The Market for Activism

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Abstract

This paper presents a theory of the market for activism where citizens fund activists and campaigning NGOs to pressure firms to change their practices and firms self-regulate to forestall campaigns. Firms have a degree of safety in numbers, since there are fewer activists than firms and hence only a fraction of the firms can be targeted. Activists, however, have leverage because firms must self-regulate before they are targeted, and their self-regulation must deter the activist once they are targeted. Activists demand more from soft firms than hard firms, so it is more costly for soft firms to forestall activists and some risk being targeted by a campaign. Radical activists target harder firms than do moderate activists, and the more radical the activists the more costly it is to forestall them. The theory thus explains why activists campaign against more vulnerable or softer firms, whereas less vulnerable firms are either not threatened or self-regulate sufficiently to forestall a campaign. Activists and their donors have an incentive to maximize the scope of activism; i.e., the breadth of the threat from activism. Some firms are too hard to target directly, so activists campaign against their more vulnerable supply and distribution chains. An informational explanation is given for the introduction of these market campaigns.

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1 Introduction

The market for social pressure or activism centers on the activists and campaigning NGOs that seek to change the behavior of firms. The direct application of social pressure to economic agents has evolved in four stages. The environmental movement was ignited by Rachel Carson's *Silent Spring*, and much of the early focus was on building awareness of environmental issues. Social activists then turned their attention to government and were an important force in the wave of social regulation enacted during the 1970s. The third phase saw the rise of private politics with social pressure directed at private economic agents as in the campaigns against Nestle for the marketing of infant formula in developing countries and against firms operating in South Africa during the apartheid era. When the wave of government regulation began to wane, many activists and campaigning NGOs shifted their focus to targeting firms directly rather than working through government. Michael Brune, then executive director of the radical NGO the Rainforest Action Network (RAN) and currently the executive director of the Sierra Club stated, "We felt we could create more democracy in the marketplace than in the government."[1] The vehicle for this private politics was a corporate campaign targeting firms whose practices the activist wanted changed.[2] Some firms, however, were costly to target or could not be substantially harmed by a campaign. To pressure these firms, activists began targeting their supply and distribution chains to disrupt the markets in which they operated. These market campaigns often were effective, and more importantly they exposed a large, new set of firms to the threat of social pressure. The fourth phase was in response to this broadened threat from activism as firms began to self-regulate to lessen social pressure and avoid targeting. In implementing their self-regulation firms partnered with NGOs, shifting the focus of many NGOs from confrontation to cooperation. This paper focuses on the third and fourth phases of the market for activism, including both the demand side where activists challenge firms with corporate and market campaigns and the supply side where citizens fund activists and determine the scope of activism.

The most noticeable effect of activism is the campaigns conducted against firms, but the greater effect is from the threat of activism. That is, many more firms are threatened by activists than can be targeted, and many of these firms self-regulate to forestall a campaign even though they know that the probability they will actually be targeted is not high. To forestall a campaign, a threatened firm must self-regulate to the point at which, if targeted, the activist will accept its self-regulation rather than campaign. Firms, however, must self-regulate ex ante, which gives the activist leverage, since all firms that prefer to forestall a campaign must do so in advance of the choice of a target by the activist. Self-regulation forestalls a campaign because it allows the activist to avoid the cost and possible failure of a campaign. When self-regulation is too costly, however, some firms take their chances with a campaign. Other firms may be too hard for activism and are not threatened. The reach of private politics thus has limits.

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[1] Baron and Yurday (2004).

[2] The concept of private politics was introduced and formalized by Baron (2001)(2003).

Self-regulation is important for at least three reasons. First, it represents an alternative, albeit imperfect, to government regulation. Second, it provides an explanation for the widespread adoption of corporate social responsibility (CSR) by firms, a term that encompasses self-regulation. Third, it provides an explanation for the movement by many activists from confrontation to cooperation; i.e., firms and NGOs work together in implementing self-regulation.

This paper has three objectives. The first is to characterize an equilibrium in the market for activism in which social activists threaten and conduct campaigns against firms and donors fund the activists based on their anticipated accomplishments. The second is to identify the extent to which firms self-regulate or incur campaigns when threatened by moderate or radical activists. The third is to explain the innovation of market campaigns targeting the supply or distribution chains of firms that are too hard for corporate campaigns.

Eesley and Lenox (2006) study 1209 protests against firms from 1971 to 2003 and find that slightly more than half succeeded in eliciting changes from the targeted firms. Forty-five percent of the protests focused on proxy filings by institutional investors and religious groups, but those proxy challenges were ineffective, whereas boycotts, social protests, and civil lawsuits were effective. Lenox and Eesley (2009) focus on 552 campaigns by environmental activists for 1988-2003 with the objective of explaining the success or failure of campaigns and the level of harm generated. The targeted firms were compared to a control groups of firms that were not targeted but were in industries that were targeted. Approximately 44 percent of the targeted firms conceded to the demands, and concessions were most likely on the social issues of global warming, pollution, and industrial recycling and the harm threatened was highest for global warming and pollution. Firms with high emissions and high advertising intensity were more likely to be targeted, where the latter reflects the importance of brands and consumers to the success of a campaign.

Gupta and Innes (2011) study the effect of boycotts on the adoption of environmental management systems (EMS) by firms. They find that soft firms as measured by KLD strengths for social responsibility are significantly more likely to be the target of a boycott and proxy resolutions than hard firms as measured by KLD weaknesses. Firms that incur a boycott are significantly more likely to adopt an EMS or a Total Quality Environmental Management Program. Higher membership in the Sierra Club in states in which facilities are located results in a lower probability of adopting an EMS, however, which the authors interpret as resulting from an adversarial relationship between local environmental constituencies and firms.[3] Maxwell, Lyon, and Hackett (2000) find that firms with facilities in states with higher per capita membership in the Sierra Club self-regulate more in the form of lower emissions of toxic chemicals reported in the Toxic Releases Inventory than firms in states with lower per capita membership. In a cross-country study Binder and Neumayer (2005) find that the strength of environmental NGOs is negatively correlated with the emissions of pollution.[4]

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[3] Firms in states with a strict rather than a negligence liability standard and a higher number of lawyers per capita are less likely to adopt an EMS, presumably because of litigation concerns.

[4] Delmas and Montes (2010), Ingram, Yue, and Rao (2010), Khanna and Damon (1999), King (2008), King and Lenox (2000), Lenox and Nash (2003), and Segerson and Miceli (1998) also provide empirical studies of private politics.

As an example of the impact of private politics and the incentive to self-regulate, Harrison and Scorse (2010) provide estimates of the effect of the anti-sweatshop campaign by comparing real wage increases in the textile, footwear, and apparel (TFA) industries in Indonesia to wage increases in other manufacturing industries and by comparing real wage increases in districts with foreign-owned and exporting plants supplying the principal campaign targets, Nike, Addidas, and Reebok, to districts with TFA plants not supplying those firms. The authors find that districts with plants supplying the three firms had 22-52% higher real wage growth than districts with plants not supplying the firms. Profits of the exporters were reduced, as presumably they were at the target firms.[5] Self-regulation has been spurred by the success of such campaigns and has forestalled government regulation in Internet privacy, movie ratings, carbon emissions, forest sustainability, supply chain standards, chemicals safety, aspects of financial market conduct, and so on.

Activists traditionally focused on targeting "primary" firms whose practices they wanted changed. For example, a firm emitting hazardous pollution is targeted with a harmful campaign to force it to curtail its emissions. The more harmful the campaign the more successful it is likely to be, and firms that are financially weak, have a public face, a brand or reputation that can be damaged, or employee morale that can be weakened are more vulnerable.[6] Nike believed that the anti-sweatshop campaign adversely affected the creativity of its advertising staff, and a Novartis executive speaking of the pressure on pharmaceutical companies said, "Reputation is one of the most valuable assets of a company. It is not only closely linked to economic performance, but even more to employee behavior."[7] Campaigns directed at primary firms whose practices the activists want changed are referred to as corporate campaigns.

King and Soule (2007) studied the financial effects of protests and found that "large, weakly performing firms" and firms that have been targeted in the past were more likely to be targeted with a protest.[8] Some firms, however, have low vulnerability giving activists little hope of changing their practices. For example, many industrial products companies do not have a public face or brand known to consumers and are difficult to harm. Similarly, firms with large fixed investments may not respond to social pressure because of the costs of redeploying their assets. Because of the limits of corporate campaigns, activists innovated by targeting not the primary firms but instead the markets in which they operated, typically focusing on their supply or distribution chains. Retailers, for example, have a public face and name recognition that can be damaged, and when threatened by an activist, may take an action that harms a primary firm. These market campaigns have often been successful in changing the practices of primary firms.[9] More importantly, market campaigns exposed a new set of firms to the threat of activism. Market campaigns use the same tactics as corporate

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[5]Nike subsequently became an industry leader in improving working conditions in its suppliers' factories.

[6]In interviews Hendry (2006) found that Greenpeace emphasizes targeting firms with strong brands where consumers can be involved.

[7]Quoted in Spar and La Mure (2003, p. 94)

[8]The data period for the study was 1962 to 1990, which is prior to the surge in private politics.

[9]O'Rourke (2005) uses the term market campaign to refer to any campaign intended to influence or elicit responses from consumers. He discusses campaigns against Staples, Nike, and Dell. Spar and La Mure discuss campaigns targeting Unocal for its operations in Myanmar, Nike for working conditions in its suppliers' factories, and Novartis.

campaigns, and this paper provides an informational explanation for their introduction.

Market campaigns are intended to disrupt a market in which a firm operates. For example, RAN campaigned to stop the harvesting of old growth timber in the United States, but timber companies are numerous, mostly privately-held, and most do not have a public face, so they have low vulnerability and campaign costs are high. RAN chose not to campaign against the timber companies and instead sought to disrupt the market for old growth timber.[10] RAN campaigned against Home Depot to stop it from selling old growth lumber, and having a public face and brand equity, Home Depot agreed to RAN's demand. As another example, RAN sought to stop development projects that endangered ecosystems or harmed indigenous peoples, and rather than try to target either the project owners, many of which were governments, or the construction companies building the projects (again low vulnerability and high cost), it campaigned against Citigroup, which was the largest provider of project finance. Neither Home Depot nor Citigroup was doing harm itself, but they were in positions to take actions that would harm the timber companies or the project owners and construction companies. Citigroup responded to the social pressure it faced and with three other banks formed the Equator Principles that established environmental and human rights standards for development projects funded by the participating banks.[11] Home Depot refused to sell old growth lumber and required chain of custody records for the lumber it sold, and the timber companies established the Sustainable Forestry Initiative, which sets standards for forest sustainability.

The equilibrium in the market for activism has two properties that result because the number of potential targets is greater than the number of activists. The first is leverage which results because firms that prefer to self-regulate to forestall a campaign must do so before they are targeted and their self-regulation must deter the activist once targeted. This broadened the scope of self-regulation. The second is a degree of safety in numbers resulting because only a fraction of the threatened firms can be targeted. This leads some firms for which the forestalling self-regulation is very costly to take their chances with a campaign, which limits the scope of self-regulation. The forestalling self-regulation is increasing in the vulnerability of the firm and in the saliency of the social issue to the public. The scope of activism, i.e., the set of firms threatened, is increasing in the saliency of the social issue, since the activist then has a stronger incentive to campaign. Radical activists threaten harder firms than do moderate activists, and the scope of activism is greater the more radical are the activists. Some firms, however, are safe because they are too hard for any threat by the activists to be credible.

Self-regulation must forestall the activist once a firm is actually targeted by a campaign, so it is independent of the actual probability that a firm is targeted, as is the scope of activism. Activists thus have leverage over a larger set of firms than can actually be targeted with a campaign. The probability of being targeted, which is determined by the number of activists funded by citizens, however, affects whether a firm

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[10]RAN campaigned against the timber company Boise Cascade, but the campaign was ineffective resulting in no change in its practices for over five years. RAN later campaigned against Weyerhauser which had branded its name in several markets.

[11]RAN continued its campaign against Citigroup after the Equator Principles were established and extracted more stringent standards from the bank. See Baron and Yurday (2004).

forestalls or incurs a campaign. Since a campaign against a softer firm is more attractive to the activist and hence more costly to forestall, some softer firms find self-regulation too costly and choose to incur a campaign. Choosing to incur a campaign involves a degree of safety in numbers, since only a fraction of the firms can be targeted with a campaign. If a firm risks incurring a campaign, it maximizes its profits. If sufficient activists are funded, all threatened firms self-regulate to forestall a campaign.

The theory thus provides an explanation for why activists campaign against more vulnerable or softer firms, whereas less vulnerable firms are either not threatened or self-regulate sufficiently to avoid a campaign.[12] The explanation is that forestalling a campaign is more costly for more vulnerable firms than for less vulnerable firms, since activists require greater self-regulation the more vulnerable is the target. Softer firms thus may choose to incur a campaign rather than self-regulate, whereas harder firms self-regulate because the activist demands less from them. Activists would like the softer firms to self-regulate but cannot commit not to demand more from them.[13] Since these more vulnerable firms risk incurring a campaign, they choose to maximize their profits. More vulnerable firms thus maximize their profits and incur campaigns, whereas less vulnerable firms self-regulate and forestall campaigns. Radical activists can extract more from firms than can moderate activists, so low vulnerability firms that avoid being targeted by a moderate activist can be threatened and targeted by a radical activist.

Activists and the citizens who fund them have preferences for the social benefits associated with the social issue such as the environment and hence have aligned preferences. Since self-regulation that forestalls a campaign is independent of the probability of being targeted, both activists and their donors prefer to maximize the scope of activism, so activists threaten all firms that are not too hard for a campaign. Donors anticipate this and can sort with those with the strongest preferences funding radical activists and those with weaker preferences funding moderate activists. The more salient is the social issue for donors the greater are donations and hence the number of activists funded. Since donors and activists maximize the scope of activism, the equilibrium characterized identifies the maximal impact of activism.

Market campaigns are similar to corporate campaigns in their tactics, but initially activists and firms were pessimistic about whether consumers and the public would support a campaign against a firm that is itself doing no direct harm. A market campaign is viewed as an innovation, and the motivation for conducting it is informational. The information generated about the effectiveness of market campaigns is a public good for activists, but the activist conducting the campaign does not know whether it will be able to take advantage of the information generated. Experimentation with a market campaign thus occurs only if the activist has preferences for the accomplishments of activism, rather than only its own accomplishments.

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[12] Theories of private politics and self-regulation include Baron and Diermeier (2007), which also predicts that softer firms are targeted, Diermeier and Van Meighem (2008), Egerov and Harstad (2013), Krautheim and Verdier (2012), Lyon and Maxwell (2004), and Lyon and Salant (2013). Baron (2012) provides a theory in which cooperation results because an NGO with expertise beneficial to a firm provides a shield against confrontational activists.

[13] An individual activist could develop a reputation for honoring its commitments and hence bargain over the self-regulation, but the targeted firm remains vulnerable to other activists that can criticize the agreement and demand that the firm do more. Commitment thus is problematic.

2 The Model

The model includes firms, moderate and radical activists, and citizens who fund the activists. The supply of activists is thus endogenous and determined by the donations of citizens. The activists seek to advance a social cause that is consistent with the preferences of their donors, and they do so by putting social pressure on firms to change their practices.

2.1 Firms

Firms maximize their profits and are identical except for their vulnerability to private politics. The practices of firms are denoted by $x \in \Re^+$ and may pertain to environmental protection, working conditions, wages, employment policy, location of faciliities, product design, and so on. The profit of a firm is denoted $\pi(x)$ and is assumed to be strictly quasiconcave with a maximum at x_o, so profit is decreasing for $x > x_o$. A firm threatened by activism can self-regulate with practices $x > x_o$ in an attempt to forestall the activists.[14] The self-regulation occurs prior to targeting by activists but after there is awareness of the social issue.

A firm is identified by its commonly-known vulnerability $v \in [0, \bar{v}]$, which corresponds to how susceptible it is to social pressure. For example, v could correspond to the ease of damaging a firm's reputation, brand equity, or employee morale. This vulnerability determines how hard or soft it is as a target and along with the social issue determines how likely a campaign is to succeed. The probability of campaign success is denoted $p(v)$ and is assumed to be strictly increasing in v with $p(0) > 0$ and $p(\bar{v}) < 1$, so higher v corresponds to a more vulnerable or softer firm.[15] Although firms are identical except for their vulnerability, they differ in the self-regulation needed to forestall a campaign. Let $F(v)$ denote the distribution function of firm types, where the number of firms is N_F, and assume that $F(v)$ is uniform. Firms are assumed to be more numerous than activists, so not all firms can be targeted by an activist.

The probability of success does not depend on which activist campaigns against the firm and is independent of the practices of the firm, reflecting the difficulty firms have in credibly communicating their actions to the public. The probability of success can depend on the social issue with which the firm is associated. For example, Epstein and Schnietz (2002) found that firms targeted for their environmental practices in the 1999 Seattle WTO meeting demonstrations lost significant market value, whereas firms targeted for their labor practices incurred no significant loss. King and Soule, however, found that protests backed by labor unions had a significantly negative effect on the cumulative abnormal returns of targeted firms, presumably because a protest could be a forerunner of a strike.

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[14]Baron (2013) characterizes equilibrium self-regulation for a firm that is already targeted by private politics or public politics and shows that if the activist can make a strategic demand on the firm, equilibrium self-regulation forestalls the activist from campaigning. In the model here campaigns occur in equilibrium.

[15]The probability $p(v)$ can be derived from a simple model of campaign outcomes. Let the campaign impose uncertain harm $\tilde{h}$ on a target firm and denote the cost of changing practices by c, where c varies with the firm in question. The campaign succeeds if the realized harm h is at least c and otherwise fails. The probability of campaign success is then $1 - H(c)$, where $H(\cdot)$ is the distribution function of $\tilde{h}$. Then, defining vulnerability as $v = \bar{c} - c$, where $\bar{c}$ is the maximum cost among firms, yields $p(v) \equiv 1 - H(\bar{c} - v)$.

2.2 Activists

Activists are either moderate M or radical R, where a moderate receives utility only from the outcome from challenging a firm whereas a radical receives in addition utility, perhaps solely warm glow, from the act of challenging a firm. For example, an activist aligned with labor unions may obtain utility from targeting Wal-Mart even though success is highly unlikely.

Activists seek to increase the perceived social benefits from the practices of firms. The success of activism ultimately depends on support from the public, and the commonly observable saliency of the social issue is denoted by θ. Let the perceived social benefits from targeting a firm be denoted $z(x, \theta)$, which is assumed to be strictly increasing in the self-regulation x. The benefits $z(x, \theta)$ are also assumed to be increasing in θ, so higher θ corresponds to stronger interest from the public for, or saliency of, the social issue. The benefits are also assumed to exhibit increasing differences; i.e., $z(x, \theta) - z(x', \theta)$ is increasing in θ for $x > x'$.

The strategy of the activist is to direct social pressure at the firm, and the instrument is a campaign. The activist demands that the firm change its practices, and let $\bar{x}(\theta)$ denote the resolution of a campaign if it succeeds, where $\bar{x}(\theta)$ is increasing in θ.[16] A campaign with success probability $p(v)$ has a cost $c(v)$ that is strictly decreasing in v, so campaigns targeting harder firms are more costly. If a campaign succeeds, the benefits are $z(\bar{x}(\theta), \theta)$ and the firm has profit $\pi(\bar{x}(\theta))$. If the campaign fails, the current practices x of the firm remain in place, so benefits are $z(x, \theta)$ and profit is $\pi(x)$.

The activist either campaigns against the firm or accepts its current practices and does not campaign. The preferences of an activist matched with a firm of type v are represented by a utility function $U_i, i = M, R$, given by

$$U_i = \begin{cases} z(x, \theta) & \text{if} \quad i \text{ accepts } x \\ p(v)z(\bar{x}(\theta), \theta) + (1 - p(v))z(x, \theta) - c(v) + Iy & \text{if} \quad i \text{ camapigns,} \end{cases}$$

where I is an indicator function that equals 1 if the activist is a radical and 0 if it is a moderate and y represents the utility for a radical from confronting a firm.

An activist is funded by donors, and the funding is assumed to be expended regardless of whether the activist campaigns. The funding can be thought of as providing the resources, such as personnel, that are required to make the threat of a campaign credible and hence are expended regardless of whether a campaign is actually conducted. That is, personnel must be hired, volunteers must be coordinated, and resources expended to make the threat credible. The campaign cost $c(v)$ is covered by the funds with any remaining funds expended by the activist on activities unrelated to the social issue of concern to the activist and to donors. The activist thus views a campaign as having an opportunity cost $c(v)$.

In the model activists do not select target firms but instead are randomly matched with a firm. Similarly, a firm does not attempt to divert an activist to another firm, since all firms would attempt to do so, negating each's efforts. As discussed in Sections 2.5 and 3.4, both activists and donors prefer to target firms so that

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[16]Baron (2013) provides a theory that explains the resolution of a campaign.

the scope of activism is maximized, which is accomplished by random matching.

2.3 Donors

The number of activists is endogenous and determined by the donations from citizens. Each activist requires funding A, and each citizen is assumed to donate either 0 or $a < A$. Citizens are identical except for differing preferences for the social issue, and some citizens may oppose the social cause pursued by the activists. The social benefits $z(x, \theta)$ thus are not equivalent to social welfare, since citizens can have opposing preferences on issues such as abortion, the spotted owl, and a living wage for fast-food workers. Let the motivation of a citizen be denoted by w, where $w \in [\underline{w}, \bar{w}], \bar{w} > 0$, and $\underline{w}$ is negative if some citizens oppose the social cause.[17] To simplify the model, citizens with opposing preferences are assumed to have no means to oppose the activists.

Citizens care about the share $\left(\frac{a}{A}\right)$ of the accomplishments of the activist they support, and those accomplishments correspond to the perceived social benefits. The utility function $U_D(w)$ of a citizen of type w is specified as

$$U_D(w) = \begin{cases} 0 & \text{if } w \text{ does not donate,} \\ \frac{a}{A}\bar{z} + w - a & \text{if } w \text{ donates } a, \end{cases}$$

where $\bar{z}$ is the expected benefits from the activist funded, as derived in Section 3.5. Denote the number of citizens by N_c, and let the distribution function of citizen types be denoted by $G(w|\theta)$, which depends on the saliency θ. Since θ is greater the more important to citizens is the social issue, assume that $G(w|\theta)$ stochastically dominates $G(w|\theta')$ in the first degree when $\theta > \theta'$.

In making their donation decisions citizens form expectations about the number of activists that will be funded, and in equilibrium those expectations must be rational. The number of activists funded determines the probability that a firm is targeted by a moderate or radical activist. Let those expectations be denoted ξ_M and ξ_R, respectively. The expected benefits $\bar{z}$ depend on the expectations, as shown in Section 3.5.

2.4 Corporate and Market Campaigns

A corporate campaign is intended to impose harm on a (primary) firm that can increase social benefits by changing its own practices. That harm can take one of two forms. First, it can be tangible as in the cost of operations disrupted by a campaign. For example, RAN activists and volunteers chained themselves to Citibank branch bank doors forcing closure of the branches. Second, it can be intangible as with damage to a corporate reputation, diminished brand equity, impaired employee morale, and so on. The vulnerability to the harm is assumed to be a characteristic of the social issue and the markets in which the firm operates, and these factors determine the probability $p(v)$ that a campaign succeeds.

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[17]Besley and Ghatak (2005) present a theory of competition with motivated agents.

Primary firms are assumed to have supply and distribution chains with at least one "chain firm" that is important to the primary firm. The practices of the chain firms are assumed to be unobjectionable, so a successful campaign against a chain firm produces no social benefits; i.e., $z_c(\bar{x}_c(\theta), \theta) - z_c(x_c, \theta) \leq 0$, where $\bar{x}_c(\theta)$ denotes the resolution if the campaign succeeds and $z(x_c, \theta)$ denotes the benefits if the campaign fails. A chain firm is targeted by an activist because it can harm a primary firm. For example, the chain firm could refuse to supply the primary firm or refuse to sell its products. A campaign against a chain firm is referred to as a market campaign, since it is intended to interfere in a market on which a primary firm depends.

Since it may be difficult to convince stakeholders that they should take action against a chain firm, the probability of success of a market campaign is assumed to be uncertain. That is, whether stakeholders will punish the chain firm is assumed to be unknown. Initially, market campaigns are assumed to be believed to be less likely to succeed than corporate campaigns, so all activists prefer a corporate campaign against a primary firm to a market campaign against one of its chain firms. Since the objective is to explain the rise of market campaigns, they are assumed initially to be a surprise to their targets in the sense that the targets do not have an opportunity to self-regulate. An activist is assumed to have the capacity to conduct only one campaign, either corporate or market.

Although a market campaign has a lower probability of success, it has an informational value, since its success or failure provides information about the true probability of success of market campaigns that could be conducted in the future. An activist thus could forego current period expected benefits to generate information that could yield benefits in the future. The success or failure of the market campaign is publicly observable, so the information generated is a public good for activists. Since a market campaign is viewed as an innovation, the analysis focuses on corporate campaigns in Section 3 and market campaigns are introduced introduced in Section 4.

2.5 Matching and Sorting

The market for activism includes a market in which activists are matched with firms and a market in which donors are matched with activists. Activists are randomly matched with firms, so donors do not know whether a particular activist will be matched with a firm that will self-regulate or one that prefers to incur a campaign. Donors, however, are able to direct their donations to either a moderate or a radical activist, and since all moderate activists are identical and all radical activists are identical, donors are indifferent to the specific activist they fund.

The matching of donors with activists is random, but as indicated in Section 3.4 donors have an incentive to maximize the scope of self-regulation. That is, donors want the largest set of firms threatened. Donors are thus assumed to direct their donations in a manner such that the activists threaten all firms against which an activist would campaign if the firms did not self-regulate. This sorting is assumed to result in activists being uniformly distributed among the (uniformly distributed) firms. The probability that each firm is targeted by

an activist thus is the same, which simplifies the notation and the characterization of an equilibrium. The endogenous probabilities of being targeted are denoted $\xi_M(\theta)$ and $\xi_R(\theta)$ for moderate and radical activists, respectively, and in an equilibrium the expectations of donors must equal those probabilities.

2.6 Timing

Nature first determines the saliency θ of the social issue, and then citizens make donations, which determines the number of activists. Firms choose their self-regulation anticipating that they might be matched with an activist and targeted with a corporate campaign. Nature then determines which firms are matched with an activist, and a targeted firm that is not matched implements its self-regulation. For a firm matched with an activist, the activist either campaigns or accepts the self-regulation. If the activist campaigns, the outcome is determined according to $p(v)$. If the campaign succeeds, the firm implements $\bar{x}(\theta)$, and if it fails, the firm implements its self-regulation x. If a firm is not targeted by an activist, it implements its self-regulation. The game has complete and perfect information, and the equilibrium concept is subgame perfect Nash.

3 Equilibrium

3.1 Corporate Campaigns and Self-Regulation

3.1.1 Moderate Activists

A moderate activist matched with a firm v that self-regulates at $x \in [x_o, \bar{x}(\theta)]$ obtains benefits $z(x, \theta)$ if it accepts x. If it campaigns, the expected benefits $Ez_M(x, \theta)$ are

$$Ez_M(x, \theta) = p(v)z(\bar{x}(\theta), \theta) + (1 - p(v))z(x, \theta) - c(v),$$

which are strictly increasing in x, v, and θ. The activist accepts x if $z(x, \theta) \geq Ez_M(x, \theta)$, which is equivalent to

$$\tau_M(x, v, \theta) \equiv z(x, \theta) - Ez_M(x, \theta) = -p(v)(z(\bar{x}(\theta), \theta) - z(x, \theta)) + c(v) \geq 0. \tag{1}$$

The moderate activist thus accepts self-regulation x rather than campaign if the expected gain $p(v)(z(\bar{x}(\theta), \theta) - z(x, \theta))$ from a successful campaign is outweighed by the cost of the campaign. If (1) is not satisfied, the activist campaigns. The firm forestalls the activist with self-regulation $\hat{x}_M(v, \theta)$ defined by $\tau_M(\hat{x}_M(v, \theta), v, \theta) \equiv 0$, and since $c(v) > 0$ for all v, $\hat{x}_M(v, \theta) < \bar{x}(\theta)$. The activist accepts self-regulation that is less than $\bar{x}(\theta)$ to avoid the cost of a campaign and the possibility of campaign failure.

The function $\tau_M(x, v, \theta)$ is strictly increasing in x, so if (1) is satisfied at x, it is satisfied for all $x' \geq x$. The activist thus accepts self-regulation x for $x \geq \hat{x}_M(v, \theta)$ and campaigns otherwise, so its best response

function $B(x, v|\theta)$ for $x \in [x_o, \bar{x}(\theta)]$ is

$$B(x, v|\theta) = \begin{cases} \text{accept } x & \text{if } x \geq \hat{x}_M(v, \theta), \\ \text{campaign} & \text{if } x < \hat{x}_M(v, \theta). \end{cases} \tag{2}$$

The function $\tau_M(x, v, \theta)$ is strictly decreasing in v, and defining $v_M(x, \theta)$ by $\tau_M(x, v_M(x, \theta), \theta) \equiv 0$, the activist campaigns against firms $v > v_M(x, \theta)$ and accepts x if $v \leq v_M(x, \theta)$. The function $v_M(x, \theta)$ is strictly increasing in x, that is,

$$\frac{dv_M(x, \theta)}{dx} = \frac{p(v_M(x, \theta))\frac{\partial z(x, \theta)}{\partial x}}{p'(v_M(x, \theta))(z(\bar{x}(\theta), \theta) - z(x, \theta)) - c'(v_M(x, \theta))} > 0,$$

since the numerator and denominator are each positive. The hardest firm such that the activist campaigns thus is one that maximizes profit at $x = x_o$. Consequently, for $v < v_M^o(\theta) \equiv v_M(x_o, \theta)$, a firm v that maximizes its profit is too hard for a moderate activist. The threat of a campaign thus is limited to firms $v \in [v_M^o(\theta), \bar{v}]$, and this set represents the scope of moderate activism. Although all firms $v \in [v_M^o(\theta), \bar{v}]$ are threatened by moderate activism, only a fraction ξ_M, as characterized in Section 3.5, can be targeted. Although a firm of type $v < v_M^o(\theta)$ is not threatened by a moderate activist, it may be threatened by a radical activist.

A firm threatened by a moderate activist forestalls a campaign by self-regulating, and the following proposition characterizes the forestalling self-regulation $\hat{x}_M(v, \theta)$ and the bound $v_M^o(\theta)$ on the scope of moderate activism.[18]

Proposition 1. *(i) The forestalling self-regulation $\hat{x}_M(v, \theta)$ is strictly increasing in v, θ, and $\bar{x}(\theta)$. (ii) The scope $[v_M^o(\theta), \bar{v}]$ of moderate activism is strictly increasing in the saliency θ of the social issue; i.e., $v_M^o(\theta)$ is strictly decreasing in θ. (iii) The firm $v = v_M^o(\theta)$ maximizes its profit when it forestalls a campaign; i.e., $\hat{x}_M(v_M^o(\theta), \theta) = x_o$. (iv) $\hat{x}(v, \theta)$ and $v_M^o(\theta)$ are independent of the probability ξ_M of being targeted with a campaign.*

Proof. (i) Implicit differentiation of (1) as an equality yields

$$\frac{d\hat{x}_M(v, \theta)}{dv} = \frac{p'(v)(z(\bar{x}(\theta), \theta) - z(\hat{x}_M(v, \theta), \theta)) - c'(v)}{p(v)\frac{\partial z(\hat{x}_M(v, \theta), \theta)}{\partial x}},$$

which is positive since $p(v)$ is strictly increasing and $c(v)$ is strictly decreasing in v, $z(x, \theta)$ is strictly increasing

[18]The results in Proposition 1 hold in a model in which the success probability is specified as $p(v, x - x_o)$ and is decreasing in x; i.e., self-regulation decreases the success probability. As noted above, however, firms have difficulty communicating their self-regulation to the public, so the probability of success is specified as independent of x.

in x, and $\hat{x}_M(v,\theta) < \bar{x}(\theta)$. Implicit differentiation also yields

$$\frac{d\hat{x}_M(v,\theta)}{d\theta} = \frac{\frac{\partial(z(\bar{x}(\theta),\theta)-z(\hat{x}_M(v,\theta),\theta))}{\partial\theta} + \frac{\partial z(\bar{x}(\theta),\theta)}{\partial x}\bar{x}'(\theta)}{\frac{\partial z(\hat{x}_M(v,\theta),\theta)}{\partial x}}$$

and

$$\frac{d\hat{x}_M(v,\theta)}{d\bar{x}(\theta)} = \frac{\frac{\partial z(\bar{x}(\theta),\theta)}{\partial\bar{x}(\theta)}}{\frac{\partial z(\hat{x}_M(v,\theta),\theta)}{\partial x}},$$

both of which are positive.

(ii) Differentiating $\tau_M(x, v_M^o(\theta), \theta) = 0$ yields

$$\frac{dv_M^o(\theta)}{d\theta} = \frac{p(v)\left(\frac{\partial z(\bar{x}(\theta),\theta)-z(x,\theta)}{\partial\theta} + \frac{\partial z(\bar{x}(\theta),\theta)}{\partial x}\bar{x}'(\theta)\right)}{-p'(v)(z(\bar{x}(\theta),\theta)-z(x,\theta)) + c'(v)} < 0, \tag{3}$$

since the numerator is positive because $z(x,\theta)$ is increasing in x and $\bar{x}(\theta)$ is increasing in θ, as is $z(\bar{x}(\theta),\theta) - z(x_o,\theta)$ by increasing differences, and $p(v)$ is increasing and $c(v)$ decreasing in v, so the denominator is negative.

(iii) Comparing the definitions of $\hat{x}_M(v,\theta)$ and $v_M^o(\theta)$ indicates that $\hat{x}_M(v_M^o(\theta),\theta) = x_o$.

(iv) This is immediate from (1). ∎

The forestalling self-regulation $\hat{x}_M(v,\theta)$ is strictly increasing in v with range from $\hat{x}_M(v_M^o(\theta),\theta) = x_o$ to $\hat{x}_M(\bar{v},\theta) < \bar{x}(\theta)$, so a more vulnerable firm must concede more to the activist to forestall a campaign. A moderate activist thus extracts more from a softer than a harder target. The firm $v = v_M^o(\theta)$ is able to maximize its profits, since the activist is indifferent between campaigning and not campaigning. The forestalling self-regulation $\hat{x}_M(v,\theta)$ is increasing in the resolution $\bar{x}(\theta)$ of a campaign, since a higher $\bar{x}(\theta)$ means that a successful campaign is more beneficial for the activist, so the activist requires greater self-regulation to forego a campaign. The forestalling self-regulation is increasing in θ, since greater saliency of the social issue strengthens the incentive to campaign, which forces the firm to self-regulate more. The bound $v_M^o(\theta)$ is strictly decreasing in θ, so the more salient is the social issue the larger is the set of firms threatened by moderate activism. That is, the scope $[v_M^o(\theta), \bar{v}]$ of moderate activism is increasing in the saliency of the social issue.

A threatened firm never concedes to the campaign, since the activist accepts less than the resolution to avoid the cost and possible failure of a campaign. The activist poses a threat to all firms that are at least as vulnerable as $v_M^o(\theta)$, and that threat is represented by ξ_M which is the ratio of the number of activists to the number of firms. The firms threatened can forestall a campaign by self-regulating at $\hat{x}_M(v,\theta)$ or incur a campaign, in which case as shown below in Proposition 2 the firm maximizes its profit. Since the forestalling self-regulation is strictly increasing in v, forestalling a campaign is more costly for more vulnerable or softer firms, and they are the ones that can prefer to incur a campaign.

A firm v that chooses $x < \hat{x}_M(v, \theta)$ incurs a campaign when targeted by a moderate activist, and its expected profit $E\pi(x, v)$ is

$$E\pi(x, v) = p(v)\pi(\bar{x}(\theta)) + (1 - p(v))\pi(x).$$

The firm must self-regulate before it knows whether it will be targeted by an activist, and its ex ante expected profit $E\Pi_M(x, v, \xi_M)$ is

$$
\begin{aligned}
E\Pi_M(x, v, \xi_M) &= \xi_M E\pi(x, v) + (1 - \xi_M)\pi(x) \\
&= \pi(x) - \xi_M p(v)\left(\pi(x) - \pi(\bar{x}(\theta))\right).
\end{aligned}
\tag{4}
$$

If firm v self-regulates at $x \geq \hat{x}_M(v, \theta)$, its profit is $\pi(x)$.

As shown in the following proposition, if the firm chooses not to self-regulate and to incur a campaign if targeted by a moderate activist, it chooses its practices to maximize $E\Pi_M(x, v, \xi_M)$, which has a maximum at the profit-maximizing practices x_o.

Proposition 2. *If a firm with $v \geq v_M^o(\theta)$ chooses $x < \hat{x}_M(v, \theta)$, it maximizes its profit $\pi(x)$; i.e., it chooses $x = x_o$.*

Proof. For $x < \hat{x}_M(v, \theta)$ the best response (2) of a moderate activist is to campaign. The expected profit of the firm in (4) is strictly decreasing in x, since $\pi'(x) < 0$ for $x > x_o$, so the maximum is at x_o. ■

The firm thus maximizes its profit when it chooses to incur a campaign, so a firm threatened by a moderate activist either forestalls a campaign with $\hat{x}_M(v, \theta)$ or maximizes its profit and incurs a campaign. If it incurs a campaign, its expected profit is $E\Pi_M(x_o, v, \xi_M)$, which is strictly decreasing in ξ_M and v.

Self-regulation $\hat{x}_M(v, \theta)$ forestalls a campaign once a match has been made, and hence it is independent of the likelihood ξ_M that the firm is targeted. Whether the firm self-regulates, however, depends on that likelihood. The firm with $v \geq v_M^o(\theta)$ self-regulates if and only if $\Delta\Pi_M(v, \theta, \xi_M) \equiv \pi(\hat{x}_M(v, \theta)) - E\Pi_M(x_o, v, \xi_M) \geq 0$, which is

$$\Delta\Pi_M(v, \theta, \xi_M) = \pi(\hat{x}_M(v, \theta)) - \pi(x_o) + \xi_M p(v)(\pi(x_o) - \pi(\bar{x}(\theta))) \geq 0. \tag{5}$$

Letting $V(\theta, \xi_M) \equiv \{v | \Delta\Pi_M(v, \theta, \xi_M) \geq 0\}$, the best response function $x_m^*(v, \theta, \xi_M)$ of a firm threatened by moderate activists is

$$
x_M^*(v, \theta, \xi_M) = \begin{cases} \hat{x}_M(v, \theta) & \text{if } v \in V(\theta, \xi_M) \\ x_o & \text{if } v \notin V(\theta, \xi_M), \end{cases}
\tag{6}
$$

where $V(\theta, \xi_M)$ is empty if $\xi_M = 0$. Evaluating $\Delta\Pi_M(v, \theta, \xi_M)$ at $v = v_M^o(\theta)$ yields $\Delta\Pi_M(v_M^o(\theta), \theta, \xi_M) = \xi_M p(v_M^o(\theta))(\pi(x_o) - \pi(\bar{x}(\theta))) > 0$ for all $\xi_M > 0$. The profit difference $\Delta\Pi_M(v, \theta, \xi_M)$ may not be monotone

in v, however. Differentiating (5) with respect to v yields

$$\frac{d\Delta\Pi_M(v,\theta,\xi_M)}{dv} = \pi'(\hat{x}_M(v,\theta))\frac{\partial \hat{x}_M(v,\theta)}{\partial v} + \xi_M p'(v)(\pi(x_o) - \pi(\bar{x}(\theta))). \tag{7}$$

The first term is negative, since it is more costly for a softer firm to forestall the activist, making self-regulation less attractive. The second term is positive, since a campaign is more harmful in expectation to the firm, making self-regulation more attractive.

The probability ξ_M represents the threat of moderate activism. The difference $\Delta\Pi_M(v,\theta,\xi_M)$ is strictly increasing and linear in ξ_M, and for $v = v_M^o(\theta)$, $\pi(\hat{x}_M(v_M^o(\theta))) = \pi(x_o)$, so $\Delta\Pi_M(v_M^o(\theta),\theta,\xi_M) \geq 0$.[19] Since $\hat{x}_M(v,\theta)$ is strictly increasing in v, for $v > v_M^o(\theta)$ the profit difference $\Delta\Pi_M(v,\theta,\xi_M)$ is negative for $\xi_M = 0$, so there exists a $v_M^*(\theta,\xi_M)$ defined by $\Delta\Pi_M(v_M^*(\theta,\xi_M),\theta,\xi_M) \equiv 0$.[20] This is illustrated in Figure 1 that graphs $\Delta\Pi_M(v,\theta,\xi_M)$ as a function of ξ_M. As indicated in Figure 1, there exists a $\xi_M^*(\theta)$ such that $v_M^*(\theta,\xi_M^*(\theta)) = \bar{v}$, so if the threat from moderate activists is sufficiently strong ($\xi_M \geq \xi_M^*$), all firms self-regulate and there are no campaigns. If $\xi_M < \xi_M^*(\theta)$, some firms self-regulate and some incur a campaign.

The moderate activist is willing to campaign against a firm $v \geq v_M^o(x_o,\theta)$, and for $v \leq v_M^*(\theta,\xi_M)$ the firms self-regulate at $\hat{x}(v,\theta)$ to forestall the campaign. For $v \in [v_M^*(\theta),\bar{v}]$ the firm maximizes its profit and incurs a campaign when targeted, so campaigns occur in equilibrium when $\xi_M < \xi_M^*(\theta)$. The activist is worse off when the firm incurs rather than forestalls a campaign, but the activist cannot commit to accept less from a firm to induce it to self-regulate.[21]

The cutpoint $v_M^*(\theta,\xi_M)$ depends on the threat probability ξ_M, and intuition suggests that the stronger the threat the larger is the set of firms that self-regulate. But, firms with a high v must self-regulate more to forestall the activist, and the higher cost can deter a firm from self-regulating. Differentiating

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[19]Evaluating the derivative in (7) at $v = v_M^o(\theta)$ yields for $\xi_M > 0$

$$\frac{d\Delta\Pi_M(v,\theta,\xi_M)}{dv}\bigg|_{v=v_M^o(\theta)} = \xi_M p'(v_M^o(\theta))(\pi(x_o) - \pi(\bar{x}(\theta))) > 0, \tag{8}$$

since $\pi'(\hat{x}_M(v^o(\theta),\theta)) = \pi'(x_o) = 0$.

[20]If $\Delta\Pi_M(v,\theta,\xi_M)$ is strictly decreasing in v, the best response function of the firm can be stated for $\xi_M < \xi_M^*(\theta)$ as

$$x^*(v,\theta,\xi_M) = \begin{cases} \hat{x}_M(v,\theta) & \text{if } v \in [v_M^o(\theta), v_M^*(\theta,\xi_M)], \\ x_o & \text{if } v \in (v_M^*(\theta,\xi_M),\bar{v}]. \end{cases}$$

[21]If it had the power of commitment, when matched with a firm $v \in [v_M^*(\theta,\xi_M),\bar{v}]$ the activist would commit to accept less self-regulation than $\hat{x}_M(v,\theta)$ rather than follow its best response function in (2). Define $x^s(v,\theta)$ by

$$\pi(x^s(v,\theta)) \equiv p(v)\pi(\bar{x}(\theta)) + (1-p(v))\pi(x_o),$$

which is greater than $\pi(\hat{x}_M(v,\theta))$, since the firm prefers to incur a campaign rather than self-regulate at $\hat{x}_M(v,\theta)$. The firm is willing to self-regulate at $x^s(v,\theta) < \hat{x}_M(v,\theta)$, however, and the activist prefers to accept $x^s(v,\theta)$ if

$$z(x^s(v,\theta),\theta) \geq p(v)z(\bar{x}(\theta),\theta) + (1-p(v))z(x_o,\theta) - c(v) < z(\hat{x}_M(v,\theta)),$$

so there are no campaigns in equilibrium when the activist has commitment power.

$\Delta \Pi_M(v_M^*(\theta, \xi_M), \theta, \xi_M) = 0$ implicitly yields

$$\frac{dv_M^*(\theta, \xi_M)}{d\xi_M} = -\frac{p(v_M^*(\theta, \xi_M))(\pi(x_o) - \pi(\bar{x}(\theta)))}{\pi'(\hat{x}_M(v_M^*(\theta, \xi_M), \theta))\frac{\partial \hat{x}_M(v_M^*(\theta, \xi_M), \theta)}{\partial v} + \xi_M p'(v_M^*(\theta, \xi_M))(\pi(x_o) - \pi(\bar{x}(\theta)))},$$

where the denominator is $\frac{\partial \Delta \Pi_M(v_M^*(\theta, \xi_M), \theta, \xi_M)}{\partial v}$. Consequently, if $\frac{\partial \Delta \Pi_M(v_M^*(\theta, \xi_M), \theta, \xi_M)}{\partial v}$ is negative (positive), the cutpoint $v_M^*(\theta, \xi_M)$ is increasing (decreasing) in ξ_M. Similarly, $v_M^*(\theta, \xi_M)$ is increasing (decreasing) in θ if $\Delta \Pi_M(v, \theta, \xi_M)$ is decreasing (increasing) in v at $v = v_M^*(\theta, \xi_M)$. The example presented in Section 3.3 identifies conditions such that $v_M^*(\theta, \xi_M)$ is increasing in ξ_M and θ.

The moderate activist has leverage on firms with $v \in [v_M^o(\theta), v_M^*(\theta, \xi_M)]$, since those firms self-regulate even though only a fraction ξ_M could be targeted. Firms with $v \in (v_M^*(\theta, \xi_M), \bar{v}]$ take their chances on being targeted, and the activists generate benefits only from the firms against which they campaign and only when a campaign succeeds. That is, leverage ends at $v_M^*(\theta, \xi_M)$. Firms with $v \in (v_M^*(\theta, \xi_M), \bar{v}]$ have a degree of safety in numbers, since only a fraction is targeted.

The following proposition summarizes the behavior of firms threatened by moderate activism.

Proposition 3. *(i) The best response function of a firm v threatened by a moderate activist is given in (6), and if $\Delta \Pi_M(v, \theta, \xi_M)$ is strictly decreasing in v, the firm forestalls a campaign if $v \in [v_M^o(\theta), v_M^*(\theta, \xi_M)), \xi_M < \xi_M^*$, and otherwise maximizes profit and incurs a campaign with probability ξ_M. (ii) For $\xi_M \geq \xi_M^*(\theta)$ all firms $v \in [v_M^o(\theta), \bar{v}]$ self-regulate to forestall a campaign. (iii) The bound $v_M^*(\theta, \xi_M)$ is increasing (decreasing) in θ and ξ_M if $\Delta \Pi_M(v, \theta, \xi_M)$ is decreasing (increasing) in v at $v = v_M^*(\theta, \xi_M)$.*

3.1.2 Radical Activists

The sorting assumption implies that radical activists are matched with firms with $v < v_M^o(\theta)$, so radicals target harder firms than do moderate activists. A radical campaigns rather than accepts the firm's self-regulation x if and only if

$$\tau_R(x, v, \theta) \equiv z(x, \theta) - Ez_R(x, \theta, y) \equiv -p(v)(z(\bar{x}(\theta), \theta) - z(x, \theta)) - y + c(v) \geq 0, \tag{9}$$

so the firm forestalls the radical activist if it self-regulates at $\hat{x}_R(v, \theta, y)$ defined by, for $c(v) \geq y$,

$$p(v)(z(\bar{x}(\theta), \theta) - z(\hat{x}_R(v, \theta, y), \theta)) + y - c(v) \equiv 0. \tag{10}$$

If $c(v^+) < y$ for some $v^+ \in [0, v_M^o(\theta)]$, the activist is sufficiently radical that a firm with $v \in [v^+, v_M^o(\theta))$ must self-regulate at $\bar{x}(\theta)$ to forestall the activist. As shown below, the firm then prefers to incur a campaign. For $y < c(v_M^o(\theta))$ the forestalling self-regulation is strictly increasing in y, so the more radical is the activist the greater is the self-regulation required to forestall it. Since $\hat{x}_R(v, \theta, 0) = \hat{x}_M(v, \theta)$ and $\hat{x}_R(v, \theta, y)$ is strictly

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increasing in y, forestalling a radical activist is more costly to a firm v than forestalling a moderate. The forestalling self-regulation $\hat{x}_R(v, \theta, y)$ is strictly increasing in v, since a campaign against a softer target is more attractive to the activist and hence more costly to forestall. Softer firms thus self-regulate more than harder firms. The forestalling self-regulation is also increasing in θ, so the activist achieves more the more salient is the social issue.

As in Proposition 2 a firm that anticipates incurring a campaign by a radical activist maximizes its expected profit at x_o. The radical activist campaigns against a firm v that maximizes its profit if and only if

$$p(v)(z(\bar{x}(\theta), \theta) - z(x_o, \theta)) + y - c(v) \geq 0, \tag{11}$$

and let $v_R^o(\theta, y)$ satisfy (11) as an equality. Comparing (10) and (11) indicates that $\hat{x}_R(v_R^o(\theta, y), \theta, y) = x_o$. The type $v_R^o(\theta, y)$ is decreasing in θ, so greater saliency of the social issue increases the scope $[v_R^o(\theta, y), v_M^o(\theta))$ of radical activism. The type $v_R^o(\theta, y)$ is also decreasing in $\bar{x}(\theta)$, since a successful campaign with a higher resolution $\bar{x}(\theta)$ is more attractive to the activist and hence more costly to forestall.

The type $v_R^o(\theta, y)$ is strictly decreasing in y, so the scope of radical activism is increasing in how radical the activist is. This implies that $v_R^o(\theta, y) < v_M^o(\theta)$, so a radical activist is willing to campaign against firms that are too hard for a moderate activist, and the more radical is the activist the harder are the firms against which it is willing to campaign. A firm with $v < v_R^o(\theta, y)$ maximizes its profit with no fear of a campaign by either a moderate or a radical activist. These firms are too hard for a corporate campaign.

A firm $v \in [v_R^o(\theta, y), v_M^o(\theta))$ threatened by a radical activist has profit $\pi(\hat{x}(v, \theta, y))$ if it self-regulates and, if it incurs a campaign, has expected profit $E\Pi_R(v, \theta, \xi_M)$, given by

$$E\Pi_R(v, \theta, \xi_R) = p(v)\pi(\bar{x}(\theta), \theta) + (1 - p(v))\pi(x_o). \tag{12}$$

The firm thus self-regulates if and only if

$$\Delta\Pi_R(v, \theta, \xi_R, y) \equiv \pi(\hat{x}_R(v, \theta, y)) - \pi(x_o) + \xi_R p(v)(\pi(x_o) - \pi(\bar{x}(\theta))) \geq 0, \tag{13}$$

where ξ_R is the probability that the firm is targeted, as characterized in Section 3.5. The difference $\Delta\Pi_R(v, \theta, \xi_R, y)$ is negative for $\hat{x}_R(v, \theta, y) = \bar{x}(\theta)$, so if the activist is sufficiently radical that the firm can forestall a campaign only by conceding to the demand, the firm does not self-regulate and instead maximizes its profit. The following analysis is for $y < c(v_R^o(\theta, y))$, and hence $\hat{x}_R(v, \theta, y) < \bar{x}(\theta)$.

Evaluating $\Delta\Pi_R(v, \theta, \xi_R, y)$ at $v = v_R^o(\theta, y)$ yields

$$\Delta\Pi_R(v_R^o(\theta, y), \theta, \xi_R, y) = \xi_R p(v_R^o(\theta, y))(\pi(x_o) - \pi(\bar{x}(\theta))) \geq 0.$$

Since $\hat{x}_R(v,\theta,y)$ is increasing in v and $\hat{x}_R(v_R^o(\theta.y),\theta) = x_o$, the difference $\Delta\Pi_R(v,\theta,0,y) < 0$ for $v = v_R^o(\theta,y)$. As with moderate activists $\Delta\Pi_R(v,\theta,\xi_R,y)$ is linear and strictly increasing in ξ_R, so there exists a $v_R^*(\theta,\xi_R,y)$ satisfying $\Delta\Pi_R(v_R^*(\theta,\xi_R,y),\theta,\xi_R,y) \equiv 0$ for $\xi_R \leq \xi_R^*(\theta,y)$, where $\xi_R^*(\theta,y)$ is the smallest ξ_R such that all firms threatened by a radical activist self-regulate to forestall a campaign. Radical activists have leverage over firms with $v \in V_R(\theta,\xi_R,y) \equiv \{v|\Delta\Pi_R(v,\theta,\xi_R,y) \geq 0\}$, and the self-regulation $\hat{x}_R(v,\theta,y)$ is independent of the strength ξ_R of the threat. Firms with $v \notin V_R(\theta,\xi_R,y)$ and $v \geq V_R(\theta,\xi_R,y)$ prefer to incur rather than forestall a campaign, and they have a degree of safety in numbers, since only a ξ_R fraction is targeted.

Differentiating $\Delta\Pi_R(v_R^*(\theta,\xi_R,y),\theta,\xi_R,y) = 0$ implicitly yields

$$\frac{dv_R^*(\theta,\xi_R,y)}{dy} = -\frac{\pi'(\hat{x}_R(v_R^*(\theta,\xi_R,y),\theta,y))\frac{\partial\hat{x}_R(v_R^*(\theta,\xi_R,y),\theta,y)}{\partial y}}{\pi'(\hat{x}_R(v_R^*(\theta,\xi_R,y),\theta,y))\frac{\partial\hat{x}_R(v_R^*(\theta,\xi_R,y),\theta,y)}{\partial v} + \xi_R p'(v_R^*(\theta,\xi_R,y))(\pi(x_o) - \pi(\bar{x}(\theta)))}, \quad (14)$$

so if $\Delta\Pi_R(v,\theta,\xi_R,y)$ is increasing (decreasing) in v at $v = v_R^*(\theta,\xi_R,y)$, then $v_R^*(\theta,\xi_R,y)$ is increasing (decreasing) in y. Similarly, $v_R^*(\theta,\xi_R,y)$ is decreasing (increasing) in ξ_R if $\Delta\Pi_R(v,\theta,\xi_R,y)$ is increasing (decreasing) in v at $v = v_R^*(\theta,\xi_R,y)$.

The following proposition summarizes the equilibrium for radical activists.

Proposition 4. *Assume that $y < c(v_M^o(\theta))$. (i) The forestalling self-regulation $\hat{x}_R(v,\theta,y)$ is strictly increasing in v, y, and θ. (ii) A radical activist threatens firms $v \in [v_R^o(\theta,y),v_M^o(\theta))$, and $v_R^o(\theta,y)$ is strictly decreasing in y, θ, and $\bar{x}(\theta)$. (iii) $\hat{x}_R(v_R^o(\theta,y),\theta,y) = x_o$. (iv) A firm v that prefers to incur rather than forestall a campaign maximizes its profit. (v) Firms $v \in V_R(\theta,\xi_R,y)$ self-regulate to forestall a campaign, and firms $v \notin V_R(\theta,\xi_R,y),\xi_R < \xi_R^*(\theta,y)$, incur a campaign. If $\xi_R \geq \xi_R^*(\theta,y)$, all firms threatened by radical activists self-regulate to forestall a campaign. (vi) The type $v_R^*(\theta,\xi_R,y)$ is increasing (decreasing) in y and decreasing (increasing) in ξ_R if $\Delta\Pi_R(v,\theta,\xi_R,y)$ is increasing (decreasing) in v at $v = v_R^*(\theta,\xi_R,y)$.*

3.2 Subgame Equilibrium

Figure 2 illustrates a subgame equilibrium for ξ_M and ξ_R such that some firms threatened by moderate and by radical activists incur a campaign. Firms with low vulnerability ($v < v_R^o(\theta,y)$) are not threatened, since the probability of campaign success is sufficiently low that no activist is willing to bear the cost of a campaign. These firms maximize their profits. A radical activist poses a threat to firms with $v \in [v_R^o(\theta,y),v_M^o(\theta))$, since it is willing to bear the cost of a campaign given the probability of success. Forestalling a campaign is more costly for softer firms than harder firms, since the activist can extract more from a softer than a harder firm. Softer firms with $v \in [v_R^*(\theta,\xi_R,y),v_M^o(\theta))$ find forestalling a campaign too costly and risk a campaign. Since they will incur a campaign and the probability of campaign success is independent of their self-regulation, they maximize their profits. The equilibrium practices of firms are discontinuous at $v = v_R^*(\theta,\xi_R,y)$.

Moderate activists target softer firms than do radical activists, and firms threatened by moderate ac-

tivists forestall a campaign by self-regulating at $\hat{x}_M(v,\theta)$ for $v \in [v_m^o(\theta), v_M^*(\theta, \xi_M))$. Softer firms with $v \in [v_M^*(\theta, \xi_M), \bar{v}]$ find forestalling a campaign too costly and instead risk incurring a campaign. They maximize their profits. Citizens make their donations based on this subgame equilibrium, as considered in Section 3.5.

The equilibrium in Figure 2 is illustrated in Figure 3 in terms of the social benefits and profits as a functions of the vulnerability v. The bounds $v_R^o(\theta, y)$ and $v_M^o(\theta)$ are determined by the intersection of the curves $z(\hat{x}_R(v,\theta,y),\theta)$ and $z(\hat{x}_M(v,\theta),\theta)$ when firm v forestalls a campaign and the expected benefits $Ez_M(x_o,\theta)$ and $Ez_R(x_o,\theta,y)$, respectively, from a campaign. For $v < v_R^o(\theta, y)$ the expected benefits from a campaign are less than the benefits $z(x_o,\theta)$ from accepting profit maximization, so the activist does not campaign. For $v \geq v_R^o(\theta, y)$ the expected benefits from a campaign are greater than $z(x_o,\theta)$, so a radical activist is willing to campaign. The radical activist is, however, better off accepting the forestalling regulation than campaigning. The firm with $v \in [v_R^o(\theta, y), v_R^*(\theta, \xi_R, y)]$ obtains greater profit $\pi(\hat{x}_R(v,\theta,y))$ by forestalling a campaign than the expected profit $E\Pi_R(v,\theta,\xi_R)$ from incurring a campaign. For $v \in (v_R^*(\theta, \xi_R, y), v_M^o(\theta))$ the firm prefers to incur a campaign. At $v = v_R^*(\theta, \xi_R, y)$ the profit of the firm is continuous, but the benefits for the activist are discontinuous, since the activist strictly prefers that the firm self-regulate rather than risk a campaign. The intuition for moderate activists is analogous.

Figure 4 illustrates the equilibrium self-regulation of firms and the discontinuities at the boundaries $v_R^*(\theta, \xi_R, y)$ and $v_M^*(\theta, \xi_M)$ of the self-regulation regions, where the leverage of the activists ends.

3.3 An Example

An example is presented to illustrate the subgame equilibrium, and to simplify the notation, the dependence on ξ_i, θ, and y is to be understood. Let $z(x) = ax - bx^2$, so $\bar{x} = \frac{a}{2b}$. Let the campaign cost be $c(v) = v^{-1}$ and the probability of campaign success be $p(v) = \beta v$, where $\beta\bar{v} < 1$. The profit of the firm is specified as $\pi(x) = dx - x^2$, so $x_o = \frac{d}{2}$.

For a moderate activist the forestalling self-regulation is $\hat{x}_M(v) = \bar{x} - v^{-1}(b\beta)^{-\frac{1}{2}}$, which is strictly increasing and strictly concave in v. The activist poses a threat to firms with $v \geq v_M^o = \left(\sqrt{b\beta}(\bar{x} - x_o)\right)^{-1}$. The vulnerability v_M^* is given by the implicit function

$$-\left((x_o - \bar{x})v_M^* + (b\beta)^{-\frac{1}{2}}\right)^2 + \xi_M\beta(v_M^*)^3(x_o - \bar{x})^2 = 0. \tag{15}$$

Implicit differentiation yields

$$
\begin{aligned}
\frac{dv_M^*}{d\xi_M} &= -\frac{\beta(v_M^*)^2(x_o - \bar{x})^2}{3(x_o - \hat{x}_M(v))\left(\frac{x_o + 2\bar{x}}{3} - \hat{x}_M(v)\right)} \\
&= -\frac{\beta(v_M^*)^3(x_o - \bar{x})^2}{(x_o - \hat{x}_M(v))(x_o - \bar{x})(v_M^* - 3v_M^o)},
\end{aligned}
$$

19

which is positive (negative) if $\hat{x}_M(v) > (<)\frac{1}{3}(x_o + 2\bar{x})$ or $v_M^* < (>)3v_M^o$. If $\bar{v} \leq 3v_M^o$, v_M^* is increasing in ξ_M. In that case, more firms self-regulate the greater the likelihood of being targeted, since the greater threat makes avoiding a campaign more attractive even though self-regulation to forestall a campaign is more costly.

Dividing (15) by $(x_o - \bar{x})^2$ yields

$$-(v_M^* - v_M^o)^2 + \xi_M\beta(v_M^*)^3 = 0,$$

so $v_M^* > v_M^o$ for $\xi_M > 0$. Consequently, all firms with $v \in [v_M^o, \min\{v_M^*, \bar{v}\}]$ self-regulate. If $v_M^* < \bar{v}$, firms with $v \in (v_M^*, \bar{v}]$ incur a campaign with probability ξ_M.

The expressions for the radical activist are similar to those for the moderate activist but are less tractable. The forestalling self-regulation is $\hat{x}_R(v) = \bar{x} - (b\beta)^{-\frac{1}{2}}v^{-1}(1 - vy)^{\frac{1}{2}}$, which is increasing in v and y.[22] The bound v_R^o is given by

$$-(\bar{x} - x_o)^2 + (b\beta v_R^o)^{-1}(v_R^o - y) \equiv 0,$$

which is decreasing in y. The firm v_R^* that is indifferent between forestalling and incurring a campaign is given by

$$-(\hat{x}_R(v) - x_o)^2 + \xi_R\beta v_R^*(x_o - \bar{x})^2 \equiv 0,$$

and v_R^* is decreasing in y and increasing in ξ_R if $v_R^*\frac{\partial \hat{x}_R(v)}{\partial v} > \frac{1}{2}(\hat{x}_R(v) - x_o)$.

3.4 The Scope of Activism

In a market with many activists and many more firms, market forces could cause activists to sort among themselves to achieve the most from their aggregate activism. In the model moderate activists are all alike and radical activists are all alike, so how they are matched with firms is arbitrary. Firms differ only in their vulnerability, and activists are assumed to be randomly matched with firms. If in advance of donations by citizens the activists could commit to target a particular firm and if each activist were self-interested, each would target a firm that yields it the greatest expected benefits. If, however, activists have shared objectives on the social issue, they prefer to maximize the aggregate benefits from activism, i.e., maximize the scope of activism, by threatening as many firms as possible.

To develop this argument, assume that $\xi_M \geq \xi_M^*(\theta)$, and note that a self-interested activist prefers to target as soft a firm as is available. If every activist is self-interested, the firms threatened are those with $v \in [v^-, \bar{v}]$, where v^- is determined by the number of activists and the distribution of firms. If there are only moderate activists and N are funded, then v^- is determined by

$$N_F \int_{v^-}^{\bar{v}} dF(v) \equiv N.$$

---

[22]The forestalling self-regulation $\hat{x}_R(v) > \hat{x}_M(v)$ for the same v, but moderates threaten softer firms.

All firms with $v \in [v^-, \bar{v}]$ are targeted, and no firm with $v \in [0, v^-)$ is threatened. The aggregate benefits Az_M^- generated by the activists when all firms self-regulate are

$$Az_M^- = N_F \int_{v^-}^{\bar{v}} z(\hat{x}_M(v, \theta), \theta) dF(v),$$

where $\xi_M = 1$.

Activists recognize that the threat of activism is effective even if only a fraction of the firms could be targeted. Moderate activists are willing to target firms as hard as $v_M^o(\theta)$, and suppose they sort such that every firm with $v \in [v_M^o(\theta), \bar{v}]$ has the same probability $\xi_M^-(\theta)$ of being targeted, where

$$\xi_M^-(\theta) = \frac{N}{N_F \int_{v_M^o(\theta)}^{\bar{v}} dF(v)}.$$

If all threatened firms self-regulate at $\hat{x}_M(v, \theta)$, the aggregate benefits Az_M^- are

$$Az_M^o = N_F \int_{v_M^o(\theta)}^{\bar{v}} z(\hat{x}_M(v, \theta), \theta) dF(v).$$

Since $\hat{x}_M(v, \theta)$ and $v_M^o(\theta)$ are independent of ξ_M and $v_M^o(\theta) < v^-$ when there are fewer activists than firms, i.e., $N < N_F \int_{v_M^o(\theta)}^{\bar{v}} dF(v)$, the aggregate benefits from maximizing the scope of activism are greater than the aggregate benefits when each activist is self-interested. If $v_M^*(\theta) < \bar{v}$, the same conclusion holds. The same argument also applies to radical activists. Activists thus prefer to maximize the scope of activism, the threat of being targeted induces more firms to self-regulate to forestall a campaign than can be targeted.

3.5   Donors and the Funding the Activists

Each activist requires funding $A, A \geq c(0)$, all of which is assumed to be expended. Donors that fund activists are assumed to be limited in their capacity, so there are fewer activists than firms. Since funding occurs before activists threaten firms, the activists have no means to compete for funding.

Donors prefer the greatest aggregate benefits from activism, and they can be thought of as sorting in a manner such that the scope of activism is maximal. This requires that donors with the strongest motivation fund activists that engage the hardest firms. Without modeling the sorting, the donors with the strongest motivation are assumed to fund radical activists and those with weaker motivation are assumed to fund moderate activists.

Citizens with motivation $w \geq 0$ have a preference for the accomplishments their donations enable, and since activists are randomly matched with a firm, donations are based on the expected benefits generated by an activist. The net expected benefits $\bar{z}_M(\theta)$ generated by a moderate activist include those from firms that self-regulate and for $v \in (v_M^*(\theta, \xi_M), \bar{v}]$ from those firms actually targeted. The expected benefits given

expectations $\xi_M \leq \xi_M^*(\theta)$ are

$$\bar{z}_M(\theta) = \int_{v_M^o(\theta)}^{v_M^*(\theta,\xi_M)} (z(\hat{x}_M(v,\theta),\theta) - z(x_o,\theta))dF(v) + \xi_M \int_{v_M^*(\theta,\xi_M)}^{\bar{v}} p(v)(z(\bar{x}(\theta),\theta) - z(x_o,\theta))dF(v),$$

where the first integral represents the gains from firms that self-regulate and the second integral represents the gains from successful campaigns. A sufficient but not necessary condition for the expected benefits to be increasing in ξ_M is that $v_M^*(\theta,\xi_M)$ is nondecreasing in ξ_M.

A donation a funds a portion $\frac{a}{A}$ of an activist, so a citizen with motivation w contributes to a moderate activist if and only if $\frac{a}{A}[\bar{z}_M(\theta) + w] - a \geq 0$. Citizens with $w \geq w_M^*(\theta) \equiv A - \bar{z}_M(\theta)$ thus fund moderate activists.

Radical activists threaten firms with $v \in [v_R^o(\theta,y), v_M^o(\theta))$, and the expected benefits $\bar{z}_R(\theta,y)$ for $v_R^*(\theta,\xi_R,y) \leq v_M^o(\theta)$ are

$$\bar{z}_R(\theta,y) = \int_{v_R^o(\theta,y)}^{v_R^*(\theta,\xi_R,y)} (z(\hat{x}_R(v,\theta,y),\theta) - z(x_o,\theta))dF(v) + \xi_R \int_{v_R^*(\theta,\xi_R,y)}^{v_M^o(\theta)} p(v)(z(\bar{x}(\theta),\theta) - z(x_o,\theta))dF(v),$$

and citizens with $w \geq w_R^*(\theta,y) \equiv A - \bar{z}_R(\theta,y)$ are willing to fund radical activists. If, for example, $w_R^*(\theta,y) > w_M^*(\theta)$, the sorting assumption means that citizens with $w \in [w_R^*(\theta,y), \bar{w}]$ donate to radical activists, and citizens with $w \in [w_M^*(\theta), w_R^*(\theta,y))$ donate to moderate activists.[23]

Donations $D_R(\theta,y)$ for radical activists then are

$$D_R(\theta,y) = aN_c \int_{w_R^*(\theta,y)}^{\bar{w}} dG(w|\theta),$$

and the number of radical activists funded is $N_R(\theta,y) = \frac{D_R(\theta,y)}{A}$, where fractional activists are allowed.[24] The probability $\xi_R(\theta,y)$ that an individual firm is targeted is $\xi_R(\theta,y) = \frac{N_R(\theta,y)}{N_{FR}(\theta,y)}$, where $N_{FR}(\theta,y) = \int_{v_R^o(\theta,y)}^{v_M^o(\theta)} N_F dF(v)$ is the number of firms threatened by radical activists. Rational expectations require that the number of radical activists yields a threat probability $\xi_R(\theta,y)$ that equals the expectations ξ_R on which citizens make their donations.

The donations $D_M(\theta,y)$ to moderate activists are

$$D_M(\theta,y) = aN_c \int_{w_M^*(\theta)}^{w_R^*(\theta,y)} dG(w|\theta),$$

so $N_M(\theta,y) = \frac{D_M(\theta,y)}{A}$ moderate activists are funded. The probability $\xi_M(\theta,y)$ that an individual firm

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[23]Some citizens may be willing to fund a radical activist to campaign against a firm with $v < v_R^o(\theta,y)$, but activists cannot commit and their actions must be subgame perfect. Thus, if $v < v_R^o(\theta,y)$, the moderate activist does not campaign and hence is not funded. If donors could use contracts to specify that an activist receives funding conditional on targeting particular firms, a firm with $v < v_R^o(\theta,y)$ could be targeted. Donors would then be providing the power of commitment for the activist.

[24]Integer problems are ignored.

is targeted by a moderate activist is $\xi_M(\theta, y) = \frac{N_M(\theta,y)}{N_{FM}(\theta,y)}$, where $N_{FM}(\theta) = \int_{v_M^o(\theta)}^{\bar{v}} N_F dF(v)$. Rational expectations require that $\xi_M = \xi_M(\theta, y)$.

Since the willingness of citizens to donate is increasing in θ in the sense of first-degree stochastic dominance, donations are greater when social issues are more salient than when they are less salient. Activism thus is stronger when social issues such as the environment are more salient, resulting in greater funding for activists and higher equilibrium threat probabilities $\xi_M(\theta, y)$ and $\xi_R(\theta, y)$.

4 Market Campaigns

The objective of this section is to provide an explanation for the innovation of market campaigns. To do so, assume that the model above represents period 1 and there is an immediately prior period 0 in which a single activist conducts either a corporate campaign against a primary firm or a market campaign against a firm in the primary firm's supply or distribution chain. This potential innovator is assumed to be the activist matched with a firm of type $v_R^o(\theta, y)$, since from Proposition 4 that firm maximizes its profits and a campaign generates social benefits that only equal the cost of a corporate campaign.

A market campaign is conducted against a chain firm that cannot directly improve social benefits but can take a costly action that harms a primary firm in whose chain it is located. There is little data on how chain firms are linked to primary firms, so to simplify the analysis, chain firms are assumed to be identical. Also, a successful market campaign that causes the chain firm to act is assumed to be sufficiently harmful to the primary firm that it changes its practices to $\bar{x}(\theta)$. A market campaign has a cost κ and an unknown probability q of success, where that uncertainty is represented by a random variable $\tilde{q}$. The outcome of a market campaign is uncertain because activists and firms do not know how the chain firm's stakeholders will respond to a campaign against a firm that cannot directly generate increased social benefits. As an example, let the prior beliefs about $\tilde{q}$ be represented by a beta distribution with parameters r^o and n^o, so the period 0 prior expectation of $\tilde{q}$ is $E(\tilde{q}) = \frac{r^o}{n^o}$. The success or failure of a market campaign is viewed as the outcome of a Bernoulli trial with parameter q, so a period 0 campaign success, denoted $r = 1$, in one trial, denoted $n = 1$, results in a posterior beta distribution with mean $E(\tilde{q}|r = 1, n = 1) = \frac{r^o+1}{n^o+1}$. If $\frac{r^o+1}{n^o+1}$ is sufficiently high, an activist in period 1 can prefer to conduct a market rather than a corporate campaign. If the period 0 market campaign is unsuccessful, the posterior mean is $E(\tilde{q}|r = 0, n = 1) = \frac{r^o}{n^o+1} < \frac{r^o}{n^o}$, and a corporate campaign is preferred in period 1.

If a market campaign succeeds, it produces benefits $z(\bar{x}(\theta), \theta)$, and if it fails, benefits are $z(x_o, \theta)$. The period 0 expected net social benefits $Ez^q(\theta) = E(\tilde{q})z(\bar{x}(\theta), \theta) + (1 - E(\tilde{q}))z(x_o, \theta) - \kappa$ from a market campaign are assumed to be less than $z(x_o, \theta)$, so a market campaign is not justified in period 0 on its own account. Conducting a market campaign, however, generates information about the true success probability q, and that information is a public good for activists.

The activist in period 0 does not know the type of firm with which it will be matched in period 1, so it may not be able to take advantage of the information generated by the market campaign. All activists have the same objectives regarding the social issue, however, so an activist with preferences for the accomplishments of activism can have an incentive to undertake a market campaign to better inform all activists. An activist concerned with the accomplishments of activism thus could conduct a market campaign for its informational content, i.e., provide the informational public good. The value of that information is given by the expected social benefits from the period 1 market campaigns chosen by activists less the expected benefits in their absence. For the example, suppose that market campaigns are only conducted against firms that are too hard for a corporate campaign. As discussed above, a market campaign in period 0 is assumed to be a surprise to firms, so in period 1 firm $v \in [0, v_R^o(\theta, y))$ do not self-regulate.

If the period 0 market campaign succeeds, in period 1 a radical activist matched with a firm $v \in [0, v_R^o(\theta, y))$ conducts a market campaign if the expected benefits $Ez_R^q(\theta|r = 1, n = 1)$ given by[25]

$$Ez_R^q(\theta|r = 1, n = 1) = E(\tilde{q}|r = 1, n = 1)z(\bar{x}(\theta), \theta) + (1 - E(\tilde{q}|r = 1, n = 1))z(x_o, \theta) - \kappa$$

are greater than $z(x_o, \theta)$. If a successful period 0 market campaign is conducted, the expected period 1 benefits $\bar{z}(\theta, y|r = 1, n = 1)$ from campaigns conditional on a successful period 0 campaign are

$$\bar{z}(\theta, y|r = 1, n = 1) = \int_0^{v_R^o(\theta, y)} \xi^q \left[E(\tilde{q}|r = 1, n = 1)z(\bar{x}(\theta), \theta) - (1 - E(\tilde{q}|r = 1, n = 1))z(x_o, \theta) + y - \kappa \right] N_F dF(v),$$

where ξ^q is the probability a firm $v \in [0, v_R^o(\theta, y)]$ is targeted by a funded activist. The period 1 expected gain $\Delta Q(\theta, y)$ for activism conditional on a successful period 0 market campaign thus is

$$
\begin{aligned}
\Delta Q(\theta, y) &= \bar{z}(\theta, y|r = 1, n = 1) - \xi^q \int_0^{v_R^o(\theta, y)} z(x_o, \theta) N_F dF(v) \\
&= \xi^q \left[E(\tilde{q}|r = 1, n = 1)(z(\bar{x}(\theta), \theta) - z(x_o, \theta)) + y - \kappa \right] N_F F(v_R^o(\theta, y)).
\end{aligned}
$$

The gain from an unsuccessful period 0 market campaign is zero.

If the period 0 activist matched with firm $v_R^o(\theta, y)$ takes a portion $\alpha \in [0, 1]$ of the expected period 1 gain from activism into account, it conducts a market campaign in period 0 if

$$E(\tilde{q})(z(\bar{x}(\theta), \theta) - z(x_o, \theta)) + z_c(\bar{x}_c(\theta), \theta) - z_c(x_c, \theta) - \kappa + \alpha E(\tilde{q})\Delta Q(\theta, y) \geq 0,$$

where $z_c(\bar{x}_c(\theta), \theta) - z_c(x_c, \theta) \leq 0$ is the social cost of targeting the chain firm in period 0. If α is sufficiently large, the activist in period 0 has an incentive to target a firm $v \in [0, v_R^o(\theta))$ with a market campaign, since the informational value of the campaign exceeds the social cost in period 0.

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[25] There may be additional benefits to the extent that market campaigns are conducted against firms $v \in [v_R^o(\theta, y), \bar{v}]$.

This explanation for the innovation of market campaigns thus is informational. Once activists learned that the success probability was higher than their prior expectation, market campaigns became a staple for activists. The information generated by the innovation was that the public and stakeholders of chain firms respond to campaigns intended to cause a chain firm to take a costly action to harm a primary firm, even if it also harms the chain firm. This innovation exposed a new set of firms to social pressure and broadened the scope of activism and self-regulation.

5   Conclusions

The funding of activists and NGOs, their campaigns, the self-regulation by firms, and the ex post response to campaigns are endogenous in the market for activism. Donors are citizens with a preference for a social issue, and the activists are their agents and largely share the preferences of their donors. Both donors and activists prefer as broad a scope of activism as possible both with respect to the set of potential targets of corporate campaigns and the breadth of exposure to social pressure from market campaigns. Firms that are too hard for a corporate campaign may be vulnerable to a market campaign targeting their supply or distribution chain.

Self-regulation is intended to lessen the likelihood of or forestall a campaign, but some firms find self-regulation too costly and choose instead to risk a campaign. Activists have leverage because all firms that prefer to forestall a campaign through self-regulation must do so even though only a fraction would be targeted with a campaign. Threatened firms with low vulnerability self-regulate, since activists expect to gain little through a campaign, so self-regulation is not costly to the firm. Firms with high vulnerability incur campaigns because activists expect to gain much through a campaign, and hence it is costly for the firm to forestall them. Radical activists expand the scope of self-regulation by threatening hard firms, and the more radical is the activist the greater is the scope of activism and the more the threatened firms must self-regulate to forestall a campaign. Greater saliency of the social issue in question also increases the scope of activism and the number of activists funded and hence increases the likelihood that a firm is targeted.

Many open questions remain about the market for activism. Little is know about the microstructure of campaigns, particularly the effectiveness of various tactics, nor the microstructure of firm vulnerability, particularly the extent to which reputation and a public face are jeopardized by activism. The outcomes of campaigns, particularly those that are resolved through bargaining, are difficult to document, and compliance often remains an open question. The funding of activist and campaigning NGOs involves a mix of private donations, foundation grants, and membership dues, but empirical studies of those sources and how they relate to the saliency of social issues and the accomplishment of the NGO remain to be conducted.

The impact of private politics and the market for activism is measured through the self-regulation of firms and the outcomes of campaigns, and as this paper has argued, it is the induced self-regulation that may be

the major effect. Little data are available on either the social benefits from self-regulation or the private costs and benefits to firms. Self-regulation is often labeled corporate social responsibility, and although many empirical studies of corporate social responsibility have been conducted, there is little consensus on the effects and less on the causal relationships that generate those effects. The causal mechanism present in this paper begins with the preferences of citizens for social issues and works through the threat by funded activists of harm to firms. Recognizing the threat, many firms self-regulate to avoid being targeted and others risk a campaign, whereas those with low vulnerability may escape the social pressure. Self-regulation can have the appearance of cooperation when firms invite NGOs to work with them to implement their self-regulation. These seemingly cooperative interactions have become more common as the scope of activism and self-regulation have expanded and broadened, particularly with the advent of market campaigns.

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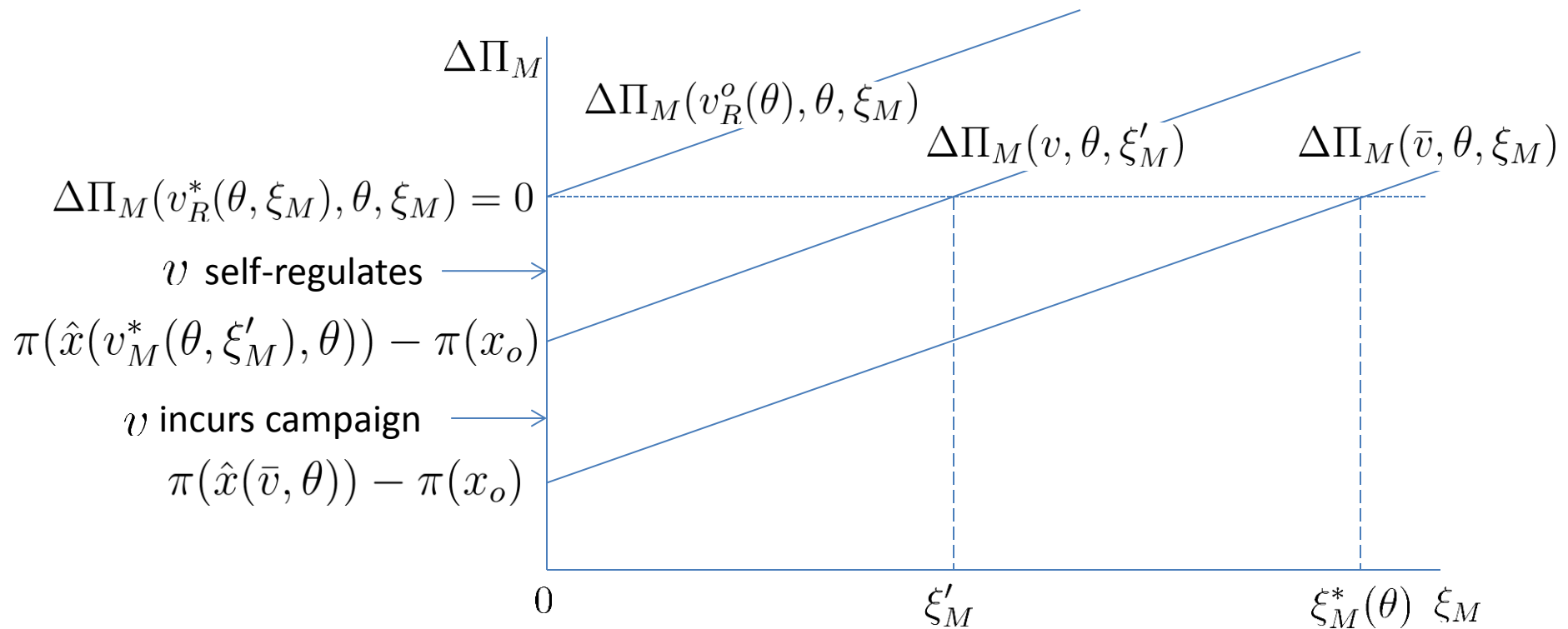
Figure 1
The Activists' Threat and Firm Responses

$\Delta\Pi_M$

$\Delta\Pi_M(v_R^o(\theta), \theta, \xi_M)$

$\Delta\Pi_M(v, \theta, \xi_M')$

$\Delta\Pi_M(\bar{v}, \theta, \xi_M)$

$\Delta\Pi_M(v_R^*(\theta, \xi_M), \theta, \xi_M) = 0$

v self-regulates

$\pi(\hat{x}(v_M^*(\theta, \xi_M'), \theta)) - \pi(x_o)$

v incurs campaign

$\pi(\hat{x}(\bar{v}, \theta)) - \pi(x_o)$

0

ξ_M'

$\xi_M^*(\theta)$ ξ_M

Figure 2
Equilibrium Configuration
$$[v_R^*(\theta, \xi_R, y) < v_M^o(\theta); \ v_M^*(\theta, \xi_M) < \bar{v}]$$

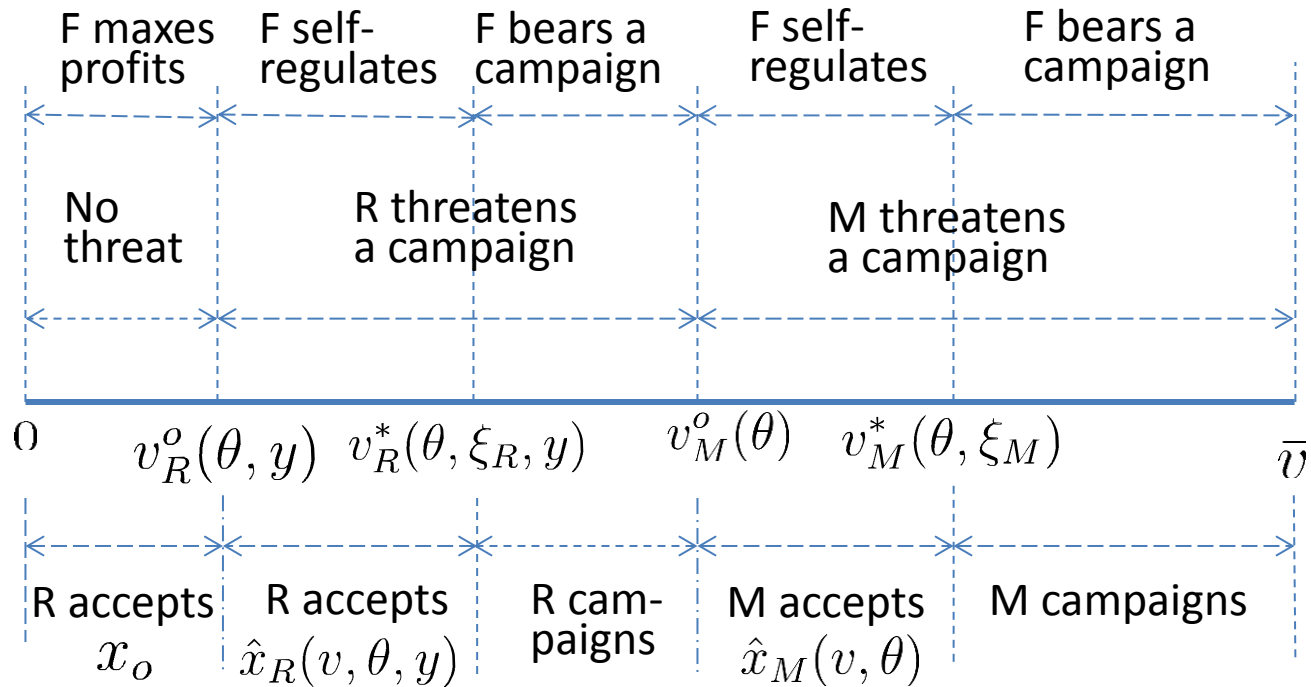| F maxes profits | F self-regulates | F bears a campaign | F self-regulates | F bears a campaign |

| No threat | R threatens a campaign | M threatens a campaign |

$$O \qquad v_R^o(\theta, y) \quad v_R^*(\theta, \xi_R, y) \qquad v_M^o(\theta) \quad v_M^*(\theta, \xi_M) \qquad\qquad \bar{v}$$

| R accepts x_o | R accepts $\hat{x}_R(v, \theta, y)$ | R campaigns | M accepts $\hat{x}_M(v, \theta)$ | M campaigns |

Figure 3
Activist Benefits and Firm Profits
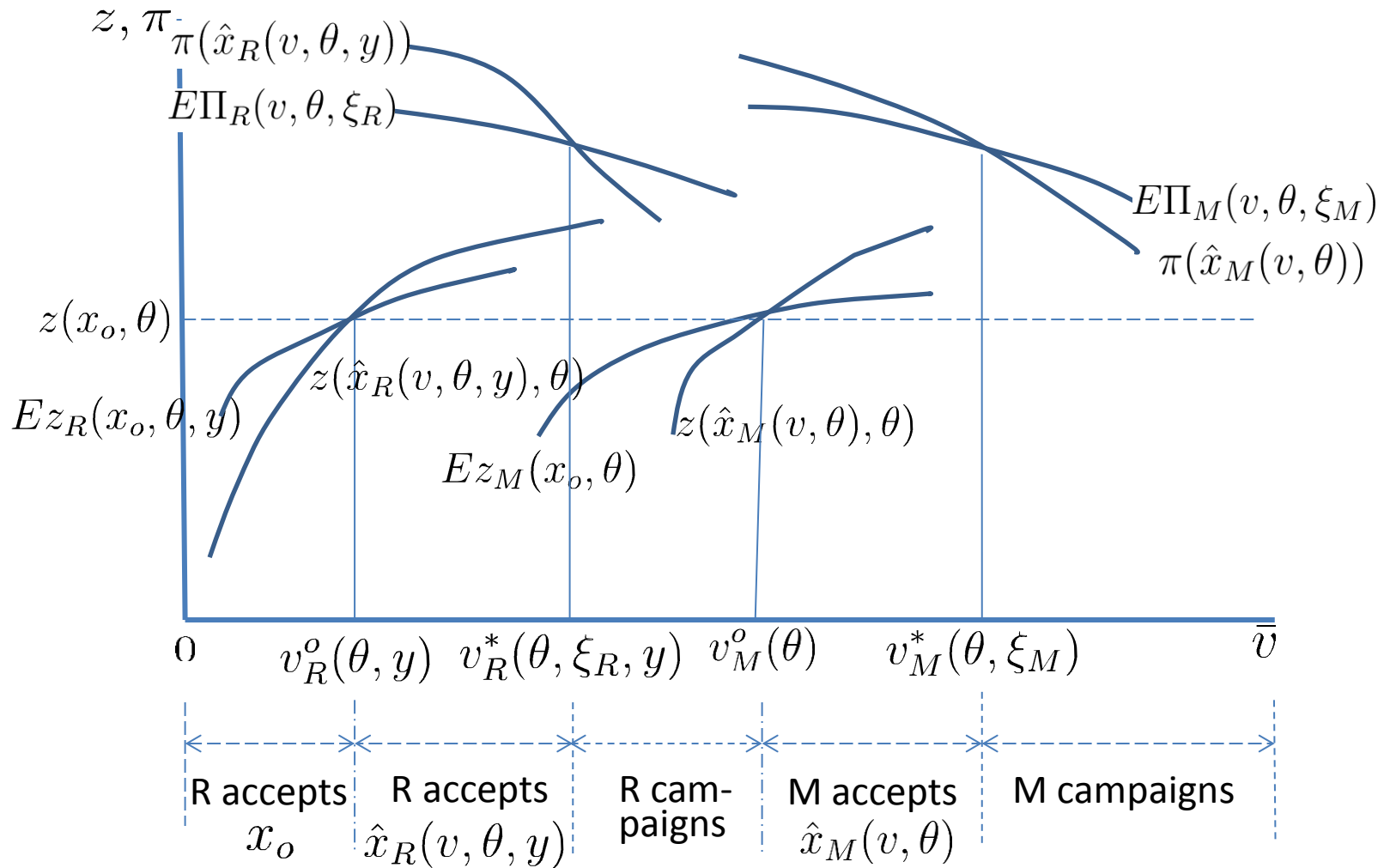$$[v_R^*(\theta, \xi_R, y) < v_M^o(\theta); \; v_M^*(\theta, \xi_M) < \bar{v}]$$

Figure 4
Equilibrium Self-Regulation
$$[v_R^*(\theta, \xi_R, y) < v_M^o(\theta); \ v_M^*(\theta, \xi_M) < \bar{v}]$$