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How Media Coverage of Corporate Social Irresponsibility Increases Financial Risk

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Research summary: *This article explores the relationship between corporate social irresponsibility (CSI) and financial risk. We posit that media coverage of CSI generates risk by providing conditions that increase the potential for stakeholder sanctions. Through analyzing an international panel of 539 firms during 2008–2013, we find that firms receiving higher CSI coverage face higher financial risk. We show that the reach of the reporting media outlet is a critical condition for this relationship. Once the outlet has a high reach, the severity of CSI coverage is a boundary condition that further reinforces the effect. Our findings complement existing theory about the risk-mitigating effect of corporate social responsibility by illuminating the risk-generating effect of CSI coverage. For executives, these insights suggest complementary strategies for corporate risk management.*

Managerial summary: *This article examines the effect of negative news on financial risk. It shows that negative media articles regarding environmental, social, and governance (ESG) issues increase a firm's credit risk. It also provides a detailed analysis of the impact of an article's reach and severity, i.e., how many readers are exposed to the article and how harshly it criticizes the firm. The results allow to quantitatively assess the risk that emanates from negative ESG news. For executives, three strategies are derived for limiting a firm's exposure to this risk: balancing corporate social responsibility programs with operational safety programs, reporting suboptimal environmental and social performance transparently and proactively, and avoiding acquisition targets and markets with a legacy of negative news.*

Introduction

A recent stream of literature has explored the strategic value of corporate social responsibility (CSR) in the context of risk management. Drawing on instrumental stakeholder theory (Donaldson & Preston, 1995; Jones, 1995), the central proposition is that CSR offers insurance-like protection against stakeholder sanctions (Godfrey, 2005; Godfrey, Merrill, & Hansen, 2009). CSR earns the goodwill of stakeholders, which decreases the impact of stakeholder sanctions in response to negative events, thus reducing financial risk. The insurance analogy offers an elegant explanation for how CSR affects financial performance, and empirical analyses consistently show that CSR has a risk-mitigating effect (Chava, 2014; Cheng, Ioannou, & Serafeim, 2014; Henisz, Dorobantu, & Nartey, 2013; Koh,

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Qian, & Wang, 2013; Sharfman & Fernando, 2008).

Yet, from a broader risk-management perspective, the insurance hypothesis lacks an important theoretical counterpart. Strategic risk management entails two steps: first understanding the process that generates risk, and second choosing an appropriate response strategy (Andersen & Bettis, 2015; Mikes & Kaplan, 2015; Miller, 1992). The insurance hypothesis informs the second step by demonstrating that CSR reduces the impact of stakeholder sanctions. Yet, it falls short of the first step, because it does not investigate the antecedents of stakeholder sanctions. The root of this shortcoming is that many studies do not differentiate CSR from its negative counterpart, corporate social irresponsibility (CSI). CSI is a distinct theoretical construct (Lange & Washburn, 2012; Strike, Gao, & Bansal, 2006), and empirical studies that distinguish between the two constructs reveal that CSI exacerbates risk more strongly than CSR reduces it (Chava, 2014; Goss & Roberts, 2011; Oikonomou & Pavelin, 2014). This suggests that the insurance hypothesis should be extended with an explanation of how risk emerges from CSI.

This article explores how CSI generates financial risk. While information about CSR is commonly self-disclosed in a firm's annual report, information about CSI is usually revealed by the media. We argue that through CSI coverage the media provides several conditions that increase the potential for stakeholder sanctions. CSI coverage draws stakeholder attention to CSI (Barnett, 2014), it coordinates the attention of stakeholders through agenda-setting (Z. Tang & Tang, 2016), and it influences stakeholder's cognitive response to CSI through framing (Lange & Washburn, 2012). We hypothesize that through these mechanisms CSI coverage increases the potential for stakeholder sanctions, resulting in increased financial risk.

Our results are based on quarterly observations of an international sample of 539 firms between 2008 and 2013. We measure CSI coverage with a dataset provided by RepRisk, which contains over 100,000 news articles reporting firm-specific CSI in the environmental, social, labor, and governance domains. We find that, generally, CSI coverage in the media has a positive effect on financial risk. Specifically, we find that CSI coverage with high reach–i.e., articles appearing in the world's leading newspapers–strongly affects financial risk. The severity of the criticism also has a positive effect on financial risk, but only when reported in a media outlet with high reach. We perform several robustness checks as well as an instrumental variable regression to consolidate our findings.

This article makes two central contributions. First, we complement established theory about the insurance effect of CSR (Godfrey, 2005; Godfrey et al., 2009; Koh et al., 2013) with novel theory about the risk-generating effect of CSI. Our insights into the risk-generating effect of CSI coverage provide an improved theoretical understanding of the origins of financial risk in the context of stakeholder management and suggest a range of additional response strategies beyond investing in CSR as insurance. Second, this study evaluates theoretical predictions about stakeholder sanctions at the individual level (Barnett, 2014; Lange & Washburn, 2012) and the stakeholder-network level (Z. Tang & Tang, 2016) in the context of financial risk. We combine these perspectives by analyzing the reach of CSI coverage–which influences the general attention to CSI in a firm's stakeholder network–in conjunction with the severity of CSI coverage–which influences individual stakeholders' likelihood to sanction.

Literature Review

There is a longstanding debate about firms' responsibilities towards society (Bowen, 1953; A. Carroll, 1979), focusing in particular on the relationship between CSR and corporate financial performance. Research on this theme attempts to establish how social norms, markets, and institutions work individually or together in a complex process such that responsible firm behavior converges with profitable firm behavior. Many arguments for a positive relationship between CSR and financial performance are rooted in stakeholder theory (Freeman, 1984). The core argument is that stakeholders are central to a firm's functioning and value creation (Donaldson & Preston, 1995; Jones, 1995) and that CSR positively affects stakeholder relations. Some recent studies (Eccles, Ioannou, & Serafeim, 2014; Flammer, 2015), as well as meta-analyses (Orlitzky, Schmidt, & Rynes, 2003), indicate that there is a positive relationship between CSR and corporate financial performance, but the evidence is not unequivocal (Barnett & Solomon, 2012; Brammer & Millington, 2008).

An important turn in the debate about the economic value of CSR was marked by a shift towards

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financial risk as the dependent variable, rather than financial performance (Godfrey, 2005; Sharfman & Fernando, 2008). In this article, we define financial risk as the expected downwards volatility of a firm's earnings (Bettis, 1983; Miller & Reuer, 1996; Ruefli, Collins, & Lacugna, 1999) and operationalize it as credit risk. According to Godfrey's (2005) insurance hypothesis, CSR creates goodwill among a firm's stakeholders, which then acts as an *insurance policy*. Contingent on a negative event, e.g., an accident, CSR reduces the impact of stakeholder sanctions in response. Godfrey et al. (2009) test the insurance hypothesis and demonstrate that firms with high levels of CSR experience reduced losses after negative events. Koh et al. (2013) extend this finding by showing that CSR mitigates risk *ex ante*, indicating that investors appreciate and value the risk-mitigating potential of CSR even before any negative event. Several additional studies have confirmed that CSR decreases risk (Chava, 2014; Cheng et al., 2014; El Ghoul, Guedhami, Kwok, & Mishra, 2011; Goss & Roberts, 2011; Henisz et al., 2013; Lee & Faff, 2009; Oikonomou & Pavelin, 2014; Sharfman & Fernando, 2008). These studies have made the insurance hypothesis not only an empirical success; they have also positioned CSR in a tractable strategic management framework, since risk is of central concern in corporate strategy (Amit & Wernerfelt, 1990; Andersen & Bettis, 2015; Bettis, 1983; Ruefli et al., 1999). In doing so, the insurance hypothesis has greatly advanced the debate about the economic value of CSR.

However, from a broader risk-management perspective, the insurance hypothesis lacks an important theoretical counterpart. The current focus on CSR as insurance treats the emergence of stakeholder sanctions as a given, while understanding what drives such sanctions in the first place would be crucial to formulating risk-management strategy (Andersen & Bettis, 2015; Mikes & Kaplan, 2015). By analogy, before homeowners arrange for fire insurance, they should first examine the potential fire hazards in their homes. Insurance is only one of many possible risk-management strategies (Miller, 1992), and a manager may choose instead to prevent risk directly (Mikes & Kaplan, 2015) or strategically shift operations to more favorable environments (Belderbos, Tong, & Wu, 2014). Currently, we lack a theoretical understanding of what generates the risk against which CSR can subsequently serve as insurance.

This theoretical gap is partly the result of an unclear distinction between CSR and its negative counterpart, CSI. CSI is defined as the "set of corporate actions that negatively affects an identifiable social stakeholder's legitimate claims" (Strike et al., 2006, p. 852). Many empirical studies focusing on financial risk have combined CSR and CSI into a single construct, e.g., by combining "strength" and "weakness" scores of the Kinder, Lydenberg, and Domini (KLD) dataset into a unitary CSR score. However, such a measure may conflate the initial driver of stakeholder sanctions with its subsequent mitigation measure. Studies that separate the two constructs reveal a striking asymmetry: CSI drives financial risk more powerfully than CSR mitigates it (Chava, 2014; Goss & Roberts, 2011; Oikonomou & Pavelin, 2014). Although these studies isolate CSI empirically, they do not reflect what is theoretically distinct about CSI or explain why it contributes to financial risk. Therefore, we focus explicitly on CSI, and explore the mechanism by which it generates financial risk.

Hypothesis Development

The mechanism we propose rests on the idea that media coverage differentiates between CSR and CSI, and that media coverage of CSI provides conditions that are conducive to stakeholder sanctions. We draw on stakeholder theory to develop this theoretically, defining stakeholders as "any group or individual who can affect or is affected by the achievement of the firm's objectives" (Freeman, 1984, p. 25) with the amendment that the media is an intermediary between stakeholders rather than a stakeholder in itself (Barnett, 2014). With "stakeholder" we refer to an individual, with "stakeholder group" to a group of similar stakeholders, for example a firm's employees, and with "stakeholder network" to the entirety of a focal firm's stakeholders (Rowley, 1997).

Media Coverage of CSI

Our starting point is that CSI is a construct that is attributed to a firm by its observers (Greve, Palmer, & Pozner, 2010; Lange & Washburn, 2012). A firm's actions are not irresponsible per se, but observers may judge a firm's actions as irresponsible and consequently blame the firm for acting irresponsibly. This is also consistent with our definition of CSI: some observer needs to judge

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whether a firm's actions have negatively affected a stakeholder's legitimate claims. This observer can be the stakeholder whose claims are affected, as well as an unaffected commentator, such as a journalist. The point is that CSI is a third party evaluation, which results in a fundamental contrast to CSR regarding the way information is created and distributed. Typically, CSR information is self-disclosed by firms and distributed in CSR reports. CSI information, in contrast, is created by external observers and typically distributed in the media.

This contrast is due to the incentives of stakeholders, firms, and the media itself to create and distribute information. Stakeholders have a strong incentive to highlight CSI that endangers their interests (Barnett, 2014; Baron & Diermeier, 2007). Firms, on the other hand, have an incentive to communicate CSR activities that demonstrate the good character of their organization (Lyon & Maxwell, 2011). The media has an incentive to favor CSI over CSR information, because the human mind perceives negative information as far more interesting than positive information (Rozin & Royzman, 2001). In order to cater to this fundamental human preference, the media has a strong negativity bias (Niven, 2001; Soroka, 2008), and firms struggle to publicize positive CSR information via the media (Illia, Zyglidopoulos, Romenti, Rodríguez-Cánovas, & Brena, 2013). In a recent study of media coverage of labor conditions in the supply chain of apparel firms, negative articles outnumbered positive articles by six to one (Lamin & Zaheer, 2012). In conclusion, the primary information channel for CSI is the media, and we therefore base our theory development on CSI coverage in the media.

We define CSI coverage as the number of news articles per quarter that blame a firm for CSI. In terms of scope, CSI coverage pertains to ecological issues, community relations, labor relations, or corporate governance. Previous studies on CSI and risk (Chava, 2014; Goss & Roberts, 2011; Oikonomou & Pavelin, 2014) have relied on KLD ratings as their measure of CSI. These ratings include media information, but do not specify when, and where the underlying information was reported. In addition, it is not transparent how media information is used in KLD's proprietary rating process (Chatterji, Levine, & Toffel, 2009), making it impossible to draw conclusions about the importance of media coverage within KLD's assessment of CSI. Furthermore, it has been argued that KLD ratings do not always reflect important media coverage of CSI (Entine, 2003), perhaps because the rating agency reserves its own opinion about the media's presentation of events. Our interest, however, is precisely in what the media reports regarding CSI, because this is the information that is effectively available to all stakeholders and can thus explain stakeholder reactions to CSI.

Stakeholder Sanctions and Attention to CSI

A common reaction to CSI are stakeholder sanctions, driven by stakeholders' desire to punish firms and deter firms from actions that they perceive as irresponsible. Stakeholder sanctions come in many forms ranging from the withdrawal of trust and non-cooperation over legal prosecution and lobbying for tighter regulations to boycotts, protests, and sabotage (Baron & Diermeier, 2007; Frooman, 1999). Stakeholder sanctions tend to have a negative effect on a firm's earnings, for example through decreased sales due to a damaged reputation or increased costs due to production delays. In fact, hurting a firm's earnings is a common objective of stakeholder sanctions, in order to obtain leverage over the targeted firm (Lenox & Eesley, 2009). Documented examples of such tangible stakeholder sanctions include environmental groups leading boycotts (Zyglidopoulos, 2002), whistleblowing employees (Dyck, Morse, & Zingales, 2010), and community resistance against mining projects (Henisz et al., 2013). Given that the occurrence of stakeholder sanctions can reduce a firm's earnings, the potential for stakeholder sanctions creates expectations of lower earnings and increases financial risk.

However, the literature dealing with stakeholder behavior has found that while stakeholder sanctions are a common reaction to CSI, their occurrence is not a given (Barnett, 2014; Hoffman & Ocasio, 2001). For example, the 1989 Exxon Valdez oil spill was met with worldwide protests and severe legal consequences for Exxon. The Burmah Agate oil spill in 1979, which was of equal magnitude, was barely noted and had, in comparison to the Exxon Valdez oil spill, very benign consequences for the responsible companies (Hoffman & Ocasio, 2001). A central explanation for this varied response to CSI has been identified in the cognitive limits of stakeholders (Barnett, 2014). Stakeholders have limited attentive capability and cannot constantly

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monitor firms regarding CSI. This implies that only a selection of firm actions that could be viewed as CSI comes to a stakeholder's attention. It furthermore implies that attention to CSI is a necessary condition for a stakeholder to subsequently engage in sanctions.

CSI coverage in the media increases the potential for stakeholder sanctions, by drawing attention to CSI. Because of stakeholders' limited attentive capability, the media is an important channel to provide information about CSI. By highlighting certain firm actions as CSI and drawing stakeholder attention to them, CSI coverage provides an essential condition for stakeholder sanctions to occur against a particular firm. CSI that does not receive media coverage has little chance to be noticed by most stakeholders. Even when a stakeholder already knows about a firm's actions in general, media coverage that identifies those actions as CSI is important to direct a stakeholder's attention towards the irresponsible quality of those actions (Lange & Washburn, 2012). As a result, by drawing stakeholder attention to CSI, CSI coverage generates financial risk. Based on this logic, we hypothesize:

Hypothesis 1: CSI coverage has a positive effect on financial risk.

Agenda-Setting and the Effect of Reach

An important property of CSI coverage is that the mass media draws the attention of many stakeholders to CSI at once. The phenomenon that media coverage coordinates the attention of communities on certain issues is known as agenda-setting (McCombs & Shaw, 1972). While agenda-setting theory is traditionally applied to the agenda of political elites, agenda-setting has recently been integrated with stakeholder theory (C. E. Carroll, 2010; Z. Tang & Tang, 2016). Z. Tang and Tang (2016) have also shown that CSI coverage coordinates and focuses the attention of various stakeholder groups on a particular CSI issue at a particular firm.

The extent to which CSI coverage is able to achieve agenda-setting depends on the reach of the media outlet that reports CSI. Because of its large readership, CSI coverage in the *New York Times* will have a stronger agenda-setting effect than the same CSI coverage in a small, local newspaper. For multinational firms, the geographic reach of a media outlet also increases the agenda-setting effect of its CSI coverage. This is because the various stakeholders of a multinational firm are spread out around the world, and different stakeholder groups often reside in different locations. CSI coverage in the *New York Times* has a strong agenda-setting effect in this context, because it has a highly international readership and can therefore reach members of an international stakeholder network. Thus, we define the reach of a media outlet as the extent to which its CSI coverage can reach a multinational firm's stakeholder network.

Agenda-setting increases the potential impact of stakeholder sanctions. The more stakeholders within a firm's stakeholder network that pay attention to a firm's CSI, the larger is the pool of stakeholders that may decide to sanction the firm. Boycotts, for example, are harmless when carried out by a small group of activists. However, when large numbers of regular customers refuse to buy a firm's products, the impact on sales can be detrimental (Frooman, 1999). Similarly, regulators are more likely to tighten regulations when large numbers of stakeholders demand tighter regulations (Henisz et al., 2013). Through agenda-setting, the reach of CSI coverage determines the number of stakeholders who pay attention to a certain CSI issue at a certain time, and therefore increases the potential impact of stakeholder sanctions on expected earnings. As a result, the reach of CSI coverage increases financial risk, leading us to hypothesize:

Hypothesis 2: The reach of CSI coverage has a positive effect on financial risk.

CSI Attribution and the Influence of Severity

CSI coverage does not merely draw stakeholders' attention to CSI. By framing firm actions in a more or less negative way, CSI coverage also guides stakeholders' initial cognitive response to CSI. The cognitive process that is triggered by CSI coverage has been described as an attribution process (Lange & Washburn, 2012), during which a recipient evaluates whether a firm deserves blame and punishment for its actions. This evaluation is a critical input in deciding whether or not to carry out sanctions (Barnett, 2014).

A CSI attribution relies on an interpretive frame that explains why a firm deserves blame for CSI. The three core elements of this interpretive frame are the assertions that harm has been done, that a

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firm caused it, and that the firm acted irresponsibly when causing the harm (Lange & Washburn, 2012). Each of these three elements is open to interpretation. First, it is not necessarily clear what constitutes harm, or how significant it is (Barnett, 2014; Hoffman & Ocasio, 2001; Shaver, 1985). Second, whether a firm actually caused harm is, in many cases, impossible to establish beyond doubt (Shaver, 1985). Third, the claim that a firm has acted irresponsibly rests on assumptions that the firm had the capacity to act differently (Shaver, 1985). A CSI attribution thus relies on an interpretive frame that asserts each of these three elements to support the conclusion that the firm deserves blame and punishment.

We define the severity of CSI coverage as the strength of this interpretive frame. CSI coverage is less severe when news editors defuse the interpretive frame by downplaying harm or questioning a firm's culpability. It is more severe, when they adopt or even emphasize the interpretive frame, stating that a firm has directly and recklessly caused significant harm. As a result, the severity of CSI coverage also increases the potential impact of stakeholder sanctions. More severe CSI coverage leads to a more decisive CSI attribution, motivating stakeholders to sanction more harshly. In this way, the severity of CSI coverage increases the potential impact of stakeholder sanctions on expected earnings, resulting in greater financial risk. Thus, we hypothesize:

Hypothesis 3: The severity of CSI coverage has a positive effect on financial risk.

The Reinforcing Effect of Reach and Severity

The severity of CSI coverage and the reach of CSI coverage are not independent in their effect on financial risk. Greater reach leads to greater numbers of stakeholders who pay attention to CSI; severity increases the motivation of those stakeholders to carry out sanctions. We therefore expect that these variables reinforce each other in their effect on financial risk, so that the combination of reach and severity has an additional positive effect on financial risk that goes beyond the sum of the individual effects. Based on this, we hypothesize a positive effect for an interaction between reach and severity of CSI coverage:

Hypothesis 4: The interaction of the reach and the severity of CSI coverage has a positive effect on financial risk.

Data and Methodology

We tested our hypotheses using a panel dataset of quarterly firm observations. The tests are based on a sample of listed multinational firms which issue publicly traded debt and are covered by the database of the Swiss company RepRisk AG. This resulted in an initial sample of 969 firms. From this initial sample, we excluded the financial sector as well as all government-owned enterprises: in both cases, there is concern that the backing of a sovereign state distorts the true level of risk that the firm is exposed to (El Ghoul et al., 2011; Oikonomou & Pavelin, 2014). This resulted in a sample of 539 firms domiciled in 38 different countries, for all of which we could obtain a measure of financial risk and CSI coverage. We observed every quarter between 2008 and 2013 for those 539 firms, yielding an unbalanced panel of 9,939 firm-quarter observations.

Financial Risk

This study operationalizes *financial risk*[1] by focusing on credit risk, similar to many other studies in this field (Goss & Roberts, 2011; Koh et al., 2013; Sharfman & Fernando, 2008). Credit risk reflects the compensation required by investors to bear the risk that a firm's debt repayments may not be made as promised (Fabozzi, Modigliani, & Jones, 2010). Credit risk is an ex ante measure of downside risk, given that debt repayments occur in the future and can only be lower, but never higher than expected (Merton, 1974). Furthermore, credit risk reflects the expected downside volatility of earnings, given that increased uncertainty about a firm's earnings calls into question the firm's ability to repay debt on schedule.

Credit risk is observable in a large financial market that specializes in assessing corporate credit risk. Credit risk is traded and priced in credit default swaps (CDS), which are widely used in the financial literature (O'Kane & Sen, 2005). CDS spreads are popular among researchers because they provide an accurate and timely measure of the

[1] Variable names appear italicized once, when the variable is defined.

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market perception of a firm's credit risk that is free of confounding factors, such as the economy-wide interest rate or country-specific tax arrangements (Focardi & Fabozzi, 2004). We obtained the time series of CDS spreads for individual firms in our sample from Thomson Reuters.

CDSs are traded derivatives on the underlying credit performance of a specific borrower, and represent, in principle, an insurance against default (Fabozzi et al., 2010). In the case of a credit event, the seller of a CDS needs to reimburse the buyer for the loss caused by that event. In return for bearing this risk, the buyer pays an annual premium, or a so-called "spread," to the seller. This CDS spread indicates the credit risk associated with all the outstanding debt of the underlying firm.

We chose the 5-year CDS because it is the most liquid and, therefore, the most accurately priced. For each firm and each quarter, we used the quoted CDS spread occurring at the end of the quarter. This ensures that the dependent variable was always measured after all articles counted in CSI coverage had been published. As the distribution of CDS spreads has a heavy right-hand tail, we took the natural logarithm of CDS spreads, which yielded a normally distributed dependent variable.

CSI Coverage

We constructed the measure *CSI coverage* by counting the number of media articles that provide coverage of CSI per firm and per quarter. This measure is based on data provided by RepRisk AG, a business intelligence provider specializing in dynamic environmental, social, and governance risk analytics and metrics. Using a big data approach, RepRisk systematically screens a broad range of media, stakeholder, and other third-party sources in 15 languages on a daily basis. RepRisk identifies news items that criticize companies for CSI issues such as environmental degradation, human rights abuses, and corruption. RepRisk does not assess the truthfulness of accusations and allegations: the data is based only on what the media and external stakeholders report.

The RepRisk search methodology is guided by a scope of 28 pre-defined issues, listed in Table 1. These issues are organized in five categories: environmental footprint, community relations, employee relations, corporate governance, and general issues. Issues within the last category are only used in conjunction with an issue from the other categories. This scope was defined in accordance with international standards and norms, including the UN Global Compact's Ten Principles, the Universal Declaration of Human Rights, the Conventions of the International Labour Organization (ILO), the UN Convention against Corruption, the World Bank Environmental, Health, and Safety Guidelines, and the Organization for Economic Co-operation and Development (OECD) Guidelines for Multinational Enterprises.

RepRisk has strict rules-based processes in place to ensure consistent and systematic data collection.

Table 1
The Scope of Considered Corporate Social Irresponsibility Issues

Category	Issue
Environmental footprint	Global pollution and climate change
	Local pollution
	Impacts on ecosystems and landscapes
	Overuse and wasting of resources
	Waste issues
	Animal mistreatment
Community relations	Human rights abuses, corporate complicity
	Impacts on communities
	Local participation issues
	Social discrimination
Employee relations	Forced labor
	Child labor
	Freedom of association and collective bargaining
	Discrimination in employment
	Health and safety issues
	Poor employment conditions
Corporate governance	Corruption, bribery, extortion, money laundering
	Executive compensation
	Misleading communication, e.g. greenwashing
	Fraud
	Tax evasion
	Anti-competitive practices
General	Controversial products and services
	Product-related health and environment issues
	Violation of international standards
	Violation of national legislation
	Violation of national standards
	Supply chain

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The analysis is done in two steps. First, automated search algorithms screen over 80,000 publicly available sources for news items that criticize a specific firm for one of the issues within the scope. Second, trained analysts read and summarize the news item and enter it into the database, linking it to the firm being criticized, the stakeholder who reported criticism, and to the issues to which the criticism pertained. If the same news story appears in multiple sources, the story is taken from the most influential source. Every news story is only entered once into the database, unless there is a development in the story, the story reappears in a more influential source, or the same story appears again after 6 weeks. During the entire sampling period of this study, the described data has been collected consistently according to this methodology.

The collection of media data underlying these variables is undertaken by RepRisk analysts as a professional service for banks and investors. RepRisk strongly emphasizes the consistency and reliability of its methodology, as the company needs to be able to justify every decision vis-à-vis its clients, who can easily monitor RepRisk's research quality by comparing their database with the media stories of a randomly selected firm. To ensure consistency, the rules for article selection and the assignment of reach and severity are specified in a detailed manual that guides the analysis process at RepRisk. Furthermore, all database entries are double-checked by a senior analyst, to ensure consistency with this manual. Any controversial cases are escalated to the head of research, to ensure consistency even in the most difficult cases. To assure ourselves of the data quality, we conducted additional, independent searches in news databases and the web for a subset of 10 randomly chosen firms. We were unable to identify any missing stories or questionable categorizations for these firms during the sample period.

Reach and Severity of CSI Coverage

In addition to identifying news items, RepRisk provides an assessment of the reach of the source for each news item, as well as of the severity of the criticism. The reach of CSI coverage describes the potential audience that a given media article could reach, based on the reporting medium's circulation and geographic range. Articles are categorized in three levels of reach. High reach includes global news outlets with a strong international presence, namely the *Financial Times*, the *Wall Street Journal*, the *South China Morning Post*, the *New York Times*, the BBC, CNN International, *Forbes*, the *International Herald Tribune*, the *Economist*, and *Fortune* magazine. Medium reach includes print media of national or regional importance with a circulation of at least 150 k. Low reach includes local newspapers with a circulation of less than 150 k.

The severity of CSI coverage refers to the harshness of the criticism. All news items collected by RepRisk criticize the focal company to some extent for CSI. However, depending on the extent to which the article endorses the opinion of affected stakeholders and frames the actions and intentions of the firm, this criticism is more or less severe. Importantly, the assessment of severity is based exclusively on the text of an article and may even include accusations that are misleading. This is consistent with our focus on the interpretive frames that stakeholders receive when they read an article, rather than on the objective underlying event or situation.

Articles are categorized in three levels of severity: high severity, medium severity, and low severity. Assignment to these categories is based on three equal-weighted subcategories: the extent of negative consequences, the extent of culpability, and the extent of irresponsibility. These subcategories correspond closely to the factors that affect the attribution of CSI identified by Lange and Washburn (2012). This is furthermore consistent with the foundations of attribution theory, according to which the extent of attributions tends not to resemble an unidimensional Guttman scale, but rather a combination of several interrelated constructs (Shaver, 1985). All three subcategories are defined specifically for each of the 28 issues that guide the scope of CSI coverage. The first subcategory, extent of negative consequences, indicates the amount of suffering or damage that is reported. For the issue "health and safety," for example, negative consequences for workers are classified into minor injury, major injury, and death. The second subcategory, extent of culpability, indicates the extent to which the negative consequences are linked to the firm's actions and intentions. For the example of "local pollution," the degree of culpability distinguishes whether negative consequences arose due to an accident, negligence, or systematic malpractice. The third subcategory, extent of irresponsibility, indicates whether the firm could have acted differently by comparing the firm's actions to industry norms that are characteristic of the respective issue.

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For the example of "corruption," the amount of money that the firm is reported to have paid out in bribes is compared to the prevailing norms in the market in which it operates. Corruption is then classified as being within prevailing norms, at the limit of norms, or in violation of norms. Based on these three equal-weighted subcategories, every news article is assigned to one of the three levels of severity.

Reach and severity are used in the regression analysis in two alternative specifications. First, we calculated the *average reach* and *average severity* of the articles counted in CSI coverage for every firm-quarter. To this end, the three levels of reach and severity were linearized, assigning the numerical value 1 for the low level, 2 for the medium level, and 3 for the high level. These numerical values were then averaged over the amount of news per firm-quarter, yielding values that describe average characteristics of a given amount of CSI coverage. As averages are not defined when the amount of news per firm-quarter is zero, this approach leads to a number of missing values. The linearization makes a strong assumption about the relative importance of low, medium, and high levels, but it allows isolating the effect of reach and severity of CSI coverage from the amount of CSI coverage itself. It furthermore allowed us to create an interaction term by multiplying average reach and average severity and centering the result at a zero mean.

The second specification preserves the categorical structure of reach and severity by creating counts that break down CSI coverage in different categories. In the same way as we counted CSI coverage per firm and quarter, we produced separate counts for the occurrence of articles with *high reach*, *medium reach*, and *low reach*. The same procedure was applied to *high severity*, *medium severity*, and *low severity*. In order to tease out interaction effects, we defined all possible combinations between reach and severity in a 3×3 matrix and counted media articles for the resulting nine different categories. This led to nine additional variables whose names were abbreviated with *LoRch_LoSev* indicating low reach and low severity, and *MedRch_HiSev* indicating medium reach and high severity, and so on. In order to test whether reach and severity measure different constructs, we ran a Spearman's rank correlation test between reach and severity for the entire population of articles, indicating a very low negative correlation ($r = -0.02$; $p = .019$). This is a strong indication that reach and severity are different constructs, and shows that media articles with high severity are not necessarily also covered by sources with high reach.

Control Variables

The most comprehensive predictor of financial risk is a firm's *credit rating*. Credit rating agencies specialize in assessing credit risk and provide an opinion on credit risk based on a widely accepted methodology. We use the Standard & Poor's long-term issuer rating, which is well known and respected in the financial community (Standard & Poor's, 2016). Standard & Poor's methodology considers a wide range of criteria based on research into the factors that drive credit risk. They include, for example, the historical record of creditworthiness, financial health, and the value of readily claimable assets. We use the nine main categories of the credit rating as a categorical variable, ranging from AAA (extremely low credit risk) to CC (extremely high credit risk, close to default). There is no instance of the lowest category C in the sample, and we include an additional category for unrated firms (NR).

In addition to credit rating, we included control variables that the literature has identified as factors influencing financial risk. First, we included *CSR*, given that the literature on the insurance hypothesis has shown that CSR has an effect on financial risk (Koh et al., 2013). For our analysis, it was crucial to obtain a CSR measure that was distinct from CSI coverage. Thus, we focused on firms' self-disclosed data regarding their CSR strategy and practices. We obtained this data from Asset4, a rating that permits access to individual scores, rather than the aggregate rating. CSR as measured by Asset4 has previously been linked to financial risk (Cheng et al., 2014). Asset4 provides 282 individual scores, which are all scaled to a score of 1–100 points, and cover the economic, governance, environmental, and social dimension. Of all 282 scores, we extracted 261 that were based on self-disclosed company data, describing both outcome and process aspects of CSR. We omitted those 21 scores that were based on media data. In order to create the CSR variable, we calculated an average of the 261 self-disclosed scores in every firm-quarter.

Second, we included *firm size*, as large firms tend to receive more press coverage (Bansal & Clelland, 2004) and have lower financial risk (Tong & Reuer, 2007). Firm size was measured as the

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market capitalization at the end of each quarter in billion USD. Third, we included quarterly *net income*, given that a firm's income level could affect its credit risk. Net income was taken from the firm's quarterly earnings report and measured in billion USD at the time of publication, that is, when the market was informed about it. Fourth, we included *fixed assets* as the value of assets in plants, equipment, and real estate. These types of assets are easily claimable by creditors in case of default. They are also visible, and potentially attract media attention. Fifth, following Sharfman and Fernando (2008), we included *liabilities*, since the level of outstanding debt influences credit risk. Fixed assets and total liabilities were taken from firms' quarterly balance sheets and measured in billion USD at the time of publication. Finally, all stationary firm characteristics, such as industry affiliation, location of headquarters, and the possession of well-known brands, were controlled for with firm fixed effects by our estimation methodology. Also, we assume multinationality, which has been linked to financial risk in previous studies (Belderbos et al., 2014; Reuer & Leiblein, 2000), to be a constant property that is included in firm fixed effects. The reasoning is that all the firms in our sample are very large multinationals, many with a global presence. Even in samples of firms that are on average one order of magnitude smaller than our sample, the marginal effect of multinationality on financial risk is already decreasing (Tong & Reuer, 2007). Thus, in our sample, fixed effects are sufficient to account for the high levels of multinationality, while potential changes in multinationality can safely be neglected.

Estimation Methodology

We employed a panel regression estimation technique, using two-way fixed effects at the firm and quarter level to control for a wide range of firm- and quarter-specific unobservables (Cameron & Trivedi, 2005). Based on the Hausman test, the fixed-effects approach was warranted for our model. Given that the time series of CSI coverage exhibits sufficient variance, not only in the cross-section but also for individual firms over time, we could afford to use firm-level fixed effects, providing an extremely tight control of any time-constant firm property. Analogously, we included time fixed effects for every quarter to account for shocks that possibly affected credit risk and news counts simultaneously.

Table 2
Distributions of Numerical Variables

	Min	Max	Mean	Median	Sd
Financial risk	2.66	9.48	4.77	4.65	0.85
Firm size	0.08	500.74	24.88	11.76	38.96
Net income	−31.73	16.86	0.41	0.18	1.22
Fixed assets	−19.29	243.65	12.62	5.25	22.31
Liabilities	0.40	670.32	26.31	13.39	44.17
CSR	17.75	59.96	43.89	44.74	7.12
CSI coverage	0.00	53.00	1.03	0.00	2.75
Low reach	0.00	11.00	0.19	0.00	0.67
Medium reach	0.00	29.00	0.65	0.00	1.75
High reach	0.00	19.00	0.20	0.00	0.75
Low severity	0.00	34.00	0.93	0.00	2.29
Medium severity	0.00	43.00	0.58	0.00	1.69
High severity	0.00	7.00	0.03	0.00	0.24
Average reach	1.00	3.00	2.01	2.00	0.47
Average severity	1.00	3.00	1.32	1.00	0.40

We estimated robust standard errors following the recommendations of Petersen (2009). In deciding how to assign clusters, we followed the advice of Cameron and Miller (2013) to use clustering units that are larger than the primary sampling unit, but not so large that there would be a concern about having too few clusters. We therefore clustered errors two ways, at the industry group level, according to General Industry Classification System (GICS), and at the quarter level. We implemented all estimations with the software R (R Core Team, 2016).

Results

Table 2 reports the distributions of numerical variables. Regarding the count variables for CSI coverage, we report those broken down into the different levels of reach and severity, yet we do not report the nine additional variables resulting from the combination of reach and severity. The dependent variable financial risk has a small difference between mean and median, indicating a symmetric distribution. The media coverage variables exhibit typical count-data characteristics, with no negative values and a high standard deviation in comparison to the mean, due to a high proportion of zeroes in the distribution. This is not a concern as the ordinary least squares approach makes no assumptions about the distribution of independent variables (Cameron & Trivedi, 2005). Table 3 reports correlations between numerical

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Table 3
Correlation Table. Correlations in Bold Face are Significant at the 5% Level

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Financial risk														
2 Firm size	**−0.33**													
3 Net income	**−0.25**	**0.68**												
4 Fixed assets	**−0.11**	**0.65**	**0.48**											
5 Liabilities	**−0.08**	**0.58**	**0.39**	**0.65**										
6 CSR	**−0.21**	**0.39**	**0.25**	**0.29**	**0.32**									
7 CSI coverage	**−0.11**	**0.56**	**0.39**	**0.55**	**0.43**	**0.31**								
8 Low reach	**−0.08**	**0.41**	**0.27**	**0.43**	**0.30**	**0.25**	**0.75**							
9 Medium reach	**−0.10**	**0.54**	**0.39**	**0.54**	**0.41**	**0.29**	**0.95**	**0.61**						
10 High reach	**−0.08**	**0.45**	**0.29**	**0.38**	**0.33**	**0.23**	**0.77**	**0.45**	**0.62**					
11 Low severity	**−0.11**	**0.56**	**0.40**	**0.54**	**0.44**	**0.33**	**0.92**	**0.72**	**0.88**	**0.68**				
12 Med. severity	**−0.08**	**0.47**	**0.31**	**0.47**	**0.35**	**0.28**	**0.84**	**0.65**	**0.79**	**0.64**	**0.67**			
13 High severity	**−0.04**	**0.24**	**0.15**	**0.24**	**0.16**	**0.12**	**0.41**	**0.31**	**0.40**	**0.30**	**0.30**	**0.46**		
14 Average reach	−0.01	**0.05**	0.02	**−0.04**	0.01	−0.03	0.01	**−0.38**	−0.00	**0.37**	−0.01	−0.03	−0.03	
15 Avg. severity	−0.00	0.02	0.00	**0.04**	0.01	**0.05**	**0.05**	**0.06**	**0.05**	0.03	**−0.16**	**0.33**	**0.23**	**−0.05**

variables. The highest correlations among independent variables are between firm size, net income, fixed assets, and liabilities, as well as between CSI coverage and the other article counts. Almost all correlations are significant at the 5% level, which is due to the panel data structure and indicates the presence of strong company- and quarter-specific effects. However, multicollinearity is typically not a concern in fixed-effects estimation (Cameron & Trivedi, 2005), and an examination of variance inflation factors confirmed this expectation.

Our main results are presented in Table 4. The first column reports the baseline model, including only the control variables. The different credit rating categories, all estimated against the baseline of the highest rating quality (AAA), have a consistently increasing positive effect on financial risk. Only the second best credit rating (AA) has an insignificant effect in the opposite direction, and the estimate for NR lies in between the estimates for BBB and BB. All other control variables have coefficients pointing in the expected direction; however only firm size, and net income are statistically significant. The fraction of explained variance is at 86%, a very high value that reflects the contribution of firm-level fixed effects.

Model 1 adds the independent variable CSI coverage to the baseline model. The model shows that CSI coverage ($b = 0.0094$; $p = .031$) has a positive effect on financial risk, supporting Hypothesis 1. Model 2 shows that average reach ($b = 0.0430$; $p = .000$) has a strong positive effect on financial risk, supporting Hypothesis 2. Model 3 shows that we cannot detect a similar effect for the average severity of CSI coverage ($b = -0.0100$; $p = .578$), therefore Hypothesis 3 is rejected. Model 4 shows a positive effect for the interaction effect between average reach and average severity ($b = 0.0693$; $p = .067$). This result suggests that the combination of average reach and average severity has an additional effect on financial risk, supporting Hypothesis 4. However, given the relatively high p-value, the result leaves room for interpretation.

In order to further investigate the effects of reach and severity on financial risk, Table 5 presents an alternative model specification, where CSI coverage is broken down into separate count variables. Model 1 breaks down CSI coverage into separate counts of low reach ($b = 0.0079$; $p = .225$), medium reach ($b = 0.0029$; $p = .518$), and high reach ($b = 0.0273$; $p = .000$). Here, only high reach has a clear effect on financial risk. This leads us to refine our conclusion regarding Hypothesis 2. Rather than stating that the reach of CSI coverage has a positive effect on financial risk in general, we conclude that only CSI coverage with high reach has a positive effect on financial risk. While we cannot rule out an influence of low and medium reach CSI coverage, it is safe to say that high reach CSI coverage is the dominant factor for the risk-generation effect.

Model 2 in Table 5 breaks down CSI coverage into separate counts of low severity ($b = 0.0071$;

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Table 4
Regressions on Financial Risk

	Baseline	Model 1	Model 2	Model 3	Model 4
AA	−0.1615	−0.1601	−0.0897	−0.0705	−0.0971
	(0.407)	(0.380)	(0.483)	(0.552)	(0.456)
A	0.1785	0.1621	0.1383	0.1578	0.1329
	(0.472)	(0.497)	(0.496)	(0.420)	(0.523)
BBB	0.4188	0.4033	0.5015	0.5234	0.4963
	(0.062)	(0.061)	(0.009)	(0.005)	(0.012)
BB	0.8342	0.8180	0.9009	0.9217	0.8969
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
B	1.2947	1.2760	1.4474	1.4675	1.4474
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CCC	1.9052	1.8843	2.2383	2.2796	2.2241
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CC	2.3558	2.3430	2.6244	2.6513	2.6236
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
NR	0.5748	0.5646	0.4212	0.4444	0.4132
	(0.012)	(0.011)	(0.092)	(0.073)	(0.110)
Firm size	−0.0084	−0.0085	−0.0068	−0.0068	−0.0068
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Fixed assets	−0.0018	−0.0023	−0.0029	−0.0030	−0.0030
	(0.279)	(0.169)	(0.0367)	(0.037)	(0.034)
Net income	−0.026	−0.0257	−0.0209	−0.0210	−0.0207
	(0.012)	(0.020)	(0.026)	(0.025)	(0.027)
Liabilities	0.0025	0.0024	0.0033	0.0033	0.0033
	(0.133)	(0.130)	(0.017)	(0.019)	(0.016)
CSR	−0.0119	−0.0118	−0.0067	−0.0070	−0.0067
	(0.064)	(0.065)	(0.179)	(0.162)	(0.190)
CSI coverage		0.0094	0.0089	0.0092	0.0087
		(0.031)	(0.035)	(0.029)	(0.040)
Average reach			0.0430		−0.0496
			(0.000)		(0.325)
Average severity				−0.0100	−0.1444
				(0.578)	(0.067)
Average reach: average severity					0.0693
					(0.067)
Firm fixed effects	Yes	Yes	Yes	Yes	Yes
Quarter fixed effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.8591	0.8593	0.8730	0.8725	0.8733
Observations	9,939	9,939	3,431	3,431	3,431

Note. p-values are reported in parentheses, based on two-way clustered standard errors and two-tailed t statistics.

$p = .164$), medium severity (b = 0.0137; $p = .005$), and high severity (b = 0.0152; $p = .649$). We detect an effect on financial risk only for medium severity. This result provides no clear support for Hypothesis 3, and while it is consistent with the prior non-finding for average reach in Model 3 in Table 4, it raises the question of why financial risk seems to be influenced by medium severity, but not by high severity.

The results of Model 3 in Table 5 provide an answer to this question, and also lead to interesting refinements regarding Hypotheses 3 and 4. Model 3 breaks down CSI coverage into nine separate counts that result from all possible combinations of reach and severity. Here, only the three counts with high reach have an effect on financial risk: HiRch_LoSev (b = 0.0217; $p = .020$), HiRch_MedSev (b = 0.0328; $p = .010$), and HiRch_HiSev (b = 0.1098; $p = .046$). All other counts with medium and low reach have p-values far from the range that would indicate significance. Interestingly, the effect size of the three counts

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Table 5
Additional Regressions on Financial Risk

	Model 1	Model 2	Model 3	Model 4
AA	−0.1715	−0.1623	−0.1717	−0.1533
	(0.335)	(0.373)	(0.336)	(0.415)
A	0.1452	0.1589	0.1424	0.1319
	(0.536)	(0.504)	(0.544)	(0.588)
BBB	0.3861	0.4003	0.3834	0.3783
	(0.067)	(0.062)	(0.069)	(0.085)
BB	0.8019	0.8152	0.7996	0.7984
	(0.001)	(0.001)	(0.001)	(0.001)
B	1.2595	1.2732	1.2571	1.2469
	(0.000)	(0.000)	(0.000)	(0.000)
CCC	1.8624	1.8787	1.8534	1.8101
	(0.000)	(0.000)	(0.000)	(0.000)
CC	2.3270	2.3392	2.3232	2.3173
	(0.000)	(0.000)	(0.000)	(0.000)
NR	0.5498	0.5616	0.5471	0.5617
	(0.011)	(0.011)	(0.012)	(0.012)
Firm size	−0.0085	−0.0085	−0.0085	−0.0090
	(0.000)	(0.000)	(0.000)	(0.000)
Fixed assets	−0.0023	−0.0022	−0.0023	−0.0037
	(0.175)	(0.189)	(0.182)	(0.091)
Net income	−0.0249	−0.0253	−0.0247	−0.0235
	(0.025)	(0.027)	(0.032)	(0.052)
Liabilities	0.0025	0.0024	0.0025	0.0022
	(0.129)	(0.131)	(0.130)	(0.176)
CSR	−0.0118	−0.0118	−0.0118	−0.0123
	(0.068)	(0.065)	(0.068)	(0.071)
Low reach	0.0079			
	(0.225)			
Medium reach	0.0029			
	(0.518)			
High reach	0.0273			
	(0.000)			
Low severity		0.0071		
		(0.164)		
Medium severity		0.0137		
		(0.005)		
High severity		0.0152		
		(0.649)		
LoRch_LoSev			0.0097	
			(0.170)	
LoRch_MedSev			0.0035	
			(0.728)	
LoRch_HiSev			0.0378	
			(0.674)	
MedRch_LoSev			0.0014	
			(0.781)	
MedRch_MedSev			0.0071	
			(0.386)	
MedRch_HiSev			−0.0255	
			(0.476)	
HiRch_LoSev			0.0217	
			(0.020)	
HiRch_MedSev			0.0328	
			(0.010)	
HiRch_HiSev			0.1098	
			(0.046)	
CSI coverage IV				0.0344
				(0.011)
Firm fixed effects	Yes	Yes	Yes	Yes
Quarter fixed effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.8595	0.8593	0.8594	0.8588
Observations	9,939	9,939	9,939	9,468

Note. p-values are reported in parentheses, based on two-way clustered standard errors and two-tailed t statistics.

with high reach increases substantially from low over medium to high severity. CSI coverage with high reach and high severity has by far the largest impact on financial risk compared with all other estimated coefficients for CSI coverage.

Based on these results, we come to two additional conclusions. First, the effect of severity seems to be conditional on high reach. This offers an explanation of why the prior analyses failed to detect a clear effect of severity. It also allows us to accept Hypothesis 3 in a revised form, stating that the severity of CSI coverage has a positive effect on financial risk, conditional on the reach of CSI coverage being high. Second, the severity of CSI coverage and the reach of CSI coverage seem to reinforce each other in their effect on financial risk, albeit in asymmetric ways. Thus, we can also provide further insights regarding Hypothesis 4: The severity of CSI coverage is a boundary condition that further reinforces the risk-generating effect once the media outlet has a high reach.

Supplementary Analyses

We performed several supplementary analyses to test the robustness of the results. First, our study period includes the financial crisis of 2008, which had a major impact on credit risk and may also have influenced media coverage. While time fixed effects should absorb such shocks, we additionally excluded the year 2008 as a robustness check, discovering no substantial changes in results. Second, we explored why CSR does not have a significant effect on financial risk, given that a string of previous studies has identified such an effect. One important difference in our empirical approach is the use of firm-level fixed effects. Most studies on CSR using KLD or Asset4 data employ only industry fixed effects, due to the limited variability of these

data over time (Chava, 2014; Cheng et al., 2014; Goss & Roberts, 2011; Koh et al., 2013). When we repeat our estimation with fixed effects at the industry level, CSR has a negative significant effect on financial risk, in line with previous studies. CSI coverage also remains significant in this less robust specification.

We explored two potential alternative explanations: reverse causality and media selection bias. Reverse causality describes the concern that instead of CSR driving financial performance, strong financial performance may create slack resources, which in turn contribute to CSR (Surroca, Tribó, & Waddock, 2010; Waddock & Graves, 1997). However, in this study, reverse causality is unlikely for theoretical reasons. Unlike CSR, CSI coverage is not under direct managerial control. While it is possible to increase a firm's positive media coverage through public relations (Bansal & Clelland, 2004), it is much harder to reduce negative coverage by the same method (Westphal & Deephouse, 2011). This is because media outlets compete for stories, and if one outlet foregoes a compelling negative story, this creates opportunities for other outlets. Especially in the era of online communication, it is virtually impossible to suppress negative stories (Besiou, Hunter, & Wassenhove, 2013). In addition, stakeholders' CSI accusations are not only driven by firm actions, but also by stakeholder identity (Rowley & Moldoveanu, 2003), which is certainly beyond managerial control. Due to these barriers, we are confident that reverse causality is not a substantial concern in our research setting.

Media selection bias might be another area of concern (Earl, Martin, McCarthy, & Soule, 2004). For instance, the media might overly focus on the "sins of saints," i.e. when a firm that is well known for CSR is suddenly blamed for CSI. Likewise, the media may dwell on large firms, or firms in decline. If the criteria the media uses to select stories are also related to financial risk, this would raise concerns about endogeneity. By including CSR, firm size, and net income as control variables, as well as firm fixed effects, we have taken care to avoid this. Yet the media may still select stories using additional, unobserved criteria. For example, CEO hubris, defined as a CEO's exaggerated self-confidence and pride, is related to excessive risk-taking (Li & Tang, 2010), and has recently been associated with CSI (Y. Tang, Qian, Chen, & Shen, 2015). A CEO who is known for making grandiose statements is an easy target for the media when it comes to CSI coverage. Thus, a hubristic CEO may attract more CSI coverage, and as a result increase a firm's financial risk.

To address concerns of this nature, we performed an instrumental variable regression. We exploited the fact that in addition to turning to the media, stakeholders also communicate their CSI attributions through private websites and blogs (Deephouse & Heugens, 2009; Hunter, Van Wassenhove, Besiou, & van Halderen, 2013). We constructed the instrument *stakeholder CSI* as a count variable like CSI coverage, but relied exclusively on stakeholder blog posts. Stakeholder blogs are internet sources that provide communication from a stakeholder perspective, with a mission to achieve change in the world. We based the classification on the "About us" section of the source's website: when it indicated advocacy for a specific cause, we classified the site as a stakeholder outlet. For example, the website www.internationalrivers.org states: "We seek a world where healthy rivers and the rights of local communities are valued and protected." The classification was undertaken independently by two of the authors, with an overlap of 200 randomly chosen sources. The inter-rater agreement was 100%. This data was also included in the RepRisk database and collected following the same methodological steps that are applied for media articles.

A valid instrument must be exogenous to the relationship under investigation, yet correlated with the explanatory variable (Cameron & Trivedi, 2005). Stakeholder accusations of CSI are a source of CSI coverage in the media. Thus, stakeholder CSI and CSI coverage are likely to be correlated. At the same time, CSI accusations in stakeholder blogs are exogenous to the risk-generating mechanism. Only the mass media can broadcast to vast numbers of diverse stakeholders, while stakeholder blogs target special-interest groups and reach a readership that is orders of magnitudes smaller (Farrell & Drezner, 2007). In order to safeguard the exogeneity assumption of this instrument, we do not consider CSI claims by well-known non-governmental organizations with international presence, such as Greenpeace or the World Wildlife Fund. This ensures that CSI complaints in stakeholder blogs only lead to financial risk if they are subsequently propagated by mass media. We generated an additional instrument by lagging stakeholder CSI by one quarter, which allowed us to run diagnostics on the validity of the instruments.

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Model 4 in Table 5 presents the results of the instrumental variable regression. The first stage regression (not reported) shows that both instruments influence CSI coverage positively, as expected, indicating that CSI claims in stakeholder blogs are indeed correlated with CSI coverage. The Sargan test cannot be rejected, providing reassurance that both instruments are exogenous and affect financial risk exclusively via CSI coverage (Cameron & Trivedi, 2005). The point estimate for *CSI coverage IV* ($b = 0.0344$; $p = .011$) in the second stage is about three times as large as the estimates in the previous model, suggesting that those previous estimates can be seen as a conservative lower bound. The results of the instrumental variable estimation provide reassurance that media selection bias is not driving our results. Taken together, our supplementary analyses rule out outliers, reverse causality, and media selection bias as alternative explanations.

Discussion and Conclusion

This article makes two central contributions. First, we extend the theoretical basis of corporate risk management in the stakeholder context. Current literature emphasizes that CSR and CSI are different constructs (Lange & Washburn, 2012; Strike et al., 2006). In our study this distinction is of central relevance for the way information is created and distributed: CSR is what a firm claims about itself in reports, CSI is what a firm is blamed for in the media. The literature in this field has established that doing good–in the sense of self-reported CSR–reduces financial risk by cushioning the impact of stakeholder sanctions (Cheng et al., 2014; Godfrey, 2005; Godfrey et al., 2009; Henisz et al., 2013; Koh et al., 2013). Complementing this literature, we demonstrate that doing bad–in the sense of receiving CSI coverage in the media–generates financial risk by preparing the ground for stakeholder sanctions. We conclude that CSI coverage generates financial risk, especially CSI coverage with high reach and high severity. Identifying CSI coverage as a source of financial risk offers a counterpart to existing theory about risk management. Current theory accepts the financial risk that emanates from stakeholder sanctions as a given, and posits that CSR acts as an insurance policy against this risk. Our theoretical contribution is to show that CSI coverage generates financial risk, and to offer the explanation that CSI coverage provides conditions that increase the potential for stakeholder sanctions. Knowledge of this risk-generation mechanism allows firms to derive complementary risk management approaches that focus on preventing stakeholder sanctions, rather than cushioning their impact.

Second, we provide evidence that the reach and severity of CSI coverage translates into financial risk through distinct, but mutually reinforcing effects. Prior research considers the effect of CSI coverage on the agenda-setting process at the stakeholder network level (Z. Tang & Tang, 2016) separately from the effect on the cognitive processes that lead to sanctions at the level of the individual stakeholder (Barnett, 2014). We combine these perspectives by analyzing the reach of CSI coverage–which influences the general attention to CSI in a firm's stakeholder network–in conjunction with the severity of CSI coverage–which influences individual stakeholders' likelihood to sanction. Reach emerges as the most important source of financial risk. Severity turns out to be a boundary condition that increases financial risk gradually, yet only when the condition of high reach is fulfilled. The exclusive effect of CSI coverage with high reach supports the idea of agenda-setting in stakeholder networks, suggesting that a critical number of stakeholders must pay attention to CSI in order to generate financial risk. The gradual effect of severity is in line with theory about stakeholders' cognitive response to CSI. However, even extremely critical CSI coverage does not necessarily result in financial risk when it is published in news outlets with low or medium reach. This suggests that CSI leads to financial risk primarily through the reach of CSI coverage. Once a critical mass of stakeholders is paying attention, the severity of CSI coverage reinforces the risk-generating effect.

In sum, our results indicate that the media is an important intermediary when it comes to the financial relevance of CSI. However, there remain a number of limitations, which offer promising avenues for future research. First, the media's coverage of CSI may not be objective, with the effect that some companies might be criticized unfairly, while others get off lightly. We conclude that the media, and especially the world's leading media outlets, are quite effective in transforming CSI into financial risk. Yet we leave to future research the important question of how reliable the media is in uncovering CSI. Second, future studies might explore the

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antecedents of CSI coverage in the media. One pertinent question is whether self-disclosed CSR activities influence the level of subsequent CSI coverage. While some previous studies suggest that CSR would decrease CSI coverage (Godfrey et al., 2009), others suggest that it might actually provoke more CSI coverage (Baron & Diermeier, 2007).

Managerial Implications

Our findings are practically relevant and provide important insights for executives. The marginal effect of one additional article in CSI coverage corresponds to a relative change of 0.94% in financial risk. Given that we have operationalized financial risk as credit risk, this means that the median firm in our sample, which pays 1.05% interest on USD 13.39 billion outstanding debt, would pay an additional USD 1.3 million per year to service its debt. For an additional article with high reach, the estimated cost is at USD 3.8 million, and for an additional article with high reach and high severity, it is at USD 140 million. These costs are substantial, compared with our sample's median annual net income of USD 180 million. These figures show that the effects of CSI coverage are not likely to bankrupt a firm, yet they also show that managing CSI coverage can avoid significant costs.

To this end, the study suggests practical approaches and expands the set of strategies that executives can draw on to manage financial risk in the stakeholder context. The current approach recommended by the literature is to invest in CSR as insurance in order to benefit from stakeholder goodwill in the case of negative events. This approach is proven effective, but neglects opportunities for preventing stakeholder sanctions before they emerge. By clarifying how CSI coverage in the media generates risk, this study allows us to suggest three more pro-active risk management approaches that can complement the insurance approach.

First, managers should carefully balance CSR programs with safety programs. On the one hand, from a risk-mitigating point of view, it is important to invest in CSR and, thus, generate stakeholder goodwill. On the other hand, from a risk-generation point of view, it is central to have a strategy in place that systematically avoids negative impacts and reduces targets for CSI coverage. While the former is usually communicated in company reports, it is important to keep in mind that negative events and news are usually communicated through the press and thus beyond corporate control. Yet, many firms seem sidetracked by what external rating agencies demand and what looks good in CSR reports. The oil giant BP serves as a tragic example: the firm was committed to extensive CSR programs while simultaneously cutting corners in central safety issues. These practices resulted in an excellent CSR rating, but also in a string of very harmful accidents and fierce stakeholder sanctions. Thus, from a risk management perspective, systematic avoidance of irresponsible actions and negative impacts should be the first step to reduce risk, which can then be extended with CSR programs aimed at providing insurance in the form of stakeholder goodwill.

Second, executives can seek to influence the emergence and the severity of CSI coverage through transparent reporting. While voluntary CSR disclosure regimes give firms the opportunity to highlight achievements and gloss over problems (Lyon & Maxwell, 2011), it may be wise to publicly report also those aspects that could be perceived as CSI. The British retailer Marks & Spencer has ventured into this direction by reporting very openly about the sustainability objectives they have achieved as well as those that they have not achieved (Grayson, 2011). Reporting such problematic issues openly has the potential to avoid CSI coverage for two reasons. First, it reduces the novelty of the issue. Journalists cannot claim that they discovered corporate wrongdoing, which decreases the attractiveness of the story for newspapers. Second, it is likely to reduce the severity of CSI coverage, because it gives firms an opportunity to explain the problem from their perspective. Thus, considering the risk-generating effect of CSI coverage, firms may actually have an incentive to disclose more about CSI in their CSR reports.

Third, executives can exert substantial control over CSI coverage by considering it in the context of business growth strategy. Decisions to expand into new markets, develop new products, or to acquire new subsidiaries can alter the level of CSI coverage a firm is exposed to. For example, with the acquisition of Union Carbide, Dow Chemical is now exposed to criticism regarding Union Carbide's 1984 Bhophal accident. Such inherited CSI coverage, even when the acquisition target is small in comparison to the acquirer, can subsequently lead to CSI coverage and stakeholder sanctions, increasing the financial risk of the entire firm. Therefore, when making decisions about business

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extension or product development, associated changes in CSI coverage should be considered as part of the overall risk analysis.

In sum, executives are well advised to manage the risk of stakeholder sanctions comprehensively. An understanding of how CSI coverage in the media generates financial risk reveals complementary approaches to investing in CSR as insurance, allowing firms to craft more comprehensive strategy for this complex risk management challenge.

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