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When does CSR provide financial protection? Stakeholder influence and the insurance role of CSR☆

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ABSTRACT

Corporate social responsibility (CSR) has been interpreted as a financial insurance tool, yet its effectiveness remains debated. Not all stakeholders exert comparable influence on firm performance, raising questions about when and for whom CSR acts as an effective insurance mechanism during crises. While prior studies differentiate between primary and secondary stakeholders, we argue that stakeholder influence, rather than stakeholder type, determines CSR's insurance effect: CSR protects firm value when it is aligned with the claims of influential stakeholders rather than non-influential ones. In contrast to prior studies that focus on firm-specific crises such as corporate misconduct, we examine the less studied role of CSR as an insurance against exogenous shocks. We test our arguments using the exogenous market shock induced by Covid-19, leveraging a difference-in-differences design. We find that companies with salient CSR activities related to influential stakeholders have better financial performance, in terms of risk and return measures, during the crisis compared to firms whose salient CSR is concentrated on non-influential stakeholders. Notably, companies focusing their CSR activities on influential stakeholders are the only ones that do not experience a significant decline in stock returns during the market crash.

1. Introduction

Corporate social responsibility (CSR) has evolved from a peripheral concern to a strategic priority. This evolution is often associated to increasing stakeholder demands for companies' commitment to environmental and social (ES) claims, yet some companies have recently reassessed their CSR activities because of political changes, suggesting that the value of these activities is not only associated to ES demands but also to events unrelated to these demands.[4] This observation illustrates the ongoing debate on the role of these activities as risk mitigation tools against external events (Jia et al., 2020). Meta-analyses suggest a generally positive relationship between CSR and corporate financial performance (CFP) (e.g., Vishwanathan et al., 2020), reinforcing the idea that CSR enhances stakeholder trust and long-term value. A dominant view posits that CSR activities help firms strengthen their relations with employees, customers, suppliers, governmental entities,

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[4] For example, under President Donald Trump's second administration, there was mounting pressure on corporations to scale back diversity, equity, and inclusion (DEI) initiatives, with several companies and financial institutions such as BlackRock, Citigroup and Wells Fargo adjusting their DEI and ESG policies in response. See Times article, last visited on March 1, 2025 https://time.com/7260689/us-companies-scaling-back-dei-efforts-trump-targets-initiatives/ and The Wall Street Journal article, last visited on March 1, 2025 https://www.wsj.com/finance/investing/blackrock-a-diversity-pioneer-distances-itself-from-dei-24839d6c.

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and local communities, making those stakeholders more inclined to support firms during crises (Albuquerque et al., 2020; Ding et al., 2021). This risk management view of CSR considers that social and environmental activities provide insurance-like effects protecting the firm's value against external risks (Godfrey et al., 2009).

However, empirical evidence on the insurance role of CSR remains mixed, particularly in the context of unexpected exogenous disruptions—events that originate outside the firm, such as natural disasters, pandemics, or geopolitical crises, rather than being induced by firm actions. While some studies find that CSR provides insurance-like financial benefits, albeit only in the short term (Shiu and Yang, 2017; Albuquerque et al., 2020; Ding et al., 2021), others report a neutral (Demers et al., 2021; Bae et al., 2021) or even a negative effect (Bartov et al., 2021; French et al., 2023). These conflicting findings suggest that CSR's insurance role may be contingent not simply on whether firms invest in CSR, but on which stakeholders they prioritize.

The insurance effect of CSR has been argued to depend on the nature of stakeholders. Jia et al. (2020) examine how firms adjust their CSR investments in response to increased stock market risk. They find that the risk-mitigating benefits of CSR—whereby firms manage financial uncertainty by stabilizing investor perceptions and reducing stock price volatility—apply only to activities benefiting primary stakeholders (employees, customers, and others directly involved in resource exchange), rather than secondary stakeholders (e.g., the environment and community). Conversely, Godfrey et al. (2009) focus on firm-specific legal and regulatory sanctions and define CSR's reputation insurance role as the goodwill that tempers punitive stakeholder sanctions during negative events. They find that this effect is stronger for secondary stakeholders. These contrasting findings suggest that the effect of CSR activities may not depend on the type of stakeholder but rather on their relative influence on the firm.

We address these conflicting results by showing that stakeholder salience, defined as "the degree to which managers give priority to competing stakeholder claims" (Mitchell et al., 1997: 854), explains the insurance-like properties of CSR activities against exogenous shocks, regardless of the stakeholder category (primary or secondary). We shift the focus from a stakeholder classification based on their type to one based on firm-stakeholder relationships. In doing so, we provide a framework to assess how addressing stakeholder demands mitigates stock market risk. We propose that CSR's insurance effect depends on whether firms' CSR activities are aligned with the claims of the most influential stakeholders—those with the most pressing claims and the greatest power to influence firm outcomes (Mitchell et al., 1997; Agle et al., 1999; Peloza and Papania, 2008).

Moreover, prior research on the insurance effect of CSR has primarily looked at the extent to which CSR investments mitigate financial losses from endogenous events such as corporate misbehavior or managerial errors (Godfrey et al., 2009; Minor and Morgan, 2011; Shiu and Yang, 2017). In that case, a firm's prior engagement in CSR activities functions as a *reputation insurance* mechanism, which mitigates stakeholders' adverse assessment of managers' errors or bad acts, thus helping reduce any punishment, rebuild stakeholder trust, and restore lost goodwill (Godfrey et al., 2009; Shiu and Yang, 2017). However, less is known about CSR's role as an insurance against exogenous shocks. Unlike firm-specific crises, which often provoke stakeholder blame, exogenous shocks create market-wide uncertainty, potentially altering how CSR influences firm performance. In this context, CSR functions as a *preventive insurance* mechanism, helping firms sustain stakeholder support and financial performance amid market-wide shocks. In this regard, recent discussions in the literature emphasize the lack of a rigorous theoretical framework linking CSR to financial protection during adverse events (Wang et al., 2020). Responding to this gap, we extend the discussion by examining CSR's insurance role during exogenous shocks.

Recognizing the potential for insurance-like benefits, some studies focus on the effect of CSR investments during exogenous shocks like the global financial crisis (Lins et al., 2017), the Covid-19 pandemic (Demers et al., 2021), and the Russian-Ukrainian conflict (French et al., 2023); yet they report inconsistent findings. In particular, the extent to which CSR provides financial protection during exogenous shocks remains unclear; we identify two possible reasons behind these contradictory results. First, these events are disconnected from corporate actions and rarely provoke direct stakeholder blame, thus, their relationship with CSR strategies may not exist. Second, the fact that CSR activities encompass multiple and sometimes conflicting goals requires managers to set priorities among different stakeholders' interests (Jones et al., 2007; Tantalo and Priem, 2016). In a context of high uncertainty, making such decisions is particularly complex and become a mere guessing exercise that does not add to the company's insurance strategy (Barnett, 2007; Rivoli and Waddock, 2011; Durand et al., 2019).

We examine the relationship between firms' stakeholder orientation and stock market risk and return during the market crash induced by Covid-19 using an international sample of large, publicly listed firms in the Travel and Leisure (T&L) industry —including airlines, casinos and gambling, hotels and motels, leisure facilities, and restaurants and bars— which were among the most severely affected industries during the Covid-19 market crash (Forsythe et al., 2020; Huang et al., 2020). This unexpected exogenous market shock provides a quasi-natural experiment where the potential role of CSR activities to protect economic performance is more discernible as investors react to firms with different CSR levels that remain constant over a short period (Albuquerque et al., 2020; Lins et al., 2017).

We introduce the *Salience Gap*, measured as the performance gap in CSR activities associated with influential stakeholders' concerns relative to CSR activities associated with non-influential ones. We find that a higher salience gap is associated with higher stock returns, lower idiosyncratic risk, and lower total volatility during the market shock. Next, building on prior work that contrasts stakeholder-oriented versus shareholder-oriented firms (e.g., Bettinazzi and Zollo, 2017), we classify firms into four stakeholder orientations representing different insurance-like strategies: (1) *Influential Stakeholder* firms deliver above average CSR performance on influential stakeholder claims and below average CSR performance on non-influential stakeholder claims; (2) *Shareholder-oriented* firms invest below average across both influential and non-influential CSR dimensions; (3) *Stakeholder-oriented* firms invest above average across both influential and non-influential CSR dimensions; and (4) *Non-influential Stakeholder* firms concentrate CSR primarily on non-influential stakeholder claims. We find that *Influential Stakeholder* firms exhibit significantly better financial performance than both broad *Stakeholder-oriented* and *Shareholder-oriented* firms and are the only group that does not experience a decline in stock returns during the Covid-19–induced market crash. In contrast, firms that emphasize non-influential stakeholder claims perform worst. Overall, these findings suggest that CSR provides an insurance-like effect during exogenous shocks only when aligned with influential stakeholder claims.

In line with recent calls for theoretical reassessment of CSR value creation and stakeholder identification and prioritization in times of crisis (e.g., Crane and Matten, 2020), we introduce the salience gap as the key determinant of CSR's financial protection, shifting the focus from broad stakeholder classifications to a more precise assessment of when and how CSR activities provide insurance. Our empirical results highlight the role of stakeholder orientation in defining the positive or negative relationship between CSR performance and financial performance, addressing previously mixed findings regarding this relationship

during crises (e.g., Lins et al., 2017; Bartov et al., 2021; Demers et al., 2021). From a risk management perspective, prior studies support an overall insurance role of CSR during negative events (e.g., Koh et al., 2014; Shiu and Yang, 2017). In this study, we document that the insurance value of CSR depends on whether firms' CSR is aligned with influential stakeholder concerns. In the context of the Covid-19 shock, CSR activities related to the natural environment—a secondary stakeholder domain—and to customers—a primary stakeholder domain—are comparatively more influential for large T&L firms; accordingly, stronger performance in these areas is associated with better crisis-period financial outcomes. In contrast, CSR activities related to local communities and employees are comparatively less influential in this setting, and emphasizing these dimensions relative to the influential ones is associated with weaker financial performance during the shock.

Additionally, from a theoretical standpoint, we expand stakeholder salience theory to define different stakeholder orientations representing insurance-like strategies against unexpected market shocks and assess their relevance in explaining the relationship between CSR and CFP. Responding to non-influential stakeholder claims may be costly and lower financial performance, while investing in CSR activities aligned with influential stakeholder claims can be instrumental to protecting financial value (Barnett, 2007; Peloza and Papania, 2008; Shiu and Yang, 2017). Few studies have connected stakeholder salience to financial performance (Laplume et al., 2008; Derry, 2012), with the most notable empirical work finding no effect (Agle et al., 1999). We contribute to this literature by providing evidence that CSR's insurance value depends on whether firms' CSR is aligned with influential-stakeholder salience.

2. Theory and hypotheses

2.1. Stakeholder attributes and salience

Stakeholder salience theory argues that managers respond to stakeholders' claims based on their attributes of power, urgency, and legitimacy (i.e., driving their ability to influence the managers). These attributes determine which stakeholders' claims attract management attention (Mitchell et al., 1997; Laplume et al., 2008). Power is defined as the extent to which a stakeholder group can use coercive, utilitarian, or normative means to influence the firm (Mitchell et al., 1997: 865). Stakeholder power depends not only on the stakeholder's resources but also, on the firm's dependence on these resources (relative power) (Eesley and Lenox, 2006; Frooman, 1999; Rowley, 1997). Urgency is related to claims that are both time-sensitive and critical to the stakeholder (Mitchell et al., 1997: 867). Finally, legitimacy refers to the perception that the claims of a stakeholder group are desirable or appropriate from a normative point of view (Suchman, 1995). The salience of a claim reflects the combined effect of the attributes as perceived by managers.

Stakeholder salience theory's primary objective is to predict managerial actions rather than their impact on financial performance. Powerful stakeholders can exert pressure on managers to change their company's CSR activities to address specific claims. For example, when powerful stakeholders such as a large shareholder or a government regulatory agency demand to invest in cleaner and more sustainable production processes, firms are more likely to respond to these demands. Such investment leads to increased production costs but also potential long-term benefits through improved public perception, regulatory compliance, and operational efficiency. Similarly, urgent claims from stakeholders can influence managers' decisions on CSR activities. For instance, if a stakeholder group highlights product issues that threaten public safety, the company's managers may react urgently to avoid product recalls, lawsuits, and reputational damage that are likely to translate into financial costs.

Financial implications of a claim may also depend on the attributes of the concerned stakeholders, with power and urgency playing key instrumental roles. Stakeholders with both power and urgency can directly shape corporate goals. Their influence impacts a firm's financial outcomes by altering the flow of resources, demanding concessions, or driving consumer behavior (Agle et al., 1999; Barnett, 2007; Peloza & Papania, 2008; Winn, 2001). In contrast, legitimacy only acts by providing additional influence to powerful and urgent claims. Indeed, legitimate claims without the means (i.e., power) nor the willingness (i.e., urgency) of stakeholders to act lack the ability to influence firms.[5]

In line with this reasoning, previous studies show that CSR activities can also represent a risk management tool to preserve shareholders' value as exogenous market shocks or unexpected firm-specific circumstances occur (Godfrey et al., 2009; Shiu and Yang, 2017). Therefore, CSR activities that address urgent stakeholder claims or specific demands from powerful stakeholders act as financial insurance against any loss of market value due to these adverse events. In contrast, CSR activities focusing on claims coming from non-influential stakeholders are less likely to protect a firm's value when exogenous shocks occur.

Based on the above arguments, we posit that the impact of CSR on financial performance during an exogenous shock—that is, its insurance effects—is a function of the salience of influential stakeholder claims (Mitchell et al., 1997; Agle et al., 1999; Peloza and Papania, 2008). Specifically, we predict that firms whose CSR performance places greater emphasis on influential stakeholder claims relative to non-influential claims exhibit stronger crisis-period financial performance. We capture this construct using the *Salience Gap*, defined as CSR performance related to influential stakeholder claims minus CSR performance related to non-influential stakeholder claims. To test this prediction, we propose the following hypothesis:

Hypothesis (H1). *The Salience Gap is positively associated with financial performance during an exogenous shock.*

2.2. Stakeholder orientations and financial performance

Managers choose different stakeholder focus depending on various normative and instrumental reasons, including complying with regulations (Campbell, 2007; Kourula et al., 2019), gaining a competitive advantage (Jones et al., 2018), stakeholder pressures (Mitchell et al., 1997), managerial own private reputation (Borghesi et al., 2014), corporate culture (Di Giuli and Kostovetsky, 2014), ethical motives regardless of instrumental benefits (Weaver et al., 1999), and the expectations of market shocks (Jia et al., 2020).

We identify four different stakeholder orientations based on the salience and influence of stakeholders' claims. Companies following an *Influential Stakeholder Orientation* deliver above-average performance only for influential stakeholder claims; these companies engage in CSR activities addressing these claims to reduce potential losses of market value in the event of a negative shock (Minor and Morgan, 2011). Companies with a *Shareholder Orientation* deliver below-average performance across all CSR claims (i.e., no CSR-insurance) as they consider the cost of CSR activities higher than their insurance benefits (Becchetti et al., 2015; Friedman, 1962; Wright and Ferris, 1997; Barnett, 2007; Jones et al., 2018). It is consistent with the economic view that managers' primary responsibility is to respond to shareholders' claims maximizing the value of their holdings (Levitt, 1958; Friedman, 1962, 1970). Investing in other stakeholders' claims is seen as reducing shareholders' value in the quest for social good (win-lose) (Benabou and Tirole, 2010). In contrast, companies following a *Stakeholder Orientation*

[5] Despite being an important driver of managerial behaviors (Mitchell et al., 1997), legitimacy does not have a direct instrumental effect on financial performance (Schoon, 2022). In line with this, Frooman (1999) questions the importance of the legitimacy attribute and argues that "from a firm's strategic planning standpoint […] [t]he appropriateness of a stakeholder's claim [i.e., its legitimacy] may not matter nearly as much as the ability of the stakeholder to affect the direction of the firm."

diversify their efforts and invest in multiple CSR activities to respond to a wide range of stakeholders' claims with above-average performance across all CSR claims, regardless of their influence; these companies believe in the insurance role of CSR across a broad spectrum of activities (Freeman, 1984; Freeman and McVea, 2001). Finally, companies with a *Non-influential Stakeholder Orientation* invest in CSR activities that deliver above-average performance only for non-influential stakeholder claims potentially serving as a protection against reputation risk or different normative purposes (Godfrey, 2005; Minor and Morgan, 2011). We acknowledge that firms across all four orientations may engage in CSR for reasons beyond insurance, including managerial or shareholder intrinsic motivations, reputation-risk considerations, and normative or ethical commitments (Hart and Zingales, 2022). Our analysis is instrumental in nature: we examine the financial consequences of different CSR configurations during an exogenous shock, not the underlying motives that drive firms' CSR choices.

Shareholder orientation underpins some prior empirical studies showing that companies destroy value when implementing strategies focused on non-shareholder value maximizing claims (e.g., Bartov et al., 2021; Becchetti et al., 2015; Cordeiro and Sarkis, 1997; Di Giuli and Kostovetsky, 2014; Hwang et al., 2021; Wright and Ferris, 1997; Zhao and Murrell, 2016). For instance, Wright and Ferris (1997) document that financial markets reacted negatively to firms divesting in South Africa in response to Apartheid. French et al. (2023) find that firms taking strong actions against Russia following the onset of the Ukraine-Russian war experienced more negative cumulative abnormal returns. Becchetti et al. (2015) find a positive association between CSR performance and stock price idiosyncratic volatility. Habermann and Fischer (2023) note a positive relationship between CSP and the probability of bankruptcy. Di Giuli and Kostovetsky (2014) show that increases in CSR scores are negatively associated with future ROA and stock returns. Companies following a *Shareholder Orientation* underinvest in CSR activities to protect shareholder value.

We argue that companies pursuing a *Shareholder Orientation* are likely to underperform when exogenous shocks happen as compared to *Influential Stakeholder* firms.[6] *Shareholder-oriented* companies are ill-equipped to respond to influential stakeholders' claims during a crisis. The next hypothesis reflects these arguments:

Hypothesis (H2a). *Firms following a Shareholder Orientation have worse financial performance than firms following an Influential Stakeholder Orientation during exogenous shocks.*

Companies following a *Stakeholder Orientation* diversify their CSR activities across many stakeholders' claims, to build trust, strengthen cooperation, and ultimately secure financial performance (Freeman, 1984). Stakeholder theory identifies a positive link between CSR activities and financial performance, arguing that firms with strong stakeholder relationships generate new business opportunities, reduce the costs of opportunistic behavior, and gain a competitive advantage over firms following other orientations (Jones, 1995; Porter and Kramer, 2006). Companies with a *Stakeholder Orientation* rely on a win-win relationship between all CSR activities and performance. They believe that investing across various CSR activities regardless of their potential influence outweigh their costs. As noted above, we do not interpret these orientations as purely insurance-motivated choices: firms may select into a given CSR profile for instrumental, reputational, or normative reasons (Hart and Zingales, 2022).

Companies following this orientation can underestimate the costs of creating and maintaining relationships with many stakeholders and overestimate the benefits of engaging with such a wide range of constituencies (Jones et al., 2018; Hengst et al., 2020). In addition, responding to all claims, regardless of their influence, risks reducing mainstream investments and hurt financial performance. Overall, these arguments are consistent with prior research documenting the increasing marginal costs of over-diversification (Markides, 1992). Accordingly, Freeman and McVea (2001: 10) state that the "idea that all stakeholders, defined widely, are equally important has been a barrier to further development" of stakeholder theory.

Based on these arguments, we argue that the contingent benefits for firms addressing all claims do not compensate for the costs of implementing the related CSR activities, leading to lower financial performance than *Influential Stakeholder* firms. We test this prediction through the following hypothesis:

Hypothesis (H2b). *Firms following a Stakeholder Orientation have worse financial performance than firms following an Influential Stakeholder Orientation during exogenous shocks.*

Some companies engage in CSR activities addressing claims from non-influential stakeholders to build moral capital against reputational crises (Margolis and Walsh, 2003; Godfrey, 2005; Minor and Morgan, 2011). These activities are perceived as altruistic by stakeholders who, in turn, credit moral capital to companies. This insurance strategy is potentially appropriate against internal crises such as corporate misbehaviors, yet it may not be adequate against exogenous shocks. In contrast to a *Shareholder Orientation* that dismisses CSR investments as too costly compared to the contingent benefits and a *Stakeholder Orientation* that sees all CSR investments as beneficial, *Influential* and *Non-influential Stakeholder Orientations* are selective in their CSR activities. Yet, the latter addresses claims from non-influential stakeholders.

Based on these arguments, we contend that addressing only non-influential stakeholder claims is detrimental to a company's financial performance during an exogenous shock as compared to focusing on influential claims. We test this prediction through the following hypothesis:

Hypothesis (H2c). *Firms following a Non-influential Stakeholder Orientation have worse financial performance than firms following an Influential Stakeholder Orientation during exogenous shocks.*

3. Methodology

3.1. Sample and data

To maximize the power of our research design, we focus on an international sample of large, publicly listed firms in the Travel and Leisure (T&L) industry, following the Industry Classification Benchmark (ICB). Prior evidence indicates that the five T&L subindustries—airlines, casinos and gambling, hotels and motels, leisure facilities, and restaurants and bars—were among the most severely affected during the Covid-19–induced stock market crash. First, from a probability-of-default perspective, S&P Global Market Intelligence identifies Airlines as the most impacted industry in March 2020: the median one-year probability-of-default rises from 10% at the start of March to 25% by March 23, and remained above 21% by the end of the month. They also list Casinos & Gaming and Leisure Facilities as two of the five most affected industries, with their median probabilities-of-default increasing sharply over March (e.g., Casinos & Gaming from 6% to 16%, and Leisure Facilities from 6% to 20% by end-March), consistent with abrupt shutdowns and demand collapses affecting these segments.[7] Second, labor-market evidence confirms that the broader Travel and Leisure

[6] Companies pursuing a *Shareholder Orientation* choose not to insure against exogenous market shocks (no CSR insurance); saving financial resources to use in crisis means financing the costs associated with shock using own means rather than by the insurance.

[7] According to the S&P Global Market Intelligence. Last visited on January 27, 2025. https://www.spglobal.com/marketintelligence/en/news-insights/blog/industries-most-and-least-impacted-by-Covid-19-from-a-probability-of-default-perspective-march-2020-update.

ecosystem—including hotels/motels and restaurants/bars—experienced some of the most severe employment disruptions at the onset of the pandemic. Using high-frequency payroll data in hospitality-related sectors, Huang et al. (2020) document large contractions in food and drink services and leisure and entertainment activities, with closure policies associated with substantial reductions in employment and business activity during March-April 2020. Complementing this, Forsythe et al. (2020) show that the largest losses occurred in leisure and hospitality, where job postings fell below 50% of their February level and employment declined by about half by April, consistent with acute layoffs and operational shutdowns in hotels/motels and restaurants/bars during the crash period.

Focusing on the T&L industry during the Covid-19 crisis allows us to create a "spotlight" setting that strengthens construct validity and internal validity. By limiting the analysis to a single industry, we hold constant many confounding characteristics including the influence of stakeholders and their claims (Eesley and Lenox, 2006; Gianfelici et al., 2018). In addition, by focusing on large firms within the same industry, we reduce intrafirm differences in the level of claims' influence and increase the reliability of our identification (Eesley and Lenox, 2006; Gianfelici et al., 2018; Baumann et al., 2019).

The Refinitiv ESG database classifies 291 ISINs under the Travel & Leisure industry across its full coverage history (2002–2020), using the Industry Classification Benchmark (ICB). Of these, 62 did not have ESG pillar scores for 2019, the year of measurement in our headline specification, primarily because they exited the market before 2019 through acquisitions, mergers, or delistings (e.g., British Airways merged into IAG in 2011; Tim Hortons acquired by Restaurant Brands International in 2014; Starwood Hotels acquired by Marriott in 2016). This leaves 229 Refinitiv T&L firms with ESG pillar scores available for 2019 as our effective starting sample. Of these, 18 firms could not be matched with a Compustat identifier in our merged analysis dataset, an additional 17 firms lacked complete Compustat weekly stock data (price, return, IVOL, or volatility) for the 2019–2020 analysis period, 2 firms lacked Compustat annual financial controls, and 1 firm was excluded because it was not observed across all three crisis periods. The final sample includes 191 firms corresponding to 19,488 firm-week observations for the two-year period 2019–2020, when using CSR 2019 scores, and 188 firms corresponding to 19,176 firm-week observations, when using CSR 2018 scores. We obtain market and accounting data from Compustat and Fama-French datasets. The sample includes 40 firms in the Airline subindustry, 47 in Casinos and Gambling, 21 in Hotels and Motels, 36 in Leisure Facilities, and 47 in Restaurants and Bars. Firms are distributed across North America (57 firms, 29.8%), Europe (57 firms, 29.8%), Asia (45 firms, 23.6%), Oceania (18 firms, 9.4%), Latin America (9 firms, 4.7%), and Africa (5 firms, 2.6%). This distribution ensures coverage of mature and emerging markets, allowing the analysis to control for regional differences while maintaining sufficient representation within major areas. Appendix A1 reports the industry and region composition at each stage of the sample construction.

3.2. Determining claims attributes

We identify five CSR activities for which proxies are available in Refinitiv ESG dataset: Environment, Product responsibility, Community relations, Workforce, and Human rights. The level of analysis of the stakeholder salience theory is the claim, with stakeholders having multiple claims with different urgency levels (Eesley and Lenox, 2006; Durand et al., 2019). For instance, the relevant unit of analysis is product responsibility rather than "customers" per se, since customers might also value other environmental and social actions with different urgency levels.

Environment. Environmental activities have become increasingly important in the social debate[8] with pressing demands on companies for improved green management coming from multiple powerful stakeholders such as customers, governments, and shareholders (Krueger et al., 2020; Landier and Lovo, 2025; Chaigneau and Sahuguet, 2025). This importance is particularly pronounced in consumer-facing industries, like T&L firms, where customers are increasingly sensitive to environmental activities and can exercise utilitarian power through their consumption decisions (Currás-Pérez et al., 2018). These companies are also highly sensitive to claims from NGOs and environmental activists that can damage their reputation through normative power in public media (Graafland, 2018). Governments, powerful stakeholders in the ecosystem, have also issued policies to subsidize corporate environmental activities (e.g., European Green Deal).[9] Finally, shareholders have shown interest in environmental activities because they mitigate idiosyncratic risks (Bansal and Clelland, 2004), lower the cost of capital (Sharfman and Fernando, 2008), and enhance long term financial performance, especially in consumer-facing industries (Eccles et al., 2012). Given the breadth of stakeholder pressure related to environmental claims, we treat the environment as influential (Rowley, 1997).

Product responsibility. Customers are sensitive to product-related activities such as product quality, responsible marketing, and data privacy (Peloza and Shang, 2011). Within the T&L industry, this sensitivity also includes additional activities like safety of leisure services and public health issues such as obesity and pathological gambling.[10] Prior research has shown that customers are powerful stakeholders in consumer-facing industries, where companies compete on reputation and brand image (Lev et al., 2010; Eccles et al., 2012) and customer satisfaction represents a primary driver of financial performance (Gianfelici et al., 2018). During Covid-19 crisis, customer safety in T&L (e.g., infection prevention and control such as physical distancing and special hygiene protocols, extended natural or mechanical ventilation, isolation, and distancing) became central to the management of the crisis.[11] As a result, we argue that product responsibility claims were influential to the T&L industry before, during and after this specific shock.

Workforce. T&L activities depend on low-skilled, seasonal employees with skills that are relatively easy to find on the labor market (Hill and Jones, 1992). Employment contracts are flexible, and termination is therefore inexpensive (Hill and Jones, 1992). Moreover, in industries with low knowledge intensity, the benefits of developing long-term relationships with employees are low (Jones et al., 2018). These characteristics make firms being less dependent on this stakeholder (Oliver, 1991), lower their power and their claims become non-influential

[8] On this regard, the World Economic Forum Global Crisis report (2022) sees the most critical current risks for businesses to be environmental (World Economic Forum, 2022).

[9] After the presentation of the European Green Deal in December 11, 2019, additional steps were taken during the Covid-19 induced market downturn to consolidate the commitment to carbon neutrality of Europe by 2050 (e.g., European climate law proposal in March 4, 2020 and the adoption of the Circular Economy Action Plan in March 11, 2020) (see the European Commission website, last visited on July 26, 2022 https://ec.europa.eu/info/strategy/priorities−2019–2024/european-green-deal_en#timeline).

[10] For further examples, see the relevant issues for T&L subindustries in the materiality finder in the Sustainability Accounting Standards Board (SASB) website, last visited on September 1, 2022 https://www.sasb.org/standards/materiality-finder/find/

[11] The European Commission communication "EU Guidance for the progressive resumption of tourism services and for health protocols in hospitality establishments – Covid-19". From the website of the European Union, last consulted on July 29, 2022. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020XC0515%2803%29.

during negative shocks. Therefore, claims for better employment conditions and improved labor protection are likely to remain unanswered during the Covid-19 crisis, when workforce reduction is often financially necessary and labor supply became exceptionally large.[12,13,14]

Human rights. Human rights constitute 'taken-for-granted' universal standards for any corporate activity that stakeholders are keen on having companies meet at the expense of severe penalties (Shue, 1980; Kendrick, 2017; Obara and Peattie, 2018). If most firms comply with these standards, exceeding them is not perceived as influential (Jones et al., 2018). Accordingly, "[t]he typical argument, which relies on the purported marketing benefits of respecting human rights, is shaky at best" (Paine, 2000: 324). While human rights claims are powerful and urgent for certain industries, they are much less influential to T&L companies that (1) already address and meet human rights standards (e.g., child labor and forced labor); for which (2) standard setters not consider human rights as a risk for this industry[15]; and (3) have other industries such as oil, mining, and manufacturing performing much worse (e.g., Blanton and Blanton, 2009). Moreover, the decline in business in the T&L industry during Covid-19 crisis makes any potential human rights' claims associated with issues such as displacement from home for tourism development, lower access to natural resources, human trafficking, and sex tourism (Baum and Hai, 2020) even less likely. In line with these arguments, we contend that claims for human rights-related activities were non-influential for T&L companies during the studied period.

Community relations. Community relations claims refer to a firm's commitment towards local communities by protecting the health and safety of residents, and respecting business ethics principles. Local communities generally have relatively low power and means to exert pressure on T&L multinationals, which are diversified across multiple locations and can deploy extensive resources to lobby and fend claims (Eesley and Lenox, 2006; Darnall et al., 2010).[16] Moreover, local communities have strong interests in having large T&L firms operate in their geographical area. To do so, they typically make concessions by damping their claims. The combined effect of these factors diminishes the relative urgency of community claims, leading to both management effort and resources to be deployed elsewhere during Covid-19 crisis. In sum, we contend that community-related claims were non-influential for T&L companies during the studied period.

3.3. Dependent variables

We measure financial performance using stock market measures of return and risk in line with CSR activities affecting both financial returns and risk exposure (e.g., Albuquerque et al., 2019; Harjoto and Laksmana, 2018; Lins et al., 2017). We use weekly stock market *Raw Returns*, which incorporate expected future adjustments and actions not necessarily captured by accounting measures (Fahlenbrach et al., 2021). We proxy stock market risk using total stock *Volatility* computed on a weekly basis (Albuquerque et al., 2020; Becchetti et al., 2015). We measure idiosyncratic volatility (*IVOL*) of stock *i* in week *t* as the standard deviation of residuals from the following least-squared regression (Goyal & Santa-Clara, 2003), in accordance with Fama-French three--factor model (Fama and French, 1992):

$$Excess\,Return_{i,t} = b_0 + b_1 Market\,Excess\,Return_t + b_2 SMB_t + b_3 HML_t + e_{i,t}$$

where $Excess\ Return_{i,t}$ is the daily excess return of stock *i* over the risk free rate which is the monthly U.S. Treasury bill rate; $Market\ Excess\ Return_t$ is the daily return of the value-weighted market index minus the risk-free rate; SMB_t (Small minus Big) is the daily premium of the size factor; HML_t (High minus Low) is the daily premium of the market-to-book factor (Fama and French, 1992).

3.4. Independent variables

We measure CSR performance using the firms' environmental and social scores (the Refinitiv pillars "E" and "S") comprising the subcategories emissions, environmental innovation, resource use, community, product responsibility, human rights, and workforce.[17] We derive the combined CSR performance for *Influential* (*Non-influential*) CSR activities as the average score of *Environment* and *Product responsibility* (*Community*, *Workforce*, and *Human rights*). Finally, we calculate the average of environmental and social scores–*CSR Score*–to capture firms' overall CSR performance (Albuquerque et al., 2020; Amiraslani et al., 2023).

We then create a continuous variable *Salience Gap*, defined as the difference between CSR performance related to influential and non-influential stakeholder claims.

We also create three dummy variables to identify firms' different stakeholder orientations. *Influential Stakeholder Orientation* takes the value of one for each firm whose average score of influential (non-influential) CSR activities is above (below) the median of their subindustry group and zero otherwise (26 firms).[18] *Stakeholder Orientation* takes the value of one if the average scores of both influential and non-influential CSR activities are above the subindustry median and zero otherwise (68 firms). *Shareholder Orientation* takes the value of one if the average scores of both influential and non- influential CSR activities are below the subindustry median and zero otherwise (68 firms). We label the remaining 29 firms as *Non-influential Stakeholder Orientation.*

Similarly to recent papers analyzing the relationship between CSR performance and financial performance during crisis (e.g., Demers et al., 2021; Lins et al., 2017), we control for firms' main financial characteristics. *Size* is measured as the natural logarithm of the firm's total assets. *Profitability* as the ratio of operating income to total assets. *Cash Holding* as the ratio of cash and short-term investments to total assets. *Long-Term Debt* as the ratio of long-term debt to total assets; *Short-Term*

[12] According to the Congressional Research Service (CRS) report on unemployment rates during the Covid-19 Pandemic (2021), "Workers whose last job was in the leisure and hospitality sector experienced a higher peak in unemployment (39.3% in April 2020) than did workers who were previously employed in any other sector". Updated report on august 20, 2021 https://sgp.fas.org/crs/misc/R46554.pdf.

[13] For instance, Marriott International "laid off or furloughed a significant percentage of their workforce, jeopardizing employees' healthcare benefits when they were arguably needed the most" (Bae et al., 2021). Similarly, the Hilton Group dismissed many employees including top executives such as the vice president of global diversity, see https://www.businessinsider.com/hilton-laid-off-vice-president-of-global-diversity-jon-muoz−2020–6 last visited on July 26, 2022.

[14] Cf. Congressional Research Service (CRS) report on unemployment rates during the Covid-19 Pandemic (2021). Updated report on august 20, 2021 https://sgp.fas.org/crs/misc/R46554.pdf.

[15] These issues are reported to be non-significant for any of T&L sectors according to the Sustainability Accounting Standards Board (SASB). See the materiality finder in SASB website, last visited on February 28, 2022 www.sasb.org/standards/materiality-finder/find/.

[16] "Firms with larger asset bases are more likely to have dedicated legal and public relations staff to fend off requests by secondary stakeholders" (Eesley & Lenox, 2006: 770).

[17] In our framework, the environment represents a single influential-stakeholder dimension; we therefore use the aggregate Environmental pillar score in the regression analyses rather than its three subcategories. We report descriptives for the three E subcategories in Table 1A for transparency and consistency with the four S subcategories.

[18] For example, an Influential Stakeholder Orientation firm entails above median average scores on Environmental and Product responsibility and below-median average scores on Community, Workforce, and Human rights.

Debt as the ratio of debt in current liabilities to total assets. *Book-to-Market* ratio at the end of the 2019 fiscal year. We also control for Fama-French three factors model plus momentum, namely, *Market Excess Returns, SMB* premium, *HML* premium and *UMD* premium (Up-minus-Down as winners minus losers' premium) (based on Carhart's extended Fama-French model (1997)). We also add *Tangible Assets* using the net property, plant, and equipment to assets ratio as a proxy for firms' level of tangible assets, and *Dividend* as the ratio of dividends to net income. Finally, we include firm fixed effects to control for time invariant unobservable drivers.

3.5. Model specifications

We examine the relationship between the stakeholder orientation and stock market risk and return during the Covid-19 induced market shock, using the period comprised between February 19, 2020 and March 24, 2020 when the market reached its lowest point. The unexpected nature, the rapid evolution, and the unpredictable length of the Covid-19 crisis indicate that firms could not anticipate their CSR investments to this specific event. In addition, the short time frame of 34 days limited companies' ability to react and modify their existing levels of CSR, as CSR activities take time to redeploy (Derchi et al., 2020, 2023; Albuquerque et al., 2020). The treatment—firm performance in CSR activities—is therefore considered stable over the sample period, given the short duration and unexpected nature of the shock. Thus, we can observe with accuracy the investors' reaction towards firms with different insurance-like stakeholder orientations, as companies faced the crisis having different combinations of CSR activities.

Based on Lins et al. (2017: 1805), we run a difference-in-difference-in-differences (DDD) model (Olden and Møen, 2022) using Covid-19 crisis as an unexpected exogeneous shock and pre-crisis environmental and social scores as continuous treatments to identify the effect of CSR performance on financial performance. We also include firm controls and firm fixed effects to address potential biases from other unobserved factors that may drive the degree to which companies were exposed to Covid-19 market shock.

Similarly to previous papers (e.g., Lins et al., 2017; Demers et al., 2021), we define the market downturn period as delimited by the pre-crisis market capitalization peak (February 19th, 2020) and its lowest point (March 23rd, 2020) (Lins et al., 2013). We distinguish three distinct periods to isolate the effect of CSR performance: (1) *Pre-Crisis*, from January 1st, 2019 to February 18th, 2020; (2) *Crisis* from February 19th, 2020 to March 23rd, 2020, which covers the 34 days (24 working days) of the stock market correction, from its peak until it reached its lowest point during the crisis (Lins et al., 2013); and (3) *Post-Crisis* from March 24th, 2020 to December 31st, 2020, covering the stock market recovery. To avoid the effect of outliers on estimated coefficients, we winsorize the dependent and control variables at the 1st and 99th percentiles (Lins et al., 2017). Standard errors are clustered at the week level, therefore, robust to time-series interdependences.

To test the association between CSR salience and financial performance during an exogenous shock (H1), we interact firms' CSR salience gap with two binary indicators capturing the Crisis and Post-Crisis periods. We also include interactions between the overall CSR score and the Crisis and Post-Crisis indicators to control for the baseline association of CSR with CFP. Eq. (1) provides the specification.

$$\begin{aligned} \textit{Financial performance}_{i,t} = {} & b_0 + b_1\ \textit{Crisis}_t + b_2\ \textit{Post Crisis}_t \\ & + b'_3\ \textit{Salience Gap}_{2018}\ x\ \textit{Crisis}_t + b'_4\ \textit{Salience Gap}_{2018}\ x\ \textit{Post Crisis}_t \\ & + b'_5 \textit{CSR Score}_{2018}\ x\ \textit{Crisis}_t + b'_6\ \textit{CSR Score}_{2018}\ x\ \textit{Post Crisis}_t \\ & + b'_7\ X_{i,t-1} + b'_8\ \textit{Fama French Factors}_t + b'_9\ \textit{Firm Fixed Effects}_i \\ & + e_{i,t} \end{aligned} \quad (1)$$

Where financial performance is either *Raw Returns*, *Idiosyncratic Volatility* (IVOL), and total *Volatility*. Similar to prior research, we use CSR performance scores of influential and non-influential activities at least one year before the crisis, thus year-end 2018 (Albuquerque et al., 2020; Lins et al., 2017). We also use 2019 scores for robustness to reflect the firm CSR level right before the beginning of the crisis. Two design features mitigate the concern that the raw Salience Gap may carry different economic meaning across firms with different baseline CSR levels: (i) we report all coefficient magnitudes in standard-deviation units, which standardizes the economic interpretation; and (ii) firm fixed effects absorb time-invariant differences in firms' overall CSR levels, so the identifying variation comes from the interaction of the pre-crisis Salience Gap with the crisis-period indicator rather than from cross-sectional differences in base levels. The level terms for all interacted variables (Salience Gap, CSR Score, and the orientation dummies in Eq. (2)) are included in the model but absorbed by the firm fixed effects in our main specification, since CSR scores are measured pre-crisis and are time-invariant within each firm.

Eq. (2) interacts the dummy variables for *Influential Stakeholder Orientation, Stakeholder Orientation*, and *Shareholder Orientation* with period binary indicators to test for hypotheses H2a, H2b and H2c: firms following an *Influential Stakeholder Orientation* outperform firms following either a *Shareholder Orientation* (H2a), a *Stakeholder Orientation* (H2b) or the *Non-influential Stakeholder Orientation* (H2c) (control group).

$$\begin{aligned} \textit{Financial performance}_{i,t} = {} & b_0 + b_1 \textit{Crisis}_t + b_2 \textit{Post Crisis}_t \\ & + b_3\ \textit{Shareholder Orientation}_{2018}\ x\ \textit{Crisis}_t \\ & + b_4\ \textit{Stakeholder Orientation}_{2018}\ x\ \textit{Crisis}_t \\ & + b_5\ \textit{Influential Stakeholder Orientation}_{2018}\ x\ \textit{Crisis}_t \\ & + b_6\ \textit{Influential Stakeholder Orientation}_{2018}\ x\ \textit{Post Crisis}_t \\ & + b_7\ \textit{Stakeholder Orientation}_{2018}\ x\ \textit{Post Crisis}_t \\ & + b_8\ \textit{Influential Stakeholder Orientation}_{2018}\ x\ \textit{Post Crisis}_t \\ & + b'_9\ X_{i,t-1} + b'_{10}\ \textit{Fama French Factors}_t + b'_{11}\ \textit{Firm Fixed Effects}_i \\ & + e_{i,t} \end{aligned} \quad (2)$$

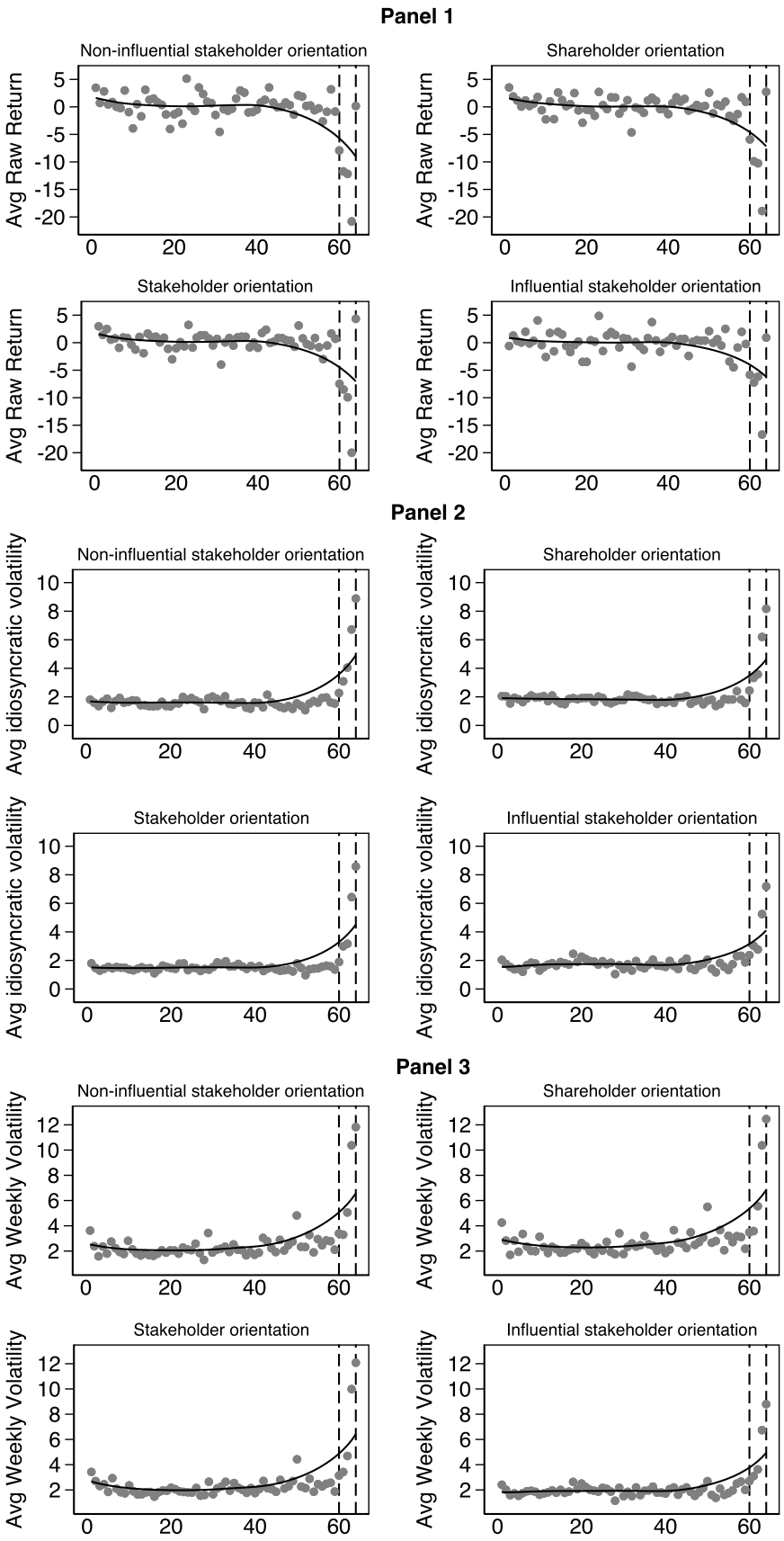
3.6. Parallel trends assumption

To ensure the validity of our identification strategy and rule out potential confounding factors around the onset of the crisis, we examine whether firms with different stakeholder orientations followed parallel trends prior to the shock. As shown in Fig. 1, there are no significant pre-treatment differences across groups in terms of raw returns (Panel 1), idiosyncratic volatility (Panel 2), and total weekly volatility (Panel 3). This supports the parallel trends assumption and strengthens the causal interpretation of our DDD analysis.

4. Results

4.1. Descriptive statistics

Table 1A presents descriptive statistics and pairwise correlations for our dependent and independent variables. We observe that CSR performance across Refinitiv categories varies significantly across firms, with mean values between 0.13 and 0.57 and standard deviations ranging from 0.24 to 0.33 for 2019 scores. The Salience Gap has a mean of −0.02, a median of −0.02, an interquartile range of 0.27, and ranges from −0.52 to 0.42; the distribution is approximately symmetric and centered just below zero (see Appendix A6 for a histogram). Moreover, financial performance measures reflect the impact of the crisis—e.g.,



(caption on next page)

Fig. 1. Panel 1 parallel trends in raw returns by stakeholder orientation. Panel 2 parallel trends in idiosyncratic volatility by stakeholder orientation. Panel 3 parallel trends in weekly volatility by stakeholder orientation. To assess the validity of the parallel trends assumption and verify the absence of pre-treatment divergence, we compare averages of our dependent variables, raw returns (Panel 1), idiosyncratic volatility (Panel 2), and total volatility (Panel 3), across stakeholder orientations prior to the shock. The vertical dashed lines at week 60 and week 64 indicate the window of the Covid-19 stock market shock. As shown in the figures, firms with different stakeholder orientations exhibit similar stock market dynamics prior to the shock, supporting the common trends assumption underlying our identification strategy.

Crisis Raw Returns have a mean and median of −14.71% and −10.64%, respectively, while Raw Returns have a 0.26% mean and 0.03% median over the entire period.

A potential self-selection concern when comparing firms across CSR orientation groups is that the groups may differ systematically on other firm characteristics, such as size, leverage, profitability, or other financial controls. Table 1B reports the descriptive statistics for the control variables across the four orientation groups: Non-influential, Shareholder, Stakeholder, and Influential. Overall, the groups are highly comparable. Out of 24 pairwise comparisons across all control variables, 21 differences are statistically non-significant at the 10% level, with only three differences reaching statistical significance: Log(Assets) is higher for Influential firms relative to Shareholder firms, Cash Holdings differ between Influential and Non-influential firms, and Book-to-Market shows a marginally significant difference with the Non-influential group. All other variables exhibit no significant differences. These findings suggest that the orientation groups are broadly similar on observable characteristics, minimizing concerns that the CSR comparisons are biased by pre-existing firm-level differences.

4.2. Salience gap between influential and non-influential activities and CFP

Table 2 reports the results from estimating Eq. (1) using 2018 CSR scores (Panel A), and 2019 scores (Panel B). Across both panels, the results are consistent with Hypothesis H1 and indicate that a greater emphasis on influential stakeholder claims relative to non-influential ones is associated with stronger financial performance during the Covid-19 market shock. Panel A shows that, during the crisis period, a one-standard-deviation increase in the *Salience Gap* (0.19) is associated with a 1.40 %-point increase in weekly *Raw Returns* (*Crisis* × *Salience Gap*: $\beta = 7.35$, $p < .01$), a 0.35 %-point decrease in *IVOL* ($\beta = -1.85$, $p < .01$), and a 0.40 %-point decrease in total *Volatility* ($\beta = -2.11$, $p < .05$). Panel B yields closely comparable magnitudes. Overall, the evidence in Table 2 is consistent with an insurance-like interpretation of CSR: firms with a larger salience gap, prioritizing influential stakeholder claims over non-influential ones, exhibit relatively better returns and lower risk during the Covid-19 crash period.

Outside the crisis window, the salience gap is not systematically related to stock returns, while it remains negatively associated with both idiosyncratic risk and total volatility in the post-crisis period. This pattern suggests that the return-related benefits of prioritizing influential stakeholder claims are concentrated during the acute market downturn rather than in sustained abnormal returns. Finally, the interaction between the overall CSR score and the Crisis indicator is not statistically significant, and our results are robust to excluding these CSR interaction terms (*CSR Score* × *Crisis* and *CSR Score* × *Post-Crisis*).

4.3. Stakeholder orientations and CFP

Table 3 Panel A reports the results for our tests of hypotheses H2a, H2b, and H2c using 2018 CSR scores. Consistent with H2a, firms following an Influential Stakeholder Orientation report a 3.22 %-point higher weekly Raw Returns ($p < 0.01$) compared to those following a Shareholder Orientation. The results for risk measures show that weekly IVOL is marginally lower (−0.48, $p = 0.085$), and weekly Volatility during the crisis is also lower but not statistically significant (−0.98, $p = 0.134$) for firms following an Influential Stakeholder Orientation. Consistent with H2b, firms following an Influential Stakeholder Orientation show a 3.04 %-point higher Raw Returns ($p < 0.01$), 0.54 lower IVOL ($p = 0.164$), and 1.00 lower Volatility ($p = 0.127$) during the crisis than firms pursuing a Stakeholder Orientation. Finally, firms following an Influential Stakeholder Orientation report a 4.84 %-point higher weekly Raw Returns ($p < 0.01$) compared to firms following a Non-influential Stakeholder Orientation during the market shock (H2c). They also report a significantly lower IVOL (−0.85, $p < 0.05$), and a lower but not statistically significant Volatility (−1.17, $p = 0.110$).

Moreover, we analyze the effect of the Covid-19 market correction on each of the four groups of firms. The Crisis coefficient of −7.47% ($p < 0.01$) in the Raw Returns regression is significant and represents the estimated effect of Crisis on firms of the control group (i.e., following a Non-influential Stakeholder Orientation). In contrast, the Raw Returns for firms following the Influential Stakeholder Orientation are non-significant (−2.63; $p = 0.162$), suggesting that the negative effect of the crisis is offset by the Influential Stakeholder Orientation. Conversely, the Raw Returns for firms following a Shareholder Orientation and a Stakeholder Orientation are both significantly negative (−5.86%, $p < 0.01$ and −5.68%, $p < 0.01$, respectively). Interestingly, firms following a Shareholder Orientation and a Stakeholder Orientation have very similar financial performances during the market shock, suggesting that both insurance strategies are equally unfit in mitigating market risk during the Covid-19 shock. Table 3 Panel B reports results using 2019 CSR scores showing similar results.

4.4. Additional analysis

As an additional analysis, we decompose the *Salience Gap* used in our main specification into its two underlying components—CSR performance related to influential and non-influential stakeholder claims—. This allows us to assess whether the results in Table 2 reflect differences driven by higher CSR performance toward influential stakeholders, lower CSR performance toward non-influential stakeholders, or both. Table 4 shows that during the crisis, the influential-stakeholder component is associated with higher returns and lower risk, whereas the non-influential component is associated with lower returns and higher risk. Results are consistent using both 2018 (Panel A) and 2019 (Panel B) scores.

Table 5 further decomposes the Salience Gap into the five underlying scores. During the crisis period, environmental performance is the primary driver among influential stakeholder claims: it is consistently associated with higher returns and lower risk across all three specifications and both panels (e.g., Panel A: $\beta = 6.18$ for returns, $p < .01$; $\beta = -1.78$ for IVOL, $p < .01$; $\beta = -1.75$ for volatility, $p < .05$). Product responsibility shows a positive but borderline-significant association with returns in Panel A ($t = 1.59$) and is not statistically significant for IVOL or volatility; the association strengthens in Panel B. We therefore conclude that the influential-stakeholder effect documented in Table 4 is primarily driven by environmental performance, with product responsibility providing supporting but less robust evidence. In contrast, workforce- and human rights-oriented CSR are associated with lower crisis-period returns and higher risk measures, while community-related CSR shows weak or insignificant associations with financial outcomes. Overall, these findings reinforce that only CSR activities aligned with influential stakeholder claims are value-protecting during the market correction, consistent with H1. Results are similar when using 2019 scores (Panel B).

Table 1A
Descriptive statistics and correlation matrix.

	Variable	Mean	SD	p25	p50	p75	1	2	3	4	5	6	7	8	9	10
1	Raw Return	0.26	6.84	−2.66	0.03	3.02	1.00									
2	IVOL	2.29	2.00	1.07	1.71	2.76	0.08*	1.00								
3	Volatility	3.02	2.56	1.37	2.34	3.82	0.05*	0.73*	1.00							
4	Crisis Raw Return	−14.71	14.45	−19.45	−10.64	−5.40	0.87*	−0.71*	−0.71*	1.00						
5	Crisis IVOL	3.88	3.06	1.84	3.08	4.96	−0.55*	0.98*	0.75*	−0.71*	1.00					
6	Crisis Volatility	5.26	3.99	2.60	4.00	7.10	−0.59*	0.77*	0.99*	−0.71*	0.77*	1.00				
7	ES Score	0.46	0.24	0.25	0.46	0.66	−0.02	−0.07*	−0.06*	0.08	−0.08	−0.07	1.00			
8	Salience Gap	−0.02	0.19	−0.16	−0.02	0.11	−0.01	−0.07*	−0.12*	0.15*	−0.12*	−0.15*	0.17*	1.00		
9	Influential Stakeholder Claims Score	0.47	0.26	0.26	0.47	0.70	−0.02	−0.08*	−0.08*	0.11*	−0.10*	−0.11*	0.93*	0.48*	1.00	
10	Non-influential Stakeholder Claims Score	0.49	0.23	0.31	0.46	0.68	−0.01	−0.04*	0.01	−0.00	−0.01	0.01	0.88*	−0.29*	0.70*	1.00
11	Environmental Score	0.42	0.29	0.15	0.39	0.69	−0.02*	−0.09*	−0.07*	0.09	−0.11*	−0.10*	0.96*	0.22*	0.87*	0.77*
12	Emissions	0.46	0.33	0.13	0.48	0.74	−0.02*	−0.06*	−0.07*	0.09	−0.09	−0.10*	0.87*	0.22*	0.80*	0.69*
13	Resource Use	0.44	0.33	0.09	0.42	0.74	−0.02*	−0.10*	−0.06*	0.08	−0.11*	−0.07	0.91*	0.18*	0.82*	0.75*
14	Environmental Innovation	0.13	0.24	0.00	0.00	0.25	−0.01	−0.03*	−0.05*	0.06	−0.06	−0.07	0.46*	0.13*	0.40*	0.33*
15	Product Responsibility Score	0.53	0.30	0.19	0.57	0.79	−0.01	−0.06*	−0.08*	0.09	−0.07	−0.09	0.67*	0.61*	0.88*	0.46*
16	Workforce Score	0.57	0.27	0.35	0.60	0.80	−0.02	−0.04*	−0.11*	0.06	−0.05	−0.11*	0.82*	0.02*	0.74*	0.79*
17	Community Score	0.53	0.29	0.29	0.60	0.79	0.01	−0.04*	0.11*	−0.03	−0.01	0.11*	0.56*	−0.36*	0.40*	0.72*
18	Human Rights Score	0.37	0.33	0.00	0.29	0.65	−0.01	−0.01	0.01	−0.03	0.02	0.02	0.72*	−0.32*	0.56*	0.87*
19	Log(Assets)	8.88	2.22	7.29	8.65	10.16	−0.03*	−0.07*	−0.10*	0.12*	−0.10*	−0.15*	0.37*	0.03*	0.29*	0.29*
20	Long-Term Debt	0.38	0.33	0.19	0.33	0.49	0.02	0.03*	0.22*	−0.09	0.04	0.20*	−0.00	−0.03*	0.00	0.03*
21	Short-Term Debt	0.04	0.05	0.00	0.02	0.06	−0.02*	0.09*	−0.01	−0.00	0.08	−0.03	0.03*	0.07*	0.05*	−0.01
22	Cash Holdings	−2.44	1.07	−3.13	−2.32	−1.64	0.00	−0.09*	−0.14*	0.17*	−0.10*	−0.11*	−0.04*	0.08*	−0.02*	−0.09*
23	Book-to-Market	0.47	0.46	0.18	0.40	0.68	−0.02*	0.01	−0.16*	0.06	−0.05	−0.19*	0.04*	0.03*	0.03*	0.02
24	Profitability	0.09	0.07	0.05	0.07	0.11	0.02*	−0.10*	0.04*	0.11*	−0.07	0.07	−0.05*	0.06*	−0.02*	−0.08*
25	Tangible Assets	0.46	0.26	0.22	0.50	0.67	−0.01	0.04*	0.06*	−0.06	−0.01	−0.05	0.14*	0.09*	0.13*	0.07*
26	Dividends	0.39	1.29	0.00	0.29	0.67	0.00	−0.03*	−0.04*	0.07	−0.07	−0.04	−0.00	0.08*	0.02	−0.05*

	Variable	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
11	Environmental Score	1.00															
12	Emissions	0.92*	1.00														
13	Resource Use	0.93*	0.74*	1.00													
14	Environmental Innovation	0.52*	0.44*	0.43*	1.00												
15	Product Responsibility Score	0.52*	0.47*	0.50*	0.18*	1.00											
16	Workforce Score	0.75*	0.70*	0.71*	0.29*	0.53*	1.00										
17	Community Score	0.46*	0.41*	0.47*	0.15*	0.23*	0.31*	1.00									
18	Human Rights Score	0.62*	0.55*	0.61*	0.33*	0.35*	0.59*	0.42*	1.00								
19	Log(Assets)	0.42*	0.43*	0.37*	0.31*	0.09*	0.32*	0.15*	0.23*	1.00							
20	Long-Term Debt	−0.03*	−0.09*	0.02	−0.06*	0.04*	−0.13*	0.14*	0.04*	−0.13*	1.00						
21	Short-Term Debt	0.04*	0.10*	0.01	0.05*	0.05*	0.05*	−0.09*	0.02*	0.28*	−0.02*	1.00					
22	Cash Holdings	0.00	0.03*	−0.03*	0.11*	−0.04*	−0.02*	−0.13*	−0.06*	0.07*	−0.20*	−0.02	1.00				
23	Book-to-Market	0.07*	0.10*	0.04*	0.13*	−0.01	0.09*	−0.08*	0.03*	0.23*	−0.37*	0.12*	−0.02*	1.00			
24	Profitability	−0.06*	−0.08*	−0.03*	−0.15*	0.02	−0.11*	0.00	−0.08*	−0.34*	0.35*	−0.27*	0.21*	−0.53*	1.00		
25	Tangible Assets	0.18*	0.12*	0.20*	0.13*	0.06*	−0.01	0.09*	0.08*	0.24*	0.12*	−0.01	−0.34*	0.17*	−0.20*	1.00	
26	Dividends	0.01	0.02*	−0.00	−0.01	0.02	0.01	−0.03*	−0.08*	−0.07*	0.05*	−0.07*	0.05*	−0.09*	0.11*	−0.10*	1.00

N = 19,488 for the CFP variables (Raw Returns, IVOL and Volatility), 191 for CSR scores (yearly scores of 2019). N = 740 for CFP during crisis variables (Crisis Raw Returns, Crisis IVOL, Crisis Volatility), these variables are only mentioned in the descriptive statistics section and not used in the regressions.
Correlations that are significant at a level below 1 % (two-tailed) are in bold.
The values of the dependent variables are disclosed in percentage points.

Table 1B
Firm comparison across treatment groups.

Variable	Mean G3	SD G3	Mean G2	SD G2	Diff (G3-G2)	P-val (G3 ≠ G2)	Mean G1	SD G1	Diff (G3-G1)	P-val (G3 ≠ G1)	Mean G0	SD G0	Diff (G3-G0)	P-val (G3 ≠ G0)
Log(Assets)	9.22	2.47	9.11	1.96	0.11	**0.80**	7.96	2.24	1.26	0.01	8.43	1.75	0.79	**0.16**
Long-Term Debt	0.36	0.37	0.34	0.28	0.02	**0.67**	0.28	0.32	0.08	**0.26**	0.45	0.33	−0.09	**0.37**
Short-Term Debt	0.03	0.05	0.03	0.04	0.00	**0.91**	0.04	0.06	−0.01	**0.65**	0.02	0.02	0.01	**0.10**
Cash Holdings	−2.28	0.87	−2.45	1.01	0.17	**0.39**	−2.28	1.08	0.00	**0.99**	−2.92	1.21	0.64	0.02
Book-to-Market	0.60	0.49	0.55	0.46	0.05	**0.59**	0.45	0.46	0.15	**0.14**	0.37	0.49	0.23	0.06
Profitability	0.08	0.08	0.09	0.06	−0.01	**0.83**	0.10	0.08	−0.02	**0.48**	0.09	0.06	−0.01	**0.68**
Tangible Assets	0.49	0.26	0.43	0.26	0.06	**0.26**	0.41	0.30	0.08	**0.22**	0.44	0.26	0.05	**0.45**
Dividends	0.41	0.48	0.25	1.71	0.16	**0.61**	0.40	0.70	0.01	**0.92**	0.23	1.42	0.18	**0.50**

Note: Orientation Group labels:
G0 = Non-influential Orientation.
G1 = Shareholder Orientation.
G2 = Stakeholder Orientation.
G3 = Influential Orientation.

Social media represents a channel where legitimate stakeholders address urgent claims which in turn lead to an increased power to pressure companies (Gómez-Carrasco et al., 2021). To empirically substantiate our categorization of influential and non-influential activities, we analyze tweets by web scraping the X page content of firms in our sample during the market correction period. Following Gómez-Carrasco et al. (2021), we focus on stakeholders' interactions with CSR-related tweets to determine which categories represent core CSR activities and therefore more likely to be influential. We gathered a total of 703 firms' tweet communications from 71 firms that had an active Twitter account during that timeframe. These tweets were manually categorized based on their content into three categories (see the example in Appendix A2)[19]: influential stakeholders (product responsibility and environmental issues), non-influential stakeholders (community, human rights, and workforce), or other (not CSR-related).

Using *t*-tests,[20] we observe that posts related to non-influential stakeholders generated a moderate level of engagement, with an average of 68.3 likes, 10.3 reposts, and 1.7 replies/quotes per tweet. In contrast, posts related to influential stakeholders garnered significantly higher levels of engagement. On average, these tweets received 53.8 more likes ($p = 0.076$) which is 79% more compared to the interactions with non-influential stakeholder posts, 14.4 more reposts ($p = 0.009$) (+140%), and 4.7 more replies/quotes (+274%).

To address the concern that engagement with influential CSR tweets during the crisis may reflect endogenous reactions to crisis-specific conditions rather than underlying stakeholder influence, we conduct a similar analysis using 5760 tweets posted in 2019, i.e., prior to the Covid-19 outbreak. To classify the substantially larger set of pre-crisis tweets posted in 2019, we use a large language model (LLM)–based approach that applies the same fixed prompt to each tweet in a loop and stores the resulting classification. The prompt requires the LLM to assign each tweet to one mutually exclusive stakeholder category based on its primary content; the prompt and coding instructions are provided in Appendix A3. The model also returns a confidence score, which we use to flag tweets with ambiguous content or insufficient context for reliable classification. A co-author reviewed all flagged tweets and corrected classifications where needed. In addition, we manually double-checked a randomly selected subsample of tweets to assess classification reliability. This procedure follows recent work showing that LLM-based textual analysis outperforms dictionary methods, topic models, and traditional machine-learning classifiers in extracting context-specific information from corporate disclosures (Bochkay et al., 2023; Huang et al., 2023; Maibaum et al., 2024; de Kok, 2025).

Consistent with our crisis-period findings, tweets addressing influential stakeholders generated significantly higher engagement even before the crisis. Relative to non-influential CSR tweets, influential-stakeholder tweets received on average 24.6 more likes (+115%), 4.3 more reposts (+107%), and 1.0 additional replies/quotes (+148%) per tweet, with all differences statistically significant ($p < 0.001$). Consequently, our examination of tweet engagement substantiates our classification of influential and non- influential claims, affirming that influential CSR activities garner significantly more attention from stakeholders (Madsen and Rodgers, 2015).

4.5. Robustness tests

In the following analyses, we relax our main model specification that includes firm fixed effects and rerun our regressions incorporating additional covariates to control for other time-varying confounding factors. We use firms' pre-crisis governance score from ESG Refinitiv (*Governance Score*), based on evidence that well-governed firms are more resilient and perform better in crisis periods (Lins et al., 2013). We include the variation in CSR performance that occurs between 2020 and 2021 (as the difference in scores, e.g., Environment Variation equals Environment score of 2021 minus Environment score of 2020) to control for the effect of any firms' unobserved reaction to the crisis by changing their CSR activities during or right after the crisis period. We use both country and sub-industry fixed effects to control for other unobservable country- and industry-specific external drivers of stock returns. This approach is also consistent with recent evidence showing that ES-related practices and their incorporation into executive compensation vary systematically across countries and industries (e.g., Cohen et al., 2023).

[19] This categorization was made by one teaching assistant and one PhD student and double checked based on the definition and descriptions of the CSR activities by Refinitiv. We compute interrater agreement on the tweets independently classified by both annotators using the three-class framework (non-CSR, influential, non-influential): exact agreement is 78.95%, Cohen's kappa = 0.56 ($p < .001$), and the Pearson correlation between the two ordinal codings is 0.66. Importantly, when we restrict the analysis to the 148 tweets that both annotators classified as CSR-related, agreement on whether the tweet addresses an influential or non-influential stakeholder reaches 94.59% (Cohen's kappa = 0.89, near-perfect). Almost all disagreements arise from one annotator applying a stricter criterion for what counts as CSR rather than from disagreement on the salience dimension itself: only 8 of the 703 tweets (1.1%) are classified as influential by one annotator and non-influential by the other.

[20] We first winsorized the likes, replies and reposts variables at the 1st and 99th percentiles to avoid outliers' effect.

Table 2
Panel A relationship between salience gap and CFP using 2018 scores. Panel B relationship between salience gap and CFP using 2019 scores.

		(1)			(2)			(3)		
		Raw Return			IVOL			Volatility		
Panel A										
Crisis		−5.459	**	(−2.55)	1.880	**	(2.51)	2.379	**	(2.27)
Post-Crisis		0.719	*	(1.81)	1.036	***	(5.55)	1.252	***	(5.16)
Crisis × Salience Gap	H1	7.346	***	(13.31)	−1.849	***	(−2.70)	−2.114	**	(−2.11)
Post-Crisis × Salience Gap		−0.463		(−0.65)	−1.303	***	(−6.60)	−1.536	***	(−5.51)
Crisis × CSR Score		0.169		(0.10)	0.287	*	(1.76)	0.0491		(0.32)
Post-Crisis × CSR Score		−1.165	*	(−1.72)	0.704	***	(5.57)	0.806	***	(5.29)
Firm Controls										
Firm Size		−0.110		(−0.23)	−0.0136		(−0.10)	0.235		(1.36)
Long-Term Debt		0.119		(0.10)	1.263	***	(4.36)	1.487	***	(5.23)
Short-Term Debt		2.347		(0.88)	−0.453		(−0.68)	0.544		(0.70)
Cash Holdings		0.0912		(0.51)	0.0789	*	(1.96)	0.0482		(1.41)
Book-to-Market		0.00657		(0.01)	−0.155		(−1.30)	−0.259	*	(−1.78)
Profitability		−5.030	*	(−1.89)	−1.498	**	(−2.04)	−0.0847		(−0.10)
Tangible Assets		−0.632		(−0.47)	−0.422		(−1.17)	−1.437		(−1.63)
Dividends		0.0185		(0.40)	−0.0494	***	(−4.01)	−0.0413	***	(−3.91)
Fama-French Factors										
Market Excess Return		76.78	***	(6.71)				−1.471		(−0.16)
Small-minus-Big		31.83		(1.46)				−8.602		(−0.55)
High-minus-Low		4.814		(0.26)				−38.17	*	(−1.79)
Up-minus-Down		−33.83	*	(−1.95)				−30.17	**	(−2.38)
Constant		1.765		(0.42)	1.938	*	(1.78)	0.380		(0.28)
Firm Fixed Effects		YES			YES			YES		
R^2		25%			29%			38%		
Number of observations		19,176			19,176			19,176		
Panel B										
Crisis		−6.078	***	(−3.03)	2.011	***	(2.66)	2.416	**	(2.34)
Post-Crisis		0.779	*	(1.98)	1.105	***	(5.80)	1.281	***	(5.27)
Crisis × Salience Gap	H1	7.659	***	(14.51)	−1.727	**	(−2.45)	−2.098	**	(−2.11)
Post-Crisis × Salience Gap		−0.792		(−1.10)	−1.476	***	(−7.64)	−1.654	***	(−5.92)
Crisis × CSR Score		1.244		(0.86)	0.0585		(0.37)	0.0121		(0.10)
Post-Crisis × CSR Score		−1.260	**	(−2.06)	0.524	***	(4.23)	0.713	***	(4.73)
Firm Controls										
Firm Size		−0.131		(−0.27)	0.0366		(0.28)	0.296	*	(1.66)
Long-Term Debt		0.170		(0.15)	1.178	***	(4.11)	1.385	***	(5.00)
Short-Term Debt		1.886		(0.70)	0.167		(0.26)	1.054		(1.45)
Cash Holdings		0.0686		(0.38)	0.0727	*	(1.83)	0.0401		(1.16)
Book-to-Market		−0.0104		(−0.02)	−0.0601		(−0.53)	−0.158		(−1.13)
Profitability		−5.039	*	(−1.94)	−1.101		(−1.49)	0.470		(0.57)
Tangible Assets		−0.532		(−0.39)	−0.479		(−1.32)	−1.515	*	(−1.71)
Dividends		0.0109		(0.24)	−0.0439	***	(−3.58)	−0.0341	***	(−3.22)
Fama-French Factors										
Market Excess Return		76.83	***	(6.68)				−1.591		(−0.18)
Small-minus-Big		32.27		(1.47)				−8.596		(−0.55)
High-minus-Low		5.262		(0.28)				−38.40	*	(−1.81)
Up-minus-Down		−33.63	*	(−1.91)				−30.45	**	(−2.41)
Constant		1.870		(0.44)	1.430		(1.30)	−0.228		(−0.16)
Firm Fixed Effects		YES			YES			YES		
R^2		26%			29%			38%		
Number of observations		19,488			19,488			19,488		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* p < .10; ** p < .05; *** p < .01.

Finally, we add *Pre-Crisis Average Raw Returns* and *Pre-Crisis Average IVOL* measuring, respectively, the pre-crisis stock returns and the pre-crisis idiosyncratic volatility, both over a three-year period to control for specific performance conditions that can influence the assessment by capital markets of firm resilience during crisis (Lins et al., 2017).[21] Overall, our findings are consistent with primary results showing even stronger and more significant coefficients for the main interaction variables.

To address concerns that our findings may be driven by regional composition, we perform a sequential region-exclusion robustness test. Specifically, we re-estimate the main specification six times, each time excluding firms from one of the six geographic regions represented in the sample. Across all region-exclusion subsamples, the estimated coefficients on the interaction between the salience gap and the crisis period remains stable in sign and statistically significant in every subsample, with significance at least at the 10% level and most frequently at the 1% level across the three outcome measures (raw returns, IVOL, and Volatility). Overall, these results indicate that the documented effects are not driven by any single region of the sample (See Appendix A4).

Furthermore, to address concerns that orientation groups may be sensitive to the cutoff used around the subindustry median, we re-define the orientations using a within-subindustry 47.5/52.5 split, excluding firms whose scores fall in the middle 5% band around the median, and re-estimate the Table 3 (H2) specification using both 2018 and 2019 scores. The raw-returns results remain consistent with the main analysis. In both years, the crisis interaction is positive and statistically significant for the Shareholder and Stakeholder orientations, and substantially larger for the Influential stakeholder orientation. Formal Wald tests

[21] These variables are absorbed by firms fixed effects in our main regression specification.

Table 3
Panel A relationship between stakeholder orientations and CFP using 2018 scores. Panel B relationship between stakeholder orientations and CFP using 2019 scores.

		(1)			(2)			(3)		
		Raw Returns			IVOL			Volatility		
Panel A										
Crisis		−7.47	***	(−3.77)	2.43	***	(2.90)	2.75	**	(2.35)
Post-Crisis		0.62		(1.39)	1.59	***	(7.13)	1.75	***	(6.35)
Shareholder Orientation × Crisis		1.62	***	(3.54)	−0.37	**	(−2.10)	−0.19		(−1.50)
Stakeholder Orientation × Crisis		1.80	**	(2.62)	−0.31	*	(−1.79)	−0.17		(−1.56)
Influential Stakeholder Orientation × Crisis	H2c	4.84	***	(6.38)	−0.85	**	(−2.13)	−1.17		(−1.61)
Shareholder Orientation × Post-Crisis		−0.14		(−0.44)	−0.23	***	(−3.28)	−0.06		(−1.10)
Stakeholder Orientation × Post-Crisis		−0.70	**	(−2.07)	−0.06		(−0.75)	0.13		(1.34)
Influential Stakeholder × Post-Crisis		−0.59		(−1.30)	−0.78	***	(−7.10)	−0.92	***	(−5.18)
Constant		1.65		(0.39)	1.66		(1.49)	0.39		(0.28)
Fama-French Factors		YES			YES			YES		
Firm Controls		YES			YES			YES		
Firm Fixed Effects		YES			YES			YES		
Group comparision:										
Crisis × (Influential Stakeholder Orientation – Shareholder Orientation)	H2a	3.22	(11.06)	[0.00]	−0.48	(3.02)	[0.09]	−0.98	(2.28)	[0.13]
Crisis × (Influential Stakeholder Orientation –Stakeholder Orientation)	H2b	3.04	(28.75)	[0.00]	−0.54	(1.96)	[0.16]	−1.00	(2.37)	[0.13]
Crisis × (Stakeholder Orientation – Shareholder Orientation)		0.18	(0.07)	[0.79]	0.06	(0.26)	[0.61]	0.02	(0.03)	[0.85]
The effect of Crisis on each group:										
Crisis + Influential Stakeholder Orientation × Crisis		−2.63	(1.98)	[0.16]	1.57	(9.38)	[0.00]	1.58	(5.94)	[0.02]
Crisis + Stakeholder Orientation × Crisis		−5.68	(7.52)	[0.01]	2.12	(5.81)	[0.02]	2.59	(5.46)	[0.02]
Crisis + Shareholder Orientation × Crisis		−5.86	(8.55)	[0.00]	2.06	(7.35)	[0.01]	2.57	(5.48)	[0.02]
R^2		25%			29%			38%		
Number of observations		19,176			19,176			19,176		
Panel B										
Crisis		−7.85	***	(−4.04)	2.67	***	(2.67)	3.09	**	(2.31)
Post-Crisis		0.70		(1.51)	1.73	***	(7.09)	2.01	***	(6.24)
Shareholder Orientation × Crisis		1.71	***	(5.98)	−0.65	**	(−2.10)	−0.60	*	(−1.73)
Stakeholder Orientation × Crisis		2.51	***	(5.51)	−0.66	***	(−2.80)	−0.66	*	(−1.78)
Influential Stakeholder Orientation × Crisis	H2c	4.48	***	(8.78)	−0.87	**	(−2.09)	−1.18	*	(−1.70)
Shareholder Orientation × Post-Crisis		−0.26		(−0.75)	−0.43	***	(−4.95)	−0.46	***	(−3.89)
Stakeholder Orientation × Post-Crisis		−0.83	**	(−2.35)	−0.22	**	(−2.21)	−0.20		(−1.27)
Influential Stakeholder Orientation × Post-Crisis		−0.70		(−1.49)	−0.81	***	(−7.18)	−0.84	***	(−4.57)
Constant		1.83		(0.42)	0.54		(0.47)	−1.17		(−0.79)
Fama-French Factors		YES			YES			YES		
Firm Controls		YES			YES			YES		
Firm Fixed Effects		YES			YES			YES		
Group comparision:										
Crisis × (Influential Stakeholder Orientation – Shareholder Orientation)	H2a	2.77	(17.46)	[0.00]	−0.22	(0.71)	[0.40]	−0.58	(2.41)	[0.12]
Crisis × (Influential Stakeholder Orientation – Stakeholder Orientation)	H2b	1.97	(27.33)	[0.00]	−0.22	(0.71)	[0.40]	−0.51	(2.30)	[0.13]
Crisis × (Stakeholder Orientation - Shareholder Orientation)		0.80	(1.57)	[0.21]	−0.00	(0.00)	[0.96]	−0.07	(0.92)	[0.34]
The effect of Crisis on each group:										
Crisis + Influential Stakeholder Orientation × Crisis		−3.37	(2.23)	[0.14]	1.80	(6.83)	[0.01]	1.91	(5.96)	[0.02]
Crisis + Stakeholder Orientation × Crisis		−5.34	(6.90)	[0.01]	2.02	(6.39)	[0.01]	2.43	(5.53)	[0.02]
Crisis + Shareholder Orientation × Crisis		−6.14	(10.95)	[0.00]	2.02	(7.39)	[0.01]	2.50	(5.64)	[0.02]
R^2		26%			29%			38%		
Number of observations		19,488			19,488			19,488		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
Prob > F for the Wald test is in square brackets.
* p < .10; ** p < .05; *** p < .01.
Control variables include Post-crisis interactions with CSR measures, Firm Size, Long-Term Debt, Short-Term Debt, Cash Holdings, Book-to-Market, Profitability, Tangible Assets, Dividends, Market Excess Return, SMB, HML, and UMD. Firm Controls include Post-crisis interactions with CSR measures, Firm Size, Long-Term Debt, Short-Term Debt, Cash Holdings, Book-to-Market, Profitability, Tangible Assets, Dividends, Market Excess Return, SMB, HML, and UMD.
Coefficients can be interpreted in percentage points.

confirm that the crisis premium for the Influential stakeholder orientation exceeds that of the Shareholder orientation and the Stakeholder orientation, both at a 1% significance level, while the difference between Stakeholder and Shareholder orientations is not statistically significant. The market-risk evidence is also consistent, as comparisons with the control group indicate that the non-influential stakeholder orientation experiences the largest market risk exposure during the shock, although differences between the Influential stakeholder orientation and the Shareholder and Stakeholder orientations are not statistically significant (see Appendix A5). Importantly, we do not interpret the orientation groups as mutually exclusive or exhaustive representations of firms' CSR portfolios. Instead, they summarize firms' dominant pattern of relative emphasis across stakeholder dimensions, based on where their (non-)influential stakeholder scores fall relative to the subindustry distribution.

Lins et al. (2017) explicitly excluded the Casinos & Gambling subindustry on the grounds that "there is nothing incremental that firms operating in these industries can do to change their score except exit

Table 4
Panel A breaking down salience gap using 2018 scores. Panel B breaking down salience gap using 2019 scores.

	(1)			(2)			(3)		
	Raw Returns			IVOL			Volatility		
Panel A									
Crisis	−5.16	**	(−2.44)	1.80	**	(2.48)	2.29	**	(2.26)
Post-Crisis	0.69	*	(1.73)	0.99	***	(5.37)	1.21	***	(5.03)
Crisis × Influential Stakeholder Claims Score	7.27	***	(6.53)	−1.64	***	(−2.64)	−2.03	*	(−1.97)
Crisis × Non-influential Stakeholder Claims Score	−7.74	***	(−9.77)	2.08	***	(2.80)	2.28	**	(2.21)
Post-Crisis × Influential Stakeholder Claims Score	−1.11	*	(−1.74)	−0.88	***	(−4.02)	−1.05	***	(−3.33)
Post-Crisis × Non-influential Stakeholder Claims Score	0.03		(0.04)	1.66	***	(8.20)	1.92	***	(7.05)
Firm Controls									
Firm Size	−0.08		(−0.17)	−0.03		(−0.22)	0.22		(1.26)
Long-Term Debt	0.13		(0.11)	1.25	***	(4.31)	1.47	***	(5.17)
Short-Term Debt	2.38		(0.89)	−0.48		(−0.71)	0.52		(0.66)
Cash Holdings	0.10		(0.57)	0.07	*	(1.83)	0.04		(1.24)
Book-to-Market	0.01		(0.01)	−0.16		(−1.36)	−0.27	*	(−1.83)
Profitability	−5.00	*	(−1.88)	−1.52	**	(−2.07)	−0.11		(−0.13)
Tangible Assets	−0.68		(−0.50)	−0.39		(−1.08)	−1.40		(−1.58)
Dividends	0.02		(0.39)	−0.05	***	(−3.99)	−0.04	***	(−3.88)
Fama-French Factors									
Market Excess Return	76.78	***	(6.71)				−1.47		(−0.16)
SMB	31.83		(1.46)				−8.60		(−0.55)
HML	4.82		(0.26)				−38.17	*	(−1.79)
UMD	−33.83	*	(−1.95)				−30.18	**	(−2.38)
Constant	1.54		(0.36)	2.05	*	(1.89)	0.51		(0.38)
Firm Fixed Effects	YES			YES			YES		
R^2	25%			29%			38%		
Number of observations	19,176			19,176			19,176		
Panel B									
Crisis	−5.99	***	(−2.99)	1.97	***	(2.69)	2.37	**	(2.34)
Post-Crisis	0.76	*	(1.94)	1.07	***	(5.60)	1.25	***	(5.15)
Crisis × Influential Stakeholder Claims Score	8.29	***	(9.94)	−1.66	***	(−2.62)	−2.06	**	(−2.04)
Crisis × Non-influential Stakeholder Claims Score	−7.28	***	(−7.75)	1.81	**	(2.36)	2.17	**	(2.15)
Post-Crisis × Influential Stakeholder Claims Score	−1.49	**	(−2.16)	−1.15	***	(−5.34)	−1.23	***	(−3.92)
Post-Crisis × Non-influential Stakeholder Claims Score	0.29		(0.35)	1.74	***	(9.02)	1.99	***	(7.35)
Firm Controls									
Firm Size	−0.10		(−0.21)	0.03		(0.20)	0.28		(1.57)
Long-Term Debt	0.18		(0.15)	1.17	***	(4.08)	1.38	***	(4.97)
Short-Term Debt	1.94		(0.72)	0.16		(0.26)	1.04		(1.43)
Cash Holdings	0.08		(0.43)	0.07	*	(1.76)	0.04		(1.03)
Book-to-Market	−0.01		(−0.02)	−0.06		(−0.56)	−0.16		(−1.16)
Profitability	−5.08	*	(−1.96)	−1.07		(−1.45)	0.51		(0.61)
Tangible Assets	−0.57		(−0.42)	−0.47		(−1.28)	−1.50	*	(−1.69)
Dividends	0.01		(0.22)	−0.04	***	(−3.50)	−0.03	***	(−3.11)
Fama-French Factors									
Market Excess Return	76.83	***	(6.68)				−1.59		(−0.18)
SMB	32.27		(1.47)				−8.60		(−0.55)
HML	5.27		(0.28)				−38.40	*	(−1.81)
UMD	−33.62	*	(−1.91)				−30.45	**	(−2.41)
Constant	1.65		(0.38)	1.51		(1.37)	−0.11		(−0.08)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			29%			38%		
Number of observations	19,488			19,488			19,488		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* $p < .10$; ** $p < .05$; *** $p < .01$.

those industries" (Lins et al., 2017: 1793). We retain this subindustry in our main analyses for two reasons. First, Refinitiv ESG scores are benchmarked against industry peers, [22] so these firms are evaluated relative to other gambling firms rather than to the broader economy; their scores therefore reflect meaningful within-industry variation in CSR performance. Second, our orientation classification uses within-subindustry median splits, which means that casino firms are compared to peers in their own subindustry rather than to the full sample. Nevertheless, to ensure that the inclusion of this subindustry does not drive our results, we re-estimate the Table 2 specification on the subsample excluding the 47 Casinos & Gambling firms. As shown in Appendix A7, the main coefficients are not only robust but actually stronger in this subsample ($\beta = 7.94$, $p < .01$ for returns; $\beta = -1.98$, $p < .01$ for IVOL; $\beta = -1.89$, $p < .05$ for volatility), indicating that our findings are not driven by the inclusion of this subindustry.

To further address the concern that our results may be driven by the raw scale of the Salience Gap, we replicate Table 2 using a standardized (z-scored) version of the Salience Gap, mean 0 and standard deviation 1 within the analysis sample. As reported in Appendix A8, the standardized specification yields the same pattern of statistical and economic significance as the main results: a one-standard-deviation increase in the Salience Gap is associated with a 1.39 %-point increase in weekly Raw Returns ($p < .01$), a 0.35 %-point decrease in IVOL ($p < .01$), and a 0.40 %-point decrease in total Volatility ($p < .05$) during the crisis period.

We also assess the sensitivity of our main results to standard-error specification by re-estimating the Table 2 regressions with standard errors clustered at the firm × week level, as serial correlation is also

[22] cf. Refinitiv methodology report of May 2022 https://www.refinitiv.com/content/dam/marketing/en_us/documents/methodology/refinitiv-esg-scores-methodology.pdf).

Table 5
Panel A breaking down influential and non-influential activities using 2018 scores. Panel B breaking down influential and non-influential activities using 2019 scores.

	(1)			(2)			(3)		
	Raw Returns			IVOL			Volatility		
Panel A									
Crisis	−4.34	**	(−2.25)	1.63	**	(2.21)	2.14	**	(2.31)
Post-Crisis	0.42		(1.03)	1.09	***	(6.27)	1.43	***	(6.16)
Crisis × Environmental Score	6.18	***	(3.69)	−1.78	***	(−3.88)	−1.75	**	(−2.61)
Crisis × Product Responsibility Score	1.26		(1.59)	−0.23		(−0.89)	−0.14		(−0.88)
Crisis × Community Score	−4.84	***	(−12.17)	0.78	*	(1.84)	1.49		(1.25)
Crisis × Human Rights Score	−2.72	***	(−6.68)	0.98	**	(2.59)	1.04	***	(3.52)
Crisis × Workforce Score	−1.42	*	(−1.83)	0.87	***	(3.24)	−0.12		(−0.18)
Post-Crisis × Environmental Score	−1.44	**	(−2.12)	−0.69	***	(−3.64)	−0.42	**	(−2.25)
Post-Crisis × Product Responsibility Score	0.20		(0.38)	−0.39	***	(−3.74)	−0.48	***	(−4.66)
Post-Crisis × Community Score	0.81		(1.49)	0.05		(0.34)	0.31		(0.84)
Post-Crisis × Human Rights Score	0.03		(0.06)	0.93	***	(9.24)	1.10	***	(8.92)
Post-Crisis × Workforce Score	−0.32		(−0.35)	0.75	***	(5.51)	0.17		(0.50)
Firm Controls									
Firm Size	−0.21		(−0.44)	0.03		(0.24)	0.27	*	(1.73)
Long-Term Debt	−0.09		(−0.08)	1.34	***	(4.55)	1.38	***	(5.58)
Short-Term Debt	1.89		(0.69)	−0.18		(−0.29)	0.47		(0.63)
Cash Holdings	0.06		(0.33)	0.08	**	(2.00)	0.04		(1.11)
Book-to-Market	0.01		(0.03)	−0.17		(−1.46)	−0.22		(−1.52)
Profitability	−5.60	*	(−1.92)	−0.69		(−0.92)	0.33		(0.32)
Tangible Assets	−0.10		(−0.08)	−0.74	**	(−2.24)	−1.29	**	(−2.20)
Dividends	0.02		(0.37)	−0.05	***	(−4.05)	−0.05	***	(−4.19)
Fama-French Factors									
Market Excess Return	76.79	***	(6.71)				−1.47		(−0.16)
SMB	31.82		(1.46)				−8.60		(−0.55)
HML	4.80		(0.26)				−38.17	*	(−1.79)
UMD	−33.84	*	(−1.95)				−30.18	**	(−2.38)
Constant	2.45		(0.59)	1.59		(1.48)	−0.01		(−0.00)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			29%			38%		
Number of observations	19,176			19,176			19,176		
Panel B									
Crisis	−5.79	***	(−3.06)	2.00	**	(2.59)	2.39	**	(2.39)
Post-Crisis	0.48		(1.20)	1.26	***	(6.53)	1.59	***	(6.41)
Crisis × Environmental Score	5.01	***	(3.73)	−1.39	***	(−3.85)	−1.35	***	(−2.96)
Crisis × Product Responsibility Score	3.10	***	(5.31)	−0.37		(−1.19)	−0.44	**	(−2.51)
Crisis × Community Score	−3.32	***	(−12.68)	0.48		(1.33)	1.05		(1.04)
Crisis × Human Rights Score	−2.71	***	(−7.28)	1.12	**	(2.51)	1.17	***	(2.72)
Crisis × Workforce Score	−1.41	*	(−1.67)	0.30		(0.90)	−0.23		(−0.32)
Post-Crisis × Environmental Score	−1.64	***	(−2.64)	−0.65	***	(−3.75)	−0.22		(−1.30)
Post-Crisis × Product Responsibility Score	−0.15		(−0.28)	−0.51	***	(−4.55)	−0.60	***	(−5.01)
Post-Crisis × Community Score	0.72		(1.49)	0.04		(0.34)	0.19		(0.58)
Post-Crisis × Human Rights Score	−0.02		(−0.03)	1.13	***	(9.32)	1.36	***	(9.18)
Post-Crisis × Workforce Score	0.20		(0.27)	0.38	**	(2.42)	−0.26		(−0.71)
Firm Controls									
Firm Size	−0.20		(−0.42)	0.06		(0.44)	0.34	*	(1.94)
Long-Term Debt	0.05		(0.04)	1.23	***	(4.22)	1.31	***	(5.30)
Short-Term Debt	1.69		(0.63)	0.34		(0.54)	1.23	*	(1.71)
Cash Holdings	0.07		(0.34)	0.05		(1.33)	0.00		(0.06)
Book-to-Market	−0.02		(−0.04)	−0.06		(−0.49)	−0.11		(−0.82)
Profitability	−5.34	*	(−1.91)	−0.31		(−0.40)	0.85		(0.84)
Tangible Assets	−0.24		(−0.19)	−0.70	**	(−2.03)	−1.40	**	(−2.19)
Dividends	0.02		(0.40)	−0.05	***	(−3.88)	−0.05	***	(−3.94)
Fama-French Factors									
Market Excess Return	76.83	***	(6.68)				−1.59		(−0.18)
SMB	32.26		(1.47)				−8.59		(−0.55)
HML	5.25		(0.28)				−38.39	*	(−1.80)
UMD	−33.63	*	(−1.91)				−30.44	**	(−2.41)
Constant	2.44		(0.57)	1.19		(1.07)	−0.77		(−0.55)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			29%			38%		
Number of observations	19,488			19,488			19,488		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* $p < .10$; ** $p < .05$; *** $p < .01$.

expected to happen within weeks and firms. The Crisis × Salience Gap coefficient remains statistically significant across all three outcome variables ($\beta = 7.35$, $p < .01$ for returns; $\beta = -1.85$, $p < .05$ for IVOL; $\beta = -2.11$, $p < .05$ for volatility), confirming that our findings are not driven by the choice of clustering level (see Appendix A9).

Moreover, we test whether our results are robust to other measures of stock risk and find that they are not affected by potential measurement issues related to *IVOL* using the four-factor model. We find similar results employing the *IVOL* measure based on the market model and using the extended Fama-French model (Carhart, 1997). Following Fahlenbrach et al. (2021), we alternatively define a wider market shock period, from February 3, 2020, until March 23, 2020, and find consistent results.

Finally, we run a normal difference-in-differences model using firms with CSR scores lower than the industry median as a control group and find robust results. Although this binary classification leads to a loss in information contained in the scores and therefore affects the statistical power of the model, we find significant coefficients for both *Raw Returns* and *IVOL* at, at least, a 5% threshold, while *Volatility* coefficients drop just below the ten percent threshold. Results are similar using both 2018 and 2019 scores.

5. Discussion and conclusion

We analyze how different stakeholder orientations drive the relationship between CSR and financial performance during an exogenous market shock. Our results contribute to stakeholder salience theory highlighting the association between stakeholder orientation and distinct insurance-like strategies. Companies that invest in CSR activities focusing on influential stakeholder claims protect the firm's value, whereas responding to non-influential claims does not. While non-influential stakeholder orientations may serve as an insurance strategy against internally generated crises, our results indicate that they fail to insure against exogenous shocks. Drawing on stakeholder salience theory (Mitchell et al., 1997), we classify firms based on which CSR activities they prioritize and how these align with influential stakeholder attributes. By shifting the focus from broad CSR engagement, our framework provides a more precise understanding of when and how CSR mitigates stock market risk during exogenous shocks.

We find that companies following an influential stakeholder orientation show a more effective insurance strategy and perform better in terms of stock returns and stock risk than firms pursuing other orientations; in particular those companies that emphasize shareholder returns at the expense of CSR investments, those that diversify their investments across all CSR dimensions, and those that follow a selective stakeholder orientation but invest only on non-influential activities. In fact, we document that the group of firms following an *Influential Stakeholder Orientation* was the only one not being significantly impacted by the Covid-19 stock market shock. While few studies have connected salience and stakeholder influence to financial performance (e.g., Laplume et al., 2008; Derry, 2012), the most notable empirical work (Agle et al., 1999) finds no effect. Our research addresses this gap, providing evidence that an influential stakeholder orientation positively correlates with financial performance and protects the firm's value, particularly during exogenous shocks, whereas other orientations correlate negatively.

Our findings provide further insight into the ongoing debate on the insurance role of CSR, emphasizing how it depends on the influence of stakeholder claims rather than the categorization of stakeholders as primary or secondary. While previous studies (e.g., Godfrey et al., 2009; Jia et al., 2020) have reported conflicting results regarding whether primary or secondary stakeholders benefit more from CSR, our results suggest that salience of influential stakeholder claims is a more critical determinant of financial outcomes during exogenous shocks.

Interestingly, we find that firms following a *Shareholder Orientation* and a *Stakeholder Orientation* have very similar negative financial performances, suggesting that both insurance strategies are equally weak in mitigating market risk during exogenous shocks. Therefore, consistent with stakeholder salience theory (e.g., Agle et al., 1999), the insurance-like effect of CSR performance on financial performance is contingent on the influence of stakeholder claims.

These findings have several practical implications. First, they inform managers responsible for defining and designing CSR activities and investments. As the insurance effect of CSR activities on financial performance is conditional on changing external conditions (Barnett, 2007; Rivoli and Waddock, 2011; Durand et al., 2019), managers need to define effective and context-dependent CSR activities. Corporate risk managers might need to focus on influential claims and, more importantly, assess the probability of a claim becoming influential. Second, our work is also useful to regulators, NGOs, and other stakeholders to understand the stakeholder-firm relationship. More specifically, by estimating the influence of a claim, they can infer when pressures on managers will be addressed and deploy resources accordingly. For executive education, this highlights stakeholder prioritization, that is, assessing the relative influence of competing claims, as a core managerial skill, potentially more useful than treating CSR as uniformly beneficial or classifying stakeholders by type.

Several limitations are to be acknowledged. First, our analysis focuses on a single, highly exposed industry—Travel and Leisure—during the Covid-19 pandemic. While this setting offers strong internal validity and enables a sharper identification of stakeholder influence in a context where stakeholder claims are particularly consequential, it limits the generalizability to other industries and crises with different economic, institutional, or demand-side characteristics. Second, Covid-19 represents a tailed risk, high-impact, exogenous shock with distinct features compared to financial crises or firm-specific adverse events; the mechanisms through which stakeholder influence affects firm resilience may therefore differ in settings involving endogenous shocks, regulatory crises, or slower-moving disruptions. Future research could therefore examine how the relative importance of high-impact exogenous shocks compares to the cumulative effects of more frequent, firm-made shocks. Third, although we implement multiple validation and robustness checks—including alternative operationalizations of salience and influence and validations using firms' CSR communications—our classification of influential versus non-influential claims is inherently context-specific and may vary across industries and over time as stakeholder attributes shift. We therefore encourage further research to explore the dynamic nature of stakeholders' influence and its implications across different ownership structures, industries, regulatory and institutional contexts, and types of crises. Finally, while our results highlight that a non-influential stakeholder orientation is the least effective configuration in terms of crisis insurance, firms invest in CSR for reasons beyond risk mitigation, including ethical considerations, or managerial and shareholder social preferences (Hart and Zingales, 2022). Our design does not allow us to disentangle instrumental versus normative motives for CSR engagement, and we therefore refrain from interpreting the

observed CSR configurations as reflecting purely insurance-driven choices. Future research could explicitly examine how underlying CSR motivations shape stakeholder orientations and when such motivations align with, or diverge from, shareholder-value considerations.

Appendix A1. Sample Construction

Table A1.1
Sample construction funnel.

Step	N	Δ	Description
1. Refinitiv ESG T&L universe (2002–2020)	291	—	Full Refinitiv T&L universe across the entire coverage history.
2. With 2019 ESG pillar scores	229	−62	Excludes firms without ESG pillar scores for 2019 (mostly delisted, acquired, or merged before 2019; e.g., British Airways → IAG 2011, Tim Hortons 2014, Starwood → Marriott 2016).
3. Matched with Compustat identifier	211	−18	Excludes firms with no Compustat identifier in the merged analysis dataset.
4. With Compustat weekly stock data	194	−17	Excludes firms lacking stock price data (to compute return, IVOL, and volatility) for the 2019–2020 analysis period.
5. With Compustat annual financial controls	192	−2	Excludes firms without Compustat annual accounting data needed for control variables (firm size, leverage, cash, profitability, tangibility, dividends).
6. Balanced panel (final sample)	191	−1	Excludes firms not observed across all three crisis periods (pre-crisis, market crash, recovery).

Table A1.2
Industry and region coverage prior to and after the match.

Subindustry	Refinitiv universe (291)	With 2019 ESG (229)	Final sample (191)
Panel A: Subindustry			
Airlines	55 (18.90%)	47 (20.52%)	40 (20.94%)
Casinos & Gambling	71 (24.40%)	55 (24.02%)	47 (24.61%)
Hotels & Motels	30 (10.31%)	24 (10.48%)	21 (10.99%)
Leisure Facilities	65 (22.34%)	46 (20.09%)	36 (18.85%)
Restaurants & Bars	70 (24.05%)	57 (24.89%)	47 (24.61%)
Total	291 (100%)	229 (100%)	191 (100%)
Panel B: Region			
North America	118 (40.55%)	83 (36.24%)	57 (29.84%)
Europe	82 (28.18%)	62 (27.07%)	57 (29.84%)
Asia	54 (18.56%)	51 (22.27%)	45 (23.56%)
Oceania	22 (7.56%)	19 (8.30%)	18 (9.42%)
Latin America	10 (3.44%)	9 (3.93%)	9 (4.71%)
Africa	5 (1.72%)	5 (2.18%)	5 (2.62%)
Total	291 (100%)	229 (100%)	191 (100%)

Notes: Table A1.1 presents the sample construction funnel from the initial Refinitiv ESG T&L universe to the final regression sample. Table A1.2 reports the industry (Panel A) and region (Panel B) composition at each stage. "Refinitiv universe (291)" is the full Refinitiv T&L universe across all coverage years (2002–2020). "With 2019 ESG (229)" restricts to firms with non-missing ESG pillar scores for 2019. "Final sample (191)" applies all data requirements (Compustat stock and annual data, balanced panel across the three crisis periods). Country information was missing for a small number of firms in the Refinitiv database; we manually classified these firms based on their ISO country code and headquarters location.

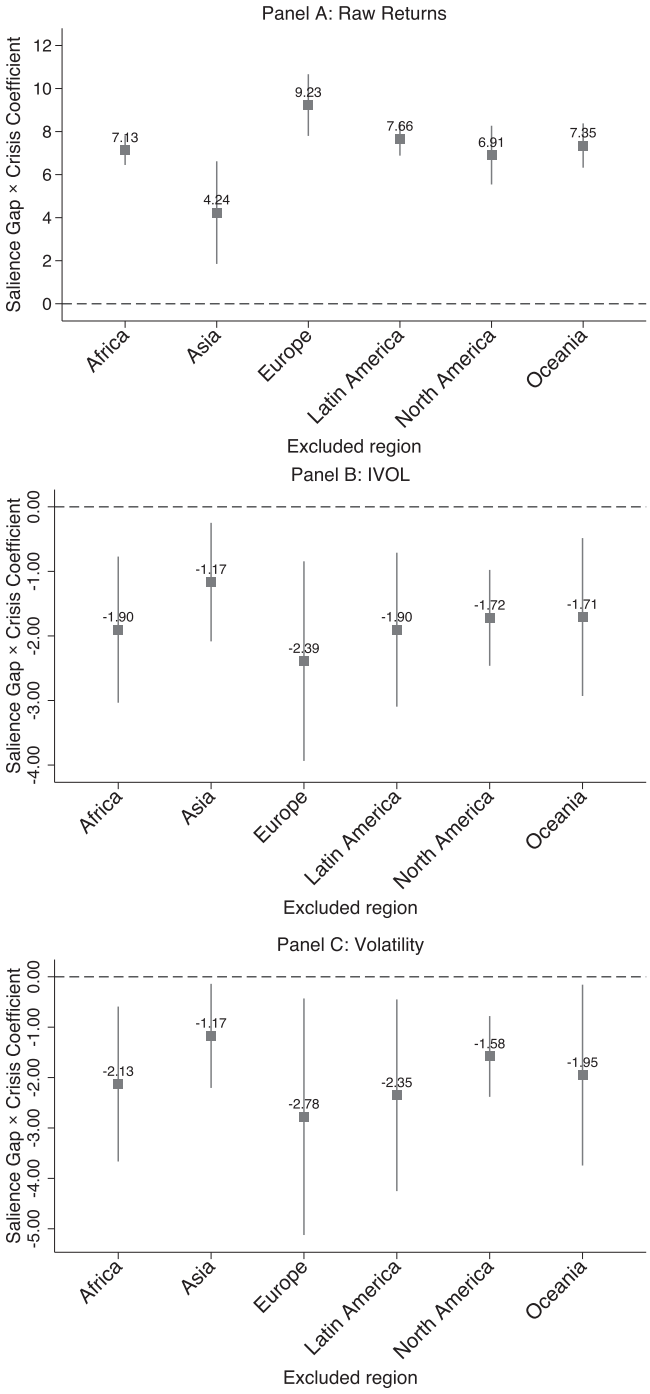
Appendix A2. Examples of tweet categorization (two tweets of the first firm in our sample)

Company	*Time/ Date*	*Text*	*Reply/ Quotes*	*Repost*	*Like*	*Stakeholder*	*Influential*
Air France-Klm	Mar 8, 2020	Proud to promote women in Engineering & Maintenance business. From EVP to highly skilled technicians, diversity is omnipresent at @AirFranceKLM. Being a responsible Group & promoting diversity is key for our 85,000 employees. #IWD2020 @AFIKLMEM More 👉 http://bit.ly/2uYkzq2	3	9	19	Workforce	Non-Influential
Air France-Klm	Mar 3, 2020	Today, #AirFranceKLM Group's CEO Ben Smith has been appointed @A4Europe 2020 Chairman 🛩 EU "I'm honored to represent Europe's finest airlines in contributing to the future ambitions of our sector. It's a milestone year for us & a turning point towards more sustainable aviation"	2	21	47	Environment	Influential

Appendix A3. System prompt for tweet categorization

SYSTEM_PROMPT = """You are classifying corporate tweets into stakeholder/CSR categories for academic research.
TASK:
Given a single tweet (text), assign EXACTLY ONE primary label from the list below based on the tweet's MAIN topic.
If multiple topics appear, choose the one most central to the message.
PRIMARY LABELS (choose one):
- NON_CSR
- CUSTOMERS_PRODUCT_RESPONSIBILITY
- ENVIRONMENT
- EMPLOYEES_WORKFORCE
- COMMUNITY
- HUMAN_RIGHTS
- SHAREHOLDERS
- GOVERNANCE
DEFINITIONS / DECISION RULES:
1) NON_CSR:
Business or operational content without CSR relevance (e.g., promotions, routes, openings, traffic updates, earnings announcements without CSR framing, branding, generic thanks).
2) CUSTOMERS_PRODUCT_RESPONSIBILITY:
Customer safety, health, service quality, data privacy, consumer protection, responsible marketing, hygiene, food safety, responsible gambling, passenger safety.
3) ENVIRONMENT:
Environmental sustainability, emissions, climate change, energy use, waste, recycling, water, biodiversity, green innovation.
4) EMPLOYEES_WORKFORCE:
Hiring or layoffs, wages, benefits, training, wellbeing, workplace safety, labor relations, diversity & inclusion when framed as workforce policies.
5) COMMUNITY:
Local community engagement, philanthropy, donations, volunteering, disaster relief, support for local charities or social causes not specific to customers.
6) HUMAN_RIGHTS:
Human rights in operations or supply chains: modern slavery, child or forced labor, trafficking, indigenous rights, explicit human-rights commitments.
7) SHAREHOLDERS:
Shareholder-focused content such as dividends, stock performance, investor communications, capital allocation, AGM announcements, shareholder value.
8) GOVERNANCE:
Corporate governance topics: board structure, executive compensation, ethics, compliance, anti-corruption, gender balance at board/management level, governance policies.
OUTPUT FORMAT (JSON only):
Return a single JSON object with keys:
- "label": one of the PRIMARY LABELS
- "confidence": integer 0–100
- "rationale": <= 20 words
- "needs_review": true/false (true if confidence < 70 OR ambiguous)
IMPORTANT:
- Do not invent information not present in the tweet.
- If vague, choose NON_CSR and set needs_review=true unless clearly CSR-related.
- Always return valid JSON and nothing else."""

Appendix A4. Robustness of Table 2 Analyses to Regional Compositions: Sequential Region Exclusions



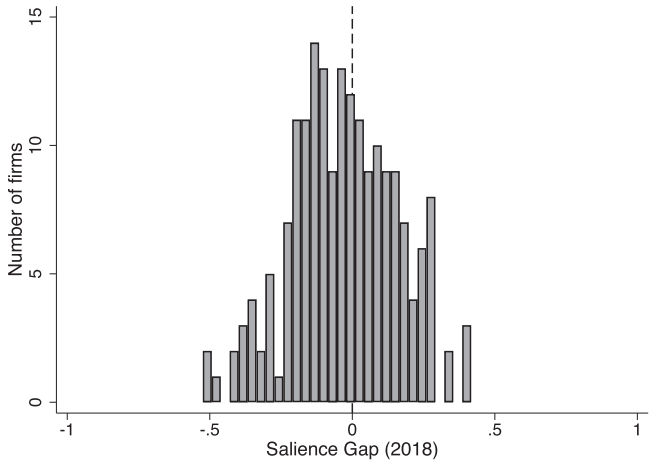
The three figures of Appendix A4 (Panels A–C) summarize the sequential region-exclusion robustness tests by plotting the estimated coefficient on the interaction term Salience Gap × Crisis from the main regression specification of Table 2, separately for raw returns (Panel A), IVOL (Panel B), and Volatility (Panel C). Each point estimate corresponds to a regression in which one geographic region is excluded from the estimation sample. Error bars report 90% confidence intervals (i.e., 10% significance level).

Appendix A5. Robustness of Table 3 Analyses to Orientation Group Cut-offs

	(1)			(2)			(3)		
	Raw Return			IVOL			Volatility		
Panel A Using 2018 Scores									
Crisis	−7.72	***	(−3.76)	2.47	***	(2.68)	2.91	**	(2.40)
Post-Crisis	0.68		(1.53)	1.70	***	(7.12)	1.83	***	(6.44)
Shareholder × Crisis	**1.67**	***	**(6.36)**	**−0.38**	*	**(−1.68)**	**−0.29**	**	**(−2.28)**
Stakeholder × Crisis	**1.93**	**	**(2.37)**	**−0.30**	*	**(−1.77)**	**−0.32**	**	**(−2.40)**
Influential stakeholder × Crisis	**5.11**	***	**(5.73)**	**−0.97**	*	**(−1.92)**	**−1.37**	*	**(−1.68)**
Shareholder × Post-Crisis	−0.18		(−0.54)	−0.32	***	(−3.90)	−0.10		(−1.52)
Stakeholder × Post-Crisis	−0.74	*	(−1.93)	−0.19	*	(−1.85)	0.04		(0.37)
Influential stakeholder × Post-Crisis	−0.62		(−1.32)	−0.91	***	(−6.82)	−1.07	***	(−5.22)
Control Variables	YES			YES			YES		
Firm Fixed Effects	YES			YES			YES		
Comparing the Groups:									
Crisis × (Influential stakeholder - Shareholder)	**3.45**	**−3.74**	**[0.00]**	**−0.59**	**(−1.95)**	**[0.05]**	**−1.08**	**(−1.49)**	**[0.14]**
Crisis × (Influential stakeholder - Stakeholder)	**3.18**	**−5.49**	**[0.00]**	**−0.67**	**(−1.65)**	**[0.10]**	**−1.05**	**(−1.49)**	**[0.14]**
Crisis × (Stakeholder - Shareholder)	0.27	−0.35	[0.73]	0.08	−0.69	[0.49]	−0.03	(−0.35)	[0.73]
The effect of Crisis on each group:									
Crisis + Influential stakeholder × Crisis	−2.6	(−1.44)	[0.15]	1.5	−3.01	[0.00]	1.54	−2.39	[0.02]
Crisis + Stakeholder × Crisis	−5.79	(−2.83)	[0.01]	2.17	−2.48	[0.01]	2.59	−2.33	[0.02]
Crisis + Shareholder × Crisis	−6.05	(−3.04)	[0.00]	2.09	−2.73	[0.01]	2.62	−2.33	[0.02]
R^2	25%			29%			38%		
Number of observations	18240			18240			18240		
Panel B Using 2019 Scores									
Crisis	−7.71	***	(−3.73)	2.62	***	(2.73)	3.02	**	(2.30)
Post-Crisis	0.88	*	(1.81)	1.74	***	(7.14)	1.98	***	(6.19)
Shareholder × Crisis	**1.56**	***	**(4.36)**	**−0.71**	**	**(−2.40)**	**−0.59**	*	**(−1.96)**
Stakeholder × Crisis	**2.35**	***	**(4.59)**	**−0.59**	***	**(−2.79)**	**−0.55**		**(−1.63)**
Influential stakeholder × Crisis	**4.24**	***	**(7.33)**	**−0.64**	*	**(−1.84)**	**−0.93**		**(−1.51)**
Shareholder × Post-Crisis	−0.37		(−0.95)	−0.49	***	(−5.76)	−0.47	***	(−4.23)
Stakeholder × Post-Crisis	−1.05	***	(−2.75)	−0.24	**	(−2.25)	−0.18		(−1.11)
Influential stakeholder × Post-Crisis	−0.82	*	(−1.70)	−0.66	***	(−6.23)	−0.62	***	(−3.57)
Control Variables	YES			YES			YES		
Firm Fixed Effects	YES			YES			YES		
Comparing the Groups:									
Crisis × (Influential stakeholder - Shareholder)	**2.68**	**−4.95**	**[0.00]**	**0.07**	**−0.26**	**[0.79]**	**−0.34**	**(−0.98)**	**[0.33]**
Crisis × (Influential stakeholder - Stakeholder)	**1.89**	**−5.57**	**[0.00]**	**−0.04**	**(−0.17)**	**[0.86]**	**−0.38**	**(−1.23)**	**[0.22]**
Crisis × (Stakeholder - Shareholder)	0.79	−1.51	[0.13]	0.11	−1.28	[0.20]	0.04	−0.52	[0.60]
The effect of Crisis on each group:									
Crisis + Influential stakeholder × Crisis	−3.47	(−1.59)	[0.11]	1.98	−2.8	[0.01]	2.09	−2.56	[0.01]
Crisis + Stakeholder × Crisis	−5.36	(−2.64)	[0.01]	2.03	−2.57	[0.01]	2.47	−2.37	[0.02]
Crisis + Shareholder × Crisis	−6.15	(−3.25)	[0.00]	1.91	−2.59	[0.01]	2.43	−2.27	[0.03]
R^2	25%			29%			38%		
Number of observations	18240			18240			18240		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
Prob > F for the Wald test is in square brackets.
* p < .10; ** p < .05; *** p < .01.
Firm Controls include Post-crisis interactions with CSR measures, Firm Size, Long-Term Debt, Short-Term Debt, Cash Holdings, Book-to-Market, Profitability, Tangible Assets, Dividends, Market Excess Return, SMB, HML, and UMD.
Coefficients can be interpreted in percentage points.

Appendix A6. Distribution Diagram of Salience Gap by Number of Firms



Appendix A7. Robustness to Excluding Casinos & Gambling Firms

	(1)			(2)			(3)		
	Raw Return			IVOL			Volatility		
Panel A Using 2018 Scores									
Crisis	−5.985	***	(−2.97)	2.034	**	(2.59)	2.702	**	(2.29)
Post-Crisis	0.726	*	(1.74)	1.124	***	(5.53)	1.489	***	(5.23)
Crisis × Salience Gap	7.940	***	(11.32)	−1.982	***	(−2.94)	−1.889	**	(−2.36)
Post-Crisis × Salience Gap	−0.533		(−0.66)	−1.393	***	(−5.90)	−1.545	***	(−5.05)
Crisis × CSR Score	0.332		(0.23)	0.371	*	(1.73)	−0.0652		(−0.24)
Post-Crisis × CSR Score	−1.172	*	(−1.72)	0.726	***	(4.84)	0.698	***	(3.71)
Firm Controls									
Firm Size	−0.352		(−0.64)	−0.264		(−1.54)	0.157		(0.75)
Long-Term Debt	1.271		(1.05)	1.101	***	(3.46)	0.822	***	(3.38)
Short-Term Debt	1.595		(0.48)	−0.532		(−0.77)	0.746		(0.85)
Cash Holdings	0.205		(1.30)	0.0668		(1.55)	0.0268		(0.75)
Book-to-Market	−0.0262		(−0.05)	−0.288	**	(−2.26)	−0.333	**	(−2.10)
Profitability	−2.158		(−0.65)	−3.392	***	(−3.74)	−1.403		(−1.42)
Tangible Assets	−0.954		(−0.72)	0.0459		(0.14)	−1.170		(−1.26)
Dividends	0.0238		(0.37)	−0.0529	***	(−3.34)	−0.0213	*	(−1.78)
Fama-French Factors									
Market Excess Return	71.71	***	(6.16)				−1.307		(−0.14)
Small-minus-Big	30.98		(1.38)				−9.884		(−0.60)
High-minus-Low	9.965		(0.46)				−40.13	*	(−1.83)
Up-minus-Down	−36.87	*	(−1.89)				−32.74	**	(−2.47)
Constant	3.742		(0.78)	4.165	***	(2.80)	1.305		(0.78)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			31%			40%		
Number of observations	14392			14392			14392		
Panel B Using 2019 Scores									
Crisis	−6.624	***	(−3.64)	2.192	***	(2.77)	2.694	**	(2.35)
Post-Crisis	0.754	*	(1.85)	1.220	***	(5.79)	1.511	***	(5.42)
Crisis × Salience Gap	8.264	***	(11.01)	−1.801	**	(−2.53)	−1.919	**	(−2.20)
Post-Crisis × Salience Gap	−0.763		(−0.90)	−1.522	***	(−6.68)	−1.664	***	(−5.58)
Crisis × CSR Score	1.312		(1.07)	0.117		(0.55)	0.00190		(0.01)
Post-Crisis × CSR Score	−1.207	**	(−2.08)	0.513	***	(3.53)	0.634	***	(3.65)
Firm Controls									
Firm Size	−0.321		(−0.58)	−0.180		(−1.04)	0.271		(1.24)
Long-Term Debt	1.287		(1.12)	0.852	***	(2.79)	0.580	***	(2.63)
Short-Term Debt	1.161		(0.35)	0.597		(0.89)	1.507	*	(1.84)
Cash Holdings	0.188		(1.21)	0.0448		(1.09)	0.00428		(0.13)
Book-to-Market	−0.0609		(−0.11)	−0.184		(−1.50)	−0.227		(−1.48)
Profitability	−2.224		(−0.70)	−2.663	***	(−2.97)	−0.429		(−0.43)
Tangible Assets	−0.908		(−0.68)	−0.0455		(−0.13)	−1.293		(−1.38)
Dividends	0.0163		(0.26)	−0.0397	**	(−2.57)	−0.00781		(−0.66)
Fama-French Factors									
Market Excess Return	71.88	***	(6.12)				−1.470		(−0.16)
Small-minus-Big	31.58		(1.40)				−9.851		(−0.60)
High-minus-Low	10.45		(0.47)				−40.40	*	(−1.85)

(continued on next page)

(*continued*)

	(1)			(2)			(3)		
	Raw Return			IVOL			Volatility		
Up-minus-Down	−36.52	*	(−1.85)				−33.04	**	(−2.50)
Constant	3.434		(0.72)	3.330	**	(2.24)	0.211		(0.12)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			30%			40%		
Number of observations	14704			14704			14704		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* p < .10; ** p < .05; *** p < .01.

Appendix A8. Replication of Table 2 using A Standardized Salience Gap Measure

	(1)			(2)			(3)		
	Raw Return			IVOL			Volatility		
Panel A Using 2018 Scores									
Crisis	−5.596	***	(−2.84)	2.059	***	(2.63)	2.461	**	(2.36)
Post-Crisis	0.223		(0.65)	1.380	***	(7.43)	1.648	***	(7.31)
Crisis × Salience Gap (Standardized)	1.385	***	(13.31)	−0.349	***	(−2.70)	−0.399	**	(−2.11)
Post-Crisis × Salience Gap (Standardized)	−0.0872		(−0.65)	−0.246	***	(−6.60)	−0.290	***	(−5.51)
Crisis × CSR Score (Standardized)	0.0415		(0.10)	0.0704	*	(1.76)	0.0120		(0.32)
Post-Crisis × CSR Score (Standardized)	−0.285	*	(−1.72)	0.172	***	(5.57)	0.197	***	(5.29)
Firm Controls									
Firm Size	−0.110		(−0.23)	−0.0136		(−0.10)	0.235		(1.36)
Long-Term Debt	0.119		(0.10)	1.263	***	(4.36)	1.487	***	(5.23)
Short-Term Debt	2.347		(0.88)	−0.453		(−0.68)	0.544		(0.70)
Cash Holdings	0.0912		(0.51)	0.0789	*	(1.96)	0.0482		(1.41)
Book-to-Market	0.00657		(0.01)	−0.155		(−1.30)	−0.259	*	(−1.78)
Profitability	−5.030	*	(−1.89)	−1.498	**	(−2.04)	−0.0847		(−0.10)
Tangible Assets	−0.632		(−0.47)	−0.422		(−1.17)	−1.437		(−1.63)
Dividends	0.0185		(0.40)	−0.0494	***	(−4.01)	−0.0413	***	(−3.91)
Fama-French Factors									
Market Excess Return	76.78	***	(6.71)				−1.471		(−0.16)
Small-minus-Big	31.83		(1.46)				−8.602		(−0.55)
High-minus-Low	4.814		(0.26)				−38.17	*	(−1.79)
Up-minus-Down	−33.83	*	(−1.95)				−30.17	**	(−2.38)
Constant	1.765		(0.42)	1.938	*	(1.78)	0.380		(0.28)
Firm Fixed Effects	YES			YES			YES		
R^2	25%			29%			38%		
Number of observations	19,176			19,176			19,176		
Panel B Using 2019 Scores									
Crisis	−5.667	***	(−2.88)	2.076	***	(2.65)	2.467	**	(2.37)
Post-Crisis	0.210		(0.61)	1.381	***	(7.44)	1.648	***	(7.35)
Crisis × Salience Gap (Standardized)	1.455	***	(14.51)	−0.328	**	(−2.45)	−0.398	**	(−2.11)
Post-Crisis × Salience Gap (Standardized)	−0.151		(−1.10)	−0.280	***	(−7.64)	−0.314	***	(−5.92)
Crisis × CSR Score (Standardized)	0.300		(0.86)	0.0141		(0.37)	0.00293		(0.10)
Post-Crisis × CSR Score (Standardized)	−0.304	**	(−2.06)	0.126	***	(4.23)	0.172	***	(4.73)
Firm Controls									
Firm Size	−0.131		(−0.27)	0.0366		(0.28)	0.296	*	(1.66)
Long-Term Debt	0.170		(0.15)	1.178	***	(4.11)	1.385	***	(5.00)
Short-Term Debt	1.886		(0.70)	0.167		(0.26)	1.054		(1.45)
Cash Holdings	0.0686		(0.38)	0.0727	*	(1.83)	0.0401		(1.16)
Book-to-Market	−0.0104		(−0.02)	−0.0601		(−0.53)	−0.158		(−1.13)
Profitability	−5.039	*	(−1.94)	−1.101		(−1.49)	0.470		(0.57)
Tangible Assets	−0.532		(−0.39)	−0.479		(−1.32)	−1.515	*	(−1.71)
Dividends	0.0109		(0.24)	−0.0439	***	(−3.58)	−0.0341	***	(−3.22)
Fama-French Factors									
Market Excess Return	76.83	***	(6.68)				−1.591		(−0.18)
Small-minus-Big	32.27		(1.47)				−8.596		(−0.55)
High-minus-Low	5.262		(0.28)				−38.40	*	(−1.81)
Up-minus-Down	−33.63	*	(−1.91)				−30.45	**	(−2.41)
Constant	1.870		(0.44)	1.430		(1.30)	−0.228		(−0.16)
Firm Fixed Effects	YES			YES			YES		
R^2	26%			29%			38%		
Number of observations	19,488			19,488			19,488		

Standard errors are clustered by week. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* p < .10; ** p < .05; *** p < .01.

Appendix A9. Replication of Table 2 using Firm × Week Clustering of Standard Errors

	(1)		(2)		(3)	
	Raw Return		IVOL		Volatility	
Panel A Using 2018 Scores						
Crisis	−5.459 ***	(−8.03)	1.880 ***	(9.53)	2.379 ***	(9.42)
Post-Crisis	0.719 ***	(3.18)	1.036 ***	(16.31)	1.252 ***	(16.75)
Crisis × Salience Gap	7.346 ***	(4.78)	−1.849 ***	(−3.55)	−2.114 ***	(−3.22)
Post-Crisis × Salience Gap	−0.463	(−0.86)	−1.303 ***	(−8.52)	−1.536 ***	(−8.35)
Crisis × CSR Score	0.169	(0.14)	0.287	(0.76)	0.0491	(0.10)
Post-Crisis × CSR Score	−1.165 ***	(−2.80)	0.704 ***	(5.87)	0.806 ***	(5.63)
Firm Controls						
Firm Size	−0.110	(−0.22)	−0.0136	(−0.10)	0.235	(1.53)
Long-Term Debt	0.119	(0.13)	1.263 ***	(4.86)	1.487 ***	(4.74)
Short-Term Debt	2.347	(0.92)	−0.453	(−0.65)	0.544	(0.69)
Cash Holdings	0.0912	(0.55)	0.0789	(1.55)	0.0482	(0.80)
Book-to-Market	0.00657	(0.01)	−0.155	(−1.17)	−0.259	(−1.64)
Profitability	−5.030	(−1.55)	−1.498 *	(−1.72)	−0.0847	(−0.08)
Tangible Assets	−0.632	(−0.62)	−0.422	(−1.44)	−1.437 ***	(−4.07)
Dividends	0.0185	(0.35)	−0.0494 ***	(−3.37)	−0.0413 **	(−2.22)
Fama-French Factors						
Market Excess Return	76.78 ***	(29.02)			−1.471	(−1.43)
Small-minus-Big	31.83 ***	(7.11)			−8.602 ***	(−5.05)
High-minus-Low	4.814	(0.92)			−38.17 ***	(−18.44)
Up-minus-Down	−33.83 ***	(−9.05)			−30.17 ***	(−21.33)
Constant	1.765	(0.42)	1.938 *	(1.72)	0.380	(0.29)
Firm Fixed Effects	YES		YES		YES	
R^2	25%		29%		38%	
Number of observations	19,176		19,176		19,176	
Panel B Using 2019 Scores						
Crisis	−6.078 ***	(−8.57)	2.011 ***	(9.87)	2.416 ***	(9.23)
Post-Crisis	0.779 ***	(3.31)	1.105 ***	(16.60)	1.281 ***	(16.45)
Crisis × Salience Gap	7.659 ***	(4.94)	−1.727 ***	(−3.48)	−2.098 ***	(−3.52)
Post-Crisis × Salience Gap	−0.792	(−1.57)	−1.476 ***	(−10.13)	−1.654 ***	(−9.43)
Crisis × CSR Score	1.244	(0.99)	0.0585	(0.16)	0.0121	(0.02)
Post-Crisis × CSR Score	−1.260 ***	(−3.02)	0.524 ***	(4.33)	0.713 ***	(4.96)
Firm Controls						
Firm Size	−0.131	(−0.27)	0.0366	(0.28)	0.296 *	(1.92)
Long-Term Debt	0.170	(0.18)	1.178 ***	(4.53)	1.385 ***	(4.40)
Short-Term Debt	1.886	(0.77)	0.167	(0.25)	1.054	(1.38)
Cash Holdings	0.0686	(0.41)	0.0727	(1.43)	0.0401	(0.67)
Book-to-Market	−0.0104	(−0.02)	−0.0601	(−0.46)	−0.158	(−1.01)
Profitability	−5.039	(−1.58)	−1.101	(−1.29)	0.470	(0.47)
Tangible Assets	−0.532	(−0.52)	−0.479	(−1.64)	−1.515 ***	(−4.31)
Dividends	0.0109	(0.21)	−0.0439 ***	(−3.01)	−0.0341 *	(−1.84)
Fama-French Factors						
Market Excess Return	76.83 ***	(29.33)			−1.591	(−1.56)
Small-minus-Big	32.27 ***	(7.27)			−8.596 ***	(−5.08)
High-minus-Low	5.262	(1.02)			−38.40 ***	(−18.71)
Up-minus-Down	−33.63 ***	(−9.06)			−30.45 ***	(−21.66)
Constant	1.870	(0.44)	1.430	(1.27)	−0.228	(−0.17)
Firm Fixed Effects	YES		YES		YES	
R^2	26%		29%		38%	
Number of observations	19,488		19,488		19,488	

Standard errors are clustered at the firm × week level. T-statistics are reported in parentheses. Two-tailed significance tests for coefficients.
* p < .10; ** p < .05; *** p < .01.

Data availability

The authors do not have permission to share data.

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