Private Environmental Activism and the Selection and Response of Firm Targets

Michael J. Lenox
Darden School of Business
University of Virginia
Charlottesville, VA 22906-6550
lenoxm@darden.virginia.edu

Charles E. Eesley
Sloan School of Management
Massachusetts Institute of Technology
Cambridge, MA 02142
eesley@mit.edu

Environmental activists are increasingly resorting to private strategies such as boycotts and protests focused on changing individual firms' behavior. In this paper, we examine activists' use of such "private politics" to engender firm compliance with activist objectives. We begin by developing a simple theoretical model of an activist campaign from which we develop a set of empirical hypotheses based on a set of observable features of firms. We test our hypotheses using a unique dataset of environmental activist campaigns against firms in the United States from 1988 to 2003. This paper fills an important need in the literature as one of the first empirical attempts to examine the private political strategies of activists and has important implications for the burgeoning literatures on industry self-regulation and the nonmarket strategies of firms.

1. Introduction

Environmental activists are increasingly eschewing traditional public strategies such as lobbying legislatures to achieve their objectives and resorting to private strategies focused on changing individual firms' behavior (Baron, 2001, 2003; Baron and Diermeier, 2005). Through boycotts, protests, and civil suits, activists can force firms to "internalize" negative environmental externalities and motivate firms to comply with their demands absent any intervention by the state. Increasingly, activists are viewing such "private politics" (Baron, 2003) as more effective than dealing with large bureaucratic public institutions.

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Activists have a number of tactical weapons in their arsenal. Some tactics, such as civil suits, may impose a direct financial obligation on the firm if successful, not to mention the time and effort necessary defending oneself in court. Others, like protests, boycotts, and letter-writing campaigns may impact consumers' willingness to pay for firm products and services and impact stock market valuations of the firm (Pruitt and Friedman, 1986; Pruitt et al., 1988; Koku et al., 1997). All may be costly to the extent they direct finite managerial attention away from more productive concerns. Overall, these tactics may damage the general reputation of the firm making it more difficult for the firm to secure suppliers and buyers including attracting talented employees who gain utility from working for socially responsible employers.

In this paper, we investigate a number of important questions for both activists and firms concerning private political campaigns: (1) What drives the probability that a firm will comply with an activist's demands? (2) What determines the aggressiveness of a campaign? and (3) What increases the likelihood that a firm will be targeted by a campaign? We begin by developing a simple theoretical model of an activist campaign. From this model, we derive a set of empirical hypotheses based on a set of observable features of firms in response to the three questions posed above. Finally, we test our hypotheses using a unique dataset of environmental activist campaigns against firms in the United States from 1988 to 2003.

This paper fills an important need in the literature as one of the first empirical attempts to examine the private political strategies of activists and the nonmarket response strategies of firms. The research has important implications, in particular, for the burgeoning literature on industry self-regulation (King and Lenox, 2000; Maxwell et al., 2000). The private political strategies explored in this paper have been cited as a potentially important lever to encourage firms to regulate their behavior beyond that required by law, that is, to self-regulate (Arora and Cason, 1995; Lenox, 2006). This paper provides guidance to understanding when the private politics of activists are likely to be successful and which firms are likely to be subjected to such pressures. As such, it provides guidance on the limits and opportunities for such campaigns to motivate self-regulatory behavior in firms.

2. Theory and Hypotheses

In this section, we develop a simple model of private activism in the spirit of Baron and Diermeier (2005) to motivate our empirical hypotheses. Central to our model is that activists stage campaigns against firms. These campaigns consist of a demand/request for action

on the firm's part (x_D) and a threat/promise of punishment/rewards for failure to comply/compliance (η). We will assume that the request (x_D) is a predetermined preference of the activist.[1] Many activist groups are founded with certain issues as their focus. For example, Riverkeeper is an environmental advocacy organization concerned with pollution of the Hudson River in New York State. Thus, for a specific campaign, we assume that the activist's main decisions are whom to target and what threat/promise to make. As for whom the activist targets, we assume there is a population of potential firm targets that differ in terms of their financial capital, visibility, and pollution levels.

To simplify our model, we will focus on threats of punishment for failure to comply. In some instances, activists may reward firms for compliance by providing positive public relations and commitments not to target the firm in the future. However, our investigation of environmental activist actions in the United States found that at the heart of virtually all actions is a threat of punishment. Punishments include consumer boycotts of firm products, civil lawsuits, and protests as well as more benign actions such as letter-writing campaigns and proxy votes in shareholder meetings (Strickland et al., 1996). We will assume that the activist's threat is credible and that the activist can commit to follow through and deliver harm if the firm does not comply. This assumption can be defended because the activist needs to maintain a reputation for carrying through with its threats, otherwise the firm would never comply expecting that the activist would withdraw punishment, η.

We propose a three-stage model. In the first stage, activists choose a firm for whom to target with their request. Given a request and target, the activist then decides in the second stage on the level of harm/punishment to threaten the firm. In practice, harm is sometimes given at the outset of a campaign, for example, a request will be made and a boycott will be waged simultaneously. In such cases, it is useful to think of the "threat" as the continuation of harm and the "reward" for compliance as the discontinuation of harm. For example, boycotts and protests can be canceled and lawsuits can be dropped. In the third stage, firms decide whether or not they will comply with the request at the center of the activist's campaign.

2.1 Likelihood of Firm Compliance

We begin with the third stage where a targeted firm decides whether or not to comply with an activist's request. We assume that compliance

1. Later in the paper, we discuss the potential implications for our empirical results if we relax this assumption.

will lead to an operational loss ($\Delta\pi$), that is, compliance will lead to lower profits independent of any gain to the firm's reputation (or loss avoidance as captured by η). Otherwise, the firm would have incentives to comply with the activist's request independent of any promised threat or reward and, thus, the activist's request would be unnecessary.[2] The probability that a targeted firm responds positively to an activist's request (x_D) depends on whether the benefit of avoiding the threatened harm (η) exceeds the expected operational loss associated with complying with the request. More formally, a firm complies if and only if,

$$\eta + \Delta\pi \geq 0, \tag{1}$$

where $\Delta\pi$ is the difference in the discounted future stream of profits that would accrue to the firm complying with the activist's request versus the status quo.

Thus, compliance should increase with increasing harm and decrease with greater operational losses. A number of factors may impact the magnitude of operational losses facing the firm. The greater the changes required to comply with the activist's request, the greater the cost to the firm, all else being equal. On environmental matters, arguably, it is more costly for more polluting firms to comply with activists' requests. More polluting firms will likely face greater costs to achieve some absolute environmental performance target than less polluting firms. To meet such targets might require small operational changes for less polluting firms, but wholesale changes to physical plants (like purchasing new equipment) in order for more polluting firms to comply. Thus, the cost of the firm to comply ($\Delta\pi$) should be decreasing and the likelihood of compliance increasing, the less polluting the targeted firm.

Hypothesis 1: The less polluting a targeted firm, the more likely the firm will comply with an environmental activist's request.

2.2 Level of Harm Threatened

We assume that an activist gains utility out of a private campaign against a firm depending on whether the targeted firm complies to the activist's demands or not. We assume that there is either uncertainty about the operational losses a firm faces and/or that the activist does not have full

2. Much has been written in recent years about the prospects for firms to realize cost savings through emissions reductions (see Porter and van der Linde, 1995a, 1995b, and Palmer et al., 1995 for an interest debate on the matter). Although recent empirical evidence suggests that such "win-wins" are possible (King and Lenox, 2002), they are uninteresting in this context as they should obviate the need for activists campaigns in the first place.

information about the firm's operational losses. Thus, the response of firms to pressures by activists is not deterministic from the perspective of the activist

$$U_{\text{activist}}(x_D, \eta) = pu_{x_D} + (1 - p)(u_{x_0} - c(\eta)), \tag{2}$$

where $U_{\text{activist}}(x_D, \eta)$ is the utility of the activist given a request and a threatened harm, p is the probability that the targeted firm responds positively to the demands of the activist,[3] u_{x_D} is the utility the activist gains from firm compliance, u_{x_0} is the utility the activist gains from firm noncompliance, and $c(\eta)$ is the cost of levying harm on the particular firm targeted for failing to comply. As discussed below, the cost is a function of how easy it is to harm the firm selected as a target.

We allow for the possibility that the activist gains utility from even a noncompliant firm ($u_{x_0} > 0$). For example, activist organizations may benefit from failed campaigns if they are perceived as "fighting the good fight." Failure in itself may be used as justification to seek additional funds from donors. However, we assume that the activist gains greater utility out of the targeted firm complying than not complying ($u_{x_D} > u_{x_0}$). Otherwise, the activist would have no incentive to deliver rewards or harm (which are costly) and would prefer to make idle threats if that was credible.

Given a request (x_D) and a targeted firm, we assume an activist will choose a level of harm (η) that maximizes their utility

$$\max_{\eta} U_{\text{activist}}(x_D, \eta). \tag{3}$$

Taking the first-order conditions and rearranging terms such that marginal benefits equal marginal costs

$$(u_{x_D} - u_{x0} + c(\hat{\eta}))\, p'(\hat{\eta}) = (1 - p(\hat{\eta}))\, c'(\hat{\eta}). \tag{4}$$

Assuming that the probability of compliance and the cost of harm are both increasing in the level of harm, then the level of harm should be (1) decreasing in the marginal cost of harm and (2) increasing in the utility an activist receives from firm compliance above and beyond the utility from noncompliance ($u_{x_D} - u_{x0}$). We consider each of these two factors in turn.

The marginal cost of giving harm, $c'(\eta)$, is likely driven by the targeted firm's access to financial and human capital. Eesley and Lenox

3. The probability that the firm complies with a threatened level of harm can be specified as,

$$p = \Pr(comply) = \Pr(\varepsilon \geq -\eta - \Delta\pi) = 1 - F(-\eta - \Delta\pi),$$

where ε represents an unobserved utility (or disutility) that the firm receives for complying and F is the distribution function of ε.

(2006) propose that the ability of an activist to incentivize a firm to comply with demands depends on the power of the activist relative to the targeted firm—power being defined as access to resources such as financial and human capital. On one hand, well-funded activists are better able to develop the infrastructure to initiate and sustain costly actions against firms. On the other hand, resource-rich firms may be better able to resist activist pressure. Firms with large cash flows or large human capital reserves are able to support dedicated legal and public relations staff. They may have the resources to repair reputations potentially damaged by stakeholder actions. As a result, the marginal cost to an activist to deliver a certain level of harm to a firm is greater, the greater the firm's financial and human capital.

Hypothesis 2: The greater a targeted firm's capital reserves, the less harm an environmental activist will threaten against the firm.

A number of factors may impact the utility an activist receives from firm compliance above and beyond the utility from noncompliance. Activists gain utility not only from direct changes to firm behavior, but also from the ability to attract attention to causes of concern and to raise funds to initiate future private and public campaigns (such as lobbying government).[4] Large, visible firms are attractive targets as campaigns against them are more likely to garner attention from the media and the general public. Such attention may increase the utility of a campaign regardless of whether the firm complies or not. Furthermore, the incremental utility of gaining compliance may be greater with large, visible firms even for similar gains in improvement in the underlying performance attribute of concern. A similar reduction in emissions may be more valuable to the activist if undertaken by a large, visible firm who attracts publicity.

Hypothesis 3: The larger and more visible a targeted firm, the more harm an environmental activist will threaten against the firm.

Other factors play a role as well. Arguably, the more objectionable are the firm's practices, the greater the utility the firm will receive from compliance to its demands. In the environmental arena, the incremental utility from compliance should be greater for more polluting firms than for less polluting firms. In many instances, this reflects a simple calculus. If an activist wishes to curb global warming, a 10% reduction in greenhouse gas emissions by a more polluting firm will lead to a larger absolute reduction as compared with a less polluting firm.

4. It may also be the case that activist organizations suffer from similar agency problems as for-profit firms. Activists may seek personal notoriety and prestige by targeting large, visible firms even at the expense of the organization's larger objectives.

Hypothesis 4: The more polluting a targeted firm, the more harm an environmental activist will threaten against the firm.

Hypothesis 4 raises some concerns with respect to Hypothesis 1. Although an activist gains greater utility from compliance from a more polluting a firm (H4), the less likely that firm is to comply (H1). We would thus expect an activist to adopt a greater level of harm to motivate compliance in more polluting firms. This second-order effect (H4) may offset the first-order effect of polluting on compliance (H1) due to the high levels of harm threatened. Under some conditions, it is possible to generate the rather unintuitive result that the more polluting a firm (and the greater the operational loss), the *more* likely that the firm will comply. See the Appendix for one such specification utilizing a random utility model where activists adopt increasingly larger harms relative to the potential operational loss due to the uncertainty surrounding the firm's actual operational loss. We leave resolution about the direction of H1 to our empirical analysis.

2.3 Likelihood of a Firm Being Targeted

Finally, we consider the likelihood that a given firm is targeted by activists. The expected utility of the activist for a campaign against a given firm i can be given by

$$U_{\text{activist}}(x_D, \eta, i) = p_i u_{x_D i} + (1 - p_i)(u_{x_0 i} - c_i(\hat{\eta}_i)). \tag{5}$$

Assuming the activist is constrained in the number of campaigns he/she can wage at any one time, the activist will likely first seek to wage a campaign, x_D, against the firm that gives him or her the greatest utility

$$\max_{\text{choose } i} U_{\text{activist}}(x_D) \text{ subject to } U_{\text{activist}}(x_D) \geq 0. \tag{6}$$

As before, the utility of the activist is increasing, as the marginal cost of harming a specific firm decreases and the utility of compliance of that firm increases. Thus, the probability that a given firm will be targeted should be increasing as the cost of harming that firm decreases and the utility of compliance from that firm increases. As argued for Hypothesis 2, the marginal cost of giving harm is likely driven by the targeted firm's access to financial and human capital.

Hypothesis 5: The greater a targeted firm's capital reserves, the less likely the firm will be targeted by activists.

As argued in Hypotheses 3 and 4, the utility an activist receives from firm compliance above and beyond the utility from noncompliance

should be increasing the larger, more visible, and more polluting a firm.

Hypothesis 6: The larger and more visible a targeted firm, the more likely the firm will be targeted by activists.

Hypothesis 7: The more polluting a targeted firm, the more likely the firm will be targeted by activists.

3. Data and Measurement

To estimate our empirical models, we constructed a database of private environmental activist campaigns directed against firms in the United States during the period 1988–2003.[5] Data on activist campaigns were gathered through an exhaustive search of US newspaper articles and legal actions as recorded in LexisNexis records and was bolstered with additional data from the Investor Responsibility Research Center.[6] We identified 552 activist campaigns involving 273 firms and 267 unique activist groups in the United States during this period. The subject of the campaigns varied from requests to report emissions of global greenhouse gases to requests to eliminate the discharge of toxic chemicals. Table I includes a summary of the requested actions and issues included in our sample.

3.1 Dependent Variables

For each campaign, we identified whether the targeted firm complied with the activist's request. A firm's compliance to a request is coded

5. We initially collected data back to 1971. We limit our analysis to the 16-year window between 1988 and 2003 to increase our confidence that we were able to identify the population of major activist actions in any given year. We found that as we searched back further than 20 years, we could identify significantly fewer activist campaigns. Although this may reflect some general time trend, we were concerned that we were beginning to miss important campaigns.

6. Data on protests, boycotts, and letter-writing campaigns were collected from the LexisNexis Academic database of US newspaper articles ranging from February 10, 1971 to November 25, 2003 (LexisNexis, 2003). We searched using keywords including: stakeholder, environmental group, NGO, firm, environment, and company. Proxy vote data were collected from the Investor Responsibility Research Center (IRRC). Data on civil lawsuits were collected through the LexisNexis Legal Research database of Federal and State civil law suits pertaining to environmental issues. We searched using keywords including: stakeholder, environmental group, NGO, firm, and company. Records were retained when we could identify the activist group, the firm, and the request. This information was available in virtually all records identified. The database contains federal and state case law on environment-related civil suits, including US Supreme Court, US Courts of Appeals, Federal District Courts, and state courts. Additional data were collected from stakeholder groups' annual reports and web sites and by contacting officials from the group when necessary.

Table I.
Campaigns by Requested Action and Issue

Requested Action	Change Operations	Report Impact	Label Products	Adopt Principles	Total
Requested Issue					
Pollution	308	56	0	0	364
Land use/ habitat destruction	266	19	0	0	285
Industrial recycling	15	34	74	0	123
Greenhouse gas emissions	11	57	19	0	87
Other	62	94	0	77	233
Total	662	260	93	77	1,092*

*Note that multiple activists may collaborate on a single action against multiple firms.

as one if the targeted firm positively responded to activist demands within 5 years of initiation and zero otherwise.[7] If there were multiple actions within this window, they were all coded as one if the firm responded.[8] Data for coding the likelihood of compliance were gathered from a search, by company and activist names, of articles referencing the campaign using the LexisNexis Academic database of newspaper articles. In the case of civil suits, the LexisNexis Federal and State Civil Suit database was searched and compliance was coded according to the final disposition of the suit (e.g., the nature of the settlement).[9] Given the binary nature of our compliance variable, we adopt a simple probit specification when estimating the probability that a firm complies

7. A time frame of this length was chosen in order to give time for the action to take effect (because the date recorded was when the action started or was announced) and then to give time for the firm to respond. If the firm made a change beyond this time frame, we concluded that it is too tenuous to attribute that change to the initial activist action. On average, firms responded within 11 months of an activist action. Only in three instances did we find firms acting in congruence with activists requests in a time frame more than 5 years. Including these three instances does not have a significant impact on our results. As a robustness check, we also estimated models using time to action as the dependent variable and found similar results.

8. We leave to further analysis of the effects of multiple activist actions to future work. We do attempt to control for these situations in our analysis.

9. There were a small number of outcomes that could not be found in LexisNexis. In these cases, a search was performed to find a record of the outcome of the action on the firm's or stakeholder groups' web sites and annual reports. Only if one of these sources directly addressed the outcome of the exact concern raised by the stakeholder action was the outcome coded positively. Compliance was not coded if these searches yielded nothing. The one exception to this rule was for proxy votes. If a proxy vote was resubmitted the following year, then we felt confident that the company had not made the requested change. In order to verify the coding of this variable, we had two research assistants independently code compliance following the same protocol. The coding from these efforts was correlated at 95.21%.

$$p_i^* = \Phi(\beta' x), \tag{7}$$

where x represents a vector consisting of our independent variables and controls and $\Phi()$ represents the standard normal distribution.

Five broad classes of tactics to induce harm are included in our sample: lawsuits, protests, boycotts, letter-writing campaigns, and proxy votes.[10] Although we do not directly observe the specific threatened level of harm in a given campaign, we submit that these broad classes serve as a sufficient proxy to discern different levels of harm. Arguably, campaigns vary from more benign modes of civil unrest such as letter-writing campaigns to company officials to more confrontational activities such as protests and civil lawsuits. We may surmise that civil suits, for example, pose the greatest potential harm due to the direct risk of financial losses imposed by a credible third party (the judiciary).[11] Boycotts, on the other hand, are likely to be less effective unless they are of sufficient size that they can make a significant impact on the sales of the targeted firm. Receiving even several thousand letters during a successful letter-writing campaign appears less likely to impose an economic burden to a firm than a protest or boycott.

We construct a measure of the level of harm threatened by the activist by assigning to a campaign a value from one to five depending on the adopted tactic. In particular, a campaign utilizing a proxy vote is assigned a level of harm of 1. Letter-writing campaigns were assigned a value of 2 and boycotts, protests, and lawsuits were assigned values of 3, 4, and 5, respectively.[12] To estimate our level of harm model, we adopt an ordered probit specification where an underlying score is estimated as a linear function of the independent variables and a set of cut points:

$$\Pr(\eta = n) = \Pr(\kappa_{n-1} < \beta' x < \kappa_n), \tag{8}$$

where x represents a vector consisting of our independent variables and controls and κ_n represents a cut point. The ordered probit specification

10. Proxy votes are included because they are often initiated by activists who specifically buy enough shares to initiate a proxy vote (Strickland et al., 1996). This was reinforced by comments via e-mail from a nun in one of the religious groups who wished to remain anonymous yet noted that the Sisters usually try to purchase a few more shares than the minimum required to file a proxy vote. Proxy votes are used by activists to raise concerns of interest to shareholders and the firm's top management. Although they are never successful directly, that is, in our sample not a single proxy vote received majority approval, many proxy votes are successful to the extent they motivate the firm to voluntarily comply to the requests of those who bring the proxy vote.

11. In fact, environmental suits by activists result in greater wealth loss for firm defendants than any other kind of lawsuits (Bhagat et al., 1998).

12. We experimented with a number of different orderings to test the sensitivity of our results to our assumed ordering. For example, we ran models eliminating lawsuits and proxy votes, respectively, and estimated consistent coefficients.

has the advantage of assuming ordinality but not cardinality in our ranking.

To capture the likelihood that a firm is targeted, we counted the number of times a given firm was the target of an activist campaign in a given year. Because we have a count variable, we adopted a negative binomial specification.[13] The expected number of times targeted given a set of independent variables may be given by

$$\mathrm{E}[\textit{Times Targeted}_{it} \mid \boldsymbol{x}_{it}] = \lambda_{it} = \exp(\beta' \boldsymbol{x}_{it} + \varepsilon_{it} + v_i), \tag{9}$$

where β is the coefficient vector, $\boldsymbol{x_{it}}$ represents our set of time-variant firm characteristics, and v_i and ε_{it} are independent random variables.

To have a control sample of firms never targeted by activists, we created a second database using all public firms in the United States in sectors where at least one firm was the target of a stakeholder action between 1988 and 2003. Firms were culled from the Compustat Annual Dataset using the four-digit Standard Industrial Classification (SIC) code to distinguish sectors. Thus, we analyze two datasets. The first represents campaign data where each observation represents a specific request by an activist group of a specific firm. The resulting dataset contains 1,092 unique activist–firm–campaign triplets.[14] These data are used to estimate our models of level of harm and the probability of complying. The second dataset contains firm data where each observation represents a firm-year observation. The resulting panel dataset includes 33,213 observations of 3,338 firms. These data are used to estimate the frequency that a given firm is targeted by environmental activists.

3.2 Independent Variables

As discussed above, the marginal cost of giving harm is likely driven by the targeted firm's access to financial and human capital. The greater a firm's reserves of capital to fight activist actions, the more costly will it be for the activist to deliver a given level of harm. We conceive of "capital reserves" in two ways. We propose that both the flow of liquid

13. The negative binomial model is commonly used for overdispersed count data like ours (Griliches et al., 1987). The negative binomial model is a generalized form of a Poisson model where an individual, unobserved effect is introduced in the conditional mean (Greene, 2000). We do not adopt a Poisson model because the assumption of constant dispersion appears violated, that is, the mean and variance of the event count are not proportional, however, as a robustness test we estimated the Poisson model and found consistent results.

14. Note that the number of observations exceeds the number of campaigns because more than one firm or more than one activist group may be involved in any given campaign. To allay concerns of overconfidence in our model estimates, we present robust standard errors based on clustering on the campaign.

funds (*Firm Cashflow*) and the stock of firm cash on hand (*Firm Cash*) are potential indicators of the firm's ability to fight and should be positively correlated with the marginal cost of giving harm. Using firm-level data gathered from Standard & Poor's Compustat Annual Dataset,[15] a firm's cashflow (*Firm Cashflow*) and its cash position (*Firm Cash*) were recorded during the time an action was initiated against the firm.[16] We take the natural logarithm of both *Firm Cash* and *Firm Cashflow* to account for skew in the distribution of these variables.

We proposed earlier that the utility of gaining compliance is driven in part by the size and visibility of the targeted firm and its environmental performance relative to similar firms. In particular, activists should gain greater utility when larger, more visible, and more polluting firms comply with requests. To capture firm size, we measure the firm's total assets during the time an action was initiated against the firm as recorded in Compustat (*Firm Assets*). We take the natural logarithm of *Firm Assets* to account for skew. Alternative measures such as firm sales and firm employees were highly correlated with firm assets and had minimal effects on our estimates when used in place of *Firm Assets*. To capture firm visibility, we measure the ratio of firm advertising expenditures to firm assets for the year an action was taken also using Compustat (*Firm Advertising Intensity*).[17] Although alternative measures of visibility are possible, advertising intensity arguably reflects the degree a firm's brands are recognizable and has the advantage of being widely available.

To capture the environmental performance of a firm, we propose that the firm's toxic emissions are a good proxy for the firm's overall environmental performance. Although firm activity may impact the natural environment in a number of ways beyond toxic emissions, we assert that toxic emissions are likely positively correlated with other sources of environmental impact (King and Lenox, 2002). An interesting question is whether we should be measuring emissions on an absolute or relative basis (i.e., relative to other firms of similar type and size). Arguments can be made for either measure as a major influence on both the marginal cost of the firm to comply and the utility the activist receives from compliance. We leave the question to empirical analysis

15. Standard & Poor's Compustat Annual Dataset is based on the Securities and Exchange Commission (SEC) filings of US public firms. Virtually all the firms identified as targets of activist campaigns were publicly traded.

16. We measure *Firm Cashflow* as income before extraordinary items (i.e., income after interest and taxes) plus depreciation and amortization. *Firm Cash* comes directly from SEC filings and includes both cash and marketable securities.

17. There were a number of observations that were missing for this variable. So as to not restrict our sample, we substituted the average advertising intensity in a firm's four-digit SIC code when data were missing.

and construct both absolute and relative measures of toxic emissions (*Firm Absolute Emissions* and *Firm Relative Emissions*, respectively).

To construct these measures, we use data on facility emissions of toxic chemicals as collected in the Toxic Release Inventory (TRI) by the US Environmental Protection Agency. Since 1987, the EPA has required all manufacturing facilities with more than 10 employees to report emissions of over 250 toxic chemicals.[18] To construct our measure of absolute performance (*Firm Absolute Emissions*), we calculate the log of a firm's total annual emissions (in lbs.) by calculating the toxicity-weighted sum of all core chemicals released into the environment, treated onsite, and transferred offsite for each manufacturing facility of each firm in our sample.[19] To calculate relative performance (*Firm Relative Emissions*), we estimate a quadratic function between facility size and total emissions for each four-digit SIC code within each year using standard OLS regression.

$$W_{it} = e^{\alpha jt} s_{it}^{\beta 1 jt} s_{it}^{\ln(s)^* \beta 2 jt} e^{\varepsilon_{jt}}, \tag{10}$$

where W_{it} is aggregate emissions for facility i in year t, s_{it} is facility size, α_{jt}, β_{1jt}, and β_{2jt} are the estimated coefficients for sector j in year t, and ε_{jt} is the residual. We use the estimated function to predict the emissions of each facility, given its size, industry, and year. Then, we use the residual to measure the relative emissions of each facility

$$\begin{aligned} W_{it}^* &= e^{\alpha jt} s_{it}^{\beta 1 jt} s_{it}^{\ln(s)^* \beta 2 jt} \\ RW_{it} &= e^{\varepsilon_{jt}/\sigma \varepsilon jt}, \end{aligned} \tag{11}$$

where W_{it}^* is predicted emissions for facility i in year t, RW_{it} is the standardized relative emissions for facility i in year t, and $\sigma_{\varepsilon jt}$ is the standard error of the residual for the SIC and year pair. To create a firm-level measure of relative emissions, we calculate the average of the facility relative performance measures across all the firm's facilities for each year.[20] There are some firms targeted that do not have emissions reported in the TRI. Eliminating these firms from the analysis does not alter the results.

18. The list of reportable chemicals has been amended a number of times over the last 15 years. To ensure comparability, we focus on the 246 "core" chemicals that have consistently been required to be reported. Facilities only need to report emissions of chemicals if they emit more the 25,000 lbs. or use 10,000 lbs. of that chemical.

19. Chemicals vary greatly in their toxicity. Smaller releases of more toxic chemicals can have greater environmental impacts than larger releases of more benign chemicals. To measure the relative toxicity of emissions, we weighted each chemical by the inverse of the EPA's Reportable Quantity toxicity scale.

20. This measure has been used by a number of papers in the literature as a measure of environmental performance and is highly correlated with other indicators such as spills, accidents, and hazardous waste sites (King and Lenox, 2002).

3.3 Controls

We include a number of controls for potential sources of unobserved heterogeneity in our samples. For our estimates based on the campaign dataset, we include industry-sector and year dummy variables. Recall, that our sample constitutes unique firm–activist–campaign triplets. We are able to leverage the fact that most activists wage more than one campaign and many firms are the target of more than one campaign and include firm and activist dummy variables for all firms and activists who are targeted or initiate more than one campaign.[21] For our estimates based on the firm sample, we have a more traditional panel and include year fixed effects and firm random effects. Firm random effects are adopted rather than fixed effects due to the large number of firms who are never targets and thus would have been removed from our sample given our negative binomial specification.

We also introduce a number of variables to control for the unique nature of a campaign. As illustrated in Table I, activists may request a number of different actions from firms. In some instances, they may request that firms adopt principles or sign pledges. For example, the Coalition for Responsible Economies (CERES) has requested a number of firms to adopt a set of principles outlining a commitment to the environmental sustainability of their business operations. In other instances, activist groups request that firms provide information about their operations often in the form of either product labels or detailed reports. Activists may request a whole host of operational changes from firms from increasing the use of recycled materials to the reduction of toxic effluents. The requested actions within our database fall into one of four categories: adopt principles or pledges, label products or processes, report on operations, and make operational changes. To control for the requested action, we include dummy variables for each of these categories.

In addition to the requested action, campaigns vary on the requested issue. Our database includes four major categories of environmental issues: pollution, industrial recycling, land use/habitat destruction, and greenhouse gas emissions (global warming concerns). Arguably, the soundness of the science and the individual risk assessment of each of these issues vary significantly. Whereas the environmental consequences of habitat destruction and pollution are often well understood, there has been less perceived agreement among the general public (though not among scientists) about the global warming consequences of emitting greenhouse gases or the health

21. Because we include firm dummies for firms targeted more than once, we are able to estimate both firm and industry fixed effects.

Table II.
Campaign Tactics by Activist Group Type

Campaign Tactic	Civil Suits	Protests	Boycotts	Letter Writing	Proxy Votes	Total
Activist Type						
Environmental NGO	266	101	59	9	33	468
Nonenvironmental NGO	16	11	16	2	7	52
Religious group	6	0	0	0	224	230
Activist individual	55	2	0	0	50	107
Other	0	1	1	0	233	235
Total	343	115	76	11	547	1,092*

*Note that multiple activists may collaborate on a single campaign against multiple firms.

effects of consuming genetically modified organisms. To control for variance across these issues, we include dummy variables indicating the requested issue at the center of a campaign.

Finally, there are many different types of activist groups represented in our sample including traditional environmental advocacy organizations, individual activists, religious groups, and other nongovernmental organizations where environmental issues are not their sole focus. These types of groups differ in the degree to which they are, at least perceived, to be legitimate arbitrators of environmental issues (Fineman and Clarke, 1996; Harvey and Schaefer, 2001). One could imagine that certain types of groups may favor specific campaign tactics and disavow others. Table II presents a summary of the type of tactic chosen by each activist category. To control for variance introduced by activist type, we include dummy variables for each of the major activist types in our sample (environmental advocacy organizations, individual activists, religious groups, and other nongovernmental organizations).

4. Analysis and Results

Tables III and IV present the descriptive statistics and pairwise correlations, respectively, from our two samples. Please note that *Firm Absolute Emissions*, *Firm Cashflow*, *Firm Cash*, and *Firm Assets* are expressed in natural logs.[22] Of note, approximately 44% of the firms in our sample complied with the activist's request (see *firm compliance to request*). On average, very few firms were targeted by activists (see *times firm targeted*

22. Some firms' aggregate, toxicity-weighted emissions were zero. To avoid losing those observations, we added one to each firms' absolute emissions before taking the natural log.

Table III.
Descriptive Statistics

	Campaign Sample ($n = 1{,}092$)				Firm Sample ($n = 33{,}213$)			
	Mean	Std	Min	Max	Mean	Std	Min	Max
Times firm targeted in a year					0.013	0.210	0	10
Level of harm adopted by activist	3.177	1.356	1	5				
Firm compliance to request	0.447	0.497	0	1				
Firm absolute emissions	0.201	0.407	0	6.851	0.044	0.160	0	1.068
Firm relative emissions	−0.009	0.151	−0.859	0.881	0.003	0.122	−1.397	1.631
Firm cashflow	6.304	1.362	0	10.205	2.809	2.451	0	10.106
Firm cash	4.736	2.031	0.079	10.917	2.890	2.094	0	11.064
Firm assets	9.249	1.097	0.418	13.423	5.409	2.704	0.049	13.423
Firm advertising intensity	0.217	0.201	0	0.767	0.012	0.038	0	0.767

in a year). However, at the extreme, some firms were targeted upward of 10 times in a given year. As for the correlation table, of note is the high correlation between *firm compliance to request* and *level of harm adopted by activist*. As predicted, the higher the level of harm threatened, the greater the likelihood that the targeted firm will comply with the request.

Table V presents our estimates for the likelihood a targeted firm complies to a request given a campaign. In Model 1, we use our measure of absolute emissions (*Firm Absolute Emissions*), control for the level of harm adopted by the activist, and include fixed sector, year, firm, and activist effects. The model is statistically significant and explains approximately 47% of the variance. We estimate a significant, negative coefficient on emissions and a significant, positive coefficient on level of harm as predicted.

In Model 2, we reestimate our model substituting *Firm Relative Emissions* for *Firm Absolute Emissions*. Once again, the model is statistically significant and we estimate a significant, positive coefficient for *Level of Harm* ($p < 0.001$). We continue to estimate a negative coefficient on firm emissions, however, using *Firm Relative Emissions*, we have greater confidence that the coefficient is less than zero. As a further confirmation, we reestimate Model 2 including controls for the requested action, requested issue, and the activist type. In Model 3, we

Table IV.
Pairwise Correlations

	1†	2	3	4	5	6	7	8	9
1. Times firm targeted in a year	1.00								
2. Level of harm adopted by activist		1.00							
3. Firm compliance to request		0.59*	1.00						
4. Firm absolute emissions	0.07*	−0.06*	−0.07*	1.00					
5. Firm relative emissions	0.02*	−0.08*	−0.11*	−0.13*	1.00				
6. Firm cashflow	0.09*	−0.18*	−0.10*	0.08*	0.07*	1.00			
7. Firm cash	0.08*	−0.12*	−0.14*	0.06	0.07*	0.31*	1.00		
8. Firm assets	0.08*	−0.12*	−0.14*	0.06	0.07*	0.69*	0.39*	1.00	
9. Firm advertising intensity	0.01*	−0.11*	−0.11*	0.05	0.16*	0.16*	0.10*	0.03	1.00

*$p < 0.05$.
†Column 1 is based on the firm sample. All other reported correlations are based on the campaign sample.

continue to find a significant, negative coefficient on firm emissions. The model remains statistically significant and all other coefficient estimates are similar to previous models. The model explains approximately 53% of the variance. We speculate why we estimate a negative coefficient on firm emissions in the discussion section.

As discussed earlier, although the level of harm adopted by the activist is beyond the firm's control, the firm's environmental performance has an impact on the harm adopted. We are particularly concerned that selection may come into play. In other words, the outcome (i.e., firm compliance) associated with a given harm is conditional on the harm assumed. This speaks to whether we expect to see *Level of Harm* have a significant impact on compliance. It may very well be that the *Level of Harm* chosen is optimal given other factors. To better test whether *Level of Harm* has an effect on compliance, we estimate a two-stage model using our harm-adopted specification (see Model 7) in the first stage and using the predicted values of *Level of Harm* as an independent variable in the compliance equation in the second stage. We find results consistent with Model 3. In particular, we estimate a coefficient for *Firm*

Table V.
Likelihood of Firm Compliance to an Activist Request

Dependent Variable	Firm Compliance to Request			
Specification	Probit			
Model	1	2	3	4
Firm absolute emissions	−0.612*			
	(0.351)			
Firm relative emissions		−2.189***	−2.915***	−1.842*
		(0.556)	(0.757)	(0.850)
Level of harm	0.907***	0.912***	0.925***	
	(0.116)	(0.115)	(0.138)	
Firm cashflow				0.107
				(0.074)
Firm cash				−0.206***
				(0.065)
Firm assets				−0.131
				(0.096)
Firm advertising intensity				−0.444
				(0.592)
Sector effects controls	Included	Included	Included	Included
Year effects controls	Included	Included	Included	Included
Firm effects controls	Included	Included	Included	Included
Activist effects controls	Included	Included	Included	Included
Requested action controls†				
Adopt principles			Baseline	Baseline
Labeling			2.944***	2.047**
Reporting			2.446***	1.562**
Operational changes			2.642***	2.261***
Requested issue controls†				
Other			Baseline	Baseline
Global warming			1.244**	1.518***
Habitat destruction			0.161	0.439
Pollution			0.768	1.204***
Industrial recycling			1.582***	1.692***
Activist-type controls†				
Holding institution			Baseline	Baseline
Activist individual			−1.127	−1.177
Environmental NGO			−1.339	−1.326*
Nonenvironmental NGO			−1.169	−1.445*
Religious Group			−1.927*	−2.451**
Observations	1,092	1,092	1,092	1,092
χ^2 statistic	699.19***	710.63***	792.91***	699.97***
Pseudo R^2	0.467	0.474	0.529	0.465

Note: Robust standard errors are in parentheses (clustered on campaign).
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
†We do not report standard errors for these variables to save space.

Relative Emissions equal to –1.997 ($SE = 0.786$, $p < 0.01$) and a coefficient for *Level of Harm* equal to –0.650 ($SE = 0.317$, $p < 0.05$).[23]

To further explore the role of selection, we estimate a reduced-form specification where we substitute *Firm Cashflow*, *Firm Cash*, *Firm Assets*, and *Firm Advertising Intensity* for the level of harm (see Model 4). As predicted (H1), we continue to estimate a significant, negative coefficient for *Firm Relative Emissions*. We estimate a negative coefficient for *Firm Cash* with a confidence of 99%. We estimate a positive coefficient for *Firm Cashflow* and negative coefficients on *Firm Assets* and *Firm Advertising Intensity* though we are not confident that our estimates are different than zero. Although we are not confident that the coefficient on *Firm Cashflow* is different from zero, it is interesting to speculate why firms with greater cash flow are more likely to acquiesce to activist demands whereas firms with greater cash appear less likely to comply. We leave such speculation to the discussion section.

Table VI presents our estimates for the level of harm adopted by the activist. In Model 5, we use our measure of absolute emissions (*Firm Absolute Emissions*) and control for fixed sector, year, firm, and activist effects. The model is statistically significant and explains approximately 47% of the variance. As predicted, we estimate positive coefficients for *Firm Absolute Emissions* and *Firm Assets* and negative coefficients for *Firm Cashflow* and *Firm Cash*. Surprisingly, we estimate a negative coefficient on *Firm Advertising Intensity* though we are not confident that our estimate is different than zero (t-stat = –1.03).

Although we are confident ($p < 0.01$) in our estimates of *Firm Assets*, *Firm Cashflow*, and *Firm Cash*, we are not confident in our estimate of *Firm Absolute Emissions* (t-stat = 0.62). One possibility is that our measure of absolute emissions does not fully capture the decision logic of activists. Perhaps, activists gain utility from firm improvements relative to other firms within the firm's sector rather than absolute improvements. In Model 6, we replace *Firm Absolute Emissions* with our relative measure of emissions. The model remains statistically significant and explains the same amount of variance. We find a positive, but not significant, coefficient on *Firm Relative Emissions*. All other coefficient estimates are similar to the previous estimates presented in Model 5.

Another possibility for the lack of significance on the firm emissions coefficient is that the impact of emissions on the level of harm adopted is influenced by the type of request and activist. For example, it seems reasonable that different activist groups favor different levels of harm. In Model 7, we reestimate Model 6 controlling this time for

23. Full results from this specification provided upon request.

Table VI.
Level of Harm Adopted by an Activist Against a Firm

Dependent Variable / *Specification*	Level of Harm Adopted by Activist Ordered Probit		
Model	5	6	7
Firm absolute emissions	0.115		
	(0.142)		
Firm relative emissions		0.082	0.862*
		(0.672)	(0.884)
Firm cashflow	−0.171**	−0.167**	−0.200***
	(0.058)	(0.057)	(0.056)
Firm cash	−0.406***	−0.401***	−0.355***
	(0.060)	(0.059)	(0.059)
Firm assets	0.368***	0.370***	0.468***
	(0.077)	(0.075)	(0.074)
Firm advertising intensity	−0.259	−0.320	−0.096
	(0.527)	(0.524)	(0.639)
Sector effects controls	Included	Included	Included
Year effects controls	Included	Included	Included
Firm effects controls	Included	Included	Included
Activist effects controls	Included	Included	Included
Requested action controls†			
Adopt principles			Baseline
Labeling			1.225***
Reporting			−0.041
Operational changes			1.314***
Requested issue controls†			
Other			Baseline
Global warming			1.489***
Habitat destruction			0.222
Pollution			1.277***
Industrial recycling			0.635*
Activist-type controls†			
Holding institution			Baseline
Activist individual			−0.194
Environmental NGO			−0.181
Nonenvironmental NGO			−0.923
Religious group			−1.779**
Observations	1,092	1,092	1,092
χ^2 statistic	1,204.17***	1,203.30***	1,454.91***
Pseudo R^2	0.468	0.468	0.565

Robust standard errors are in parentheses (clustered on campaign).
*$p < 0.05$ (nonrobust standard errors); **$p < 0.01$; ***$p < 0.001$.
†We do not report standard errors for these variables to save space.

the requested action, requested issue, and the activist type. The model is statistically significant and now explains 57% of the variance. Our estimates for *Firm Cashflow*, *Firm Cash*, *Firm Assets*, and *Firm Advertising Intensity* are similar to previous models. Our estimate for *Firm Relative Emissions*, however, increases over tenfold. Although the estimate is still not significant at the $p < 0.01$ level, we are 95% confident the estimate is greater than zero if we do not adjust our standard errors due to clustering on the campaign.

Finally, we turn our attention to the likelihood that a firm is targeted. Table VII presents our estimates of models of the number of times a firm is targeted by activists in a year. Recall, our sample includes all public firms in industry sectors where at least one firm was targeted by activist campaigns during the 1988–2003 period. We adopt a negative binomial specification and include year fixed effects and firm random effects in all models presented.[24] In Model 8, we estimate a targeting model using *Firm Absolute Emissions* as our measure of environmental performance. As hypothesized, we estimate positive coefficients for *Firm Absolute Emissions*, *Firm Assets*, and *Firm Advertising Intensity* and a negative coefficient for *Firm Cash*. As with the compliance model, we estimate a positive, significant coefficient on *Firm Cashflow*. All coefficient estimates are significant at the $p < 0.01$ level. In Model 9, we reestimate Model 8 substituting *Firm Relative Emissions*. The model continues to be statistically significant and we once again estimate positive, significant coefficients for *Firm Relative Emissions*, *Firm Cashflow*, *Firm Assets*, and *Firm Advertising Intensity*, and a negative, significant coefficient for *Firm Cash*.

One potential concern is that the distribution of our dependent variable, *times firm targeted in a year*, is heavily skewed toward zero. Only 8% of the firms in our sample ever have had an activist campaign directed at them during the time period of our study. Potentially, there is some unobserved feature of firms that determines whether or not they are ever targeted. To increase our confidence in the previous estimates, we reduce the sample to only firms who are targeted and reestimate Model 9. In essence, this model captures the *extent* to which a firm is targeted given that it is targeted. In Model 10, we continue to estimate positive coefficients for *Firm Relative Emissions*, *Firm Cashflow*, *Firm Assets*, and *Firm Advertising Intensity* and a negative coefficient for *Firm Cash*. The magnitude of each coefficient is smaller than estimated in Model 8 and we are no longer confident that *Firm Cash*, *Firm Assets*, and *Firm Advertising Intensity* are greater than zero. This is not surprising given the reduced sample size and the stringency of the test.

24. As a robustness test, we adopted a Poisson specification and found similar results.

Table VII.
Likelihood That a Firm Is Targeted by Activist Campaigns

Dependent Variable / *Specification*	Times Firms Targeted in a Year Negative Binomial			
Model	8	9	10[†]	11[§]
Firm absolute emissions	1.186**			
	(0.379)			
Firm relative emissions		1.192*	0.552*	1.032*
		(0.586)	(0.319)	(0.501)
Firm cashflow	0.422***	0.469***	0.181*	0.738***
	(0.111)	(0.113)	(0.095)	(0.157)
Firm cash	−0.255***	−0.248**	−0.092	0.296
	(0.078)	(0.080)	(0.066)	(0.266)
Firm assets	0.389**	0.367**	0.042	−0.787*
	(0.138)	(0.140)	(0.119)	(0.443)
Firm advertising intensity	7.718***	7.826***	0.718	−11.888*
	(1.958)	(2.051)	(1.917)	(4.904)
Year effects controls	Included	Included	Included	Included
Firm effects controls[‡]	Included	Included	Included	
Observations	33,213	33,213	2,987	33,213
Firms	3,338	3,338	274[†]	3,338
χ^2 statistic	359.59***	354.09***	222.00***	284.97***

Note: Standard errors are in parentheses (*$p < 0.1$; **$p < 0.01$; ***$p < 0.001$).
[†]Sample limited to only those firms targeted by activists from 1988 to 2003.
[‡]Firm random effects adopted.
[§]Zero-inflated negative binomial with robust standard errors clustered on firm.

As an additional robustness test, we estimated a zero-inflated negative binomial specification with robust standard errors clustered on firm over the entire sample (see Model 11). The zero-inflated estimator helps us discern whether there is a significant difference between those who are ever targeted versus those who are never targeted. Running a Vuong test statistic ($z = 3.83$) indicates that we should reject the null hypothesis that the zero-inflated and standard negative binomial models are equivalent. We continue to estimate positive, significant coefficients for both *Firm Relative Emissions* and *Firm Cashflow*. Interestingly, we estimate significant, *negative* coefficients on our visibility (*Firm Advertising Intensity*) and size (*Firm Assets*) measures. What may be driving these results? If we examine the first stage of the zero-inflated model estimates, we find significant, negative coefficients on visibility and size on the likelihood that a firm is never targeted. In other words, as expected, smaller, less visible firms are less likely to be

targeted. However, once targeted, size and visibility may decrease the frequency of being targeted. We discuss this result in more detail in the next section.

5. Discussion

Consistent with our hypothesis, we find that the probability of firm compliance with a request is significantly decreasing with firm emissions. Although this result is intuitive, we had raised the possibility that activists would have incentives to raise the level of harm, the more polluting a firm, increasing the likelihood the firm would respond positively. One can imagine a number of reasons why this logic does not dominate. For one, if activists face a budget constraint they may be unable to credibly threaten extreme amounts of harm. Thus, we may observe that moderately polluting firms are more likely to comply than less polluting firms but that activists are unable to impose the necessary harm to motivate extremely polluting firms. Alternatively, the fact that a firm has high relative emissions may reflect that a firm's managers have a preference for resistance and have been resistant to stakeholder demands in the past and continue to hold a preference for resistance.

With respect to our remaining hypotheses (H2–H7), we find that the level of harm threatened by activists is increasing as firm emissions increase (H2), firm cash and cash flow decreases (H3), and firm assets increase (H4) though the evidence with respect to firm emissions is weak. We generally find that the likelihood of a firm being targeted by an activist is decreasing with firm cash (H5), increasing with firm assets and firm advertising intensity (H6), and increasing with firm emissions (H7). However, the story appears more complicated when we consider that a vast majority of firms in our sample are never targeted. It may very well be that the likelihood of ever being targeted increases with firm assets and firm advertising intensity whereas the frequency of being targeted may actually be decreasing with firm assets and firm advertising intensity.

This may in part explain why we estimate negative coefficients for the marginal impact of *Firm Advertising Intensity* on both the level of harm adopted and the likelihood that firm will comply with a request. Although we are not confident that any of these coefficient estimates were significantly different from zero, it is worthwhile to consider why we consistently estimated negative coefficients. One possibility is that advertising intensity, and to a lesser extent firm size, may represent a source of strength rather than a liability for firms when it comes to activist campaigns. Similarly to capital reserves, firms with strong

marketing capabilities may be able to push back and resist activist demands by engaging in public relations and refuting the claims of activists. Such firms can raise the cost of delivering harm for the activist and are less likely to comply with a request. As a result, while activists wish to target visible firms, the most visible firms may have the resources to push back on campaigns and are thus a less attractive target.[25]

Interestingly, we estimated a significant, positive coefficient for firm cash flow with respect to targeting. We may be picking up an interesting distinction between *Firm Cashflow* and *Firm Cash*. Firm cash flows reflect the profitability and financial strength of the firm. Firm cash may be uncorrelated with recent performance and reflects, in part, past corporate finance decisions. We speculate that profitable firms may have more slack and therefore are more likely to positively respond to activist's requests and thus are a more attractive target for activists. It may very well be that managers can act more in line with social demands when they are profitable and less under scrutiny from investors.

Our results are robust to a number of specifications. Across all our models, we include year dummies to control for heterogeneity over time. In our models of harm adopted and compliance, we include dummies for sector, firm, and activist to control for unobserved heterogeneity across each group. In addition, we include controls for the nature of action requested, the issue requested, and the activist type. In our model of targeting behavior, we control for stable sources of unobserved heterogeneity between firms by making full use of our panel and including firm random effects.

One potential concern with our analysis is that our database might not include all activist campaigns. If these unobserved campaigns are randomly distributed across the population, the failure to include them will not bias our results and their exclusion would simply make it harder to find significant coefficients. There is reason for concern, however, if our database missed campaigns in a systematic way related to our variables of interest. This seems unlikely though. If there is a bias, most likely it is that more major or important campaigns are more likely to appear in our dataset. Nonetheless, although campaigns that were minor enough to have not been reported in even local newspapers could have been missed, our database does contain some very small campaigns limited to one local area. Even if our dataset is biased toward well-publicized activist campaigns, because these have the biggest

25. Another possibility of course is that advertising intensity simply does not capture the underlying construct of firm visibility. Survey responses of consumer familiarity with a firm's brands are one alternative measurement strategy and may be an interesting avenue for future study (King and Lenox, 2000).

impact on firms, they should be the ones we are most concerned about. However, we remain cautious that well-publicized activist campaigns may be those where more harm is threatened or inflicted and thus the ones that firms are more likely to respond to.

There are a number of opportunities to advance both the theoretical model and empirical analysis presented in this paper. Previous work has found that there may be significant differences across activists that influence the likelihood that they would adopt a certain level of harm and the likelihood that they would target certain firms (Eesley and Lenox, 2005, 2006). Activists are motivated by a mix of factors including focused objectives such as bringing about change in targeted firms, and also broader objectives such as attracting attention to issues, securing resources for the organization, and garnering individual recognition and respect. Some activists are unwilling or, at least unlikely, to accept more aggressive forms of unrest. For example, in our sample, religious organizations such as nunneries are far less likely to engage in protests and civil suits (see Table II). Activist preferences such as these have interesting implications for the structure of campaigns and the selection of targets.

We assume in our theoretical model that the topic of the campaign is an exogenous preference of the activist. An interesting extension would be to model this as a strategic choice. Activists likely have some discretion in the specific issues they campaign and the demands they make. One could imagine a whole host of strategic considerations that may influence which issues and actions best advance larger activist objectives. These may be exacerbated by other more personal goals of the activist such as individual and organizational growth and advancement. Complicating matters further is that campaigns may not be independent and that firms and activists may be playing a multistage dynamic game across time and campaigns. Furthermore, as the number of activist groups is not fixed, new activist groups may enter or there may be syndication of efforts that would reduce the cost to inflict a level of harm. Baron and Diermeier (2005) consider a number of these extensions in their theoretical model. We leave empirical analysis of such factors to future work.

6. Conclusion

In this paper, we examine activists' use of private politics to engender firm compliance with activist objectives. Based on our model, we propose that the more polluting a firm, the greater the operational loss to the firm from complying with activist demands, and thus the lower

the likelihood the firm complies to the activist demand. We propose that the greater a targeted firm's reserves of capital, the greater the ability of the firm to fight activist actions, thus raising the marginal cost of the activist of delivering harm, decreasing the likelihood the firm will be targeted, and decreasing the harm threatened by the activist. Finally, we propose the larger, more visible, and more polluting a firm, the greater the incremental utility to the activist of gaining compliance, and thus the greater the likelihood the firm will be targeted and the greater the harm threatened by the activist.

Using a sample of environmental activist campaigns against US firms during the period 1988–2003, we find evidence consistent with many of our hypotheses. We find evidence that firms are less likely to acquiesce to activists' demands, the greater their cash reserves and the worse their environmental performance. We find that activists adopt more aggressive campaigns the larger and more polluting a firm and the smaller the firm's capital reserves. Finally, we find evidence that larger, more profitable, advertising intensive firms who pollute more both absolutely and relative to other firms in their sector are more likely to be targeted by activists whereas firms with large cash reserves are less likely to be targeted.

We believe this paper makes a valuable contribution in developing the empirical literature on the private politics of activists, in particular, and of nonmarket strategy, more generally. By building a unique dataset of activist campaigns, we are able to test and verify some of the insights of previous theoretical models. These findings have important implications for both activists and firms in their management and strategizing with respect to these types of campaigns. In addition, to the extent that private politics of activists motivate firms to self-regulate, they have important implications for the design of public policy. We hope this research serves as a starting point for future theoretical and empirical development in this area.

Appendix

Consider the following example. Assume that $c(\eta) = \alpha\eta^2$ and that $c'(\eta) = 2\alpha\eta$. Substituting our specifications for the marginal cost of delivering harm and the marginal probability that a firm complies with a request into equation (4) and solving for η gives the optimal level of harm for a given target firm

$$\eta^* = \sqrt{(1+\Delta\pi)^2 + \frac{u_{x_D} - u_{x_0}}{\alpha}} - (\Delta\pi) - 1. \tag{A1}$$

Assuming that $\alpha > 0$, $(u_{x_D} - u_{x_0}) > 0$, and $\Delta\pi < 0$, we derive the marginal effect of changes in each of these parameters:

$$\frac{\partial \eta^*}{\partial \alpha} < 0, \quad \frac{\partial \eta^*}{\partial (u_{x_D} - u_{x_0})} > 0, \quad \frac{\partial \eta^*}{\partial \Delta\pi} < 0. \tag{A2}$$

To further specify our model, we adopt a random utility model where the probability of a targeted firm responding positively can be given by the multiplicative form,

$$p = \Pr(x_i = x_D) = \frac{\eta + \Delta\pi}{\eta + \Delta\pi + 1}, \tag{A3}$$

the derivative of which with respect to η is

$$p' = \frac{1}{(v+1)^2} = \frac{1}{(\Delta\pi + \eta + 1)^2}. \tag{A4}$$

Substituting equation (A1) back into the probability equation (A3) and solving gives us the probability that a given firm will respond positively to the activist's request:

$$p_i^* = 1 - \left(\left(1 + \Delta\pi_{x_D i}\right)^2 + \frac{u_{x_D} - u_{x_0}}{\alpha} \right)^{-1/2}. \tag{A5}$$

Assuming once again that $\alpha > 0$, $(u_{x_D} - u_{x_0}) > 0$, and $\Delta\pi_{x_D i} < 0$, we derive the marginal effect of changes in each of these parameters. Please note that the third condition only holds for $\Delta\pi_{x_D i} < -1$, otherwise it is indeterminate.

$$\frac{\partial p_i^*}{\partial \alpha} < 0, \quad \frac{\partial p_i^*}{\partial \left(u_{x_D} - u_{x_0}\right)} > 0, \quad \frac{\partial p_i^*}{\partial \Delta\pi_{x_D i}} < 0. \tag{A6}$$

Finally, we consider the likelihood that a given firm is targeted by activists. The expected utility of the activist for a campaign against a given firm i is given by substituting (A1) and (A5) into equation (2)

$$\begin{aligned} U_{\text{activist } j}\left(x_D, \eta^*, i\right) = {} & u_{x_D i} + 2\alpha(1 + \Delta\pi_{x_D i}) \\ & -2\alpha \left(\left(1 + \Delta\pi_{x_D i}\right)^2 + \frac{u_{x_D} - u_{x_0}}{\alpha} \right)^{1/2}. \end{aligned} \tag{A7}$$

From equation (A7), one can see that the utility of the activist of targeting a specific firm is increasing, as the marginal cost of harming that firm decreases and the utility of compliance of that firm increases. Thus, the probability that a given firm will be targeted should be increasing as

the cost of harming that firm decreases and the utility of compliance of that firm increases.

$$\frac{\partial \Pr(\text{target} = i)}{\partial \alpha} < 0, \quad \frac{\partial \Pr(\text{target} = i)}{\partial \left(u_{x_D} - u_{x_0}\right)} > 0. \tag{A8}$$

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