Strategic Management Journal
Strat. Mgmt. J., **30**: 1157–1178 (2009)
Published online EarlyView in Wiley InterScience (www.interscience.wiley.com) DOI: 10.1002/smj.796
Received 19 August 2008; *Final revision received 24 June 2009*

RESPONDING TO PUBLIC AND PRIVATE POLITICS: CORPORATE DISCLOSURE OF CLIMATE CHANGE STRATEGIES

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The challenges associated with climate change will require governments, citizens, and firms to work collaboratively to reduce greenhouse gas emissions, a task that requires information on companies' carbon risks, opportunities, strategies, and emission levels. This paper explores the conditions under which firms participate in this endeavor. Building on theories of how social activists inspire changes in organizational norms, beliefs, and practices, we hypothesize that shareholder actions and regulatory threats are likely to prime firms to adopt practices consistent with the aims of a broader social movement. We find empirical evidence of direct and spillover effects. In the domain of private politics, shareholder resolutions filed against a firm and others in its industry increase a firm's propensity to engage in practices consistent with the aims of the related social movement. Similarly, in the realm of public politics, threats of state regulations targeted at a firm's industry as well as regulations targeted at other industries increase the likelihood that the firm will engage in such practices. These findings extend existing theory by showing that both activist groups and government actors can spur changes in organizational practices, and that challenges mounted against a single firm or a single industry can inspire both firm and field-level changes. Copyright © 2009 John Wiley & Sons, Ltd.

INTRODUCTION

Social movements have long engaged governments in their change efforts, most often by lobbying public officials to enable or restrict certain types of citizen or business activities. While activists have generally paired these public political efforts with appeals for private citizens' support, activists' efforts to directly engage businesses have grown more aggressive in recent years. This newfound emphasis on direct engagement has been described as private politics. Defined as 'situations of conflict and their resolution without reliance on the law or government' (Baron, 2003: 31), private political tactics are in vogue among activists across a spectrum of social domains that includes the natural environment (King and Toffel, 2009) and labor and human rights protection (Proffitt and Spicer, 2006). Most empirical research on private politics has focused on the strategies and tactics of social activists, but when and how firms respond to these pressures is much less understood.

This paper explores corporate responses to shareholder activism. To date, scholarship on shareholder activism has focused largely on shareholder resolutions. We examine an alternative mechanism increasingly employed by shareholder groups to encourage greater corporate transparency: direct appeals to management. Many activist investors have begun to collaborate

Keywords: social movements theory; institutional change theory; private politics; activist shareholder resolutions; climate change; sustainability; environmental management
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with nongovernmental organizations (NGOs) that request that executive managers at leading firms disclose information about corporate social actions. For instance, the Coalition for Environmentally Responsible Economies (CERES), an NGO that represents investors, requested Nike to disclose details about its contract factories.[1] Similarly, investors associated with the United Nations (UN) Principles for Responsible Investment initiative lobby firms to join the UN Global Compact, which encourages companies to align their practices with certain environmental, social, and governance principles, and to publicly report their progress.[2] Appeals to participate in these initiatives effectively function as requests that firms adopt new disclosure practices consistent with a social movement's aim of encouraging greater corporate transparency.

Social movements theory offers a promising theoretical framework for understanding why firms might respond to these direct appeals. In exploring how citizen movements struggle to influence the state, scholars in this domain have developed a rich tool kit of constructs and mechanisms that offer insight into how targeted social activism might generate organizational change. These approaches have helped deepen our understanding of several forms of activist pressures including company boycotts (King, 2008) and employee activism (Briscoe and Safford, 2008).

We build on a model of how social activists spur organizational change (den Hond and de Bakker, 2007) to assess whether and how prior experiences with both private and public politics might influence firms' responses to direct appeals from shareholder groups. Specifically, we hypothesize that organizations will be more likely to respond to such appeals by engaging in new practices if they, or other members of their institutional field, have been subjected to formal shareholder pressure or are threatened by government regulation on a related issue.

Our study is situated in the context of the climate change mitigation movement. Activists associated with this movement regularly engage in both public and private politics, lobbying governments to establish binding constraints on greenhouse gas emissions and simultaneously urging companies to take proactive measures including disclosing information on their carbon risks, strategies, and emissions. Gathering and sharing comprehensive information about the risks, exposure, and opportunities associated with climate change can lead companies to begin analyzing their own operations, identifying opportunities to reduce greenhouse gas emissions and developing climate change policies (Lash and Wellington, 2007; U.S. Environmental Protection Agency and the Carbon Disclosure Project, 2007), and can also inform decision making and planning by policy makers.

Our analysis focuses on the Carbon Disclosure Project (CDP), a London-based NGO that represents more than 300 institutional investors with a combined $57 trillion in assets under management. Each year, CDP asks the top executive managers of the world's largest public companies to disclose information about the risks and opportunities posed by climate change, the strategies being pursued to address them, and company-wide greenhouse gas emissions. In 2006 and 2007, 44 percent of Standard & Poor's (S&P) 500 Index companies responded to this request by publicly disclosing at least some portion of the requested information. By participating in CDP's process, these firms were not only providing information to CDP and the investors it represented, but were also engaging in new and extensive disclosure practices neither common nor required in the United States. Our paper explores why nearly half of these companies chose to engage in these new practices.

Our empirical results support our hypotheses. We find that firms that have been targeted, and firms in industries in which other firms have been targeted, by shareholder actions on environmental issues are more likely to publicly disclose information to the CDP. We further find that firms headquartered in states with proposed greenhouse gas regulations, which remained uncertain in terms of stringency and scope, are more likely than other firms to publicly disclose information to the CDP.

This study makes both empirical and theoretical contributions to the growing literature on social movements and organizations. Although many studies have examined external activists' motives and strategies (e.g., Bartley and Child, 2007; Lenox and Eesley, 2009; Proffitt and Spicer,

[1] CERES, 'About Us,' http://www.ceres.org/NETCOMMUNITY/Page.aspx?pid=415&srcid=554, accessed July 23, 2008.

[2] United Nations Principles for Responsible Investment, 'Global Investors Issue US$4 Trillion Incentive for Sustainability,' http://www.unpri.org/files/prfinalef2610.pdf, accessed March 23 2009.

DOI: 10.1002/smj

2006), rather less is known about how firms interpret and respond to pressures exerted on them by external activism. We bridge this gap by examining firms' responses to both shareholder resolutions and threats of government regulation. We respond to Schneiberg and Lounsbury's (2008: 661) call to 'systematize theory construction... isolate effects, and strengthen inferences about movement...outcomes' through more multivariate quantitative research on social movements and organizations by extending and testing theories of social activism and organizational change. Finally, ours is one of the first large-scale empirical studies to examine the extent to which both private and public politics elicit changes in management practices within both targeted organizations and other firms in their institutional fields.

THEORY

Traditionally, social movements theory has examined how activists elicit and marshal popular support to mobilize the public political process with the goal of influencing legislation, regulation, and judicial interpretations to institutionalize new sets of norms (Della Porta and Diani, 2006), defining the state as the target of social activists (Davis *et al*., 2005). More recently, a number of scholars have extended social movements theory to encompass forms of private politics by considering how social activism might directly influence corporate behavior (e.g., Briscoe and Safford, 2008; Davis *et al*., 2005; King, 2008; McAdam and Scott, 2005; Schneiberg and Lounsbury, 2008).

To explore how private and public political pressure can affect firms' responses to overtures from social movements, we draw on the model of social activism and organizational change proposed by den Hond and de Bakker (2007), who argue that activist groups elicit changes in organizations' perceptions of their social responsibilities and corresponding practices by challenging firms' existing set of institutional field 'frames.' Institutional fields are defined as 'those organizations that, in the aggregate, constitute a recognized area of institutional life [including] key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products' (DiMaggio and Powell, 1983: 148). Field frames are 'the technical, legal, or market standards that define the normal modes of operation within that specific field' that help to structure firms' activities and interactions and 'provide order and stability in an organizational field' (den Hond and de Bakker, 2007: 905). These standards, in turn, define the set of appropriate practices, norms, and beliefs that govern the behavior of firms within institutional fields (Lounsbury, Ventresca, and Hirsch, 2003).

Den Hond and de Bakker (2007) contend that social activists can elicit organizational change by challenging these frames' legitimacy on the basis of moral principles or pragmatic concerns such as financial sustainability. Such challenges are often accompanied by symbolic and material damage to the firm, depending on the social activists' tactics (e.g., boycotts, letter-writing campaigns, rallies). Firms presented with these challenges are thus motivated to take the activist group seriously, and launch into a process of retheorization that includes reevaluating the premises and content of the challenged frames in terms of the new arguments presented by the activists (Greenwood, Suddaby, and Hinings, 2002). Firms sufficiently threatened by the challenge are likely to generate new frames more consistent with the views espoused by the activists, which will alter the set of practices, norms, and beliefs these firms perceive to be appropriate. The new frame is institutionalized when its moral legitimacy is affirmed by another encounter with the activist group (den Hond and de Bakker, 2007; Lounsbury *et al*., 2003).

We propose two extensions to this framework. First, we suggest that the change process be parsed into two levels. On the first level, the challenged firm is prompted by an activist group to reconsider its frame; on the second, nontargeted firms within the institutional field also respond to the challenge by reconsidering their frames. Activist challenges to a single firm can thus destabilize frames for other members of a field. Second, we suggest that government actors also be considered change agents. Specifically, we argue that existing frames might also be challenged by government action on social movement issues in the form, for example, of threats of new legislation or regulations. We thus posit that a change process that might culminate in the adoption of new frames by both targeted firms and other firms within an institutional field can be precipitated by both private and public politics. Below, we develop four hypotheses that describe how shareholder resolutions and regulatory threats

DOI: 10.1002/smj

might alter the practices of targeted and nontargeted firms in an institutional field.

Private politics

Directly targeting companies with shareholder resolutions, consumer boycotts, and protests has been conceptualized as 'private politics' (Baron, 2003; Baron and Diermeier, 2007). Shareholder activism, the 'use of ownership position to actively influence company policy and practice' (Sjöström, 2008: 142), is an increasingly popular tool of private politics. Historically, it assumed many forms including purchasing minority stakes, negotiating behind the scenes with management teams, and proposing shareholder resolutions with the object of influencing decision making (Gillan and Starks, 2007). In the United States, shareholder activism in its modern form dates to 1942, when shareholders were first permitted to propose resolutions to be voted on by all shareholders. Initially, these proposals were put forward by small groups of easily ignored investors, but in the mid-1980s, institutional investors, NGOs, and unions began to play an increasingly prominent role in this type of shareholder activism (Gillan and Starks, 2007; Sjöström, 2008). Having grown in popularity and scope in the ensuing decades, the practice is currently employed to address a wide array of issues ranging from executive compensation, to labor rights, to environmental responsibility (Slater, 2007).

Shareholder resolutions and organizational change

We maintain that shareholder resolutions directly challenge prevailing organizational field frames, prompting corporate managers and boards of directors to reconsider them in light of the alternative frames being proposed. Consistent with the characteristics of successful challenges to field frames (den Hond and de Bakker, 2007; Greenwood *et al*., 2002), shareholder resolutions often dispute both the morality and financial sustainability of current corporate practices (Proffitt and Spicer, 2006; Slater, 2007). A shareholder resolution filed with Allegheny Energy in 1999 that called for extensive disclosure of greenhouse gas emissions, emissions abatement strategies, and climate risks, for example, combined both types of appeals. An appeal to the firm's moral responsibility:

> So far our company has not lived up to its responsibility as a producer of the pollution which causes global warming. In order to leave the children of the world a safe and healthy environment and protect threatened plants and animals, it is time for Allegheny to catch up with the companies... preparing for the future now by taking the concrete steps necessary to assess their opportunities for reducing the amount of carbon pollution they produce.

was followed immediately by a pragmatic appeal:

> Failing to rise to the challenge set by industry leaders will hurt our company's competitiveness and cost our shareholders increasing amounts of money (KLD Research & Analytics, 2008).

Boards of directors and executive management teams oppose nearly all shareholder resolutions, perhaps because the demands they contain are too far from current practices to be considered feasible, or because managers are reluctant to cede decision-making power to activist shareholders (Hoffman, 1996; Rehbein, Waddock, and Graves, 2004; Sasser, Prakash, Cashore, and Auld, 2006). As a result, shareholder resolutions on environmental and social topics have seldom received more than 10 percent of votes (O'Rourke, 2003).[3]

Dismal passage rates notwithstanding, we maintain that shareholder resolutions can motivate corporate managers and boards of directors to reevaluate corporate practices and launch the field frame change process. Activist resolutions can 'identify and define problems for corporations' and thereby 'signal an emerging gap between a firm's policies and stakeholder demands' (Rehbein *et al*., 2004: 242). To the extent that shareholder resolutions challenge current frames, managers of targeted firms are likely to adopt new organizational frames that contain practices that are aligned with the activists' goals. These new frames become observable when another activist group requests the firm

[3] Even low approval rates may constitute a form of success for some activist shareholder organizations because US Security and Exchange Commission (SEC) guidelines allow the resolution to be proposed in a subsequent annual shareholder meeting if approval rates exceed particular thresholds (ranging from 3% to 10%). Social Investment Forum, 'Advocacy & Public Policy: Shareholder Resolutions' http://www.socialinvest.org/projects/advocacy/resolutions.cfm (accessed 24 March 2009).

DOI: 10.1002/smj

to engage in the new practices. We thus hypothesize that:

> *Hypothesis 1: A firm is more likely to engage in practices consistent with the aims of a social movement if it has been targeted by a shareholder resolution on a related social issue.*

Shareholder resolutions and field-level change

Construed narrowly, a shareholder resolution indicates that a particular activist group finds some practice at the targeted firm objectionable. But because proposing shareholder resolutions is a public process, we posit that managers of firms within the same institutional field as a targeted company and that share the same practices, will take note of the shareholder resolution and, like the targeted firm, modify their frames and adapt their organizational practices. We suggest that managers might interpret such resolutions to signal the emergence of a social movement that opposes the targeted practice. Greenpeace's activist protest campaign against Royal Dutch/Shell's decision to sink the Brent Spar, for example, 'clearly... was not only directed against the intended disposal of this particular decommissioned oil storage platform but against the very principle that oil platforms could be sunk into deep-sea ridges' (den Hond and de Bakker, 2007: 902).

Recognition that their firms, if they exhibit a behavior currently being challenged, might be targeted next is often sufficient to motivate managers to take notice of shareholder resolutions targeted against other firms in the same field. Instances abound of social activists challenging a management practice at one firm and later targeting the same practice at other firms in the same industry (Baron and Diermeier, 2007; PETA, 2008). Because this pattern occurs so often, companies in the same industry as a firm targeted by an activist campaign might proactively embrace some of the proposed changes so as to avoid becoming the next target (Baron and Diermeier, 2007; Sasser *et al*., 2006).

We believe that firms are likely to react similarly in the context of shareholder activism. Specifically, nontargeted firms will interpret a shareholder resolution against a firm in their field as a challenge to their current field frames, and will thus follow the same process of frame retheorization and modification, leading to the development of practices more consonant with those espoused by the shareholder activists. Our suggestion that social activists influence corporate behavior not only among the targeted firms but also among others in their institutional field extend den Hond and de Bakker's (2007) model to incorporate this spillover effect.

> *Hypothesis 2: A firm is more likely to engage in practices consistent with the aims of a social movement if other firms within the same institutional field have been targeted by a shareholder resolution on a related social issue.*

Public politics

We suggest that the relationship between *public* politics and frame changes exhibits similar direct and spillover dynamics. In describing how pressures associated with campaigns for more stringent government legislation and regulation affect organizations' field frames, we emphasize the importance of the public political context in two literatures that, in their quest to focus on private actions, have shifted nearly entirely away from their roots in public politics. First, most research on private politics either focuses exclusively on that domain or posits private and public politics as alternative strategic choices. Second, despite ample evidence that political context influences both the character and success of social movements (Bailey, 2004; Ingram and Rao 2004; McAdam, 1982; Meyer, 2004; Tarrow, 1998), the role of the state has been relatively underexplored in recent extensions of social movements theory intended to explain social activism that targets organizations.

We believe political context to be crucial to understanding why and how corporations respond to private political pressures. Because many activist organizations can engage simultaneously or consecutively in private and public politics (Baron and Diermeier, 2007; Dalton, Recchia, and Rohrschneider, 2003; den Hond and de Bakker, 2007), 'private politics often takes place in the shadow of government' (Baron, 2003: 45). Many shareholder resolutions, in fact, employ the threat of public politics to influence corporate practices. A 2007 shareholder resolution filed with the Hartford Financial Services Group, for example, referenced political and regulatory uncertainty: 'Governments are starting to introduce policies to tackle the causes and combat the effects of greenhouse gas emissions, and these policies will alter the

DOI: 10.1002/smj

economics of entire industries. They will affect company share prices, both positively and negatively' (KLD Research & Analytics, 2008).[4]

Regulatory threat and organizational change

Organizations often respond to threats of tighter government regulation by adopting forms of self-regulation in an attempt to credibly signal to the government that the desired behavior is occurring even without additional regulation (Lyon and Maxwell, 2002; Maxwell, Lyon, and Hackett, 2000). Managers of chemical manufacturing plants (King and Lenox, 2000), alpine ski resorts (Rivera, deLeon, and Koerber, 2006), and nuclear power plants (Rees, 1994), for example, have developed industry self-regulation programs to deter political movements that sought to intensify regulatory oversight.

We suggest that threatened regulations that would require significant changes to current practices are, like shareholder resolutions, interpreted by firms as challenges to the financial legitimacy of the frames that structure their activities. This assertion is consistent with deterrence theory, which suggests that firms' cooperation with existing state regulations is motivated by the costs of noncompliance, such as regulatory penalties and fines. Empirical research in an array of domains has found regulatory agency monitoring to motivate monitored firms to bring their practices into regulatory compliance ('specific deterrence') (Cohen, 2000; Short and Toffel, 2008). We suggest that threats of further regulation are thus likely to prompt firms to reconsider their frames in light of the regulator's agenda, and launch the change process outlined above to develop frames that endorse new practices. These new frames might legitimize the voluntary self-regulation programs detailed by other scholars as well as a new repertoire of individual practices consistent with the aims of a related social movement. We therefore hypothesize that:

Hypothesis 3: A firm is more likely to engage in practices consistent with the aims of a social movement if it is threatened by government regulation on a related social issue.

Regulatory threat and field-level change

We hypothesize that regulatory threats will influence not only the firms likely to be targeted, but also other firms within the same institutional field. This spillover effect is consistent with the notion of 'general deterrence' from theories of optimal regulatory penalties and enforcement, whereby the effect of a regulatory enforcement activity on a particular firm often influences many other firms to improve their compliance (Cohen, 2000). A general deterrence effect has been found in a wide array of regulatory domains. Regulatory compliance behaviors can be influenced by, for example, high-profile enforcement actions against other firms (Thornton, Gunningham, and Kagan, 2005), regulatory penalties imposed on other organizations within the same state (Shimshack and Ward, 2005, 2008), and regulatory agency programs that announce heightened inspection priority to specific industries or groups of facilities engaged in particular regulated activities (Short and Toffel, 2008). This work suggests that punitive actions against firms that violate the law often prompt other firms within the same institutional field, fearful of being targeted next, to redouble their compliance efforts.

Whereas the general deterrence literature is focused on the effects of enforcing existing regulations, we propose that threatened regulations are likely to inspire similar responses by firms. Specifically, we suggest that firms that share an institutional field (e.g., state, country) with firms threatened by existing regulations are likely to view themselves as possible targets of future regulation, and interpret these threats as challenges to their current field frames. Some will follow the same practice of frame modification, spurring adoption of practices more consistent with the threatened regulation. We therefore hypothesize that,

Hypothesis 4: A firm is more likely to engage in practices consistent with the aims of a social movement if other firms within the same institutional field are threatened by government regulation on a related social issue.

[4] Similarly, a 2007 shareholder resolution calling on CVS Caremark Corporation to increase its focus on energy efficiency and publicly report its progress included an implicit regulatory threat in the statement that 'in the U.S., over 45 bills dealing with energy efficiency were introduced to Congress in the first six months of 2006. Domestic regulations addressing the matter continue to gain momentum. . .. Ignoring this quickly growing trend could position our company as an industry laggard and expose it to competitive, reputational, and regulatory risk' (KLD Research & Analytics, 2008).

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DATA AND MEASURES

Empirical context and sample

We test these hypotheses in the context of the climate change movement, a global social movement that has been working on several fronts to encourage meaningful changes in the practices of businesses and individuals. At the international level, scientists affiliated with the UN's International Panel on Climate Change are working to examine and publicize climate change science. Within nations, activist groups are working at three levels: pressuring national and local governments to adopt climate change legislation; targeting citizens with calls for more responsible consumption; and, increasingly, targeting businesses directly through publicity campaigns and coordinated shareholder actions (Slater, 2007).

Although this movement has the end goal of reducing emissions and the effects of climate change, it is also heavily engaged in encouraging businesses to be transparent about their greenhouse gas emissions, and calls for transparency have recently escalated (Kolk, 2008).[5] During our sample period of 2006–2007, there were in the United States no legal requirements that firms track or report greenhouse gas emissions or create and publicize strategies to address climate change risks, and few firms did so.

We focus on all companies listed in the S&P 500 Index because these companies were simultaneously asked to support the climate change movement in 2006 and 2007. In February of each of these years, the president or chief executive officer of every S&P 500 company received the same letter from the CDP.[6] The executives were asked to complete a questionnaire to describe the risks and opportunities climate change posed to their businesses, outline their corporate strategies for managing these risks and opportunities, and detail their greenhouse gas emissions.

Our empirical context enables us to examine how direct and indirect pressures exerted through public and private politics influenced these companies' responses. Our context also provides an 'even treatment' that avoids selection issues because all companies in our sample received the same invitation at the same time. Due to membership changes in the S&P 500 Index during 2006 and 2007, our sample includes a total of 524 firms and 989 firm-years.

Dependent variable

Our analysis focuses on companies' decisions about whether to adopt this public disclosure practice, which we measure by observing which firms publicly responded to the questionnaire. Those that did so provided information about their greenhouse gas emissions and climate change strategies not only to the hundreds of institutional shareholders CDP represented, but also allowed CDP to post their responses in a public database on its Web site, which CDP notes constitutes 'the largest repository of corporate greenhouse gas emissions data in the world.'[7] Corporations that disclose such information generate opportunities for dialogue with their stakeholders about the amount and defensibility of their greenhouse gas emissions. Importantly, the database not only includes the questionnaire responses from the companies that publicly disclosed this information, but also lists the companies that declined to do so.

Our dependent variable, *public disclosure*, is a dichotomous variable coded '1' for years in which a company responded to CDP's questionnaire and permitted its response to be posted on CDP's Web site, and '0' otherwise. We coded this variable based on data from CDP's Web site and a report compiling these data (RiskMetrics Group, 2007).[8]

[5] Environmental activists have a long tradition of lobbying corporations to increase transparency through information disclosure (O'Rourke, 2003). In 1991, for example, socially responsible investors and major environmental organizations collaborated to establish CERES, which developed the Valdez Principles. As shareholder activists began to lobby corporations to endorse these 10 environmental principles, the CERES project director stated, 'The number one issue is disclosure. We want a standardized way of letting investment managers know about environmental aspects of the business' (Hoffman, 1996: 54).

[6] Scholars have used CDP data to analyze multinational corporations' political strategies with respect to climate change (Kolk and Pinske, 2007) and to assess stock market reactions to disclosing climate change strategies (Kim and Lyon, 2007).

[7] The CDP questionnaire, the status of each firm's response, and the actual responses by firms that responded publicly are available at http://www.CDProject.net.

[8] In using this measure, we assume that CDP responses represent an unbiased estimate of whether S&P 500 companies publicly disclosed their carbon strategies, risks, and emissions through any public communication venue. To ensure that firms that had not publicly responded to the CDP survey had not publicly disclosed this information elsewhere (e.g., in an annual report or on a corporate Web site), we drew from our sample a random sample of 15 companies that had not publicly disclosed to the CDP and searched their company Web sites. We found no

DOI: 10.1002/smj

Explanatory variables

Private politics

From the KLD Research & Analytics SOCRATES database, we obtained data on shareholder resolutions on climate change, environmental disclosure, and other environmental issues filed by members of the Interfaith Center on Corporate Responsibility. Table 1 reports the frequency with which these resolutions targeted S&P 500 companies during our sample period. We coded *shareholder resolution target*, a dichotomous variable, '1' when a firm had been targeted by at least one environmental shareholder resolution in a given year, and '0' if it had not been targeted by any environmental shareholder resolutions that year.[9]

To assess whether shareholder resolutions have a spillover effect from the targeted firm to others in its industry, we measured the *number of shareholder resolutions targeting others in the industry*. We did this by calculating the total number of environmental shareholder actions filed against all other firms that shared the focal firm's primary two-digit Standard Industrial Classification code in a given year.

Table 1. Environmental shareholder resolution topics

Shareholder resolution topic	Resolutions	Percent of total
Climate change	33	35%
Environmental disclosure	14	15%
Emissions reduction	12	13%
Natural resources conservation	5	5%
Toxics phase-out	4	4%
Drilling in Arctic	4	4%
Pollution prevention	3	3%
Genetic engineering	3	3%
Renewable energy	2	2%
Other	14	15%

Note: This table reports the number of shareholder resolutions on environmental topics filed against companies in our sample during 2004–2006 by members of the Interfaith Center on Corporate Responsibility, according to the KLD Research & Analytics SOCRATES database. There were none in our sample on three other environmental topics listed within the SOCRATES database: endorse CERES principles, nuclear phase-out, and political contributions.

Public politics

No federal or state regulations in the United States required companies to disclose, or even calculate, their greenhouse gas emissions during our sample period. That said, state legislatures exhibited varying levels of enthusiasm for the potential to impose laws that would constrain greenhouse gas emissions. In 2005, several states in New England and the mid-Atlantic region created the Regional Greenhouse Gas Initiative (RGGI) as part of developing a cap-and-trade program for carbon dioxide emissions from power plants. The charter members were Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Maryland, Massachusetts, and Rhode Island joined in 2007. California passed legislation in 2006 that committed it to aggressive emissions reduction targets, but left unclear the regulatory approach and scope of targeted industries. In February 2007, several states in the western United States formed the Western Climate Initiative (WCI) to implement a joint strategy for reducing greenhouse gas emissions. Created by the governors of Arizona, California, New Mexico, Oregon, and Washington, WCI was joined several months later by Utah and Montana (as well as by several Canadian provinces).

We divided companies headquartered in states posing regulatory threats into two groups based on how likely their industry was to be targeted. We created a dichotomous variable *state posing regulatory threat and sector likely targeted*, which was coded '1' for companies headquartered in these states and in industrial sectors likely to be targeted by these regulations, starting the year the state joined either RGGI or WCI, and in 2006 for California (otherwise coded '0'). For RGGI states, the only targeted sector was electric utilities. Although the scope of the WCI had not been finalized during the period of our analysis, a consensus had been reached that emissions regulations in those states would also target electric utilities, and most alternative plans under consideration at the time also targeted the transportation sector and large sources of stationary combustion including oil refining, cement manufacturing, pulp and paper

evidence that any of these companies had disclosed greenhouse gas emissions or strategies in 2006 or 2007, the relevant years in our analysis, which supports the validity of our measure.

[9] We calculated the number of shareholder resolutions that targeted each firm in each year. Only 2.5 percent of the firms in our sample having been targeted by more than one resolution in a given year, we avoid the potential for spurious results from these outlier cases by employing the conservative approach of using a dummy variable rather than a count.

manufacturing, and hydrogen production.[10] This measures specific deterrence effects.

To measure general deterrence effects, we created another dichotomous variable, *state posing regulatory threat but sector unlikely targeted*. For companies headquartered in these states but in other industrial sectors, this variable was coded '1' starting the year the state joined either RGGI or WCI, and in 2006 for California (otherwise coded '0').

Control variables

We gathered data on a variety of factors that might also influence companies' decisions to publicly disclose environmental information. Because organizations are more likely to respond to shareholders with larger ownership stakes (David, Bloom, and Hillman, 2007), companies with a larger proportion of shareholders that were the institutional investors on whose behalf CDP sends its questionnaires might be expected to perceive more coercive pressure to respond. We controlled for this by calculating for each company the *proportion of shares held by CDP signatories*. We used data from Thomson Financial, which tracks the shares held by mutual funds, institutional investors, and financial insiders, to identify the total number of shares held by CDP signatories in each company in the last reported quarter of each year. We then divided this by each company's total number of shares outstanding at year end, a figure obtained from the CRSP/Compustat database. To reduce the potential for outliers to confound our results, we top coded to this value values above the 95th percentile of this distribution (a 29.5% ownership stake).

Because prior research found a significant correlation between companies' public disclosure of environmental information and environmental performance (Cho and Patten 2007; Clarkson *et al*., 2008; Patten, 2002), we controlled for environmental performance using pounds of toxic chemicals emitted into the environment, following Patten (2002). Specifically, we measured environmental performance as the pounds of annual toxic chemical emissions released by all domestic subsidiaries of each company. We obtained toxic chemical emissions data from the Corporate Environmental Profiles Directory (CEPD) database, created by the Investor Responsibility Research Center, which aggregates facility-level data from the U.S. Environmental Protection Agency's Toxic Release Inventory (TRI) database. Our analysis uses 2004 TRI emissions data, the most recent year available in the CEPD, and includes production waste, transfers, and releases. Our models include *log toxic chemical emissions* (we take the log after adding 1 to the number of pounds) to mitigate the effect of outliers.[11]

Because several previous studies have found a significant relationship between company size and environmental information disclosure (e.g., Deegan and Gordon, 1996; Hackston and Milne, 1996; Patten, 1992, 2002), we obtained from Compustat data on company-wide *employment* and *net sales*.[12] Because prior research has also revealed significant differences between industries in the amount of environmental and social information companies disclose (Cho and Patten, 2007; Kolk and Pinkse, 2007; Patten, 1991; Roberts, 1992) and in how firms respond to climate change (Jeswani, Wehrmeyer, and Mulugetta, 2008), we developed a series of dummy variables for Russell *industrial sectors* based on data from Russell Investments and from David Gardiner & Associates (2007). The composition of industries in our sample is reported in Table 2.

Model specification

We estimate the following logistic regression model to examine the effects of private and public politics on the propensity of firms to publicly

[10] Western Climate Initiative Scope Subcommittee. *Summary of Major Design Options Under Consideration*. 2 January 2008. Available at http://www.westernclimateinitiative.org/ewebeditpro/items/O104F14641.pdf, accessed 28 June 2008.

[11] Ideally, when measuring corporate environmental performance with TRI data, a weighting scheme should be incorporated to accommodate the wide variation in TRI chemicals' toxicity, fate, and transport (Toffel and Marshall, 2004). We were unable to do so because of CEPD's proprietary approach to aggregating TRI data from factories to parent firms. Our results were unchanged when we omitted this control variable and when we controlled for environmental performance using two substitute measures—the log sum of compliance violations regarding nine major federal environmental statutes and/or the log count of environmental compliance violations—based on data obtained from the CEPD.

[12] Compustat calculates net sales as 'gross sales (the amount of actual billings to customers for regular sales completed during the period) reduced by cash discounts, trade discounts, and returned sales and allowances for which credit is given to customers,' according to *Standard & Poor's Research Insight North America: Data Guide*. (McGraw-Hill Companies: Centennial, Colorado, 2004).

Table 2. Sample industry composition

Industrial sector	Firms	Percent	Environmentally sensitive industry?
Auto & transport	17	3%	Yes
Consumer discretionary	91	17%	No
Consumer staples	33	6%	No
Financial services	102	19%	No
Health care	49	9%	No
Integrated oils	8	2%	Yes
Materials & processing	38	7%	No
Other	9	2%	No
Other energy	26	5%	Yes
Producer durables	39	7%	No
Technology	69	13%	No
Utilities	43	8%	Yes
Total	*524*	*100%*	

disclose information about their climate strategies:

$$\Pr(y_{ijst} = 1) = \mathrm{F}(\beta_1\ R_{it} + \beta_2\ I_{ijt} + \beta_3\ L_{ist} + \beta_4\ U_{ist} + \beta_5\ X_{it} + \delta T_t + \varepsilon_i)$$

where i indexes firms, j indexes a firm's industry, s indexes a firm's headquarters state, t indexes the year, and y_{ijst} is the dependent variable *public disclosure.* The explanatory variable that measures the effects of private politics at the organizational level is *shareholder resolution target* (R_{it}); field-level effects are captured by *shareholder resolutions targeted against others in the industry* (I_{ijt}). The explanatory variable that measures the specific deterrence effect of public politics is *state posing regulatory threat and sector likely targeted* (L_{ist}); the general deterrence effect is captured by *state posing regulatory threat but sector unlikely targeted* (U_{ist}).[13] The vector of control variables, X_{it}, includes *proportion of shares held by CDP signatories, log toxic chemical emissions, log employment, log net sales*, and a series of dummies for Russell *industrial sectors.* X_{it} also includes two dummy variables coded "1" when *employment* or *net sales* data were unavailable and thus recoded from missing to zero, and "Ø" otherwise. T_t is a year dummy to account for unobserved changes in norms and expectations that occurred between 2006 and 2007.

We avoid simultaneity concerns by lagging all independent variables one year, with two exceptions. Because shareholder action directed against a particular firm was a relatively rare event, but one that we believe has an enduring influence, we coded this variable '1' if a firm was targeted by at least one shareholder resolution in the past two years. For our toxic chemical emissions measure, we are constrained by our data source to 2004 data, which provides for a two-year lag for 2006 disclosure decisions and a three-year lag for 2007 disclosure decisions. Our public politics variable is lagged one year because state legislation is publicly discussed well before it becomes official, hence, proposed legislation might affect companies' disclosure behavior the year before it is officially promulgated.

RESULTS

Descriptive statistics and correlations are provided in Table 3. Of the 989 CDP questionnaires sent in 2006 and 2007, companies responded publicly in 433 instances (44 percent). The remaining 56 percent either failed to respond or did so privately. The low degree of correlation observed between our variables gives little cause for concern about multicolinearity.

The results of our main logistic regression model are presented as Model 1 in Table 4, which displays both odds ratios and marginal effects. We cluster standard errors by firm to account for heteroskedasticity and nonindependence among observations from firms included in both years. We interpret the magnitude of our coefficient estimates using marginal effects estimated at the mean of all other variables.

Being targeted with a shareholder resolution more than doubled the odds that a firm would publicly report (OR= 2.5; $p<0.01$), which supports Hypothesis 1. This corresponds to a marginal effect of 22.6 percent based on the mean value of all variables. Setting this variable to '1' and all other variables to their means, we calculated that firms targeted with at least one environmental

[13] Including both of these variables does not result in an overspecified model because they are time variant and both are always coded '0' for firms headquartered in states that do not pose a regulatory threat. Our specification is largely equivalent to including one dummy variable that captures state regulatory threat and an interaction term of that variable with another dummy that captures whether the sector is a likely target of the threatened regulation. Our specification yields coefficients that can be interpreted more intuitively.

DOI: 10.1002/smj

Table 3. Descriptive statistics

Panel A: summary statistics

Variable	Mean	SD	Min	Max
Public disclosure	0.44	0.50	0	1
Shareholder resolutions target	0.09	0.28	0	1
Shareholder resolutions target × ESI	0.03	0.17	0	1
Shareholder resolutions target × not ESI	0.06	0.24	0	1
No. shareholder resolutions targeting others in the industry	2.77	3.23	0	17
No. shareholder resolutions targeting others in the industry × ESI	0.94	2.67	0	17
No. shareholder resolutions targeting others in the industry × not ESI	1.83	2.61	0	9
State posing regulatory threat and sector likely targeted[a]	0.02	0.13	0	1
State posing regulatory threat but sector unlikely targeted	0.42	0.49	0	1
State posing regulatory threat but sector unlikely targeted × ESI	0.02	0.13	0	1
State posing regulatory threat but sector unlikely targeted × not ESI	0.40	0.49	0	1
Proportion of shares held by Carbon Disclosure Project signatories	14.89	7.59	0	29.51
Log toxic chemical emissions	2.90	5.39	0	19.33
Log net sales	8.89	1.50	0	12.75
Log employment	3.07	1.25	0	7.55
Environmentally sensitive industry	0.18	0.38	0	1

Panel B: correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Public disclosure	1.00								
(2) Shareholder resolution target	0.19	1.00							
(3) No. shareholder resolutions targeting others in the industry	0.17	0.09	1.00						
(4) State posing regulatory threat and sector likely targeted	0.15	0.02	0.20	1.00					
(5) State posing regulatory threat but sector unlikely targeted	−0.03	−0.04	−0.11	−0.11	1.00				
(6) Proportion of shares held by CDP signatories	0.03	0.06	0.05	0.00	0.04	1.00			
(7) Log toxic chemical emissions	0.15	0.16	0.24	0.02	−0.04	0.04	1.00		
(8) Log net sales	0.24	0.23	0.03	0.06	−0.11	0.19	0.20	1.00	
(9) Log employment	0.22	0.14	−0.17	−0.03	−0.09	0.05	0.19	0.71	1.00
(10) Environmentally sensitive industry	0.16	0.12	0.36	0.27	−0.31	0.01	0.01	0.10	−0.07

Notes: 989 firm-year observations. All independent variables are lagged one year, except the shareholder resolution variables, which are based on one- and two-year lags. CDP = Carbon Disclosure Project. ESI = environmentally sensitive industry.

[a] All sectors likely targeted by threatened regulation were categorized as environmentally sensitive industries, which prevented us from interacting this variable with ESI.

shareholder resolution had a 62 percent predicted probability of publicly disclosing to the CDP. This figure was 40 percent for firms not targeted by any environmental shareholder resolutions.

Our results also indicate that shareholder resolutions have spillover effects on other firms in a targeted industry, which supports Hypothesis 2. Each additional environmental shareholder resolution lodged against another firm in the focal firm's industry during the prior two years increases by a factor of 1.06 ($p = 0.07$) the odds that the focal firm will publicly report. Calculated at the mean of all other variables, the predicted probability that a firm will publicly disclose to the CDP ranged from 38 percent when no other firms in its industry were targeted with an environmental shareholder resolution, to 63 percent when those firms faced a total of 17 environmental shareholder resolutions, the maximum for any industry-year in our dataset. A one-standard deviation increase in the number of such resolutions (3.23) increases the probability of publicly reporting from a baseline of 42 percent, the predicted probability calculated at the mean of all variables, to 46 percent.

We also find evidence of the influence of public politics. Our results indicate that *all* firms headquartered in states posing a regulatory threat and in sectors likely to be targeted publicly disclosed to the CDP. In the logistic model, this situation (perfectly predicting success) caused this variable and the 16 observations for which it was coded '1' to drop out of the model. Reestimating the model using ordinary least squares (OLS) regression provides an estimated coefficient on this variable (Model 2 in Table 4). The OLS model indicates that firms headquartered in states with threatened regulations and in sectors likely to be targeted were 24 percent more likely ($p<0.01$) than firms in the same industries in other states to publicly disclose. These results provide strong support for the specific deterrence effect predicted by Hypothesis 3.

Our results also indicate that firms headquartered in states with threatened regulations, but in industries unlikely to be targeted, were 7.6 percent (OR= 1.37; p= 0.09) more likely to publicly disclose to CDP than firms in their industries but in other states. This finding suggests a general deterrence effect, whereby regulatory threats influence the practices even of firms not directly targeted by the threat, and supports Hypothesis 4.

We used the OLS results to compare the magnitudes of the direct and spillover effects of public politics on disclosure practices. A Wald test indicated that the direct regulatory threat (on firms in sectors likely targeted) is significantly stronger (F= 5.3; p= 0.02) than the spillover effect on firms in sectors unlikely to be regulated but also headquartered in states posing regulatory threats.

The OLS specification also served as a robustness check of our logistic specification. The OLS model yielded coefficients on the hypothesized variables with magnitudes and significance levels nearly identical to those produced by our logistic models.

Graphical depiction of results

Figure 1 presents regression results graphically to facilitate interpretation. We consider four types of firms based on whether they were (1) targeted by at least one shareholder resolution and (2) headquartered in a state in which emissions regulations were threatened. Using logistic regression, we estimate a slightly simplified version of Model 1. Here, we combine the two regulatory threat variables into a single dummy variable coded '1' for all firms headquartered in a state posing regulatory threat (regardless of industry), and '0' otherwise. As can be seen in Figure 1, the probability that each of these four types of firms will publicly disclose to the CDP varies depending on the number of shareholder resolutions targeted at other firms within the same industry. We glean several insights from this graphical display of our results. First, we observe that the highest of the four lines corresponds to the predicted probability of firms targeted by a shareholder resolution and headquartered in states in which emissions regulations were threatened (targets/threat). The lowest line corresponds to the opposite type, those not targeted by resolutions and headquartered elsewhere (not targets/no threat). We note that the minimum value of the former line is above the maximum value of the latter line, indicating that the predicted probability of publicly disclosing to CDP is *always higher* among firms that were *both* targets of shareholder resolutions *and* headquartered in states with a regulatory threat compared to those that were *neither* so targeted *nor* headquartered in those states, regardless of the number of shareholder resolutions in the industry.

Second, we note that the four lines do not cross, which indicates that, at any particular frequency of shareholder resolutions at the industry level, the ranking of the four types of firms with respect to the relative probability of publicly disclosing was consistent. Interestingly, the consistent ranking depicted in this graph reveals that firms targeted with a shareholder resolution but not headquartered in a state in which emissions regulations were threatened (i.e., firms that faced direct private politics but not public politics) were *more likely* than firms in the opposite situation (i.e., those that faced public, but not direct private, politics) to publicly disclose.

Extension: environmentally sensitive industries

In their recent empirical analysis of environmental information disclosure in annual reports (10-Ks), Cho and Patten (2007: 642) hypothesized that such information was more likely to be disclosed by firms in environmentally sensitive industries because such firms 'face greater exposure to the public policy process than companies from non-environmentally sensitive industries.' Indeed, they found that such firms were more likely to disclose some forms of environmental information (e.g.,

DOI: 10.1002/smj

Table 4. Regression results: dependent variable: public disclosure

		Model 1		Model 2
		(1a)	(1b)	(2)
		logistic		OLS
		OR	ME	
H1	Shareholder resolution target	2.512**	0.226	0.166**
		[0.812]		[0.057]
H2	No. shareholder resolutions targeting others in the industry	1.061+	0.014	0.013+
		[0.035]		[0.007]
H3	State posing regulatory threat and sector likely targeted	Note 1		0.243**
				[0.070]
H4	State posing regulatory threat but sector unlikely targeted	1.369+	0.076	0.069+
		[0.257]		[0.038]
	Proportion of shares held by CDP signatories	0.977	−0.006	−0.004
		[0.016]		[0.003]
	Log toxic chemical emissions	0.999	0.000	−0.000
		[0.021]		[0.004]
	Log net sales	1.392*	0.080	0.071*
		[0.197]		[0.029]
	Log employment	1.356*	0.074	0.059*
		[0.199]		[0.029]
	Observations	973		989
	Firms	516		524
	McFadden's R-squared (for logistic) or R-squared (for OLS)	0.15		0.21
	Wald chi-squared (for logistic) or Wald F (for OLS)	117.4**		18.52**
	Log-likelihood	−562.16		

Model 1 was estimated with logistic regression, with odds ratios (OR) and marginal effects (ME) calculated at the mean of all variables. As a robustness test, the model was also estimated using OLS (Model 2). Brackets contain robust standard errors clustered by firm. The dependent variable refers to whether the company responded publicly to the Carbon Disclosure Project. All independent variables listed in the table are lagged one year, except *shareholder resolution target* and *number of shareholder resolutions targeting others in the industry*, which are based on one- and two-year lags. Both models also include industry dummies, a year dummy for 2007, and dummies denoting the few instances in which annual sales, employment, environmental performance, or proportion of shareholders that were CDP signatories data were not available and thus recoded from missing to zero.
ESI = environmentally sensitive industry. CDP=Carbon Disclosure Project.
** $p<0.01$, * $p<0.05$, + $p<0.10$.
Note 1: *State regulatory threat and sector likely targeted* perfectly predicted success (i.e., was '1' for all observations for which this variable was coded '1'), and thus this variable and these 16 observations dropped out of the sample when estimated with logistic regression. All sectors likely targeted by threatened regulation were categorized as environmentally sensitive industries, which prevented us from interacting this variable with ESI.

expenditures on pollution control and abatement) in their annual reports. Similarly, Lyon and Maxwell (2006) predict greater transparency among firms in industries that have socially or environmentally damaging impacts.

We assess whether firms in environmentally sensitive industries that face a heightened threat of regulatory scrutiny were more likely than firms in other industries to publicly disclose to the CDP, especially when they were targeted by a shareholder resolution and based in a state with an uncertain regulatory environment. We distinguished firms that operate in *environmentally sensitive industries* based on Cho and Patten's classification (2007: 643). We coded this dichotomous variable '1' (yes) for firms in the auto and transport, integrated oils, utilities, and other energy industrial sectors, and '0' (no) for firms in consumer discretionary, consumer staples, financial services, health care, materials & processing, producer durables, technology, and other industrial sectors.

We modified our original logistic regression model by interacting our explanatory variables with these two new dichotomous variables.[14] This

[14] To ensure that including these interaction terms is a reasonable approach in our context, we tested for differences in unobserved variation across the two groups (environmentally sensitive and

DOI: 10.1002/smj

Table 5. Regression results: dependent variable: public disclosure

	Model 1		Model 2
	(3a) logistic	(3b)	(4) OLS
	OR	ME	
Shareholder resolution target × ESI	9.447**	0.461	0.289**
	[6.474]		[0.075]
Shareholder resolution target × not ESI	1.790	0.144	0.118+
	[0.642]		[0.071]
No. shareholder resolutions targeting others in the industry × ESI	1.024	0.006	0.005
	[0.074]		[0.013]
No. shareholder resolutions targeting others in the industry × not ESI	1.083*	0.019	0.016*
	[0.040]		[0.008]
State posing regulatory threat and sector likely targeted	Note 1		0.275**
			[0.080]
State posing regulatory threat but sector unlikely targeted × ESI	2.345	0.210	0.168
	[1.353]		[0.105]
State posing regulatory threat but sector unlikely targeted × not ESI	1.332	0.070	0.063
	[0.262]		[0.040]
Proportion of shares held by CDP signatories	0.978	−0.005	−0.004
	[0.016]		[0.003]
Log toxic chemical emissions	0.995	−0.001	−0.001
	[0.021]		[0.004]
Log net sales	1.397*	0.081	0.073*
	[0.204]		[0.029]
Log employment	1.374*	0.077	0.059*
	[0.206]		[0.029]
Observations	973		989
Firms	516		524
McFadden's R-squared (for logistic) or R-squared (for OLS)	0.16		0.21
Wald chi-squared (for logistic) or Wald F (for OLS)	119.2**		14.65**
Log-likelihood	−558.81		

Model 1 was estimated with logistic regression, with odds ratios (OR) and marginal effects (ME) calculated at the mean of all variables. As a robustness test, the model was also estimated using OLS (Model 2). Brackets contain robust standard errors clustered by firm.
ESI = environmentally sensitive industry. CDP=Carbon Disclosure Project.
** $p<0.01$, * $p<0.05$, + $p<0.10$.
For additional notes, see the footer to Table 4.

specification enabled us to decompose the effects of our explanatory variables into separate estimates for environmentally sensitive and non-environmentally sensitive industries.[15] Our results are displayed in Table 5. Compared to firms than had not been targeted by shareholder resolutions, firms that had been targeted and were in environmentally sensitive industries were 46 percent ($p<0.01$) more likely to publicly disclose, whereas firms that had been targeted but were *not* in environmentally sensitive industries were only 14 percent ($p= 0.105$) more likely to publicly disclose. A Wald test revealed these coefficients to differ significantly ($\chi^2 = 4.64$; $p= 0.03$). In contrast, we found between the environmentally sensitive and non-environmentally sensitive industries no significant differences in how the other explanatory variables affected firms' propensity to publicly disclose to the CDP.

non-environmentally sensitive) using the method developed by Allison (1999) that was implemented by Hoetker (2007). These two tests failed to reject the null hypothesis of equal residual variation (likelihood-ratio test and Wald χ^2 tests each yielded $\chi^2 = 0.00$, $p= 0.99$), providing no evidence of any concern regarding the use of these interaction terms in our logit model.

[15] Because *all* firms headquartered in states that threatened carbon regulation in industries that were likely to be targeted were categorized as environmentally sensitive, we were unable to include interaction terms for *state posing regulatory threat and sector likely targeted*.

DOI: 10.1002/smj

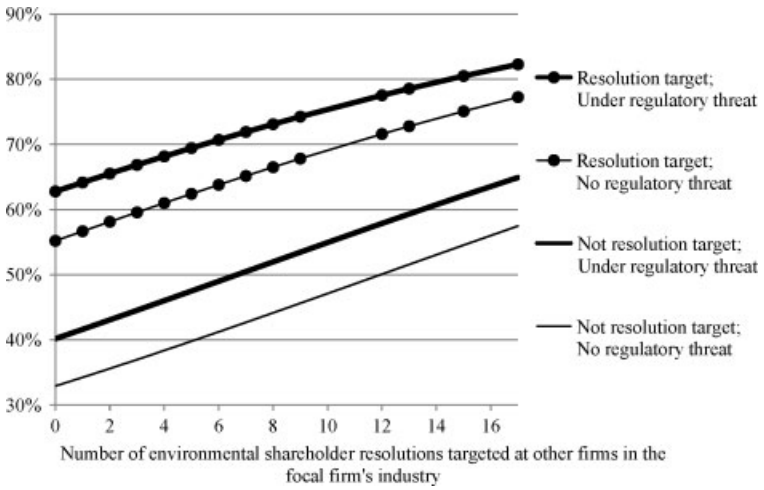

Figure 1. Graphical interpretation of logistic regressions results

DISCUSSION

In summary, we find strong support for our hypotheses that firms are more likely to agree to engage in practices consistent with the aims of a social movement if they (Hypothesis 1) or other firms in their industry (Hypothesis 2) have already been targeted by a shareholder resolution on a related issue. We also show that political context affects the success of a social movement in that firms under threat of regulation related to the social movement are more likely to agree to engage in practices consistent with the aims of the movement (Hypothesis 3), as are firms that share an institutional field with firms under threat of regulation (Hypothesis 4). We now discuss implications of our findings for theory and empirical work in these areas.

Firm responses to private politics

Direct effects of private politics

Our results suggest that companies respond to private politics by adopting new practices that adhere to the underlying objective of the social activists. This finding is highly relevant to activist shareholders, for whom 'the best possible outcome from a shareholder engagement campaign is that the company agrees to substantial changes in practice' (O'Rourke 2003: 234). This outcome has also been observed anecdotally, as when climate change activists targeted several firms including Home Depot, Ford, Prudential, and Chevron Texaco. After being subjected to sustained campaigns, each of these firms revisited its current practices and 'variously agreed to disclose their greenhouse-gas emissions, study the impact of climate change on their businesses, [and] invest in renewable energy sources or support a mandatory carbon cap' (Slater, 2007: 2). Similarly, Allegheny Energy, Inc. opposed the shareholder resolution described earlier in this paper, but subsequently consented to the request by the CDP to publicly disclose its greenhouse gas emissions, climate change-related risks, and abatement strategies.[16]

We argue that these changes to organizational practice result from companies going through the process of field frame retheorization. A number of scholars have conjectured that shareholder actions lead companies to change their practices through closed-door meetings in which off-the-record deals are struck between management and activists, whereby the companies agree to implement some of the proposed practices in exchange for the activists withdrawing their proposals (O'Rourke, 2003; Proffitt and Spicer, 2006; Rehbein *et al.*, 2004). For example, Amoco resisted calls by nine religious groups that proposed a shareholder resolution that called for the company to adopt the Valdez Principles, but reached a negotiated settlement. In exchange for the withdrawal of the proposal, the company agreed to abide by one

[16] Carbon Disclosure Project Web site: http://www.CDProject.net/online_response.asp?cid=492&id=5&exp=0&desc=All+Companies&letter=A&year=2.

DOI: 10.1002/smj

of the principles and to publish an environmental progress report (Hoffman, 1996: 55). The company subsequently enacted several other management practices aligned with the Valdez Principles.

We maintain that this negotiation process is consistent with our theory of frame changes, as the proposed explanation represents simply a prolonged interaction between management and the activist group, and still results in modifications to organizational practices that are consistent with the general aims of the activists. Our data, in encompassing all proposed shareholder resolutions, grouped resolutions that were withdrawn with those that were voted on. We encourage future research to examine the effect of variations in resolutions' fates (withdrawn or voted on) on whether and how companies modify organizational practices. We offer our findings as support for the general theory of organizational change through frame change, and suggest that a more specific understanding of the processes by which shareholder challenges transform field frames might be explored through qualitative case studies of social activists' campaigns against targeted firms. Such work might also explore how and whether firms follow up on the promises that lead shareholders to withdraw their proposals.

Spillover effects of private politics

Our results also indicate that shareholder activism directed at a single firm can spur industry-wide changes in practices, a relationship that has been conjectured by others (e.g., Karpoff, 2001; Rehbein *et al*., 2004), but to the best of our knowledge had been neither formally theorized nor empirically tested. We suggest a strategic reason why companies might respond with frame changes to activists' challenges to other firms. Specifically, we posit that managers are aware that activist groups often object to a set of management practices rather than to a particular firm, and that they are likely to target, in turn, each company in an industry until the practice is eradicated. Thus, an activist challenge to a specific company functions as a challenge to all firms in the field.

Our findings regarding the spillover effects of private politics parallels research on the dynamics of collective reputation. Recent work in that domain has found that one firm's reputation can spill over to affect that of its rivals (Goins and Gruca, 2008), and that industry and geography can influence expectations with respect to a firm's corporate social actions (Bertels and Peloza, 2008). A similar effect has also been observed following corporate raider activity (Walsh and Kosnik, 1993), namely, nontargeted firms within the same industry as a firm targeted by corporate raiders also responded to the raider's challenge by changing their practices. Future research could explore whether the process of field frame retheorization examined in this paper could explain these dynamics, and identify other domains where such spillover effects operate.

Firm responses to public politics

By highlighting the relevance of political context to corporate response to social activism, our study makes an important contribution to existing theories of how social movements penetrate organizations. Social movements scholars have long known that social activism does not occur in a vacuum, and that political context and opportunities might affect the tactics and influence the success of social activism (e.g., McAdam, 1982; Meyer, 2004; Meyer and Minkoff, 2004). Yet, to date, the legislative and regulatory context has been underexamined by empirical work that extends social movements theory to the study of organizations. Our results highlight the importance of maintaining the public politics roots of social movements theory even as the theory is extended into this new domain. Further, our results call for renewed emphasis on the role of political context in the analysis of shareholder and other stakeholders' activism directed at corporations.

Our findings also suggest that public politics are more than just context: they might also prompt organizational change. Whereas den Hond and de Bakker's (2007) framework of social activist-inspired organizational change focused explicitly on activist groups as the initiating change agent, our results suggest that government actors should also be considered change agents capable of challenging institutional frames. Specifically, government action on social movements issues, such as the threat of new legislation or regulations, can alter the sets of practices both targeted and nontargeted companies deem appropriate. This result suggests that deterrence theory is relevant not only within its traditional purview of law and economics

DOI: 10.1002/smj

scholarship, but can also contribute to our understanding of organizational change.

Our findings regarding regulatory threats have an important implication for future work in private politics, namely, that scholars interested in private politics ought also to attend to the political context to deepen their analysis of how and why private politics affects corporate behavior. Future work might also consider the dynamics of the relationship between private and public politics. Because private political actions might be less costly than attempts to mobilize enough of the citizenry to sway government agendas, private politics activities might serve as a leading indicator of latent social movements that might ultimately garner enough citizen support to become public political issues (Hoffman, 1996; Vogel, 1978). Finally, as many activist groups engage in both public and private political activities simultaneously (Dalton *et al*., 2003), future work might examine how activists integrate their public and private political strategies in venues such as the UN, World Health Organization, and other multistakeholder organizations.

Research contributions

Our analysis contributes to a growing literature that applies social movements theory to the study of the emergence and tactics of collective action that targets corporations (Bartley and Child, 2007; Davis and Thompson, 1994; den Hond and de Bakker, 2007; King, 2008; King and Soule, 2007). Perhaps most closely related to our work is a study of shareholder proposals on international human rights and labor standards that employs social movements theory to explain the increasing prevalence of these topics as shareholder resolutions and the prominent role of religious organizations as their authors (Proffitt and Spicer, 2006). In contrast to their focus on activists and their agendas, we apply and extend social movements and organizational change theories in order to understand firms' responses to activists' requests and public political pressure.

We advance den Hond and de Bakker's (2007) model of activist-inspired organizational field frame change by providing evidence that government regulators might function similarly to social activists, and demonstrating that firm- and industry-targeted activist and regulatory pressures might affect a broader range of firms in the institutional field. Despite some speculation that shareholder groups might file resolutions to raise managerial and public consciousness on particular issues in the hope of prompting more general changes in corporate practices (David *et al*., 2007; Rehbein *et al*., 2004), we are aware of no prior research that has articulated these mechanisms or empirically tested these ideas.

Our work also contributes to the organizational literature that describes how firms respond to stakeholders (Oliver, 1991), including instrumental stakeholder theory (Jones, 1995). Our research builds on prior studies that have explored the conditions under which firms respond to external stakeholders (e.g., Mitchell, Agle, and Wood 1997; Eesley and Lenox, 2006; King, 2008), and particularly within the domain of environmental and corporate social performance (Fineman and Clarke, 1996; Wood, 1991). Our research demonstrates that firms' responses to activist groups' requests are contingent on their prior interaction with other stakeholders (i.e., activist shareholders and government regulators), as well as on prior interactions between stakeholders and *other firms* in the same institutional field. In considering multiple stakeholders and tactics, shareholder activists who initiate shareholder resolutions and investors who request information, we respond to a call to consider the simultaneous influence of multiple stakeholders (Rowley, 1997).

Finally, our study represents an important contribution to the limited empirical literature on private politics. Specifically, it answers Baron's (2003) call for empirical research that examines how activist campaigns affect the operating policies of targeted firms and stimulate other firms to take proactive measures to avoid being targeted. Previous studies of private politics emphasized the social activists' perspective by examining their motives, targeting choices, and campaign tactics (Bartley and Child, 2007; den Hond and de Bakker, 2007; Friedman, 1999; Gillan and Starks, 2000; Henriques and Sharma, 2005; Lenox and Eesley, 2009; Proffitt and Spicer, 2006; Rehbein *et al*., 2004; Rowley and Moldoveaunu, 2003; Ryan and Schneider, 2002). Our study contributes to the nascent literature that examines the opposite perspective: how companies respond to private politics. In identifying spillover effects of targeted social activism and highlighting the importance

DOI: 10.1002/smj

of political context to the success of private politics, we believe that our study points to several exciting new areas of scholarship on the role of social movements in fostering organizational change.

Limitations and future research

Investigating the temporal dynamics of public and private politics represents a promising area of future research, akin to studies of institutional change over time (e.g., Hoffman, 1999). Our ability to analyze the long-term effects of shareholder activism and regulatory threats is limited by the fact that only two years' of responses to the CDP survey were available for S&P 500 member companies at the time of our study. As the CDP intends to continue surveying this group of companies, future work might explore longer-term trends by incorporating future cycles of CDP survey responses. Alternatively, scholars could examine response trends among the Financial Times 500, for which more years' of survey response data are already available. In such a context, future research could also explore the importance of time lags in the relationship between shareholder resolutions and firms' propensity to support a social movement. In addition, examining the progression of a social movement over time would enable future researchers to identify how the magnitude of the spillover effects we identified change over time, as an increasing proportion of organizations within an institutional field adopt the desired practices.

In this study, we focus on only one possible outcome (publicly responding to CDP). Although we offer no evidence of broader changes in corporate norms, beliefs, and practices, previous research supports the link between a single changed practice and subsequent broader changes. In particular, a recent study of stakeholder management in the domain of sustainable development found that shifts in firms' stakeholder management strategies required substantial changes in resource allocation, including:

> investments in green product and manufacturing technologies, in employee skills, in organizational competencies, in formal (routine-based) management systems and procedures, and, finally, in the reconfiguration of the strategic planning process. This implies that effective stakeholder management is much more than a skillful public relations exercise; it is the visible reflection of an underlying resource-based strategy (Buysse and Verbeke, 2003: 468).

Similarly, we contend that publicly responding to CDP's survey represents one facet of a firm's perspective on climate change issues, as the action of responding requires an operational commitment to tracking greenhouse gas emissions, a normative commitment to the ethic of public disclosure, and an acknowledgement that climate change is an issue that requires some level of corporate attention. Future research might extend our work by examining how the factors we identify spawn broader changes in organizational and field-level norms, beliefs, and practices. Others might investigate how activists respond once targeted firms begin to adopt the desired practices. For example, under what circumstances do activists return to these initial targets to seek further changes, or move on to other targets within the same or different industries?

Our analysis exploited variation in firm and industry characteristics to predict which firms were more likely to respond to private and public politics by changing their management practices. We focused on environmental shareholder resolutions and threat of greenhouse gas regulation, believing that these political tactics were particularly likely to prompt companies to initiate new practices regarding carbon disclosure. Supplementary analyses indicated that organizations' general exposure to the social issue amplified the effectiveness of some of these tactics: firms in environmentally sensitive industries (e.g., electric utilities) appear to be particularly responsive to shareholder resolutions. Future research could deepen our understanding of these dynamics by exploring how changes in organizational practices might be prompted by other private and public political tactics (e.g., boycotts, protests, civil suits), and how these effects are mediated by internal firm dynamics (Weber, Thomas, and Rao, 2009).

Our analysis focused on two possible mechanisms through which social movements seek to influence organizations: shareholder resolutions and regulatory threats. Future research might examine how the influence of social movements on organizations might be moderated by differences in geographic communities (Marquis, Glynn,

DOI: 10.1002/smj

and Davis, 2007), customers (Delmas and Toffel, 2008), the media (King and Haveman, 2008), and legal developments (Kalev, Dobbin, and Kelly, 2006). The influence of these various constituencies might also be more wide-ranging than suggested by the present paper. For instance, we might expect to see faster field-level diffusion after particularly reticent firms adopt new practices (Briscoe and Safford, 2008). Future scholars might explore whether these processes might be mediated by the development of new field frames.

Our study examines the influence of both activists and government actors on organizations. Future scholars should consider combining this more recent development of applying social movements theory to organizations with this theory's traditional focus on how activists influence government actors. By combining these two streams of social movements theory, such studies could reveal novel insights about the complex, dynamic strategies and relationships between activists, organizations, and government actors.

CONCLUSION

Our study aimed to deepen our understanding of the relationship between social movements and firms by exploring how private and public politics associated with the climate change movement influence firms' greenhouse gas emissions disclosure practices. We extend theory of social activism and organizational change by demonstrating that pressure from both shareholder activists and government regulators may elicit change in organizational practices, and that challenges mounted against a single firm or industry may spillover to influence behavior at the field level. Our study thus underscores the importance of considering both private and public politics in future studies of social movements and organizational change.

ACKNOWLEDGEMENTS

The authors thank Magali Delmas, Andreea Gorbatai, Andrew King, Chris Marquis, and participants at the 2009 Strategy and Business Environment Conference, MIT's Institute for Work and Employment Relations seminar, and the 2009 Alliance for Research on Corporate Sustainability (ARCS) Conference for their helpful comments and suggestions. We are grateful for financial support from the Division of Research at Harvard Business School.

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