks, regardless of their own conduct, which challenges the prevailing view that CSR differentiates firms positively in times of crisis.

Third, our study contributes to the broader discourse on CSR authenticity and stakeholder trust. Prior research suggests that CSR enhances firm legitimacy (De Roeck et al., 2016), but our findings reveal that such legitimacy can be easily compromised by peer misconduct. This suggests a paradox in CSR investments: while CSR builds goodwill, it also increases exposure to reputational risks when peers fail.

Practical Implications

While our findings suggest that peer E&S scandals can reduce the value of high-CSR firms, we do not interpret this as a rationale for firms to strategically lower their CSR engagement. First, prior research, including Banerjee et al. (2024), shows that peer-driven shocks may trigger short-term costs but also prompt firms to improve transparency and signal credibility over time. Peer scandals may thus create temporary reputational spillovers, but they also incentivize focal firms to reaffirm legitimacy through more robust CSR reporting. Second, CSR continues to yield net reputational and stakeholder benefits under normal conditions and in other adverse situations, making it an important long-term asset for firms (e.g., El Ghouli et al., 2011; Ferrell et al., 2016). Third, retrenching on CSR is a risky and likely counterproductive strategy. Firms understand that CSR misconduct and poor practices carry significant direct costs (i.e., legal, reputational, and financial penalties) that could outweigh any indirect gains from weakening a rival's CSR standing. For instance, Derrien et al.

(2024) show that ESG incidents significantly reduce the value of firms themselves. Finally, growing regulatory pressure and ESG-focused investor scrutiny further discourage opportunistic CSR cutbacks, reinforcing firms' incentives to sustain strong sustainability performance.

These insights carry practical implications for managers, investors, and regulators navigating CSR risks in interconnected markets. For corporate decision-makers, our findings highlight the importance of risk mitigation strategies when engaging in CSR initiatives. Given that CSR value is contingent on industry-wide trust, firms should proactively differentiate themselves from their peers, particularly in sectors prone to CSR controversies. Enhanced transparency, third-party verification of CSR claims, and robust crisis management strategies can help mitigate the risks associated with peer E&S incidents.

For investors, our study underscores the need for contextualized CSR evaluations. The negative spillover effects of peer E&S incidents suggest that high-CSR firms may face unexpected financial risks if they operate in industries with frequent CSR controversies. Investors should incorporate peer behavior and industry-wide CSR credibility into their valuation models to assess the sustainability of CSR-driven firm value.

For policymakers, our findings provide an important cautionary note regarding mandatory CSR disclosure regulations. While such policies aim to enhance transparency and accountability, they may also expose high-CSR firms to greater scrutiny and reputational risks when peer firms engage in misconduct. Regulators should consider mechanisms to prevent CSR skepticism from undermining

well-intentioned CSR investments, such as standardized reporting frameworks and independent auditing requirements.

Limitations and Future Research

Despite its contributions, this study has several limitations. First, while our study provides strong empirical evidence of peer CSR spillovers, we do not directly measure consumer sentiment and investor perceptions. Future studies could use sentiment analysis, experimental designs, or surveys to better understand the psychological mechanisms driving stakeholder reactions to peer incidents. Second, our study focuses on the capital market effect of peer E&S incidents but does not examine how firms respond to these events. Future research could investigate managerial reactions to peer E&S incidents, including disclosure and communication, investment and innovation strategies, and examine whether they can mitigate the negative effects on CSR value and rebuild stakeholder confidence. Third, our study focuses on negative incidents, but future research could explore whether positive peer CSR actions generate industry-wide benefits. This could offer a more nuanced understanding of how CSR operates as both a risk and opportunity depending on contextual factors.

Appendix A

See Appendix Table 10.

Table 10 Variable definitions

Variable	Definition
<i>Tobin's q</i>	Tobin's q, defined as the book value of total assets minus the book value of equity plus the market value of equity, divided by the book value of total assets. (Source: Compustat)
<i>Peer_E&S_Incident</i>	A dummy variable, which equals one if any of the firm <i>i</i> 's top 5 industry peers experience a negative environmental or social incident during firm <i>i</i> 's year <i>t</i> , and zero otherwise. Incidents are classified as such when both their severity and novelty scores are at least 2 in the RepRisk database. Industry peers are classified based on the Hoberg-Phillips text-based network industry classifications (TNIC). The top 5 industry peers are selected based on the top 5 highest similarity scores for the firm's peers in TNIC. (Source: Reprisk, Hoberg and Phillips (2016))
<i>CSR</i>	The sum of strengths scores minus concerns scores across six categories, including environment, employee relation, community, diversity, human rights, and product. (Source: MSCI KLD)
<i>Size</i>	Natural logarithm of the firm's total assets. (Source: Compustat)
<i>ROA</i>	The ratio of net income over total assets. (Source: Compustat)
<i>Leverage</i>	The ratio of total liabilities over total assets. (Source: Compustat)
<i>Tangibility</i>	The ratio of property, plant, and equipment over total assets. (Source: Compustat)
<i>Advertising</i>	Advertising intensity, defined as the ratio of advertising expenditures over total assets. Missing values of advertising expenses are assigned zeros. (Source: Compustat)
<i>R&D</i>	Research and development intensity, defined as the ratio of research and development expenses over total assets. Missing R&D values are assigned zeros. (Source: Compustat)
<i>Cash</i>	The ratio of cash and short-term investments to total assets. (Source: Compustat)
Other firm- and industry-level variables	
<i>Peer_E_Incident</i>	A dummy variable, which equals one if any of the firm <i>i</i> 's top 5 industry peers experience a negative environmental incident during firm <i>i</i> 's year <i>t</i> , and zero otherwise. Incidents are classified as such when both their severity and novelty scores are at least 2 in the RepRisk database
<i>Peer_S_Incident</i>	A dummy variable, which equals one if any of the firm <i>i</i> 's top 5 industry peers experience a negative social incident during firm <i>i</i> 's year <i>t</i> , and zero otherwise. Incidents are classified as such when both their severity and novelty scores are at least 2 in the RepRisk database
<i>Peer_Analyst_Coverage</i>	Natural logarithm of one plus the average number of analysts following the firm's top 5 TNIC peers. (Source: I/B/E/S)
<i>Alternative CSR</i>	An alternative CSR rating, which is computed as the average score of the firm's environmental and social components, divided by 100. (Source: Asset4)
<i>Sale_G</i>	Sales growth, defined as $(Sales_{i,t+1} - Sales_{i,t})/Sales_{i,t}$, where <i>Sales</i> is total sales. (Source: Compustat)
<i>Expenses_G</i>	Expenses growth, defined as $(SXGA_{i,t+1} - SXGA_{i,t})/SXGA_{i,t}$, where <i>XSGA</i> is selling, general, and administrative expenses. (Source: Compustat)
<i>Receivable_G</i>	Annual percentage growth rate of account receivable, defined as $(RECT_{t+1} - RECT_t)/RECT_t$, where <i>RECT</i> is receivables. (Source: Compustat)
<i>Payable_G</i>	Annual percentage growth rate of account payable, defined as $(AP_{t+1} - AP_t)/AP_t$, where <i>AP</i> is account payable. (Source: Compustat)
<i>Employee_G</i>	Annual percentage growth rate of employees, defined as $(EMP_{t+1} - EMP_t)/EMP_t$, where <i>EMP</i> is the number of employees. (Source: Compustat)
<i>ICOE</i>	Implied cost of equity capital, which is computed following the residual income valuation model of Gebhardt et al. (2001). Gebhardt et al. (2001) residual income valuation model is as follows: $P_t = BV_t + \sum_{\tau=1}^T \frac{(\widehat{EPS}_{t+\tau} - ICOE \times BV_{t+\tau-1})}{(1+ICOE)^\tau} + \frac{(\widehat{EPS}_{t+T+1} - ICOE \times BV_{t+T})}{ICOE(1+ICOE)^T} \#$ where P_t is the market price of a firm's stock at time <i>t</i> , $BV_{t+\tau-1}$ is the book value per share at time $t + \tau - 1$, and $\widehat{EPS}_{t+\tau}$ is the forecasted earnings per share for year $t + \tau$. The initial three years of forecasted future residual incomes are determined from actual book values per share and forecasted earnings per share up to three years ahead. The model assumes clean surplus accounting where $BV_{t+\tau} = BV_{t+\tau-1} + \widehat{EPS}_{t+\tau} \times (1 - \widehat{DPR}_{t+\tau})$. $\widehat{DPR}_{t+\tau}$, the expected dividend payout ratio in year $t + \tau$, is set equal to the average of the past three years of payout ratios. Beyond the third year, the stream of residual incomes is derived by linearly reducing the forecasted return of equity (ROE) to the firm's specific sector's median ROE by the 12th year. The sector's median ROE is calculated over the past three years excluding loss firms. We follow Hail and Leuz (2006) to classify firms into industrial, service, and financial sectors. Residual incomes are assumed to remain constant beyond the 12th year. (Source: I/B/E/S and authors' calculation)
<i>COD</i>	Cost of debt, defined as the interest expenses over the total amount of debt outstanding. (Source: Compustat)
<i>EquityIssuance</i>	Net equity issuances, equal to equity issuances (<i>SSTK</i>) minus equity repurchases (<i>PRSTKC</i>) divided by total assets (<i>AT</i>). (Source: Compustat)
<i>DebtIssuance</i>	Net debt issuances, equal to long-term debt issuances (<i>DLTIS</i>) minus long-term debt reductions (<i>DLTR</i>) divided by total assets (<i>AT</i>). (Source: Compustat)

Table 10 (continued)

Other firm- and industry-level variables

<i>IO</i>	Institutional ownership, which is defined as the percentage of shares owned by institutional investors divided by the number of shares outstanding. (Source: Thomson Reuters Institutional (13F) Holdings)
<i>DedicatedIO</i>	Ownership by dedicated investors. Classifications by fund managers are provided by Bushee (2001), which are then merged into the 13F database to calculate the fraction of firm shares held by dedicated investors
<i>TransientIO</i>	Ownership by transient investors. (Source: 13F and Bushee (2001))
<i>Quasi-indexerIO</i>	Ownership by quasi-indexer investors. (Source: 13F and Bushee (2001))
<i>High-CRIO</i>	High-socially responsibly investors. Following Cao et al. (2023), we compute each institution's CSR score as the portfolio value-weighted CSR score of the firms it holds. Institutions in the top tercile of this distribution are classified as high-SR investors. Institutional ownership is then decomposed based on the fraction of firm shares held by high-SR versus non-high-SR institutions. (Source: 13F and MSCI KLD)
<i>Low-CRIO</i>	Low-socially responsibly investors. (Source: 13F and MSCI KLD)
Industry competitiveness	The sample is divided into competitive (concentrated) industries if the HHI (i.e., sales-based Herfindahl–Hirschman Index) of a particular industry-year is below (above) the median HHI value for the entire sample
Industry CSR norms	Industries are classified as high- and low-CSR norm based on the median of industry-level CSR score (i.e., the average CSR score across all firms in each 2-digit SIC industry-year)
Product differentiation	Industries with differentiated goods or services have two-digit SIC codes: 25, 27, 30, 32, 34, 35, 36, 37, 38, and 39, while industries with standardized goods or services have two-digit SIC codes: 12, 14, 20, 22, 23, 24, 26, 28, 29, 31, 33, 41, 42, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 59, 61, 64, 65, 73, 75, 78, and 79. (Source: Bae et al. (2019))

Note: All continuous variables are winsorized at the 1st and 99th percentiles

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Data availability Data of this research will be available from the authors upon request.

Declarations

Conflict of interest I can confirm that there are no conflicts of interest in this submission.

Research Involving Human Participants and/or Animals I can confirm that this research is using quantitative data and that there is no involvement of human and/or animals in this study.

Informed Consent I can confirm that where required, informed consent was obtained from all participants involved in this research.

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