

CSR as Reputation Insurance:

PRIMUM NON NOCERE

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For many firms, the most precious asset lies not on the balance sheet, nor in the human capital of the workforce, but rather in its reputation. For instance, IBM's reputation for being an enterprise-friendly and efficient solutions provider has enabled it to beat rivals for business over many years. McDonald's reputation for being a family-friendly and economical place to eat has sustained its market share in the face of fierce competition from other chains.

However, reputation can be a fragile thing. Consider British Petroleum (BP) and its recent oil spill in the Gulf of Mexico. While BP had for years invested in its sunburst logo and various "do good" and "be green" campaigns, its reputation quickly slipped away in the midst of tragedy: its firm value was decimated by some \$100 billion.¹ Another example is Toyota, which became the largest automobile manufacturer through its reputation for reliability and value but has suffered as allegations of faulty accelerators and cover-ups of these problems have come to light. This can be seen vividly in the resale market where even Toyota vehicles unaffected by the recalls declined in value by an estimated 4-5%.² Likewise Dell, which became the leading PC manufacturer largely on the basis of quality and low price, has suffered reverses in recent years owing to laptop batteries catching fire and other quality control problems. This has contributed to a cumulative loss of a third of its market value.³ In short, reputational risk is one of the key business risks that firms face.

The usual business responses to such risks are to turn to insurance markets or to self-insure. For instance, Google, whose reputation rests on the reliability and speed of its search results, takes the unusual step of designing its own servers with special features such as a patented internal backup power system, to maximize reliability and efficiency should a problem arise.⁴ Manufacturers who are dependent on key raw materials will routinely use futures markets to

hedge price risk. Multinationals will likewise turn to currency markets to hedge exchange rate risk. However, there is no obvious market for firms seeking to insure against reputation risk.

This article shows how a firm's corporate social responsibility (CSR) activities can partially insure against reputation risk.⁵ We begin by developing a theory showing the link between CSR and a firm's reputation. We then illustrate the link between CSR and reputation insurance using a case study of Guidant and Boston Scientific, which explores investor responses to adverse events in the medical stent market. While this analysis is helpful, it is by no means definitive. To examine the mechanism more broadly, we conduct a study of the link between reputation and CSR for product markets for all S&P 500 companies over the period 1991-2006.⁶

Our main finding is that, after controlling for individual firm characteristics and contemporaneous stock market returns, stock prices (which we use as a proxy for a firm's reputation) decline significantly less following an adverse event (a product recall) when a firm is (properly) engaging in CSR.

While CSR is often thought of as engaging in visible "doing good" activities, such as making charitable contributions, a less visible dimension of CSR, namely, "not doing harm," is actually more important. In particular, we find a synergistic effect on reputation for firms who are exceptional both in doing good and avoiding harm. However, doing good while also doing harm leads to reputational consequences that are worse than simply doing nothing at all. For managers, these findings have two key implications: First, even though "not doing harm" is often less visible to the public than "doing good," it should not be neglected as a CSR strategy. Second, and perhaps more important, "bad" behavior in one aspect of a firm's operations cannot be erased by "good" behavior in another. CSR as reputation insurance only works when a firm's behavior is consistent.

How CSR Acts as Reputation Insurance

Firms face a variety of business risks in today's dynamic environment. How should they best manage or hedge these risks? CSR activities can play an important role in a firm's risk-management strategy. Consider the situation of Mattel in 2007,⁷ which experienced the largest toy recall in history, covering some of its most popular product lines. These toys were found to contain extremely high levels of lead paint. Disclosing the problem and recalling the affected toys would surely be costly to Mattel; however, the long-run impact on the profitability of the firm would ultimately depend on how the public and investors perceived Mattel's culpability. If they saw the problem as one mainly stemming from Mattel's negligence in overseeing its Chinese suppliers, there would be serious, long-term consequences. If, however, it were seen as merely

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an “honest mistake”—something that could happen to even a diligent firm—the damage would be much less. Thus, Mattel’s “reputation,” driven in part by public perceptions of it as a “responsible” corporate citizen, would have important consequences: they would shape how the causes of its unsafe toys and product recall would be understood.

Although adverse events have direct costs in the form of regulation penalties and lawsuits, these are often dwarfed by indirect costs. For example, Mattel would now have to monitor its input suppliers more carefully and engage in a major public relations campaign to communicate its efforts to improve product quality. Being a publicly held company, these expected costs would be (almost) immediately reflected in its stock price. Investors would also price in the future *expected* cost of an adverse event for the firm—their beliefs about the possibility of such an event happening again. Obviously, investors’ judgment about this risk would be colored by the firm’s reputation *before* the event. Is this event an anomaly, or does it reflect that Mattel has been rather cavalier in monitoring its suppliers? In short, the degree of price change following this adverse event would be based on the weights investors place on its cause.

Similarly, regulators have limited resources to investigate adverse events. In local law enforcement, the decision to prosecute some crimes and not others is known as “prosecutorial discretion.” In a regulatory setting, a similar principle applies: All things equal, those firms that are thought less likely to have been negligent will be pursued less fiercely or not at all.

One can think of a scale describing the possible causes of an adverse event. The left side of the scale can be labeled “bad luck”—the incident was caused by factors largely out of the firm’s control. The right side of the scale can be labeled “bad management”—the incident was caused by negligence, foolhardy cost cutting, or some other factor under the control of the firm. Where investors and regulators place an event on this scale depends on the firm’s reputation, based on its past actions as a “responsible corporate citizen.”

Viewed in this light, expenditures on corporate social responsibility (CSR)—both “doing good” and “avoiding harm”—can be thought of as an insurance premium. In normal times, this simply reflects a pure cost; however, when an adverse event arises, the firm is insured to the extent that its past CSR activities tip the scale toward perceiving it as due to bad luck rather than bad management. This saves the firm money, regulatory scrutiny, and helps preserve the value of its brand. Thus, CSR provides a *contingent* benefit.

The returns from CSR have been much studied by academics.⁸ The typical conclusion of these studies is that CSR activities offer little in the way of positive returns. However, these studies focus on returns during “normal” times—i.e., most of the time. When viewed through an insurance lens, however, our study offers the opposite conclusion—CSR (done correctly) produces considerable returns following adverse events.

The following analogy shows how one may easily reconcile our results with those of existing studies. Imagine one were interested in studying the returns to purchasing earthquake insurance. A dataset consisting of premiums

versus claims in San Francisco over the last 10 years would conclude (correctly) that it is a terrible investment—insurance is a pure cost in “normal” times. However, the scope of this hypothetical study is too narrow to capture the actual benefits of earthquake insurance. Such is the case with many studies of CSR as well. By focusing on “events” rather than on normal times, we observe a very different story about the value of CSR.

Two CSR Levers: Doing Good and Avoiding Harm

In building a reputation as a responsible corporate citizen, a firm has two levers at its disposal. The first is the positive CSR lever. That is, the firm can be involved in activities that contribute to the sense that the firm “does the right thing.” Examples of this are everything from investing in local community services to treating employees unusually well. The second is the lever of avoiding negative CSR (or avoiding harm). Examples of negative CSR include employing (or buying from a supplier who employs) slave labor, engaging in farming or mining in an environmentally unfriendly way, or driving hard bargains with suppliers or workers that leave it impossible for them to earn a living wage. In short, negative CSR is an activity observed by those outside the firm that suggests the firm is being irresponsible.

Which Lever to Pull?

While many think of engaging in CSR activities as “doing good,” “avoiding harm” also plays a key role in determining where the balance of responsibility lies following an adverse incident. Partially this stems from the fact that “doing good” activities are generally more visible and easily measured. For instance, a firm’s charitable contributions are readily quantified. In contrast, the costs from avoiding harm activities are often opportunity costs and, as a result, far more difficult to quantify. For instance, the cost of not buying from the cheapest supplier because of that supplier’s labor practices is the cost difference between using that supplier and the second-best alternative. This cost never appears on a firm’s income statement, nor does the CEO appear in the local paper for its supplier decisions. It is easier to publicize doing good activities than avoiding harm activities.

However, while the costs of avoiding harm are more difficult to measure and convey to various stakeholders, the benefits may be greater than an equivalent amount of doing good activities. Doing good communicates *indirectly* to shareholders that adverse events stem from bad luck rather than bad management. The connection is far from perfect—bad managers can easily pool with good ones by merely imitating and publicizing doing good activities. In contrast, avoiding harm activities are harder for bad managers to imitate. In the example above, a manager would have to investigate the labor practices of suppliers, find alternatives, and continue to be vigilant thereafter. Thus, the connection between avoiding harm and avoiding the “bad management” label following an event is more direct.

Additionally, it can take years to build “good” reputation, but only days or months of “bad” activities to wipe it away. Thus, a firm seeking only a neutral reputation (i.e., by trying to limit negative events and activities) may in the end fare better than the firm that instead commits the same resources to “doing good” while neglecting to “avoid harm.” In fact, to the extent that firms are increasingly involved in some “good” activities in building positive CSR, the value of doing so diminishes.

We are not the first to suggest that CSR might offer insurance-like benefits. For instance, Godfrey et al. suggest that CSR activities represent investments in moral capital from which the firm can draw when adverse events arise.¹⁰ They suggest that CSR activities represent a public signal of the degree to which management is altruistic. Under this theory, when adverse events arise, stakeholders view the altruism of management as a sign of its competence. Second, the theory implicitly assumes that selfish managers cannot simply imitate their altruistic counterparts, as this would destroy the signal value of the activity. A key implication of this view of CSR is that visible positive CSR activities offer particularly high benefits while less visible “avoiding harm” activities add less to a firm’s stock of moral capital.

Our analysis differs in several key respects. First, managers are trying to signal responsibility (competence) rather than altruism through their CSR activities. As we will show, reputational benefits from less visible avoiding harm activities outweigh visible altruistic actions in shareholder evaluations of competence following adverse events. Second, managers are strategic—incompetent managers will imitate inexpensive signals if this leads stakeholders to conclude that they are responsible. This again argues for placing greater weight on activities that avoid harm rather than those associated with “doing good,” which may be more easily and cheaply imitated.

The difference in the two approaches is vividly illustrated in the following case study. Here, we examine two firms that generally match one another on the “doing good” dimension but differ in terms of “avoiding harm” in the specific area of product markets. As we shall see, the market made dramatically different judgments about bad luck versus bad management for the two firms.

Case Study of Guidant and Boston Scientific

To examine the link between CSR reputation and investor response to adverse events, we use a financial event study to isolate the relationship between changes in firm value and product recalls. While this methodology enables us to link stock price changes to particular events, the underlying rationale for the response and its connection to CSR reputation is admittedly based on our interpretation of causality. However, our observations are consistent with a statistical analysis of all S&P 500 companies over a 16-year period as well as contemporaneous reports from analysts and the popular press.

Since adverse events are rare by definition, some of the S&P 500 firms never experienced them, and many have only one. We were fortunate in that

there were two medical device manufacturers in our dataset that were not only in the same product market, but also had multiple product recalls under differing CSR rating regimes—both within and across firms. As multiple events for firms are rare, this is the only pair of firms in our data that have numerous overlapping events within the exact same product line. Indeed, both manufacturers had been troubled by numerous stent recalls that ultimately led to regulatory scrutiny. The variety of events, CSR strategies, and market reactions offers an ideal setting for studying the connection between CSR and a firm's reputation. We thus study the connections between each firm's CSR activities and the stock price response to news about each product recall for the entire 12-year period their existence overlapped in our 16-year data series.

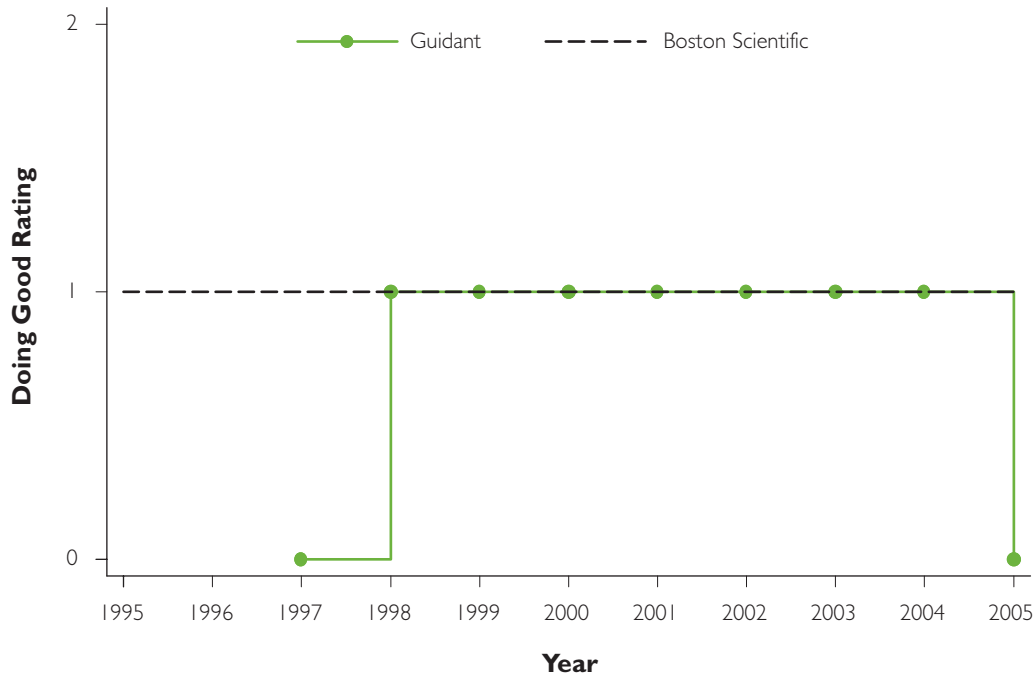
To conduct such a study, we need a measure of CSR activities. Here, we rely on data provided by KLD (now part of MSCI), which is considered the "gold standard" in reputation research on CSR.¹¹ KLD rates firms on several areas of CSR, including positive and negative dimensions. One such area of rating is product CSR. Product CSR can again be thought of as the extent a firm conscientiously manufactures and distributes its products. The positive dimension of such CSR (i.e., "product strengths") includes providing products to needy individuals, extra quality control of its supply lines, and product safety. The negative dimension (i.e., "product concerns") includes such things as being involved in fights with regulators over product safety and unethical marketing campaigns. We use a firm's Product CSR rating since this is what should be linked to product related events, namely, product recalls.

KLD's rating approach is best thought of as a latent variable model: every firm is rated by analysts on various factors unobserved by the researcher. Once a firm has a value above some threshold, they receive an outcome of one for each of 8 categories (consisting of four strengths and four concerns), and zero otherwise. To summarize both the positive and negative dimensions, KLD then provides Product Strengths and Product Concerns ratings that are each coded 0, 1, 2, 3, or 4, measuring the total number of categories flagged as a strength or concern. We include a full description of each category in the appendix. Figures 1 and 2 show a time series of each the positive CSR and negative CSR trends of our firms on the dimension of product CSR.¹²

Figure 1 reveals that Boston Scientific (hereafter BSX) had a modestly positive CSR rating (i.e., 1.0) that did not change for the entire series. Meanwhile, Guidant (hereafter GDT) began with no positive CSR rating, matched BSX's rating after one year, and then maintained this same rating until 2005, when its rating again fell to zero. There is little to distinguish the two firms in terms of positive CSR. Figure 2, on the other hand, reveals key differences in the two firms' reputations in terms of "avoiding harm." While both companies suffered erosion of their negative CSR ratings over the course of the study, save for 1997, BSX always had a worse rating than GDT on this dimension.

In 1998, BSX recalled its NIR on Ranger w/SOX Premounted Stent System, used to treat coronary disease with average lesions, due to the possibility of pinhole leaks in the balloon portion of the delivery catheter. BSX predicted that

FIGURE I. Doing Good Ratings over Time for Guidant and Boston Scientific

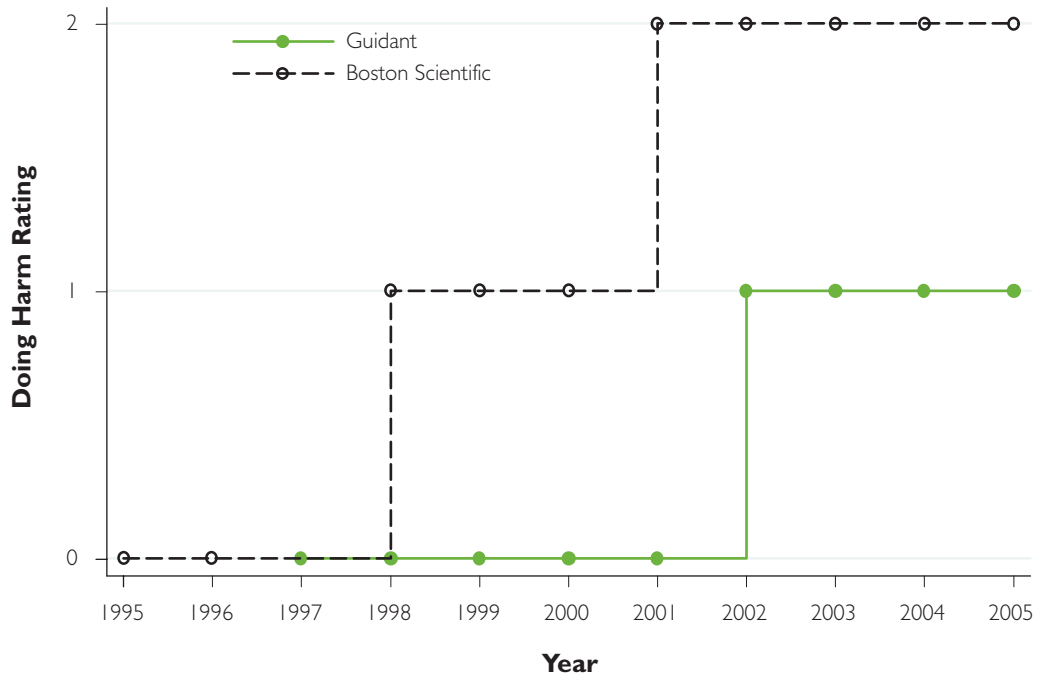


Source: KLD.

these stents would account for 30% of the \$1.3 billion stent market—a considerable loss. Rather than punishing the firm, the market reacted positively—BSX enjoyed a 5.54% positive abnormal return in its stock price in the period immediately following the announcement.¹³ The market saw the recall as a positive, given BSX’s past reputation. BSX was seen as being vigilant about its products and acting quickly when issues were identified. BSX’s Chief Financial Officer Larry Best put it this way: “We have a winning product here, and we didn’t want to taint it with any concerns about patient safety.”¹⁴ The *Wall Street Journal* further reported that BSX “decided to withdraw the Nir-Sox product as a ‘precautionary measure’ after consulting with its scientific experts.”

In 1999, when BSX recalled the Rotablator, Rotalink Advancer, and Rotalink Plus laser systems associated with plaque removal of coronary arteries, the balance of blame shifted from bad luck to bad management. At this time, BSX’s negative CSR rating had risen to 1. This time, the market’s reaction was very different—BSX lost 5.66% of abnormal firm value during the event period. This represented a loss of roughly \$750 million in market capitalization despite the fact that the recall of these systems amounted to only \$60 million in lost revenues. Arguably, the harm to consumers was less in the second recall. The laser products were linked to 3 injuries and 1 death whereas the Nir-Sox stent was

FIGURE 2. Doing Harm Rating Over Time of Guidant and Boston Scientific



Source: KLD.

associated with 26 injuries and 1 death. Moreover, between the 1998 and 1999 recalls, the FDA decided to investigate BSX over concerns that it had modified its stent without proper FDA approval. This clearly weighed on investor confidence following the second recall. Thus, BSX was no longer given the benefit of the doubt. The key point to note here is that, despite enjoying an unblemished positive CSR rating, the market still punished BSX, seemingly overlooking the positive. Boston Scientific CEO James Tobin offered this assessment to the *Wall Street Journal*:

“The . . . recall didn’t do much for investor confidence, already shaken by the [1998 recall] . . . The marketplace right now doesn’t have much tolerance for surprises. We gave them a surprise and we got whacked.”¹⁵

In 2001, GDT issued a voluntary product recall for its Ancure system used to treat abdominal aortic aneurysms. While its CSR rating was similar to BSX at the time of its first recall, the market’s reaction was not. Unlike BSX in 1998, the cumulative effect of recalls led the market to punish GDT, driving share value down by 6.5% immediately after the announcement. That is, we witness a negative reputation spillover—a firm becoming less responsible leads to other similar firms in the future also being viewed more harshly after an event. While noting that the recall was voluntary and reiterating his buy recommendation

for Guidant, Morgan Stanley analyst Glenn Reicin also highlighted the market's increasing worry about the industry. Wrote Reicin:

During the past several weeks, there has been heightened concern about the FDA. Schering Plough, Eli Lilly and Abbott Labs are all subject to recent actions by the FDA. Additionally, last year Medtronic removed its . . . stent graft from the market after manufacturing irregularities were discovered.¹⁶

The \$700 million drop in firm value following the announcement is all the more remarkable given that no injuries were reported from the product and GDT only took a \$12-\$15 million charge on the recall.

Both companies continued to neglect the avoiding harm lever, though more so in BSX's case. By 2002, BSX's negative reputation had worsened to 2 while GDT had worsened to 1. This same year, BSX revealed that two of its senior officials were being pursued by regulators in a wide ranging criminal investigation of past recalls.¹⁷ GDT, however, was not included in this probe. This differential reputation was also reflected in the financial markets. GDT announced another voluntary recall of its 3-millimeter-diameter Multi-Link Vision stent in 2003 after finding it failed some quality tests, resulting in a 3.1% *gain* in value.¹⁸ In sharp contrast, in 2004, BSX issued a succession of recalls for its Taxus drug-coated stents over the course of a month, producing a whopping 18.9% cumulative loss in abnormal value, or almost \$6.5 billion of lost value. These stents were believed to have caused 3 deaths and 43 injuries. Customers had now developed a sense that BSX, in contrast to GDT, had now "gone rogue" in responsible production and distribution of its medical devices. Following these recalls, one doctor offered the following grim assessment: "For now, the [BSX] stents will stay on the shelves, but I doubt they'll get much use."¹⁹ BSX was finally deemed wholly irresponsible.

Going forward, both firms maintained their same level of harm, or negative CSR, rating; and both firms continued to face various recalls over the next year. However, the reputation story remains the same: GDT suffered total losses of 7% compared to an additional 13.2% loss for BSX. Even the FDA echoed this differential market sentiment, *singling out* BSX for "ongoing systemic violations of quality-control standards."²⁰

Shortly thereafter, BSX purchased GDT. Would this mean that BSX has "bought" GDT's relatively better reputation in the medical device market? At the end of 2006, the market valued the new combined entity at some \$25 billion. As of this writing, its value has fallen to a mere \$10 billion. To be sure, the U.S. stock market as a whole fell during this period. However, had BSX fallen at the same rate as the S&P 500, it would today be worth almost \$22 billion. It seems BSX simply swallowed GDT and its reputation, as BSX was not credited with any of GDT's superior reputation after the acquisition.

This case demonstrates the connection between CSR and stock price responses following product recalls. The case also illustrates how this response differs depending on the firm's "stance" in terms of positive and negative CSR. Likewise, it shows how regulatory scrutiny might also depend on CSR. Of course, the case is only suggestive. There are a variety of other aspects of medical

device markets and the strategies of the two companies besides CSR that are neglected in the case. The next section examines stock price responses to product recalls for *all* S&P 500 firms for the period 1991 to 2006. The key finding to emerge from this study is that the experiences of Guidant and Boston Scientific are, in fact, broadly representative.

A Study of CSR, Product Recalls, and Stock Price Response

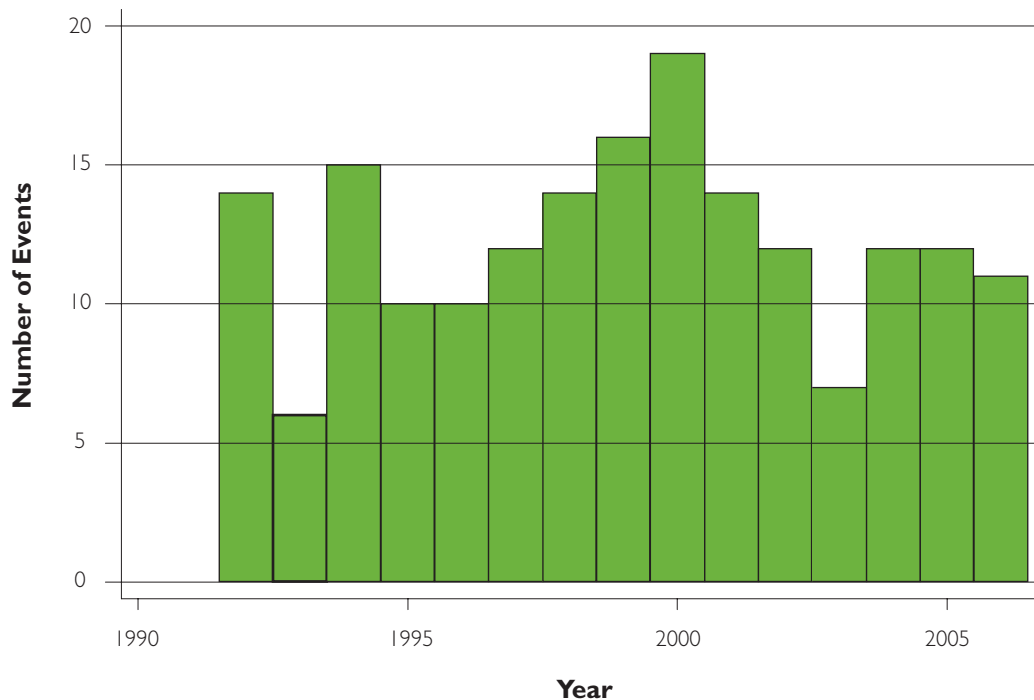
To examine the broader case for CSR as reputation insurance, we collected CSR and product recall event data on S&P 500 firms from 1991 to 2006. As with the case study, we used KLD data as a measure of a firm's CSR activities, which provides a consistent measure throughout the period studied. Since the category of adverse events we are concerned with is product recalls—something relatively rare and unexpected in the eyes of investors when it occurs—we use product CSR as our measure of CSR reputation.

We obtained information about adverse events through the labor-intensive process of manually collecting product recalls reported in the *Wall Street Journal*. The *WSJ* provides an index of all past product recalls on which it has reported. This source has been used in numerous past product recall research.²¹ Since we only consider newsworthy product recalls, our data will tend to omit smaller events, which are likely to be of less importance to firm valuations. However, these newsworthy events are the very events that should be moving firm values via reputation adjustments. Indeed, the reason the *WSJ* publishes particular recall events is because they are of interest to its readers, who are typically investors. Though imperfect, the *WSJ* index has the advantage of providing an objective benchmark of adverse events.

These data were then merged with abnormal stock returns surrounding the event. In particular, these returns were used following financial event study methodology.²² The idea behind such a study is to develop a model for determining a firm's stock price during "normal" times. Such an analysis controls for firm and industry characteristics as well as market-level changes in stock prices. The modeled stock price is then compared to the actual stock price in a time period surrounding an event, in this case, a product recall announcement. The difference in the actual versus predicted returns during this period represents the "abnormal" returns, which may be attributed to the product recall rather than other factors. Using the abnormal return then allows us to connect CSR ratings and investor responses to the actual event.

Figure 3 shows the annual incidence of product recalls in our sample. As the figure reveals, there were about 15 such recalls per year. This means that each firm in the study had about a 3% chance of an adverse event each year. They are thus infrequent in the life of a typical firm.

Figure 4 presents the distribution of stock price returns immediately following these adverse events. To compute these returns, as with our case study, we calculate *abnormal* change in firm value following a recall. This is the change

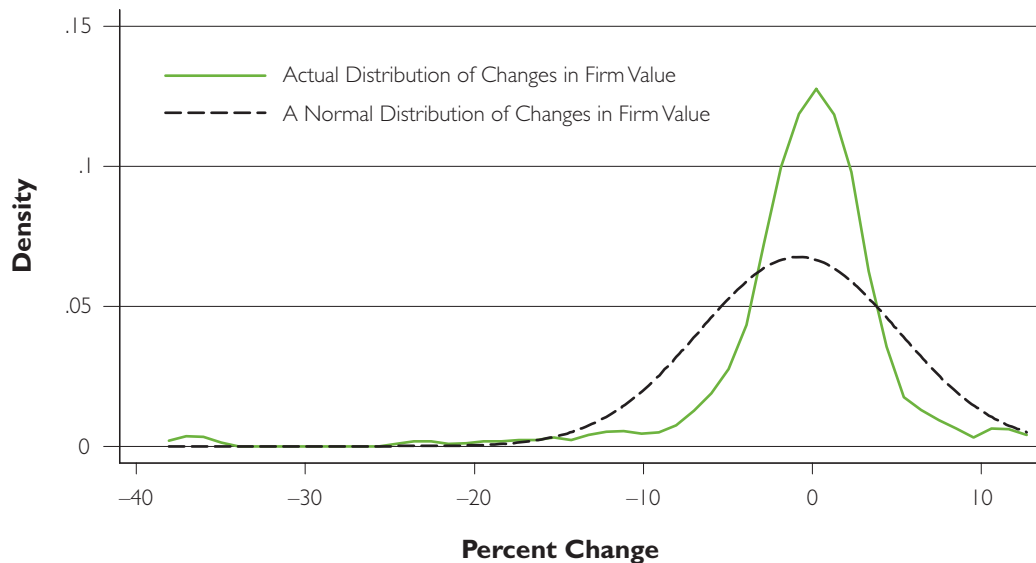
FIGURE 3. Total Annual Incidence of Product Recall Events for All Firms

Sources: Wall Street Journal and KLD.

in firm value that cannot be explained as a result of the particular firm's size, capital structure, and relative performance to others. In other words, it is the excess return (or loss) attributed to the adverse event.

Figure 4 also plots a normal distribution, which is often used as a benchmark for determining if a realized distribution is skewed in a particular manner. The x -axis reports cumulative abnormal (event) return. This is the sum of the return on the day before and the day of the event announcement. We include the day before to account for the possibility of news "leakage" prior to the public announcement. The y -axis is the density of a given return level, which is essentially just the frequency of the given return. Notice that the peak of the realized distribution occurs near zero. The market deemed these events as not materially affecting a firm's value. This is not terribly surprising given the breadth of events included in our dataset. For example, one such event is Black & Decker's announcement of a toaster recall. Obviously, one would not expect this to materially affect the fortunes of Black & Decker.

It is possible that we are not controlling for the heterogeneity of event types in our dataset. After all, some recalls are large while some are small. Obviously, the direct costs will differ by the magnitude of the recall. By direct costs we mean the cost of replacing all the failed toasters in our Black & Decker

FIGURE 4. Plotting the Frequency of Different Changes in Firm Value Upon an Event

Note: kernel = epanechnikov, bandwidth = 0.9569

Sources: CRSP, KLD, and Wall Street Journal.

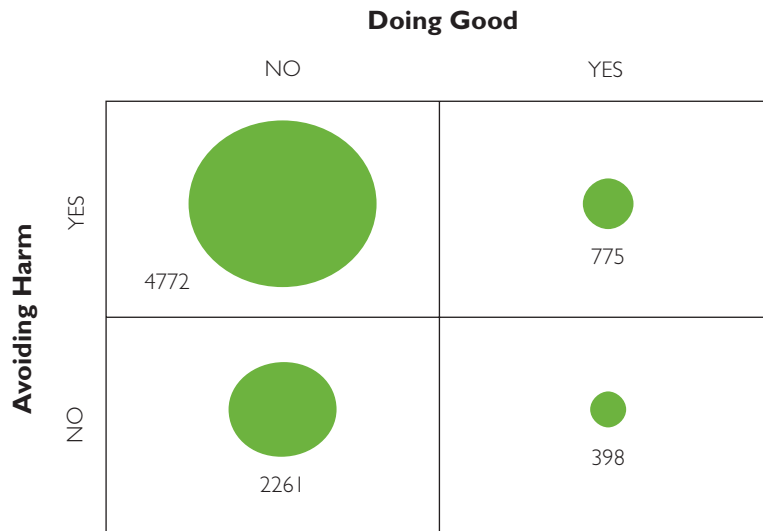
example or faulty toys in the case of Mattel toy recalls. While firms do not normally report these direct costs, in roughly 10% of our sample they did. Our results are virtually unchanged when we control for costs in this subsample. Additionally, there is no statistical difference between firm characteristics in our subsample and the entire sample, whether we compare firms over financial characteristics, CSR ratings or abnormal event returns.²³

A second key (but expected) feature of our findings is the skewed “negative” tail of event returns. Product recalls more often result in reductions in firm value rather than gains. It is reassuring that this feature is apparent in Figure 4.

While KLD again rates all firms on a 5-point scale on both the doing good and avoiding harm dimensions of CSR, we summarize a firm’s CSR rating along each dimension by a binary variable, i.e., a firm either does good or not and avoids harm or not.²⁴ This then yields a matrix of four possible types of ratings a firm might have, as shown in Figure 5. Each type is then identified by whether or not the firm avoids harm and whether or not it does good. For example, if a firm was avoiding regulatory fights, it was avoiding harm. A firm was doing good, for example, by providing products to disadvantaged groups.

In Figure 5, the size of the circles contained in each of the cells of the matrix corresponds to the fraction of firms of each type in our sample. The largest number of firms fall into the category of doing good while successfully avoiding harm.²⁵ The next largest category consists of firms that apparently care little

FIGURE 5. The Number of Firms of Each Quadrant Type Having Events



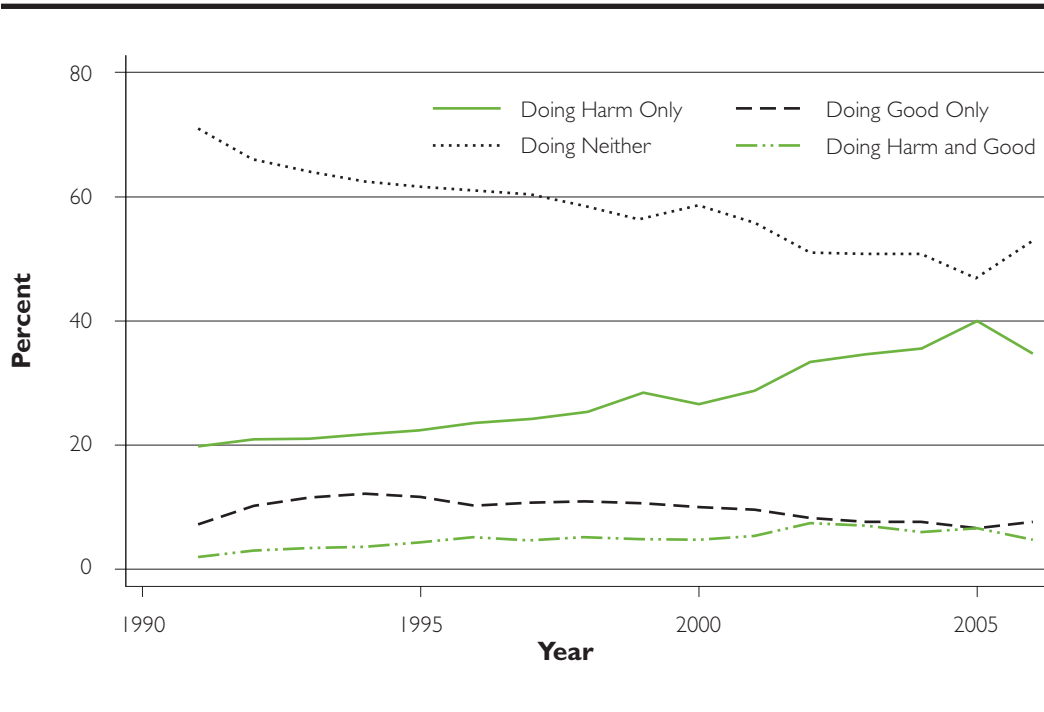
Source: Wall Street Journal and KLD.

about CSR ratings. They are undistinguished on the doing good dimension while being flagged on the harm dimension. A small number of firms are exceptional corporate citizens. They are distinguished on the good dimension while avoiding pitfalls on the harm dimension. Finally, an even smaller number of firms are flagged for doing harm but are apparently trying to compensate for this by also doing good.

While Figure 5 describes the CSR of the cross-section of firms, it does not present a picture of changing CSR levels over the period of the study. Figure 6 highlights CSR trends. Despite the considerable attention given to CSR over the period of the study, we see no material increase in the fraction of firms doing good. Even more surprisingly, the number of firms being rated as doing harm rose dramatically over this same period. This trend coincides with the increased ease with which firm activities may be scrutinized by outsiders. More than in the past, it is now possible for motivated individuals to investigate *and disseminate* a wide array of information about real or perceived misdeeds by firms.

Thus, we see a sharp increase in the number of firms that are undistinguished in the doing good dimension while also flagged in the doing harm dimension. Similarly, we see an increased trend in firms being involved in both good *and* harmful activities. This small but important group grows from about 2% to 6% by the end of the series. As will be seen below, this is a very costly strategy.

FIGURE 6. Percentage of Firms of Each Type Over Time



Source: KLD.

What then is the value to firms of various CSR strategies in terms of reputational insurance? Table 1 presents abnormal stock returns following product recalls for firms pursuing each of the four CSR strategies we outlined above.

Consider a firm that excels in both CSR dimensions. Compared with another firm that is also doing good but is failing to avoid doing harm, the stellar firm saves an average of 3.6% of firm value following a product recall.²⁶ For an S&P 500 company with an average market capitalization of \$20 billion, this amounts to roughly \$700 million in improved firm value. If instead the comparison to the stellar firm is another firm that is also avoiding harm but, in contrast, is not doing good, the stellar firm is 1.6% better off following an event. Finally, compared with a firm doing neither good nor avoiding harm, the stellar firm fares 2.0% better.

CSR acts as reputation insurance by thus affecting the beliefs of stakeholders that adverse events are more likely driven by bad luck than bad management. The principal mechanism through which these beliefs are influenced occurs in the doing/avoiding harm dimension. Firms that are perceived as seeking to avoid harm get the benefit of the doubt when adverse events occur while those that do not actively avoid harm receive no such benefit. As a consequence, as earlier noted in Table 1, firms that do good while faring poorly on the harm dimension derive no insurance benefit. Indeed, it seems that the inconsistency

TABLE I. Abnormal Change in Firm Value upon a Product Recall per Each CSR Type

CSR Reputation Type	Number of Observations	Mean Return	Standard Deviation
Doing Good Only	19	1.10%	2.97%
Doing Neither	55	-0.50%	4.63%
Doing Harm Only	83	-0.90%	5.86%
Doing Harm and Good	27	-2.51%	8.97%
All Types	184	-0.80%	5.90%

Source: CRSP, KLD, and Wall Street Journal.

of their CSR strategy leads stakeholders to become even *more* skeptical about the quality of their management. Thus, for these firms, there is an even stronger presumption that events arise from bad management rather than bad luck. On the other hand, doing good in conjunction with avoiding harm seems to strengthen the presumption that adverse events are driven more by luck than management negligence, and the (abnormal) stock price returns reflect these beliefs.

While much of the CSR literature focuses on doing good, this may be shortsighted if it leads firms to ignore or underplay the importance of avoiding harm. Indeed, at least in the setting of product recalls, bad ratings lead to considerable loss in value; moreover, this effect is magnified if a firm is seen as “compensating” for its irresponsible actions by doing good. Thus, any cost-benefit calculation must take account of the full portfolio of CSR activities. The returns to “doing good” differ greatly depending on a firm’s performance in terms of avoiding harm. Likewise, the benefits from avoiding harm are higher in conjunction with distinction on the doing good dimension than when such distinction is absent. Avoiding harm and doing good are complementary activities.

Of course, this is easier said than done. Doing good is often straightforward and easily measured. For example, it is easy to verify that a firm claiming to donate drugs to disadvantaged people has actually done so. Avoiding harm, however, typically involves comparing the firm’s choice to some counterfactual, which is typically harder to verify. For instance, a firm that sources from a particular supplier is avoiding harm only to the extent that its next best alternative supplier would have been more likely to lead to problems. Thus, assessing the degree of harm avoidance requires some measure of the alternatives *not chosen* by the firm. This suggests the need for a degree of vigilance and managerial skill in the avoiding harm dimension that is considerably more demanding than the doing good dimension, and this should be factored into the cost-benefit analysis.

Conclusion and Managerial Implications

Why should firms engage in CSR activities? Many rationales have been offered with varying degrees of success.²⁷ Some emphasize the obligations of firms to a broader set of stakeholders; however, fulfilling these obligations may come at the expense of the bottom line. Others suggest that CSR and profit maximization are not at odds, that a firm's CSR activity translates into higher customer willingness to pay, which the firm is somehow able to capture. One key difficulty with this latter rationale is that it receives little empirical support.

We suggest a new rationale for CSR: *It acts as a powerful form of reputation insurance when a firm suffers an adverse event.* For firms whose reputation is a key source of competitive advantage, understanding the link between CSR and reputation provides a solution to a “missing markets” problem—how to (partially) insure against reputation risk.

Our multi-year study of S&P 500 firms offers strong evidence of the link between a firm's CSR activities and its stock price response following an adverse event. When viewed through this lens, decisions about which CSR activities to pursue and how much to pursue them are amenable to cost-benefit analyses typical of other forms of insurance. Such a framework is essential if managers seek to intelligently allocate resources in this area.

Our framework complements the formulation of Porter and Kramer, who view CSR through the lens of competitive strategy.²⁸ The thrust of their argument is that firms should view CSR as a profit maximization tool, matching activities to the firm's underlying competitive advantage (i.e., “strategic CSR”). They dismiss the possibility of CSR as reputation insurance citing lack of evidence. Our analysis adds much-needed evidence for the importance of this aspect of CSR. Thus, our findings suggest a broadening of “strategic CSR” activities to include not only those that strengthen competitive advantage, but also those that preserve or sustain that advantage.

Our study also reveals the importance of synergies in CSR activities. Firms that harmonize their CSR strategies in both doing good and avoiding harm are largely immune to reputational damage following adverse events. The same cannot be said for firms pursuing either aspect of CSR alone. Indeed, we find that the disjointed strategy of doing good to compensate for harm produces the greatest damage to a firm's reputation following an event.

Managerial Implications

When implementing CSR as reputation insurance, there is clearly no simple solution for all firms, even within an industry. Instead, we offer a simple framework to enable managers to think through the cost-benefit calculus of CSR as reputation insurance as it relates to our theory.

As with any insurance, of fundamental concern is the nature of the risk. That is, what is the magnitude and incidence of events for a firm? This can differ significantly from firm to firm. For instance, a product recall of infant milk

formula potentially has a vastly greater effect on firm value than, say, a product recall of a calculator. Thus, the potential cost of adverse events must be assessed. Working from comparable historical events offers a good starting point. In addition to direct costs, a firm must assess the *indirect* costs of an adverse event. These costs can include everything from the lost production as a result of pulling key management off other projects to deal with the event aftermath to loss of employee morale through bad company publicity.

Next, the probability of such an event must be estimated. Again, sifting through comparable historical data is a good starting point. Given the paucity of such events and the limited data available, the goal of this exercise should not be to obtain extremely precise estimates, but rather to assess the order of magnitude of the risk.

The Cost and Effectiveness of Insurance

The cost and effectiveness of attempting to insure against various risks can also vary substantially. Of fundamental concern is the degree to which an adverse event is attributable to bad luck versus bad management. CSR operates by influencing the perception of adverse events in the direction of bad luck. Note, however, that the returns to this perception depend on the base rate attribution. If a firm faces risks that will most certainly be attributed to bad luck regardless of its efforts, then CSR offers little value. For instance, CSR is of no help for events caused by floods or other natural disasters. In contrast, CSR plays a critical role in coloring perceptions of events that would otherwise be viewed as the fault of management. For example, having an oil rig explode is not simply a matter of bad luck, but also a function of the prior degree of safety procedures in place by management, as well as how much cost cutting has been done on safety equipment and procedures. Hence, this is an event that is affected by management decisions and thus ripe for CSR insurance. In short, holding all else constant, the more likely an event is caused by negligence over bad luck for a given level of negligence, the more the payoff of CSR insurance.

Another consideration is whether CSR activities themselves affect the nature of the risk. Some CSR activity might actually reduce the chance of an adverse event. For example, an energy company that devotes resources to conscientious environmental risk management will also likely experience adverse environmental events less often. Meanwhile, other CSR activities might reduce the magnitude of loss when an event occurs. For example, investing in local communities can build goodwill among local customers. If an event happens, these customers may be more likely to give the firm the benefit of the doubt rather than turning to lawyers for redress.

The visibility of CSR activities is also an important consideration. Community investments that are largely invisible offer little reputational benefit. Visibility considerations are not limited to a firm's customers, it is also important that these activities be observable by investors and regulators if they are to influence judgment about negligence versus bad luck. When deciding which CSR activities to participate in it is therefore critical to consider which activities can

be made known, and to whom, as well as the differential cost involved in making such activity known and verifiable.

A firm should also consider which CSR activities it might have a competitive advantage at providing. For example, perhaps a firm already has natural rapport with some local community leaders. In that case, leveraging this “asset” can lower the cost and raise the visibility of CSR activities. Competitive advantage might also be product-based. For instance, a pharmaceuticals firm that manufactures a unique product might donate some fraction of its output to a visible cause.

A firm should also consider peripheral benefits in providing CSR activities, as this reduces the “net” cost of their provision. For example, if a firm’s employees are particularly keen on investing in a particular community project, a firm might leverage this enthusiasm by enlisting the help of these employees thus raising morale while reducing its costs at the same time. Likewise, peripheral benefits can include increased sales to CSR-valuing customers, improving production processes, innovation, and others.

APPENDIX

KLD Product CSR Ratings

Strengths

Quality: The company has a long-term, well-developed, company-wide quality program, or it has a quality program recognized as exceptional in U.S. industry.

R&D/Innovation: The company is a leader in its industry for research and development (R&D), particularly by bringing notably innovative products to market.

Benefits to Economically Disadvantaged: The company has as part of its basic mission the provision of products or services for the economically disadvantaged.

Other Strength: The company’s products have notable social benefits that are highly unusual or unique for its industry.

Concerns

Product Safety: The company has recently paid substantial fines or civil penalties, or is involved in major recent controversies or regulatory actions, relating to the safety of its products and services.

Marketing/Contracting Concern: The company has recently been involved in major marketing or contracting controversies, or has paid substantial fines or civil penalties relating to advertising practices, consumer fraud, or government contracting. (Formerly: Marketing/Contracting Controversy)

Antitrust: The company has recently paid substantial fines or civil penalties for antitrust violations such as price fixing, collusion, or predatory pricing, or is involved in recent major controversies or regulatory actions relating to antitrust allegations.

Other Concern: The company has major controversies with its franchises, is an electric utility with nuclear safety problems, defective product issues, or is involved in other product-related controversies not covered by other KLD ratings.

Source: KLD.

Notes

1. "Total BP Market Losses hit \$100 Billion," Associated Press, (June 25th, 2010)
2. "Toyota Recalls Will Cost Owners in Lower Resale Values," *USA Today*, February 5, 2010.
3. Mark A. Stein, "Paying the Price When Companies Stumble" *New York Times*, September 16, 2006.
4. Stephen Shankland, "Google Unlocks Once Secret Server" *CNET*, April 1, 2010.
5. There has been some work on how industries use self-regulation to protect reputation. However, here we are concerned with individual firm dynamics. For a recent example industry level dynamics, see M.L. Barnett and A.A. King, "Good Fences Make Good Neighbors: A Longitudinal Analysis of an Industry Self-Regulatory Institution," *Academy of Management Journal*, 51/6 (December 2008): 1150-1170.
6. Godfrey et al. use an opportunistically chosen subsample of the S&P500 to support their hypothesis of firms using CSR to help their reputation (see P.C. Godfrey, C.B. Merrill, and J.M. Hansen, "The Relationship between Corporate Social Responsibility and Shareholder Value: An Empirical Test of the Risk Management Hypothesis," *Strategic Management Journal*, 30 (2009): 425-445). We, in contrast, objectively examine the entire S&P500 to support our theory, as well as identify the effects of both "good" and "bad" activities on CSR reputation as insurance.
7. Louise Story and David Barboza, "Mattel Recalls 19 Million Toys Sent from China," *The New York Times*, August 15, 2007.
8. For a thorough study and meta-analysis, see J.D. Margolis, H.A. Elfenbein, and J.P. Walsh, "Does It Pay to be Good...and Does It Matter? A Meta-Analysis of the Relationship between Corporate Social and Financial Performance," working paper, Harvard Business School, Harvard University, Boston, MA, 2009.
9. Some firms attempt to overcome this challenge by accepting voluntary codes of business or operating standards. Though helpful in general, proving a firm is "avoiding harm" is still difficult. Indeed, firms can act like they too are "avoiding harm" by accepting such standards and yet employing the standards in a lax manner. This dilutes the value of such codes of conduct.
10. See Paul C. Godfrey, "The Relationship between Corporate Philanthropy and Shareholder Wealth: A Risk Management Perspective," *The Academy of Management Review*, 30/4 (2005): 777-798; and Godfrey et al. (2009). See also C.J. Fombrun, N.A. Gardberg, and M.L. Barnett, "Opportunity Platforms and Safety Nets: Corporate Citizenship and Reputational Risk," *Business and Society Review*, 105 (2000): 85-106; as well as Naomi A. Gardberg and Charles J. Fombrun, "Corporate Citizenship: Creating Intangible Assets across Institutional Environments," *Academy of Management Review*, 31/2 (2006): 329-346.
11. Aaron K. Chatterji, David I. Levine, and Michael W. Toffel, "How Well Do Social Ratings Actually Measure Corporate Social Responsibility?" *Journal of Economics & Management Strategy*, 18/1 (March 2009): 125-169.
12. Since KLD CSR ratings are retrospective (they are based on activities over the previous calendar year), we report a firm's year t rating using KLD data from year $t + 1$.
13. Abnormal return is measured via a financial event study. A financial event study simply determines the deviation of a firm's market return from its expected return during a given market environment. See the following section for more detail, as abnormal returns used in the case study are calculated the same as in our large statistical study.
14. "Boston Scientific Pulls Its Nir-Sox Package After Finding Leaks," *Wall Street Journal*, August 6, 1998, p. 1.
15. Joseph Periera, "Boston Scientific Recalls Devices, Cites Malfunction," *Wall Street Journal*, August, 8, 1999, p. B2.

16. Glenn Reicin, "Take the High Painful Road," Morgan Stanley research report, March 19, 2001.
17. Laura Johannes, "Health & Science: Boston Scientific, Two Officials Are Targets of U.S. Criminal Probe," *Wall Street Journal*, May 17, 2002, p. B7.
18. "Health Care Brief: Guidant Corp.: Voluntary, Partial Recall Starts of Stents that Gained Approval," *Wall Street Journal*, October 9, 2003, p. B10.
19. Laura Johannes, "Boston Scientific Will Withdraw Additional Stents From Market," *Wall Street Journal*, August 6, 2004, p. A3.
20. William M. Bulkeley and Anna Wilde Mathews, "FDA Criticizes Boston Scientific Over Quality-Control Deficiencies," *Wall Street Journal*, January 27, 2006, p. A3.
21. For a sampling of past studies using the Wall Street Journal as a source for product recalls see: T.-H. Chu, C.-C. Lin, and L.J. Prather, "An Extension of Security Price Reactions Around Product Recall Announcements," *Quarterly Journal of Business and Economics*, 44/3-4 (Summer/Autumn 2005): 33-49; Parvez Ahmed, John Gardella, and Sudhir Nanda, "Wealth Effect of Drug Withdrawals on Firms and Their Competitors," *Financial Management*, 31/3 (Autumn 2002): 21-41; Nicholas Rupp, "Are Government Initiated Recalls More Damaging for Shareholders? Evidence from Automotive Recalls, 1973-1998," *Economics Letters*, 71/2 (May 2001): 265-270; Wallace N. Davidson III and Dan L. Worrel, "The Effect of Product Recall Announcements on Shareholder Wealth," *Strategic Management Journal*, 13/6 (September 1992): 467-473; Gregg Jarrell and Sam Peltzman, "The Impact of Product Recalls on the Wealth of Sellers," *The Journal of Political Economy*, 93/3 (June 1985): 512-536.
22. See Dylan Minor, "CSR as Reputation Insurance: Theory and Evidence," working paper, University of California, Berkeley, 2010, for a full explication of financial event studies for product recalls. We here use a Fama-French model for estimating expected stock market returns, which means we are also controlling for firm size and "value" characteristics.
23. *Ibid.*
24. If we instead partitioned firms into all their possible categories, we would have 36 "firm types" and each with only a handful of observations, making explication cumbersome and preventing any statistical analysis. In other words, this path would leave little to illustrate statistically.
25. We characterize this as actively avoiding harm as opposed to simply not doing harm. This is because many things, as outlined above, that garner negative CSR ratings are things that can be avoided (or at least more likely avoided) but with extra effort. That is, avoiding a negative rating on the harm dimension is not simply a matter of abstaining from bad activities. Further, the very essence of CSR serving as insurance is that there are bad events that happen to a firm that are caused in sum by negligence (i.e., lack of careful effort) and bad luck. Greater effort then makes it more likely a firm can avoid harm and thus avoid such negative rating.
26. These reported averages are all statistically significant at conventional levels. We also study these differences through a more sophisticated regression analysis with myriad controls and find similar results in Minor [op. cit.].
27. See Vogel for a review of different rationale of CSR and its empirical validity. David Vogel, *The Market for Virtue* (Washington, D.C.: Brookings Institution Press, 2005).
28. Michael Porter and Mark Kramer, "Strategy and Society," *Harvard Business Review*, 84/12 (December 2006): 78-92.

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