No News is Good News
CSR Strategy and Newspaper Coverage of Negative Firm Events

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Abstract

One of the benefits of Corporate Social Responsibility (CSR) programs, it has been argued, is that they build up a reservoir of public good will, shielding companies in times of trouble. In this paper, we test the view that CSR provides protection from public ire by analyzing the response of the media to negative corporate events. Our application is spills in the oil industry. We find that the media are far more likely to report accidents if they occur at a company with a superior CSR record. Rather than acting as an effective form of insurance, our results suggest that a strong CSR record can be a liability. Moreover, the tone of coverage is not more positive for organizations with a greener reputation. At the same time, firms with substantial past environmental problems are also more likely to find their corporate failings appear in the news. The "safe" position for companies seems to be in the middle of the pack. This result has important implications for thinking about CSR and the privately optimal level of such activities.

Introduction

Corporate Social Responsibility programs have become commonplace, and many managers view CSR activities as important (The Economist 2008, Kolk et al. 2001). The rise of CSR is particularly interesting because it has been difficult to document tangible benefits associated with these programs. The link between a company's CSR record and its financial performance is tenuous at best (see Margolis et al. (2007) for a review of the literature). Looking beyond immediate financial rewards, an important idea in the literature is that companies with a superior CSR record benefit from a reservoir of public goodwill, goodwill that is particularly valuable in times of corporate crises (Werther and Chandler 2005, Peloza 2006). In this view, CSR is a form of *insurance* that protects companies in difficult times (Godfrey 2005, Vogel 2005, Godfrey et al. 2009, Minor 2011). For example, a good CSR reputation might help when companies face criticism after a product recall or when objectionable production practices such as the use of child labor become public.

An appealing feature of the insurance argument is that it can explain why companies invest in CSR even though these initiatives appear to bear little relation to short-term financial performance. And the argument is consistent with the views of many managers: "Most of the rhetoric on CSR may be about doing the right thing and trumping competitors, but much of the reality is plain risk management. It involves limiting the damage to the brand and the bottom line that can be inflicted by a bad press and consumer boycotts" (The Economist 2008). The empirical evidence from product recall studies is mixed, however. Some are consistent with the insurance hypothesis (Godfrey et al. 2009, Minor 2011) while others find little evidence in support of it (Rhee and Haunschild 2006).

In this paper, we extend our view of the mechanisms that link CSR and corporate performance by taking into account the gatekeeping role of the media. As a practical matter, only a small group of individuals will have first-hand experience of corporate conduct. Most impressions of companies are mediated by television, newspaper reports, and the internet (Fombrun et al. 2000: 94). Because the news is selectively reported – at any one point in time, there are many more stories than the media can possibly cover (Carroll and McCombs 2003) – a full understanding of the impact of CSR requires us to consider how editors choose news stories.

Specifically, we need to know how the likelihood of coverage of a negative event changes with variation in CSR performance. This is what the current paper sets out to do.

It is not difficult to see how a tension might arise between the likelihood and the tone of coverage. If editors are more likely to publish negative events at companies with a strong CSR performance – perhaps because such events are more surprising and therefore more newsworthy – managers face an interesting tradeoff: Improved CSR performance might increase coverage – the news argument – but render that coverage more sympathetic – the insurance argument. Good CSR management, we argue, requires executives to take into account both effects.

Taking the gatekeeping role of the media seriously has important methodological implications also. Previous studies typically investigate the impact of CSR using published news reports (e.g., Godfrey et al. 2009, Minor 2011). These results are best understood as describing the effect of CSR conditional on events being covered in the media. If selection is important, however, these papers do not capture the full effect of CSR programs. To do so, scholars have to investigate the complete set of corporate events of a particular type.

The setting for our study is the oil industry. We compile a unique dataset of oil and chemical spills that occurred between 2001 and 2007. This is the complete set of spills caused by the twenty largest oil companies with operations in the United States. The empirical set up is ideal in the sense that we observe the universe of events, including many leaks that were not covered in the media. We determine media coverage through an extensive search of U.S. newspapers and wire service reports.

We have two main results: We find that the media are more likely to report spills at companies with better CSR records. For example, oil companies that invest in clean energy face a greater risk of having accidents covered. Our analysis of the tone of media coverage shows that news reports are no more positive for CSR leaders. In our data, tone does not compensate for the higher probability of being covered. Perhaps surprisingly, we also find that spills at companies with the poorest environmental performance are more likely to find attention. Past regulatory problems at a company, for instance, increase the likelihood that the press will report an accident. The position that minimizes the risk of media coverage of an accident, our research suggests, is for companies to be in the middle of the pack.

The paper proceeds as follows: in section 2 we describe how editors choose news stories and how these choices are related to CSR performance. Section 3 describes our data. We present our results in section 4, and section 5 concludes.

2. What is News?

The media play a critical role in influencing the reputation of companies (Wartick 1992, King 2008, Kennedy 2009, Jonsson et al. 2009, Einwiller et al. 2010). By not covering negative corporate news or describing such events in a more positive light, editors and journalists can limit the damage caused by corporate scandals. While editors enjoy some discretion when selecting news stories, competition forces the media to provide content in which the audience has an interest (Gentzkow and Shapiro 2010). A common finding in empirical studies is that audiences want information that is relevant and new (Clayman and Reisner 1998, Oliver and Meyer 1999). In our context, relevance implies that larger and more severe spills are more likely to be covered because they have a bigger impact on the natural environment and possibly human health. Similarly, events at larger firms are likely to find greater interest (Rindova et al. 2006, Godfrey et al. 2009).

The news content of stories is a second dimension that is important to readers (Meyers, 1997). There are many reasons why a part of the audience is interested in the CSR performance of companies. Consumers, for instance, might prefer to buy products from socially responsible organizations (e.g., Casadesus-Masanell et al. 2009). Some investors enjoy owning firms that perform well on the CSR dimension (Rosen et al. 1991). Others might be concerned that companies that disregard the social consequences of their actions will become the target of regulators and groups of activists, influencing their profitability in the future (Maxwell et al. 2000, Baron and Diermeier 2007, Baron 2009, Lyon and Maxwell 2011). Because there are many sources of information about CSR programs – company reports, evaluations from independent organizations, as well as media coverage – the audience will have a prior assessment of the degree to which firms engage in CSR. An incident constitutes news if it has the potential to move that assessment.

Applying this logic to our context – chemical and oil spills – a leak is news if the audience did not expect the company to cause such an incident. The surprise will be larger if the organization is perceived to be environmentally responsible in general. As a result, a spill is more newsworthy if the firm said it pursued a more ambitious CSR policy that led the audience to believe the organization would be a responsible steward of the natural environment. Our first hypothesis is a prediction about the likelihood of media coverage.

Newsworthiness Prediction: The probability that an oil spill is covered in the news increases in the quality of a company's past CSR activities.

Having observed an oil spill, it is not trivial for the audience to draw the appropriate inference. Some leaks may reflect a lack of commitment to worker and environmental safety. Others are the result of unfortunate circumstances and bad luck. One idea in the literature is that past CSR activities can help influence how editors, journalists, and the audience interpret negative corporate events (Werther and Chandler 2005, Peloza 2006). In this view, CSR efforts build a reservoir of good will. Those who observe a spill might be more inclined to believe that it was due to bad luck if the company has a history of significant CSR activities. Editors and journalists in particular might choose to interpret an accident in a more positive light if it occurred at an organization with high CSR performance. This insurance view of CSR leads to our second hypothesis.

Tone Prediction: The tone of news reports about oil spills will be more positive for companies with a superior CSR record.

Our two hypotheses are not mutually exclusive. However, if borne out in our data, they present an interesting trade-off for executives who manage CSR programs. A more ambitious CSR positioning might increase the likelihood that negative corporate events are publicized in the media. At the same time, if an accident were to occur, the tone of coverage might be less critical for a stronger CSR performer. Of course, determining the relative influence of the news and tone effects is ultimately an empirical question. We will address it in the remainder of the paper.

3. Data

To identify the effect of CSR programs on the likelihood and tone of media coverage, we construct a sample of all oil and chemical spills that occurred in the United States from 2001-2007. We combine three sources of data: information about oil spills; newspaper reports covering the spills; and information about firm characteristics, including a firm's past CSR activities.

Oil spills. Our data come from the National Response Center (NRC), an office of the United States Coast Guard (USCG). Federal law requires companies to immediately report all releases of oil and hazardous substances to the NRC. A failure to do so carries a fine of up to $250,000 for individuals and $500,000 for organizations as well as a maximum prison sentence of 15 years (Environmental Protection Agency 1999). The NRC data represent the most comprehensive source of information on oil spills available. The data include information about the size of the spill, its nature, and the responsible party. For some accidents in the data, the size of the spill is missing because it is undetermined at the time when the report is filed. We use the name of the reporting firm to match incidents to newspaper stories. We limit our analysis to the 20 largest oil firms by sales (firms with NAICS code 211111 or 324110) because information about the CSR record of smaller companies is typically unavailable. Because a number of entries in the NRC data refer to spills that occurred at a subsidiary of a large oil company, we use the LexisNexis corporate affiliation database to identify parent companies. All our analyses are performed at the level of parent firms. Our final dataset includes 20,409 spills. We observe the size of these spills for 14,034 accidents.

News reports. To search for reports that cover our leaks, we use the LexisNexis Academic U.S. News and Wire database. LexisNexis tracks 576 U.S. newspapers and wire services. We search the data for occurrences of the sample company names and the terms "oil", "leak", and "spill". We then read all resulting news stories. If a report does in fact cover a spill, we match it back to the accidents in the NRC database. We also collect data on the number of non-spill news articles for our sample firms. The resulting measure, the number of news stories about the firm published during the 12 months prior to a specific spill, allows us to control for variation in media interest across sample firms. The control is important because greater scrutiny by the

media can encourage companies to make greater investments in CSR (Zyglidopoulos et al. 2010).

To analyze the tone of the reports, we perform text analysis of all spill-related articles in our sample. We employ the General Inquiry for our analysis, a dictionary that includes markers for affection. The General Inquiry is often used in cognitive linguistics and is well validated (Dunphy, Bullard and Crossing, 1989).[1] It combines large content dictionaries such as the Lasswell Value Dictionary and the Harvard Psycho-Sociological Dictionary. Because we are interested in the extent to which editors and journalists use positive language to describe a negative event, we focus on positive, emotion-bearing words. The General Inquiry contains 1915 such expressions. Examples are "responsive", "promise" and "coordinate". To account for variation in the frequency with which media outlets use emotion-bearing words in their oil-spill reports, our measure for tone is the percentage of positive words among all emotion-bearing words in each newspaper article. We use the text mining tool Wordstat 6.0 to determine this ratio.

Firm-level characteristics. We draw on Kinder, Lydenberg, Domini (KLD) Research & Analytics for information about firms' CSR performance. KLD has been described as "the largest multidimensional CSP database available to the public" (Deckop et al. 2006: 334) and the "de facto [CSR] research standard" (Waddock 2003: 369).[2] Importantly for this study, KLD has subscores for an organization's environmental performance, the CSR dimension most relevant in our context. Specifically, the KLD data include an "Environmental Strength" and an "Environmental Concern" index. The Strength index consists of six components, each of which is given the same weight (see appendix 1 for definitions). Greener companies earn higher scores. The Concern index is built analogously, covering seven items. Greener companies show lower Concern scores.[3] In our empirics, we will employ both the two summary scores and their individual components. Because the scores measure different aspects of a company's CSR activity (Mattingly and Berman 2006), they must not be aggregated.

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[1] Details about the development of General Inquiry can be found at:
http://www.wjh.harvard.edu/~inquirer/homecat.htm

[2] As the KLD scale is available only for companies with a primary listing in the United States, BP and Shell can therefore not be included in this analysis.

[3] Chatterji et al. (2009) independently validate these scores.

Baseline expectations about companies' environmental performance are also influenced by corporate public relations. We construct two control variables that proxy for green PR: a first is an indicator variable that takes on a value of one if the firm published a CSR report in the year prior to the accident. A second control is the number of green words in the firm's last annual report. We count instances of "environmental", "environment", "green", "greenhouse" and "sustainability" to construct this measure. Finally, our models control for firm-level variables, including annual sales, operating assets, and the number of employees, all taken from Compustat. We also collect crude oil production data from annual reports of the U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves (U.S. Energy Information Administration, various years).

Table 1 provides summary statistics for our sample. During 2001-2007, the 20 largest oil firms caused 23,343 oil and chemical spills. The five largest firms (Exxon, BP, Shell, ConocoPhillips and Chevron) were responsible for 73% of the accidents in the sample. Exxon caused more spills (5,822) than any other company. Surprisingly few spills (0.4%) appeared in the news, in part because many spills are quite small. The mean leak is sizable (325 barrels = 13,650 gallons) but the standard deviation is enormous (5,782 barrels). The considerable variation and the presence of many small spills are to our advantage. CSR effects of the type considered here are most likely if editors have some discretion in deciding whether to publish a story. If all accidents were of the size and significance of the 2010 Deepwater Horizon spill in the Gulf of Mexico, the opportunity to trace the effects of investments in CSR would be rather limited.

4. Results

We report our analyses in three steps. We begin by examining a case study of BP and EXXON, two companies that pursued radically different CSR strategies. Next, we broaden our analysis to all sample firms, using the KLD scales as our measures of environmental performance. Finally, we report our results for the tone of news reports.

4.1. Case Study: BP vs. EXXON

BP and EXXON took sharply distinctive public stands on environmental policy. BP, with its well-known "Beyond Petroleum" campaign, sought to portray the company as a leader in environmental issues. Famously, BP broke ranks with other oil firms when it acknowledged a link between energy use and global warming in 1997 (New York Times 1997). While many green activists remained skeptical, the "Beyond Petroleum" campaign, initiated in 2000, appears to have been successful at shifting public perception (New York Times 2002). In a 2007 Landor "ImagePower Green Brands" survey, BP was regarded as more green (21%) than Shell (15%), Chevron (13%), or ExxonMobil (11%). BP also topped the survey of companies that had "become more green" in the last five years, with 49% of consumers agreeing that BP had changed (Solman 2008). The campaign also won a 2007 gold Effie from the American Marketing Association. BP reports that from 2000-2007, its brand awareness went from 4% to 67% (Environmental Leader 2008). By contrast, Exxon enjoyed a far less favorable environmental reputation. The list of alleged misdeeds includes actively lobbying Congress to open the Arctic National Wildlife Refuge to oil drilling (Platts Oilgram News 2005), opposing efforts to cut global warming pollution (Wall Street Journal 1997), and shirking full payment on the damages due to fishermen and natives harmed by the 1989 Exxon Valdez oil spill (New York Times 2010). In 2005, a coalition of U.S. public interest and environmental groups launched "Exxpose Exxon," a campaign designed to change the company's policies.

Given the stark difference in the perceived environmental record of BP and Exxon, we begin our analysis with these two companies. Although Exxon was responsible for a larger number of accidents during this period, BP's spills have a higher chance of being reported in the media (see figure 1). The difference shown in the graph is robust to controlling for firm-specific characteristics and time effects (see table 2). We estimate multivariate logistic models of the likelihood of an accident being covered in the press or by the wire services. Our dependent variable is an indicator which takes on a value of one if a spill is reported. The covariates include firm controls (crude production, total assets, number of employees), characteristics of the accident (amount of oil spilled and whether there was a fire), and year fixed effects. We also control for the number of non-spill news articles about a company as well as the number of spills that took place in the same state during the last 12 months. We expect spills to be less

newsworthy in states that experience a greater number of spills. We cluster standard errors by firm in all specifications.

Model (1) in table 2 shows that accidents at BP are more likely to be reported than those caused by other oil companies, the reference group in this analysis. By contrast, Exxon accidents are less likely to be covered. The Wald test reported at the bottom of the table shows that the coefficients on BP and Exxon are statistically different from each other. As expected, the media are less likely to cover spills in states with a larger number of accidents. Model (2) repeats the analysis for the subset of accidents for which we observe the size of the spill (entered in logs). Not surprisingly, we find that larger spills are more likely to be covered in the news. Adding the size of the spill reduces the size of the estimated coefficients on the two firm indicators. However, the difference between BP and Exxon remains statistically significant. In model (3) we interact the firm indicators with the amount spilled to see whether the impact of the size of the accident varies by company. While there is no difference between BP and the remainder of our sample firms, increases in spill size have a significantly larger effect on the probability of coverage of accidents at Exxon. Even when we take this interaction into account, however, the likelihood of the media reporting leaks at BP continues to exceed the likelihood of reports for Exxon.

The results in table 2 suggest that both accident characteristics and the identity of companies influence editors when they decide which stories about spills to publish. In particular, our hypothesis that leaks at greener companies are more newsworthy is consistent with the pattern of results that we see in table 2. To determine whether this observation continues to hold in a larger sample of firms, we turn to differences in KLD scores across our sample firms.

4.2. Probability of News Reports and KLD Measures

In table 3, we report logistic regression models that include KLD scores along with the firm-level and spill-level controls from table 2. KLD scores are only available for companies that have their primary listing in the United States. As a result, neither BP nor Shell can be included in this analysis, reducing our sample to 10,339 observations. Model (4) shows that the KLD

Environmental Strength score is positively associated with the likelihood of news reports. This echoes our earlier result. At the same time, the KLD Environmental Concern score is also positively associated with the likelihood of news reports.

To see whether this latter effect is driven by unobserved heterogeneity between companies, we include firm fixed effects in model 5.[4] The effects of interest are now determined by variation within companies over time. That is, we are asking how the likelihood of news reports changes as firms become greener. In this specification, the effects of the KLD Strength and Concern scores remain positive and significant. It is instructive to disaggregate the KLD indices to learn more about the items that drive our results (model 6).[5] On the Strength side, firms that invest in clean energy attract significantly more attention. Among the Concern items, companies with past regulatory problems as well as organizations whose activities are closely tied to climate change are subject to greater media scrutiny. At the bottom of model 6 in table 3, we report Wald tests to assess whether the coefficients on the Environmental Strength and Concern items are jointly different from zero. We reject the hypothesis for both sets of items.

The effects reported in table 3 are economically meaningful. For instance, a one point increase in the Strength score increases the probability of coverage by 25 percentage points in model M4 and 35 percentage points in model M5. The effect of the Concern score is similarly large: a one point increase in the Concern score increases the probability that an oil spill is reported by 19 percentage points in M4 or 22 percentage points in M5.

KLD scores capture actual firm behavior verified by an independent third party. To compare the effects of this type of information to corporate efforts to communicate the firm's environmental policy, we study annual reports and companies' decision to publish a separate CSR report. Accidents at companies that publish CSR reports are not more likely to be covered in the press (table 4, models (7) and (8)). To characterize annual reports, we count the number of "green" words used in the document. As one would expect, the resulting variable is positively correlated with the KLD Strength score (0.58). The green count measure has a positive and

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[4] Accidents caused by Apache, Burlington Resources, Chesapeake, Devon Energy, Kerr-McGee, Murphy and Occidental never appeared in the news. Firm fixed effects for these companies perfectly predict failure, and these observations are dropped from the estimating sample.

[5] The specification in M6 further reduces our sample because the lack of hazardous waste and the presence of agricultural chemicals both perfectly predict failure.

significant association with the probability of news reports (model (9)), but the effect is not robust to including firm fixed effects (model (10)). Importantly, in all models in table 4, the KLD Strength and Concern scores retain their previous influence. The results in table 4 suggest that editors are not significantly influenced by our measures of corporate communication. When deciding which events deserve the public's attention, past corporate behavior appears to be the more relevant benchmark than corporate communication.

Taken together, the results in tables 2-4 provide considerable support for the newsworthiness prediction. Companies with a superior environmental performance are more likely to have their accidents covered in the press. The observed pattern of news reporting is robust to including accident characteristics and firm attributes, including firm fixed effects, in our models. An important driver of news coverage is companies' past investments in renewable energy and a public commitment to climate-friendly policies.

To our surprise, we find a similar effect for poorer performing organizations. Oil spills caused by companies with a weaker environmental record also show an elevated tendency to be covered by the news. This effect is not easily rationalized by reader expectations. Because CSR laggards have a known history of environmental problems, observing an accident at this type of company is less of a surprise. If these events are not news in a statistical sense, why then are they frequently covered? Sociological studies provide some insight. These studies suggest that newsworthiness is a broader construct than our notion of relative frequency (Oliver and Meyers, 1999). When choosing stories to publish, editors consider both the novelty of an event and whether it conforms to widely-held beliefs. Stories that confirm common beliefs are more likely to be published. Consider, for instance, the news coverage of murders in the local press. Most murders in U.S. cities involve black male violators and black male victims (Lundman, 2003). By contrast, female violators are rare. Yet, some uncommon murders, say instances involving a white female violator and a white male victim, do not find more attention in the press than the most common occurrences. The reverse crime, however, a white male violator and a white female victim, is covered with increased frequency. Sociologists interpret these reporting patterns as reflecting two dimensions of newsworthiness: relative frequency and consistency with widely-held beliefs and stereotypes. The media focus on uncommon events and on stories that are consistent with the audience's stereotypes. In the crime context, women are typically

seen as victims, increasing the frequency of stories in which women suffer a crime. But editors are less likely to see homicides with white violators and black victims as newsworthy because these crimes are contrary to common stereotypes (Oliver and Meyers, 1999:46). Media reports that conform to stereotypes are likely to reflect demand-side considerations – readers like stories that confirm their beliefs (Graber, 1984; Mullainathan, 2002; Mullainathan and Shleifer, 2005). In addition, there are also supply-side advantages to belief-confirming reports. An important one is that they are easier for journalists to script (Gilliam and Iyengar, 2000).

In our data, both novelty considerations and widely-held beliefs appear to operate. On the one hand, editors focus on surprising stories: accidents at companies with a superior CSR record. At the same time, editors also like events that conform to widely held beliefs, publishing with increased frequency reports about accidents at companies with a worse environmental record. As a result, both leaders and laggards in CSR experience greater public scrutiny.

4.3. The Tone of Coverage

The effect of media reports about accidents at oil companies will also depend on the tone the journalists adopt. Consider oil companies that publicly commit to climate-friendly policies as an example. Our previous results suggest that spills at these companies are particularly likely to be covered. But what is the tone of coverage? Some journalists might see accidents at these companies as instances of corporate hypocrisy, possibly creating a negative interaction effect between earlier public claims and the tone of coverage. Others might give CSR leaders the benefit of the doubt, the insurance argument discussed in the earlier literature.

To learn how the tone of coverage varies with companies' environmental policy, we analyze the text of the newspaper articles that cover our spills. In a first step, we collapse the newspaper articles by accident and bring the words down to their linguistic roots using Porter stemmer and English lemmatization (so that, for example, "spills" and " spilled" and "spill" are recognized as the same word). We exclude extremely common words ("a", "the") from our analysis. The list of common words is adopted from Fox (1990).

Beginning with our case study companies, the mean fraction of positive words in spill-related articles about BP and EXXON does not vary by company (t=0.58, d.f. =27, p>0.5). In table 5, we expand our analysis to all firms for which we have KLD scores. Because our dependent variable, the ratio of positive emotion-bearing words to all emotion-bearing words, is non-negative, we estimate Tobit models. As one might expect, the tone of coverage is more positive in states with a greater number of accidents but more critical for severe accidents that involve a fire. Interestingly, the press is more negative in its spill-related coverage if the non-spill reports about a company are more positive. To test the "CSR as insurance" hypothesis, the models in table 5 include the KLD scores. These appear to be unrelated to the tone of coverage.

5. Discussion and Conclusion

In this paper, we study the gatekeeping role of the media in determining which negative corporate events reach a broader audience. Because the news is selectively reported, a fuller understanding of the costs and benefits of CSR activities requires executives to appreciate how investments in CSR influence the likelihood and quality of press coverage. We find that company CSR records do in fact influence the probability that the media will pick up a story. Both leading companies and CSR laggards experience increased media scrutiny. Our results are consistent with prior research about news selection which indicates that editors favor two types of stories: surprising incidents and events that conform to widely-held beliefs.

While selection effects are important in our context, we find no evidence that the tone of coverage is influenced by prior investments in CSR. An interesting question for future research is whether "CSR as insurance" works through channels other than the one studied in this paper. For example, our data do not allow us to analyze the reader response to stories about oil spills. Future research will have to show whether consumers or investors are more forgiving when reading about a negative event at a CSR leader.

Our results have implications for executives, policy makers and scholars. Executives who wish to minimize the risk of media attention to negative events need to be careful not to place their organizations at the very top or the very bottom of CSR rankings. Being in the middle of

the pack, our estimates imply, generates the least amount of coverage. The changes in the likelihood of coverage documented in this study are large enough to be economically meaningful. To the extent that CSR activities have other private benefits, these need to be traded off against the cost of increased media attention. There is some anecdotal evidence that executives actively manage the risks associated with the position of a CSR leader. Some banks, for instance, were reluctant to follow HSBC's progressive climate policy. Being seen as a "green", the executives argued, would expose their organizations to significant reputational risk (Oberholzer-Gee, Reinhardt and Raabe, 2007).

From a policy perspective, our findings speak to the importance of corporate reputation as a mechanism to further CSR. The increased media attention paid to CSR laggards promises to increase incentives to invest in CSR activities. Our findings are consistent with previous work that emphasizes the role of private politics in shaping corporate behavior (Baron and Diermeier 2007, Baron 2009). At the same time, our results also point to the limits of reputational incentives. As expectations about a company's performance rise with past investments in CSR, the cost associated with failure increase. This finding is not unique to our context. Rhee and Haunschild (2006), for instance, document that more reputable automakers lose a greater share of market following a product recall.

Finally, our study also has implications for scholarly work on CSR. A common approach in the literature is to rely on published news reports to analyze the effects of CSR investments. As the current paper shows, this approach will not typically lead to unbiased estimates because the selection of news stories is in part driven by company CSR records.

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Table 1 – Summary Statistics (2001-2007)

	# of spills	% reported	Amount spilled	KLD Strength	KLD Concern	# of "Green" Words in Annual Report	CSR Report	# of Past Spills in the State	# of Non-spill News Articles	Assets	Employees	Crude Production
Mean (all sample)	1167.15	0.35	325.76	0.44	3.95	14.15	0.42	2.26	0.40	123884	62.66	365
S.D. (all sample)	1623.75	0.06	5782.42	0.58	1.16	11.86	0.49	1.49	0.26	76008	36.46	214
EXXON	5822	0.14	236.91	0.0	4.6	3	0	1.86	0.46	192593	86.51	183
BP	3300	0.64	398.49	NA	NA	35.3	1	2.46	0.68	188096	103.80	732
SHELL	1959	0.41	587.40	NA	NA	9.4	1	2.67	0.32	183452	108.76	385
CONOCOPHILLIPS	1379	0.51	326.54	0.7	4.0	18.3	0	1.97	0.33	118555	39.08	353
CHEVRON	4618	0.26	197.31	1.2	4.6	15.3	0.71	2.20	0.52	107777	59.19	488
ANADARKO	628	0.16	262.05	0.3	1.9	9	0	1.16	0.16	33703	3.93	109
DEVON ENERGY	137	0.00	23.33	0.4	0.6	17.3	0	3.20	0.10	26062	3.82	65
MARATHON	410	2.20	925.81	0.5	3.5	25.3	0.43	1.30	0.13	25002	28.32	55
VALERO	1640	0.24	812.78	0.0	3.4	9.4	0	2.88	0.21	23495	21.02	NA
OCCIDENTAL	1124	0.00	141.53	0.0	3.5	8.6	0.57	3.30	0.09	20906	7.64	278
APACHE	370	0.00	28.42	0.4	0.8	16.6	0	3.22	0.06	19639	2.83	97
AMERADA HESS	131	1.53	24.40	0.0	2.5	29.3	1	2.11	0.06	17620	11.92	76
CHESAPEAKE	13	0.00	15.82	0.0	0.0	8.6	0	0.90	0.03	15832	3.22	29
BURLINGTON	76	0.00	17.15	1.4	0.0	13.6	0	3.00	0.04	14240	2.21	41
KERR-MCGEE	114	0.00	29.42	0.7	3.7	9.6	0	2.70	0.19	11899	4.20	154
UNOCAL	232	0.86	2105.27	1.0	2.2	8.4	0	2.10	0.13	11529	6.72	57
LYONDELL	684	0.00	12.23	0.0	1.7	16	0	3.22	0.06	10667	5.95	NA
SUNOCO	483	0.83	313.04	0.2	3.4	25.7	0.86	1.11	0.14	9485	14.08	NA
MURPHY	139	2.16	17.05	0.0	2.0	9.4	0	2.54	0.10	5938	5.72	32
TESORO	84	1.19	83.44	0.0	1.6	11.7	0.14	0.46	0.11	5635	4.16	NA

Notes: # of Spills is the total count of oil and chemical spills caused by the company and its subsidiaries during the entire period of 2001-2007, as reported in the National Response Center (NRC) database. % reported is the percentage of these spills that appeared in the news. The rest of columns show mean values. Amount spilled is the mean level of spill amounts as reported by the NRC. KLD scores are the average for the sample period, 2001-2007. # of "Green" Words in Annual Report, as well as CSR report (0/1) are the average for 2000-2006 and collected from company website. # of Past Spills in the State are in thousands and the average of 2000-2006, as reported in the National Response Center data. # of Non-spill News Articles are in thousands and the average of 2000-2006, with data compiled from LexisNexis Academic U.S. News and Wire database,. Assets are in millions of USD as reported in Compustat. Employees are in thousands as reported in Compustat. Crude production is in thousands of barrel per day, average of 2001-2007, data from Energy Information Agency.

Table 2 – Likelihood of Oil Spills Being Covered in the Press (BP & EXXON)

	M1	M2	M3
BP	1.564***	0.794	0.780
	(0.387)	(0.492)	(0.548)
EXXON	-2.338***	-1.733***	-1.977***
	(0.243)	(0.296)	(0.280)
Firm Crude Oil	-0.004***	-0.003**	-0.003**
Production	(0.001)	(0.001)	(0.001)
Firm Total Asset	0.001	0.014	0.014
	(0.006)	(0.011)	(0.011)
Firm Employee	0.010	-0.013	-0.013
	(0.010)	(0.019)	(0.019)
FIRE	2.134***	1.213	1.246
	(0.218)	(0.985)	(1.006)
Past Spill Accidents in	-0.523***	-0.364**	-0.389***
the State/1000	(0.120)	(0.153)	(0.147)
Past Non-spill News	0.459	1.695***	1.657***
Articles of the Firm/1000	(0.740)	(0.487)	(0.495)
Log(Spill Amount)		0.284***	0.263***
		(0.030)	(0.044)
BP * Log(Spill Amount)			0.010
			(0.046)
EXXON * Log(Spill Amount)			0.113**
			(0.048)
Constant	-4.081	-4.829	-4.721
	(0.319)	(0.441)	(0.382)
Year Fixed Effect	Y	Y	Y
Observations	20409	14034	14034
Log likelihood	-439.543	-206.691	-206.220
Wald test: BP=EXXON?	65.78***	28.49***	33.26***
Wald test: BP + BP * Log(Spill Amount) = EXXON + EXXON * Log(Spill Amount)?			31.77***

Notes: Dependent variable: 1 if oil spill is reported in the media and 0 otherwise. Coefficients of logistic regressions. Clustered standard errors by firm in parentheses; Model 1 contains the full sample and models 2 and 3 contain the sample with complete information about oil spill amount; Wald test results: Chi-squared values are reported.
Significance level: * p<.10, ** p<.05, *** p<.01

Table 3 – Likelihood of Oil Spills Being Covered in the Press (KLD Scores)

	M4	M5	M6
KLD Environmental Strength	1.823***	3.118***	
	(0.601)	(0.728)	
KLD Environmental Concern	1.341***	1.949*	
	(0.485)	(1.005)	
KLD Environmental Strength: Clean Energy			24.868***
			(5.335)
KLD Environmental Strength: Other Strength			-0.258
			(1.042)
KLD Environmental Concern: Regulatory Problem			22.623***
			(4.751)
KLD Environmental Concern: Substantial Emissions			3.959
			(2.843)
KLD Environmental Concern: Climate Change			27.360***
			(4.962)
KLD Environmental Concern: Other Concern			2.957
			(3.811)
Firm Crude Oil Production	-0.004***	0.016	0.016
	(0.001)	(0.013)	(0.023)
Firm Total Asset	0.020**	-0.016	-0.103**
	(0.008)	(0.013)	(0.047)
Firm Employee	-0.048*	-0.239***	-0.217
	(0.024)	(0.089)	(0.202)
Fire	1.539*	0.825	0.759
	(0.798)	(1.009)	(1.081)
Log(Spill Amount)	0.314***	0.323***	0.334***
	(0.047)	(0.045)	(0.047)
Past Spill Accidents in the State/1000	-0.419*	-0.428	-0.443*
	(0.227)	(0.273)	(0.262)
Past Non-spill News Articles in the Firm/1000	2.847**	3.246	3.203
	(1.261)	(3.732)	(4.603)
Constant	-9.370	-7.124	-50.374
	(1.458)	(3.162)	(9.910)
Year Fixed Effect	Y	Y	Y
Firm Fixed Effect	N	Y	Y
Observations	10339	8631	8226
Log likelihood	-118.491	-109.297	-104.084
Wald test: Environmental Strength items jointly zero?			39.95***
Wald test: Environmental Concern items jointly zero?			139.45***

Notes: Dependent variable: 1 if oil spill is reported in the media and 0 otherwise. Coefficients of logistic regressions. Clustered standard errors by firm in parentheses; Wald test results: Chi-squared values are reported
Significance level: * $p<.10$, ** $p<.05$, *** $p<.01$

TABLE4 – Likelihood of Oil Spills Being Covered in the Press (Green Count)

|	M7	M8	M9	M10
KLD Environmental Strength	1.907***	2.733**	1.881***	3.100***
	(0.623)	(1.240)	(0.730)	(0.682)
KLD Environmental Concern	1.357***	2.056*	1.403***	1.823*
	(0.478)	(1.204)	(0.483)	(1.033)
CSR Report (Lagged, 0/1)	-0.697	1.652		
	(0.894)	(2.380)		
No. of Green Words in			0.076*	-0.034
Annual Report (Lagged)			(0.046)	(0.094)
Firm Crude Oil	-0.004***	0.016	-0.007***	0.017
Production	(0.001)	(0.013)	(0.002)	(0.013)
Firm Total Asset	0.013**	-0.019	0.026***	-0.013
	(0.006)	(0.018)	(0.009)	(0.015)
Firm Employee	-0.035**	-0.303**	-0.052***	-0.231**
	(0.014)	(0.136)	(0.020)	(0.098)
Fire	1.512*	0.781	1.384*	0.833
	(0.781)	(1.018)	(0.808)	(0.994)
Log(Spill Amount)	0.311***	0.322***	0.302***	0.323***
	(0.049)	(0.045)	(0.049)	(0.045)
Past Spill Accidents	-0.419*	-0.422	-0.404*	-0.429
in the State/1000	(0.231)	(0.271)	(0.230)	(0.273)
Past Non-spill News	-2.953**	3.137	-1.765	3.016
Articles in the Firm/1000	(1.300)	(3.665)	(1.111)	(3.861)
Constant	-9.609	-7.841	-9.966	-6.224
	(1.423)	(3.236)	(1.619)	(3.052)
Year Fixed Effect	Y	Y	Y	Y
Firm Fixed Effect	N	Y	N	Y
Observations	10339	8631	10339	8631
Log likelihood	-118.306	-108.934	-117.448	-109.255

Notes: Dependent variable: 1 if oil spill is reported in the media and 0 otherwise. Coefficients of logistic regressions. Clustered standard errors by firm in parentheses. ***CSR Report*** measures whether the responsible firm issued a separate sustainability report in the last year. ***No. of "Green" Words in Annual Report*** measures the count of "Environmental", "Environment", "Green", "Greenhouse", "Sustainability" in last year's annual report of the responsible firm. *Significance level*: * p<.10, ** p<.05, *** p<.01

TABLE 5 - Tobit Regression on the Positive Sentiment in News Report

	M1	M2
KLD Environmental Strength	-0.099	0.031
	(0.474)	(0.534)
KLD Environmental Concern	-0.498	-0.608
	(0.328)	(0.389)
Firm Crude Oil Production	0.002	0.001
	(0.002)	(0.002)
Firm Total Asset	0.002	0.002
	(0.005)	(0.005)
Firm Employee	-0.008	0.001
	(0.017)	(0.025)
Fire	-1.766**	-1.783**
	(0.779)	(0.774)
Positive Tone in Past Non-spill News Article of Firm	-2.681**	-2.709**
	(0.889)	(0.885)
Past Spill Accidents in the State/1000	0.775***	0.744***
	(0.169)	(0.179)
Log (Spill Amount)	0.033	0.040
	(0.054)	(0.055)
No. of Green Words in Annual Report (Lagged)		0.016
		(0.031)
Constant	11.884	11.846
	(3.097)	(3.079)
Sigma Constant	0.636	0.632
	(0.098)	(0.098)
Observations	21	21
Log Likelihood	-20.306	-20.174

Notes: Dependent variable: the proportion of positive words over total word counts in newspaper articles about spill accident by accident. Coefficients of tobit regressions. Standard errors in parentheses. Analysis is performed with Wordstat 6.0. The text is pre-processed with porter stemmer and English lemmization, and exclusion list adopted from Stoplist (Fox 1990). The dictionary for positive words is drawn from the General Inquiry (Stone 1966), a frequently used categorization dictionaries for emotion-bearing words. *Significance Level*: * p<.10, ** p<.05, *** p<.01

Figure 1. Spill Accidents and Media Reports: BP vs. Exxon, 2001-2007
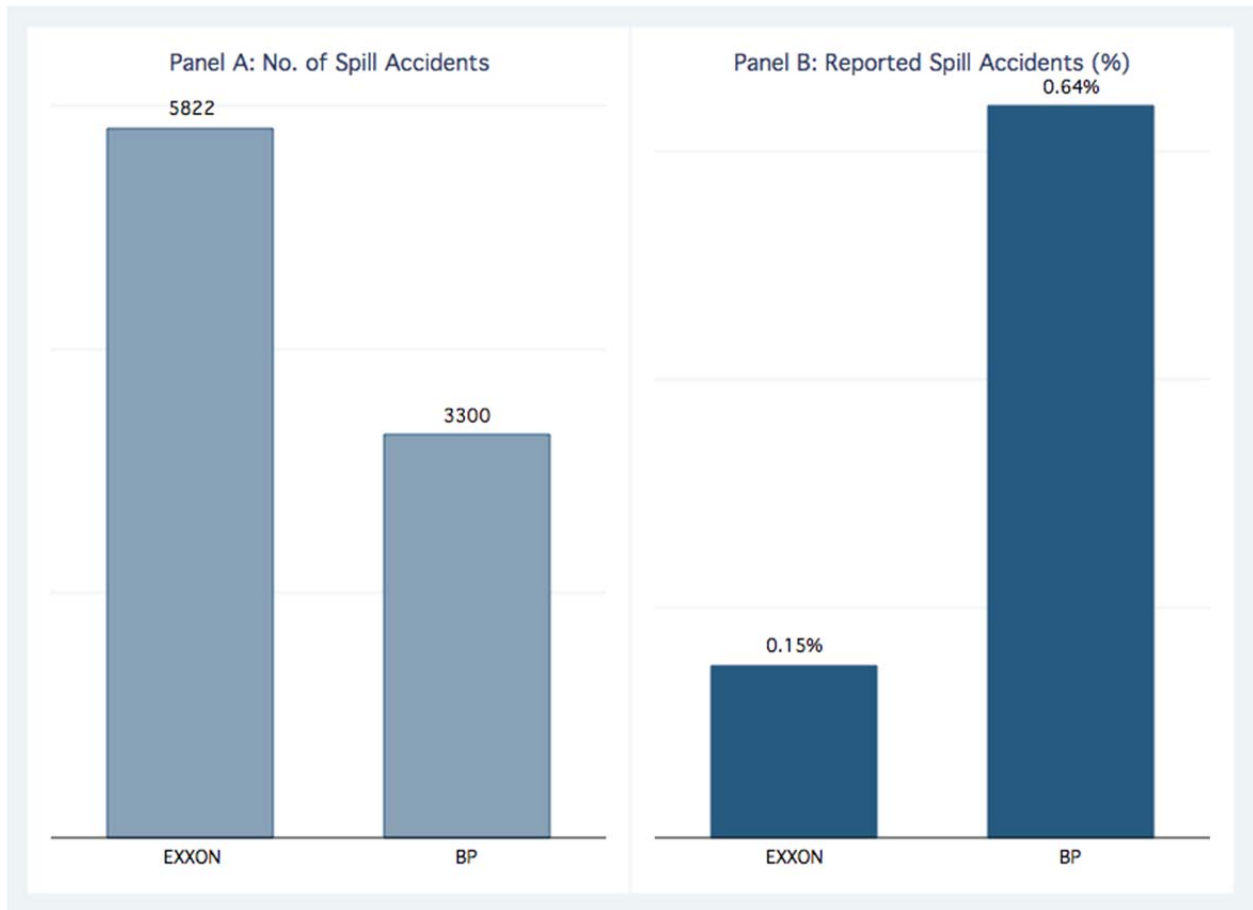
Note: Panel A plots the total number of oil and chemical spills that are caused by Exxon and BP during 2001-2007, as reported in the National Response Center (NRC) database. Panel B plots the percentage of these spills that appeared in the news, and the news data is compiled from LexisNexis Academic U.S. News and Wire database. Exxon was responsible for more accidents during this period (Panel A, 5822 caused by Exxon vs. 3300 caused by BP), while accidents caused by BP have a higher chance of being reported than accidents caused by Exxon (Panel B, 0.64% by BP vs. 0.14% by Exxon).

Appendix 1: KLD Measures for Environment

ENVIRONMENT STRENGTHS

Beneficial Products and Services (ENV-str-A). The company derives substantial revenues from innovative remediation products, environmental services, or products that promote the efficient use of energy, or it has developed innovative products with environmental benefits. (The term "environmental service" does not include services with questionable environmental effects, such as landfills, incinerators, waste-to-energy plants, and deep injection wells.)

Pollution Prevention (ENV-str-B). The company has notably strong pollution prevention programs including both emissions reductions and toxic-use reduction programs.

Recycling (ENV-str-C). The company either is a substantial user of recycled materials as raw materials in its manufacturing processes, or a major factor in the recycling industry.

Clean Energy (ENV-str-D). The company has taken significant measures to reduce its impact on climate change and air pollution through use of renewable energy and clean fuels or through energy efficiency. The company has demonstrated a commitment to promoting climate-friendly policies and practices outside its own operations. KLD renamed the Alternative Fuels strength as Clean Energy Strength.

Property, Plant and Equipment (ENV-str-F). The company maintains its property, plant, and equipment with above average environmental performance for its industry. KLD has not assigned strengths for this issue since 1995. For the oil firms in our sample, this variable is not reported.

Management Systems (ENV-str-G). The company has demonstrated a superior commitment to management systems through ISO 14001 certification and other voluntary programs. This strength was first awarded in 2006.

Other Strength (ENV-str-X). The company has demonstrated a superior commitment to management systems, voluntary programs, or other environmentally proactive activities.

WEAKNESSES

Hazardous Waste (ENV-con-A). The company's liabilities for hazardous sites exceed $50 million, or the company has recently paid substantial fines or civil penalties for waste management violations.

Regulatory Problems (ENV-con-B). The company has recently paid substantial fines or civil penalties for violations of air, water, or other environmental regulations, or it has a pattern of regulatory controversies under the Clean Air Act, Clean Water Act or other major environmental regulations.

Ozone Depleting Chemicals (ENV-con-C). The company is among the top manufacturers of ozone depleting chemicals such as HCFCs. Methyl chloroform, methylene chloride, or bromines.

Substantial Emissions (ENV-con-D). The company's legal emissions of toxic chemicals (as defined by and reported to the EPA) from individual plants into the air and water are among the highest of the companies followed by KLD.

Agricultural Chemicals (ENV-con-E). The company is a substantial producer of agricultural chemicals, i.e., pesticides or chemical fertilizers.

Climate Change *(ENV-con-F).* The company derives substantial revenues from the sale of coal or oil and its derivative fuel products, or the company derives revenues indirectly from the combustion of coal or oil and its derivative fuel products. Such companies include electric utilities, transportation companies with fleets of vehicles, auto and truck manufacturers, and other transportation equipment companies. In 1999, KLD added the Climate Change Concern.

Other Concern *(ENV-con-X).* The company has been involved in an environmental controversy that is not covered by other KLD ratings.