Soft Shareholder Activism

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September 10, 2018

This paper studies communications between investors and firms as a form of corporate governance. The main premise is that activist investors cannot force their ideas on companies; they must persuade the board or other shareholders that implementing these ideas is beneficial to the firm. I show that the threat of voice (launching a public campaign) facilitates communication, while the option to exit facilitates communication if and only if the proposal is risky relative to the status quo or voice is ineffective as a governance mechanism. The analysis identifies the factors that contribute to successful dialogues between investors and firms. (*JEL* D82, D83, G23, G32, G34)

*For helpful comments, I thank the Editor (Francesca Cornelli), two anonymous referees, Onur Bayar, Lucian Bebchuk, Alon Brav, Alex Edmans, Daniel Ferreira, Sivan Frenkel, Itay Goldstein, Vincent Glode, Denis Gromb, Andrey Malenko, Nadya Malenko, Gustavo Manso, Egor Matveyev, Abhiroop Mukherjee, Christian Opp, Oguzhan Ozbas, Frank Partnoy, Luke Taylor, Heather Tookes, Bilge Yilmaz, and seminar participants at the EFA, NFA, AFA, SFS Cavalcade, FIRS, Finance Theory Group, Chicago-Minnesota Theory Conference, NYU/Penn Conference on Law & Finance, Five-Star Conference, Institutional Investor Activism and Engagement Conference, CEAR/Finance Symposium, Wharton, INSEAD, EIEF, IDC, and the law, economics, and organization seminar at Harvard. Send correspondence to Doron Levit, Department of Finance, Wharton School, University of Pennsylvania, 3620 Locust Walk, Philadelphia, PA 19104-6367; telephone: (215) 573-8831. E-mail: dlevit@wharton.upenn.edu.

The modus operandi of a typical activist investor is to target a public company and propose major changes to its strategy, financial policy, operations, and personal. To defend themselves against these proposals, companies use poison pills, staggered boards, dual-class structures, and other measures. Securities regulation and disclosure requirements also limit the power of activists. In practice, activists rarely own a controlling stake. Without control, activist investors cannot force their ideas on their target companies; they must persuade its board of directors or the majority of shareholders that adopting their proposals is in the best interests of the firm. Simply put, shareholder activism requires communication and persuasion.

Consistent with this idea, Brav et al. (2008) find that in roughly 50% of the cases activist hedge funds declare their intention to "communicate with the board/management on a regular basis with the goal of enhancing shareholder value". Becht et al. (2009), Becht, Franks, and Grant (2015), Carleton, Nelson, and Weisbach (1998), and Dimson, Oğuzhan, and Xi (2015), provide direct evidence on private communications (e.g., in-person discussions, telephone calls, or exchange of letters or emails) as a profitable and effective form of shareholder activism. A survey by Deloitte (2015) finds that more than 60% of public company CFOs say activist shareholders have communicated directly with their management. McCahery, Sautner, and Starks (2016) survey institutional investors and find that 63% of them engaged in direct discussions with the management or the board of directors of their portfolio companies, mostly behind-the-scenes. As a whole, the evidence suggests that private communications between investors and firms is an important corporate governance mechanism, perhaps more important than previously thought.

The goal of this paper is to study the conditions under which communication is an effective form of shareholder activism. What factors contribute to successful dialogues between investors and firms? Under what circumstances will investors resort to more aggressive tactics, and when will they choose to exit? Studying these questions is important for two different reasons. First, it can provide guidelines for empirical research that seeks to directly investigate the relationship between the frequency of shareholder communications and the characteristics of investors, boards, and firms. Second, the empirical literature on shareholder activism, with the exception of the studies above, focuses on observable actions (e.g., proxy fights). In general, however, a decision to launch a public campaign reflects a failure to engage with the board behind-the-scenes. For example, in May 2012, the activist hedge fund Elliott Management wrote a letter to board members of BMC Software: "we initiated a dialogue with senior management about exploring pathways together to create greater value for stockholders. In turn, BMC responded by issuing a press release and adopting a poison pill."[1] Shortly after, Elliott nominated directors and pushed for the sale of BMC which was acquired a year later. If the dialogue with BMC had been successful, Elliott would not have launched a public campaign; its engagement with BMC might have gone unnoticed. While instances in which investors take no actions are consistent with failed activism,[2] they are also consistent with effective behind-the-scenes communications. Therefore, understanding the conditions under which communication is effective, and its interaction with other governance mechanisms, can shed new light on the interpretation of the existing empirical evidence.

To study this topic, I analyze a model of shareholder activism with strategic communication. A public firm is controlled by its board of directors which cares about shareholder value but also has private benefits from keeping the status quo (e.g., "seeking the quiet life"). The firm has an activist investor who has information the board does not have about the consequences of changing the status quo (e.g., spinning off a division), which can either increase or decrease shareholder value. Based on her private information, the activist sends the board a private message, which can be interpreted as a recommendation or a non-binding demand. The message is non-verifiable, which leaves room for manipulation. Formally, communication is modeled as cheap-talk à la Crawford and Sobel (1982). The board can either accommodate the activist's demand or ignore it. The activist observes the board's response and does one of the following: sell her shares in the company and exit, remain passive, or exercise her voice by launching a public campaign to change the status quo (e.g., lobby other shareholders and start a proxy fight). Launching a campaign is costly, and it is successful only if other shareholders, who are otherwise uninformed, believe it is in their best interests to support the activist. A successful

[1] https://www.sec.gov/Archives/edgar/data/904495/000095014212001189/eh1200701_dfan14a.htm

[2] Some investors choose to exit if their ideas are rejected. For example, according to David Einhorn from Greenlight Capital, "When we offer companies private advice, they either take it, or they explain why they are not going to take it... sometimes, we agree to disagree, and then decide whether to hold the stock or exit the position." See "David Einhorn's Greenlight Capital 1Q Investor Letter" (April 25, 2017) on activiststocks.com.

campaign changes the status quo and imposes a cost on the board (e.g., directors are fired).

The challenge of the activist in this model is to convince the board, who is biased and uninformed, to change the status quo. In equilibrium, the board accommodates the activist's demand either because it is persuaded by her arguments that changing the status quo is in the best interests of the firm, or out of fear that the activist will launch a successful public campaign if her demand is ignored. Communication is effective if the activist can use her private information to influence the board's decision in equilibrium.

The first result shows that voice facilitates communication. Specifically, communication is more effective in equilibrium if the activist's threat of launching a campaign is credible. Intuitively, the board can avoid the risk of a public campaign by accommodating the activist's demand. If the board perceives this risk as too high, it will choose to listen. In turn, if the activist expects the board to listen, she has stronger incentives to communicate rather than seeking confrontation. Indeed, the board will take the activist's threat more seriously once learning about her resolve. Generally, an activist's threat is more credible when rallying support from other shareholders is easier (e.g., shareholder base is non-dispersed), control is contestable (e.g., declassified board, one class of shares, no supermajority provisions), or the reputational and monetary damage to the incumbent directors from a successful campaign is severe. The model predicts that these factors would contribute to more effective communications. Moreover, the analysis demonstrates that a public campaign is a sign of ineffective behind-the-scenes communications, and vice a versa. Therefore, factors that predict high frequency of public campaigns would in fact suggest that the employed tactics are not effective enough to induce boards to comply with demands that activists make behind closed-doors. Without explicitly accounting for the possibility of unobserved communications, the empiricist might reach the wrong conclusions.

Exit is an alternative mechanism to voice (Hirschman 1970). Ceteris paribus, if the activist can exit at better terms (i.e., receive a higher price for her shares), she has fewer incentives to launch a public campaign; the activist can "cut and run" (Bhide 1993; and Coffee 1991). If exit weakens the credibility of the activist's threat to launch a campaign, a corollary of the first result would suggest that exit hinders communication. Perhaps surprisingly, the second result shows the opposite can also hold: Communication can be more effective in equilibrium when the activist has the option to exit at better terms, that is, exit facilitates communication.

There are two forces that counter the cut and run effect. First, exit relaxes the tension between the activist and the board. To understand this claim, recall the board is biased in favor of keeping the status quo. Therefore, the activist cannot avoid exaggerating the benefit of changing it. The board understands the motives of the activist and takes them into account when deciding how to respond to her demand. In equilibrium, the mistrust between the two limits the ability of the activist to credibly reveal her private information, and as a result, communication is ineffective. With exit, however, the activist insists on changing the status quo only if the benefit from doing so is also higher than what she expects to get from selling her shares. In other words, the activist has fewer incentives to exaggerate her private information. As a result, the tension between the two is relaxed: The board is convinced that whenever the activist demands a change, the benefit to shareholders must be very high. In equilibrium, the board has more incentives to accommodate the activist's demand and communication is more effective. Notice that this channel is at work even if voice is entirely ineffective as a governance mechanism.

Interestingly, exit also facilitates communication by increasing the credibility of the activist's threat to launch a successful public campaign. Intuitively, if the activist starts a public campaign then she effectively decided not to cut and run. By foregoing the option to exit, the activist signals her strong belief that a change to the status quo is required, and this signal is stronger if the benefit from cutting and running was larger (i.e., the expected profit form selling the shares was larger). As a result, the board can expect the public campaign to be more successful and the damage to directors' reputation and payoff to be severe if the activist's demand is rejected; the board has more to lose. If in addition the activist's proposal to change the status quo has high risk, this force dominates the incentives of the activist to cut and run, and in this respect the activist's threat to launch a public campaign is more credible when she has the option to exit. Since voice facilitates communication and exit enhances the effect of voice, exist also indirectly facilitates communication.

As a whole, the analysis demonstrates that voice, exit, and their interaction have an important effect on the ability of investors to use communication as an effective form of shareholder activism. The interplay between these governance mechanisms has novel empirical implications. Specifically, if voice is ineffective as a governance mechanism (e.g., the target company has a dual class share, a controlling shareholder, or a staggered board and draconian supermajority provisions) or if the activist's proposal is risky relative to the status quo (e.g., the target operates in an emerging industry and the proposal is not a standard fix to its balance sheet or corporate governance), the cut and run effect is dominated and exit facilitates communication. However, if voice is effective and the activist's proposal is relatively safe, the cut and run effect dominates and exit hinders communication. In general, the effect of exit is more pronounced when the stock is liquid, the short-term capital gains taxes are low, anonymous trade is feasible, or adverse selection is mild. The model predicts that these various factors will be associated with the frequency of successful dialogues between investors and firms.

Contribution to the literature

This paper contributes to the literature on blockholder and shareholder activism. Nearly all models in this literature share the idea that large shareholders can impose their views on their target companies through direct interventions (e.g., Shleifer and Vishny 1986; Kyle and Vila 1991; Winton 1993; Admati, Pfleiderer, and Zechner 1994; Zwiebel 1995; Burkart, Gromb, and Panunzi 1997; Maug 1998; Kahn and Winton 1998; Bolton and von Thadden 1998; Noe 2002; Aghion, Bolton, and Tirole 2004; Faure-Grimaud and Gromb 2004; Attari, Banerjee, and Noe 2006; Brav and Mathews 2011; Edmans and Manso 2011; Fos and Kahn 2016; Brav, Dasgupta, and Mathews 2017; Burkart and Lee 2017; Corum and Levit 2018; Edmans, Levit, and Reilly 2018). In these papers, the ability of blockholders to monitor is taken as given and the main focus is on their incentives to exert the required effort. By contrast, in my model the activist must convince the board or other shareholders that adopting her proposal is in their best interests. Since the ability of the activist to influence corporate policy depends on her credibility, which is endogenous in the model, my analysis provides novel predictions on factors that contribute to effective communications between investors and firms.

Different from existing studies on the role of communication in shareholder activism and voting (Bhattacharya 1997; Harris and Raviv 2010; Levit and Malenko 2011; Cohn and Rajan 2013), the focus of my analysis is on the interaction between strategic communication to voice and exit as alternative mechanisms of governance.[3] The analysis demonstrates that the effectiveness of these governance mechanisms cannot be studied in isolation. An important contribution of the paper is characterizing the conditions under which voice and exit can improve the ability of activist investors to govern through communication. As such, the paper also contributes to a broader literature on the role of communication in corporate governance (Adams and Ferreira 2007; Almazan, Banerji, and Motta 2008; Harris and Raviv 2008; Chakraborty and Yilmaz 2016; Levit 2017a; Levit 2017b).

Finally, the effect of exit in this paper is different from existing models on governance through exit (Admati and Pfleiderer 2009; Edmans 2009; Edmans and Manso 2011; Dasgupta and Piacentino 2015).[4] In these models, the threat of exit itself disciplines the board or the manager, but only if their compensation is tied to the short-term stock price. By contrast, my model does not require short-term compensation. Since exit has no direct effect on the board's payoff, exit is not a threat per se. Instead, the decision not to exit increases the activist's credibility when communicating with the board or lobbying other shareholders to support her campaign. In this respect, the paper also contributes to the literature on the real effects of financial markets (e.g., Bond, Edmans, and Goldstein 2012).

1 Setup of the model

This section describes the baseline model with shareholder activism and strategic communication. Consider a public firm whose long-term shareholder value is given by

$$v(\theta, x) = \begin{cases} \underline{\theta} & \textit{if } x = \textit{keep} \\ \theta & \textit{if } x = \textit{change}. \end{cases} \tag{1}$$

[3]See Matthews (1989), Che, Dessein, and Kartik (2013), Levit (2017b), and Shimizu (2017) for other models of strategic communication with outside options.

[4]See also Khanna and Mathews (2012) and Goldman and Strobl (2013) for models in which trading is also a form of shareholder activism.

If $x = keep$ then the status quo is kept and the shareholder value is $\underline{\theta} > 0$. If $x = change$ then the status quo changes and the shareholder value is θ, where θ is a random variable with a continuous probability density function f and full support over $[0, \infty)$. Intuitively, there is less uncertainty about firm value under the status quo than under a proposed change that is yet to be implemented. The change can be a proposal to restructure the balance sheet, change payout policy, sell under-performing or non-core assets, limit diversifying acquisitions, adopt cost-cutting initiatives, cut R&D expenditures, exploit new growth opportunities, implement tax efficiency-enhancing proposals, and explore a sale of the company. In practice, these proposals are commonly stated as objectives by activist investors when they communicate with their portfolio companies.

The decision on $x \in \{keep, change\}$ is made by the board of directors. I do not distinguish between insiders such as the CEO and independent directors. The board's preferences are

$$\omega \cdot v(\theta, x) + \beta \cdot \mathbf{1}_{x=keep}, \tag{2}$$

where $\omega > 0$ and $\beta > 0$. Therefore, while the shareholder value is maximized if the status quo changes whenever $\theta > \underline{\theta}$, the board prefers a change only if $\theta > \underline{\theta} + \beta/\omega$. I assume $\mathbb{E}[\theta] \leq \underline{\theta} + \beta/\omega$, which guarantees that the board prefers to keep the status quo based on its prior beliefs. Parameter β is the bias of the board toward the status quo (e.g., avoiding the loss of perks or empire building aspirations that are associated with downsizing the firm), whereas parameter ω is the relative weight the board puts on shareholder value due to compensation, reputation, or career concerns. Essentially, β/ω captures the conflict of interests between the board and the shareholders that cannot be contracted away: If $\theta \in (\underline{\theta}, \underline{\theta} + \beta/\omega)$ then shareholders prefer $x = change$ while the board prefers $x = keep$.

Among its shareholders, the firm has an activist investor who owns $\alpha > 0$ shares. As I describe below, the activist differs from other shareholders in her private information and ability to launch a public campaign. The activist's goal is to maximize the share value.[5]

[5] Activist investors may have conflicts of interests with other shareholders due to different investment horizons, risk appetite, or reputation concerns. Appendix A shows that as long as the conflict of interests is not too large, all the main results continue to hold.

1.1 Information structure

The activist has information about θ that the board does not have. Certainly, directors have access to private information of the firm as an integral part of their job, but they are unlikely to be fully informed. In some firms directors are too busy pursuing other activities (e.g., sitting on other firms' boards), or lack the incentives to learn because of their bias toward the status quo. Directors may also suffer from coordination problems within the board (e.g., free-riding and group-think) or simply lack the required skills. On the other hand, activist investors routinely conduct highly-detailed analysis of the target company and have a market-wide perspective on assets valuation that corporate boards often lack. For simplicity, I assume the activist perfectly observes θ while the board and other shareholders and market participants are uninformed.[6]

1.2 Sequence of events

The model has four key stages which are described below in details.

I. Communication: Initially, the activist privately observes θ. Based on this information, the activist sends the board a private message $m \in [0, \infty)$.[7] I let $\mu(\theta)$ be the activist's message conditional on θ. In line with a standard cheap talk framework, the activist cannot commit to a communication strategy. Moreover, the activist's information about θ is non-verifiable and the content of m does not affect the board's or the activist's payoff directly. These assumptions capture the forward-looking nature of the activist's information (e.g., the effect of a spin-off on future firm value) and the informal nature of communication between investors and firms. It will become clear below that this framework leaves room for manipulation of the activist's information, and as a result, the credibility of the activist will play a central role in the analysis.

II. Board's decision making: The board observes message m from the activist and decides on $x\,(m) \in \{keep, change\}$, whether or not to change the status quo.

[6] If the board is fully informed about θ then communication can still be effective in equilibrium if the activist has private information about her preferences or beliefs: The board learns about the activist's resolve, and as a result, decides how seriously to take her threat to launch a campaign if her demand is ignored.

[7] The activist's message is private in the sense that it is not observed by other market participants. Appendix C shows that public messages are ineffective in equilibrium, which suggests that communications between activists and firms are more likely to be effective when they are held behind closed doors.

III. Exit: The activist observes the board's decision and then decides whether to sell her α shares ($a = exit$) or retain them ($a \neq exit$).[8] I denote by p the share price the activist expects to receive when she exits. Since the share price conditional on $a \neq exit$ does not play a role in the analysis, I refer to p as the share price. In the baseline model I assume the share price is exogenous and satisfies $p > \underline{\theta}$. Appendix B demonstrates that the main results continue to hold when p is endogenous, and that the endogenous price is strictly greater than $\underline{\theta}$ whenever communication is effective in equilibrium.

IV. Voice: If the activist does not exit ($a \neq exit$), she can either remain passive ($a = passive$) or launch a public campaign to change the status quo ($a = fight$).[9] Campaigning involves publicizing the activist's demand through various media outlets, lobbying institutional investors, submitting shareholder proposals, filing lawsuits, or starting a proxy fight to replace the incumbent directors. If the activist launches a public campaign then she incurs a non-reimbursable cost $c > 0$.[10] Since campaigning is more costly than directly communicating with the board, it is natural to assume that the activist launches a campaign only after the communication stage. The campaign can either succeed ($\zeta = success$) or fail ($\zeta = failure$), as I describe below. If $a = passive$ or $\zeta = failure$ then the initial decision of the board remains in place and firm value is realized accordingly. If $a = fight$ and $\zeta = success$ then the status quo changes and the board incurs an additional cost $\kappa(\theta - \underline{\theta})$ where $\kappa \geq \omega$. Intuitively, being forced by shareholders to accept the change harms directors' reputation, private benefits, ego, compensation, and may even cost their job. Moreover, this cost is likely to be larger when the insistence of the board on keeping the status quo turns out to be a mistake, that is, $\theta - \underline{\theta}$ is large. Assuming $\kappa \geq \omega$ implies that the adverse consequences for the board from a successful public campaign are severe enough to offset any gains to its payoff from a change to the status quo. For example, losing a proxy fight can remove directors from office, impair their reputation,

[8] Short selling is not allowed. With a short position, the activist might have the incentives to influence the board to take actions that harm shareholder value. However, this strategy will diminish the activist's ability to constructively engage with firms in the future, and as such, it is unlikely to be sustainable.

[9] Since relative to the activist the board is biased against changing the status quo, the activist has no incentives to launch a campaign to force the status quo. Moreover, assuming the activist cannot launch a public campaign after exiting is unnecessary. By exiting, the activist reduces her stake and signals that θ is low. Both effects harm the activist's credibility, and therefore, her ability to win the support of shareholders.

[10] See Gantchev (2013) for an empirical estimate of an activist's average cost of campaigning.

and reduce their future compensation as captured by parameter ω. Finally, the activist cannot unilaterally change the status quo; she must get the support of other shareholders. Shareholders support the campaign as long as they expect it to increase their share value, that is, $\zeta = \textit{success}$ if and only if $\mathbb{E}[\theta - \underline{\theta} | a = \textit{fight}] \geq 0$. Figure 1 summarizes how the events unfold in the model.

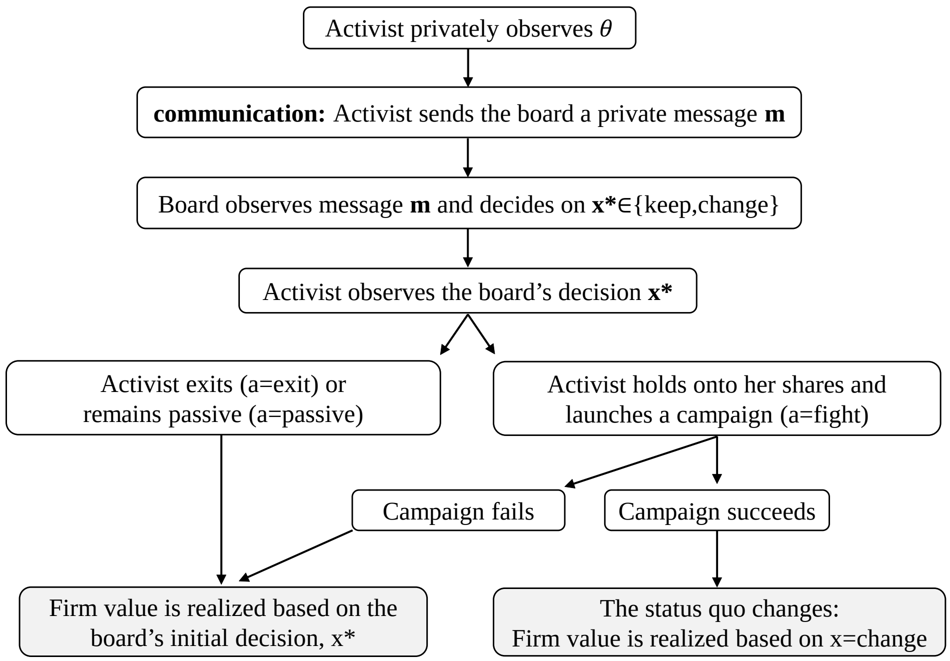

Figure 1

Sequence of events

1.3 Payoffs

Shareholder value is determined by the realization of θ and the implementation of x. The board and the activist maximize their expected utilities, which are given respectively by

$$u_B(\theta, x, a, \zeta) = \begin{cases} \omega \cdot \theta - \kappa \left(\theta - \underline{\theta}\right) & \textit{if } x = \textit{keep},\ a = \textit{fight},\ \textit{and } \zeta = \textit{success} \\ \omega \cdot v(\theta, x) + \beta \cdot \mathbf{1}_{x=keep} & \textit{else} \end{cases} \tag{3}$$

and

$$u_A(\theta, x, a, \zeta) = \begin{cases} \alpha \cdot p & \textit{if } a = \textit{exit} \\ \alpha \cdot \theta - c & \textit{if } x = \textit{keep}, \ a = \textit{fight}, \textit{ and } \zeta = \textit{success} \\ \alpha \cdot v(\theta, x) - c \cdot \mathbf{1}_{a=\textit{fight}} & \textit{else.} \end{cases} \quad (4)$$

To ease the exposition, hereafter I assume $\omega = \alpha = 1$. I reintroduce ω and α in Section 3, where I discuss the comparative statics and empirical predictions of the model. See also Table 1 in Appendix A for the summary of the model's notation.

1.4 Solution concept

A Perfect Bayesian Equilibrium in pure strategies of the game consists of $(\mu^*, x^*, a^*, \zeta^*)$ and is defined as follows: (i) For any θ, if $\mu^*(\theta) = m$ then m maximizes the activist's expected utility conditional on realization θ and given (x^*, a^*, ζ^*); (ii) If m is on the equilibrium path then $x^*(m)$ maximizes the board's expected utility conditional on m and given (μ^*, a^*, ζ^*); (iii) For any θ and x, strategy a^* maximizes the activist's expected utility conditional on θ and given ζ^*; (iv) If $a = \textit{fight}$ is on the equilibrium path then $\zeta^* = \textit{success}$ if and only if conditional on $a = \textit{fight}$ and (μ^*, x^*, a^*) the expected value of θ is greater than $\underline{\theta}$. All players have rational expectations in that each player's belief about the other players' strategies is correct in equilibrium. Players apply Bayes' rules to update their beliefs whenever possible.

I refine the set of equilibria by requiring the equilibrium to survive a perturbation of the model in which the activist incurs an arbitrarily small fixed cost $\varepsilon > 0$ whenever she sends a message to the board. The cost is incurred irrespective of the message's content, and since the activist can always remain "silent" and choose not to send any message, without the loss of generality there always exists exactly one message which is costless. It will become clear in Section 2.3 that this refinement plays a role in the analysis only when exit is considered.[11]

[11] See Kartik (2009) and Kartik, Ottaviani, and Squintani (2007) for cheap talk models with messaging costs.

2 Analysis

The goal of the analysis is to derive the conditions under which communication is effective in equilibrium. Section 2.1 characterizes equilibria of the game in which communication is ineffective. Section 2.2 analyzes the communication game without voice and exit. Section 2.3 introduces exit to the analysis and Section 2.4 introduces voice. Section 2.5 considers the complete model with both voice and exit, and studies how the interaction between the two mechanisms affects communication. All omitted proofs are in Appendix A.

2.1 Ineffective communication

As in any cheap-talk game, there always exists an equilibrium in which the board ignores all messages from the activist, and these messages are uninformative. In these "babbling" equilibria, communication has no effect on the outcome. Under certain conditions, these are the only equilibria of the game. When the equilibrium is babbling, the board makes decisions based on its prior about θ. However, if the activist's threat of launching a campaign is credible and β is relatively small then the board will change the status quo in order to avoid the consequences of the campaign. If instead β is sufficiently large then the threat may not be strong enough to affect the board's decision. In those cases, the board keeps the status quo and the activist exercises her threat to launch a campaign. The next result demonstrates that without effective communications, a campaign to change the status quo can be on the equilibrium path.[12]

Proposition 1 A babbling equilibrium always exists. There is $\overline{\beta} > 0$ such that if $\beta > \overline{\beta}$ then in any babbling equilibrium the board keeps the status quo and the activist launches a successful campaign with a strictly positive probability.

[12]Since the main focus of the analysis is on equilibria in which communication is effective, the full characterization of babbling equilibria is relegated to Proposition 7 in Appendix A.

2.2 Communication without voice or exit

This section considers as a benchmark the communication game between the activist and the board when both voice or exit are ruled out. I focus on equilibria in which the activist influences the board's decision. Influencing the board requires the activist to reveal information about θ (i.e., sending different messages for different realizations of θ) and the board to use this information (i.e., making different decisions after observing different messages). Equilibria with this property are called influential. If the equilibrium is influential then communication is effective. The next definition, which also applies when voice and exit are introduced, formalizes this requirement.

Definition 1 An equilibrium is influential if there exist $\theta' \neq \theta''$ such that $\mu^*(\theta') \neq \mu^*(\theta'')$ and $x^*(\mu^*(\theta')) \neq x^*(\mu^*(\theta''))$.

According to Definition 1, in any influential equilibrium messages on the path can be classified into two disjoint sets: Messages that induce the board to choose $x = change$ and messages that induce it to choose $x = keep$. Messages in the first (second) set can be interpreted as demands from (suggestions to) the board to change (keep) the status quo. Hereafter, I use the terminology "demanding the board" to describe the activist's communication strategy.

Proposition 2 Consider the communication game without voice and exit. An influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta}]. \tag{5}$$

In this equilibrium, the activist demands a change to the status quo if and only if $\theta > \underline{\theta}$, and the board accommodates this demand.

To understand Proposition 2, note that the activist prefers a change to the status quo whenever $\theta > \underline{\theta}$. Since relative to the activist the board is biased toward the status quo, the board always keeps it if the activist suggests to do so. By contrast, a change to the status quo requires the board to forgo its private benefits, and therefore, convincing the board to do so is challenging. Indeed, the tension between the activist and the board stems from the fact that whenever $\theta \in (\underline{\theta}, \underline{\theta} + \beta)$ the activist prefers a change while the board does not. In principle, if the equilibrium is influential, the activist can influence the board's decision by sending the appropriate message. However, because of their conflict of interests, the board is suspicious of the activist's motives; the board is concerned that the activist exaggerates the benefit from changing the status quo. As a result, the only information the board infers from the activist's demand is $\theta > \underline{\theta}$; the board cannot learn whether θ is larger or smaller than $\underline{\theta}+\beta$. The equilibrium is influential if and only if it is in the best interests of the board to change the status quo and forgo its private benefits conditional on learning $\theta > \underline{\theta}$, which is exactly Condition (5).

2.3 Communication with exit

This section introduces exit to the analysis. To identify the direct effect of exit on communication, I assume the activist cannot lunch a public campaign. The possibility of voice is considered in the next sections.

Recall that if the equilibrium is influential then the activist can affect the board's decision and secure a payoff of $\max\{\theta, \underline{\theta}\}$ by sending the relevant message. Interestingly, the option to exit affects the incentives of the activist to demand a change to the status quo. If $\theta > p$ then the activist has strict incentives to hold onto her shares and demand a change. However, if $\theta < p$ then the share is over-priced, and since $p > \underline{\theta}$, the activist is better off exploiting her private information by selling her shares. Since in this case the activist prefers an exit irrespective of the board's decision, she is also indifferent with respect to her message to the board. In principle, this feature of the model can generate many equilibria. However, if sending a message is costly, even if the cost is arbitrarily small, the activist may choose to remain silent and not send any message. The analysis is robust to this possibility due to the requirement that an equilibrium must survive perturbations of the model to messaging costs. Indeed, this refinement requires the activist to remain silent in equilibrium if she is indifferent. However, notice that not sending any message also conveys information in equilibrium; the activist's silence is interpreted as an implicit suggestion to keep the status quo. Overall, the only information that is revealed by the activist's demand to change the status quo is $\theta > p$.

The next result follows.

Proposition 3 Consider the communication game with exit. An influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta} | \theta > p]. \tag{6}$$

In this equilibrium, the activist demands a change to the status quo if and only if $\theta > p$, and the board accommodates this demand. Moreover, the activist exits if and only if $\theta \leq p$.

The comparison between Condition (5) and Condition (6) demonstrates that an equilibrium is more likely to be influential when the activist can exit. Notice that Condition (6) is more likely to hold when p is higher, and in this respect, exit facilitates communication. Intuitively, higher p relaxes the tension between the activist and the board. As in the benchmark case, the board is concerned that the activist exaggerates the benefit from a change to the status quo. If the activist can exit at better terms (p is higher) then she has fewer incentives to insist on changing the status quo, even if doing so would increase shareholder value. Indeed, instead of insisting on a change the activist is better off remaining silent, selling her stake, and receiving the current share price. The board understands that the activist would insist on a change only if the benefit from doing so is higher than what the activist expects to get from selling her shares, that is, $\theta > p$. While higher p implies that the activist is less likely to demand a change, whenever she makes such demand, it is a stronger signal about θ. As a result, the board is more likely to accommodate a demand for a change when p is higher.[13]

2.4 Communication with voice

This section introduces voice to the analysis. To identify the direct effect of voice on communication, I assume the activist cannot exit. The possibility of exit is reintroduced in Section

[13] Proposition 3 relies on the assumption that by exiting the activist sells her entire stake. In principle, selling all shares might require several rounds of trade, from which the model abstracts. If the activist nevertheless expects to retain few shares after exiting, she might try to maximize the value of these shares by insisting on a change whenever $\theta > \underline{\theta}$ (rather than $\theta > p$). In this scenario, exit will not relax the tension between the activist and the board. However, if the messaging cost is not trivial ($\varepsilon > 0$) then the activist would rather remain silent and save the messaging cost even if she does not fully exit her position. Similar to intuition above, exit would still facilitate communication.

2.5. Solving the model backward, I obtain the next result.

Lemma 1 If the board keeps the status quo then the activist launches a campaign to change it if and only if $\theta > \underline{\theta} + c$. Shareholders support the activist's campaign whenever it is initiated.

The activist starts a campaign only if the benefit from a change to the status quo is higher than the cost of campaigning, that is, $\theta - \underline{\theta} > c$. Therefore, in equilibrium, shareholders infer from the activist's decision to start a campaign that $\theta > \underline{\theta} + c$. Since the activist is unbiased and launching a campaign is costly, shareholders always support the activist once the campaign is initiated, that is, $\mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta} + c] \geq 0$.[14,15]

Consider the board's response to the activist's demand. In general, the board trades off its private benefits β with the expected gains to firm value from a change to the status quo and the risk that the activist would launch a successful campaign if her demand is ignored. Specifically, if $x = change$ then the board's payoff is θ. If $x = keep$ then the board's payoff is $\underline{\theta} + \beta - K(\theta, \underline{\theta})$ where

$$K(\theta, z) \equiv \mathbf{1}_{\theta > z+c} \cdot (\beta + (\kappa - 1)(\theta - \underline{\theta})). \tag{7}$$

Note that $\kappa \geq 1$ implies $K(\theta, \underline{\theta}) \geq 0$, which is the reduction in the board's payoff due to the activist's intervention. Indeed, based on Lemma 1 the activist launches a campaign only if $\theta > \underline{\theta} + c$. If the campaign succeeds then the status quo changes, the board loses its private benefits β, its compensation increases by $\theta - \underline{\theta}$, but its reputation is damaged by $\kappa(\theta - \underline{\theta})$. This explains $K(\theta, \underline{\theta})$. Overall, the comparison between θ and $\underline{\theta} + \beta - K(\theta, \underline{\theta})$ implies that conditional on message m the board changes the status quo if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta} | m] + \mathbb{E}[K(\theta, \underline{\theta}) | m]. \tag{8}$$

[14] Since campaigning is costly, the activist would not start a campaign if she expects shareholders to resist it. Therefore, $a = passive$ can always be supported as an equilibrium outcome if conditional on $a = fight$ shareholders' off-equilibrium beliefs about θ are sufficiently low. The proof of Lemma 1 shows that the only credible off-equilibrium beliefs à la Grossman and Perry (1986) satisfy $a = fight \Rightarrow \theta > \underline{\theta} + c$.

[15] Appendix A shows that the main results continue to hold even if $\zeta = success$ requires $\mathbb{E}[\theta - \underline{\theta} | a = fight] \geq \Delta$, as long as $\Delta > 0$ is not too large. $\Delta > 0$ captures in a reduced form instances in which institutional investors may not support an activist even if her campaign is expected to increase the share value (e.g., if they are influenced by a management-biased proxy advisor (Li 2018), or if they fear that management will retaliate by cutting their business ties (Cvijanovic, Dasgupta, and Zachariadis 2016)).

Recall that if the equilibrium is influential then the activist can affect the board's decision by sending the relevant message. The possibility of launching a campaign, however, does not affect the circumstances under which the activist demands a change to the status quo. Indeed, the activist always has incentives to convince the board that if her demand is ignored then a campaign would be launched. In other words, the activist has incentives to pretend that the threat of a campaign is more credible than it really is, and in particular, that $\theta > \underline{\theta} + c$ even if it is not. Precisely for this reason the board does not take this message on face value. In equilibrium, the only information that is revealed by the activist's demand is $\theta > \underline{\theta}$, and as a result, the board faces uncertainty about the activist's reaction if her demand is ignored. The next result follows.

Proposition 4 Consider the communication game with voice. An influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta}] + \mathbb{E}[K(\theta, \underline{\theta}) | \theta > \underline{\theta}]. \tag{9}$$

In this equilibrium, the activist demands a change to the status quo if and only if $\theta > \underline{\theta}$, and the board accommodates this demand. Moreover, a campaign is never launched on the equilibrium path.

The comparison between Condition (5) and Condition (9) demonstrates that an equilibrium is more likely to be influential when the activist can lunch a public campaign. The difference stems from the second term in Condition (9), which is the expected reduction in the board's payoff from a campaign. Since this term is positive, voice facilitates communication.[16] Intuitively, if the activist's threat to launch a campaign is credible and the consequences for the board are severe, the board would try to avoid a public campaign by accommodating the activist's demand. At the same time, if the activist expects the board to be responsive, she will have incentives to communicate rather than launching a costly public campaign.[17]

[16] Recall $\kappa \geq \omega = 1$. If instead $\kappa < 1$ then $\mathbb{E}[K(\theta, \underline{\theta}) | \theta > \underline{\theta}]$ can be negative and the possibility of a campaign diminishes the incentives of the board to accommodate the activist's demand. See Levit (2017b) for a model in which such forces are in play in a more general context.

[17] Since the probability of $\theta > \underline{\theta} + c$ conditional on $\theta > \underline{\theta}$ is higher than its unconditional probability, the activist's threat to launch a campaign is also more credible when communication is effective in equilibrium.

Finally, Proposition 4 also suggests that a public campaign is always off the path when the equilibrium is influential. The contrast of this observation with Proposition 1 implies that a public campaign is an indication that the communication between the activist and the board is not effective.[18]

Remark. In this model the board's payoff does not depend directly on p, the short-term share price. If it did, and the share price was endogenous as described in Appendix B, then exit would have had an additional effect on communication that is similar to the positive effect of voice on communication. Intuitively, exit signals that the share is over-valued, and as a result, it has a direct negative effect on the board's payoff. Since the activist is more likely to exit if her demand is ignored, her (credible) threat of exit gives the board additional incentives to accommodate the activist's demand, thereby facilitating communication.

2.5 Communication with voice and exit

This section considers the communication game with both voice and exit. As in Section 2.3, the activist demands a change if $\theta > p$ and exits otherwise. As in Section 2.4, the possibility of launching a public campaign does not change the circumstances under which the activist demands a change to the status quo. However, the option to exit affects the activist's incentives to launch a campaign if her demand is ignored: The activist launches a campaign only if the benefit from doing so is also higher than the price she expects to receive for her shares. That is, $a = \textit{fight}$ only if $\theta > p + c$. The next result follows from these observations.

Proposition 5 Consider the communication game with voice and exit. An influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta}|\theta > p] + \mathbb{E}[K(\theta, p)|\theta > p], \tag{10}$$

[18] In equilibrium, the expected shareholder value conditional on a public campaign is higher than it is conditional on effective communications, that is, $\mathbb{E}[\theta|\theta \geq \underline{\theta} + c] > \mathbb{E}[\theta|\theta \geq \underline{\theta}]$. However, it does not mean that campaigning is more effective; the effect of a change to the status quo on firm value is the same whether or not it was forced through a campaign. It only suggests that when a campaign is launched, the stakes are higher. Indeed, effective communications create value even if the benefit from campaigning does not justify the cost, i.e., when $\underline{\theta} < \theta \leq \underline{\theta} + c$.

where $K(\theta, z)$ is given by Expression (7). In this equilibrium, the activist demands a change to the status quo if and only if $\theta > p$, the board accommodates this demand, and a campaign is never launched on the equilibrium path. Moreover, the activist exits if and only if $\theta \leq p$.

Propositions 2-4 are special cases of Proposition 5. The comparison between these propositions highlights that the *interaction* between voice and exit has a non-trivial effect on communication. This interaction is reflected in the difference between $\mathbb{E}[K(\theta, \underline{\theta})|\theta > \underline{\theta}]$ and $\mathbb{E}[K(\theta, p)|\theta > p]$ in Condition (9) and Condition (10), respectively. These expressions measure the effectiveness of communication in equilibrium. Since $p > \underline{\theta}$, if $\mathbb{E}\left[K(\theta, p)|\theta > p\right]$ increases (decreases) in p then exit *enhances (weakens)* the positive effect of voice on communication. To gain intuition on the shape of $\mathbb{E}\left[K(\theta, p)|\theta > p\right]$ as a function of p note that

$$\mathbb{E}\left[K(\theta, p)|\theta > p\right] = \Pr\left[\theta > p + c|\theta > p\right]\left(\beta + (\kappa - 1)\,\mathbb{E}[\theta - \underline{\theta}|\theta > p + c]\right). \tag{11}$$

The next result follows.[19]

Corollary 1

(*i*) If the hazard rate of θ is weakly decreasing then $E\left[K(\theta, p)|\theta > p\right]$ increases in p.

(*ii*) There is $\overline{\theta}$ such that if $\underline{\theta} < \overline{\theta}$ and the hazard rate of θ is strictly increasing then $E\left[K(\theta, p)|\theta > p\right]$ decreases in p.

There are two forces in play that explain Corollary 1. First, the term $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c]$ in Equation (11) increases in p. Since $\kappa \geq 1$, this force alone implies that exit should enhance the effect of voice on communication. Intuitively, in equilibrium, the activist launches a campaign only if the benefit from a change to the status quo is sufficiently large to compensate her for the cost of campaigning, that is, $a = \mathit{fight} \Rightarrow \theta > \underline{\theta} + c$. However, with the option to exit, the activist launches a campaign only if this benefit also compensates her for the price she could receive for her shares, that is, $a = \mathit{fight} \Rightarrow \theta > p + c$. Since $p > \underline{\theta}$, the activist's decision not to

[19] Implicitly, Corollary 1 assumes $p \in (\underline{\theta}, \overline{p}]$, where $\overline{p} > \underline{\theta}$ can be arbitrarily large but finite. Appendix B shows that under rational expectations the share price must be smaller than $\mathbb{E}[\max\{\theta, \underline{\theta}\}]$.

exit credibly signals that the benefit from a change to the status quo is high, and this effect is stronger for a higher p. Since the board can expect its reputation to be more severely damaged if a successful campaign is launched, it has stronger incentives to accommodate the activist demand.[20]

Second, Equation (11) also includes the term $\Pr[\theta > p + c | \theta > p]$, the conditional probability that the activist launches a campaign if her demand is rejected by the board. Importantly, this probability increases in p if and only if the hazard rate of θ (defined as $\frac{f(\theta)}{1-F(\theta)}$) is a decreasing function. A decreasing hazard rate implies that the activist's threat to launch a campaign is more credible with exit. In these cases, both forces operate in the same direction, and as stated by part (i) of Corollary 1, exit enhances the positive effect of voice on communication. However, if the hazard rate is strictly increasing then exit can weaken the credibility of the activist's threat. Intuitively, in these cases the cut and run effect is in play: A larger p implies that on the margin the activist is better off exiting rather than holding onto her shares and launching a campaign. Therefore, when the hazard rate is strictly increasing the two forces are opposing one another. Part (ii) of Corollary 1 shows that if $\underline{\theta}$ is sufficiently small then the cut and run effect dominates and the overall effect of exit on voice is negative. Intuitively, a low $\underline{\theta}$ implies that the damage to the board's payoff from a public campaign is severe to begin with, and as such, it is less sensitive to changes in θ. In those cases, the first force is relatively weak, and as a result, the cut and run effect dominates. Through this indirect channel exit can hinder communication. The economic interpretation of these results is discussed in the next section.

3 Comparative statics and empirical predictions

This section derives the comparative statics of the full model and its empirical predictions. Communication is more likely to be used as a governance mechanism when it is effective, that is, when the equilibrium is influential. As standard in the cheap-talk literature, I select

[20]Following this reasoning, shareholders are also more likely to support the activist's campaign if the activist had the option to exit. This is another channel through which exit enhances the effect of voice on communication. See Proposition 12 in Appendix D for details.

the influential equilibrium whenever it exists. Recall that according to Proposition 5, the equilibrium is influential if and only if Condition (10) holds. Once parameters α and ω are brought back to the analysis Condition (10) becomes

$$\beta < \omega \mathbb{E}\left[\theta - \underline{\theta} | \theta > p\right] + \Pr\left[\theta > p + \tfrac{c}{\alpha} | \theta > p\right] \left(\beta + (\kappa - \omega) \mathbb{E}\left[\theta - \underline{\theta} | \theta > p + \tfrac{c}{\alpha}\right]\right), \tag{12}$$

which can be rewritten as $\beta \leq b^*$, where

$$b^* \equiv \frac{\omega \mathbb{E}\left[\theta - \underline{\theta} | \theta > p\right] + (\kappa - \omega) \Pr\left[\theta > p + \frac{c}{\alpha} | \theta > p\right] \mathbb{E}\left[\theta - \underline{\theta} | \theta > p + \frac{c}{\alpha}\right]}{1 - \Pr\left[\theta > p + \frac{c}{\alpha} | \theta > p\right]}. \tag{13}$$

Since communication is more effective in equilibrium when the board is less biased (i.e., β is relatively small), b^* can measure the effectiveness of behind-the-scenes communications. Following the empirical studies that are cited in the introduction, the extent of communication can be measured by the frequency of in-person discussions, telephone calls, or exchange of letters and emails between investors and firms. The next result uses Expression (13) to associate the effectiveness of communication to the characteristics of activist investors, corporate boards, and target firms.

Proposition 6

(i) b^* decreases with c and increases with κ and α.

(ii) b^* increases with ω. Moreover, the effect of ω on b^* is stronger when voice is ineffective.

(iii.a) If the hazard rate of θ is weakly decreasing or voice is ineffective then b^* increases in p.

(iii.b) There is $\overline{\theta}$ such that if the hazard rate of θ is strictly increasing and voice is effective then b^* decreases in p whenever $\underline{\theta} < \overline{\theta}$.

Proposition 6 part (i) demonstrates that if the activist's threat of launching a public campaign is credible (small c/α) and has severe consequences for the board (large κ), then the board is more likely to accommodate the activist's demand and communication is more effective in equilibrium. Indeed, the activist has stronger incentives to launch a campaign when the cost is small relative to her ownership in the target.[21] The cost of campaigning is smaller when rallying support from other shareholders is easier (e.g., the shareholder base is non-dispersed), when the board is not entrenched, and when the activist has the relevant experience and expertise (e.g., a track record of wining board seats). The reputational costs for board members from a successful campaign are particularly large when directors have career concerns (e.g., young directors), when they hold large number of board seats in other public companies, or when the target company receives large media exposure. The model predicts that these factors would contribute to more effective communications.

Proposition 6 also shows that communication is more effective in equilibrium when the board's payoff has a higher sensitivity to firm performances (larger ω), and that this effect is stronger if voice is ineffective, e.g., the threat of a campaign is not credible. Intuitively, ω captures the intrinsic incentives of the board to listen to the activist. However, if the threat of launching a campaign is credible, the board also listens because it fears the consequences of ignoring the activist. In those cases, the marginal effect of a higher ω on the incentives of the board to listen is smaller, although still positive. Therefore, the model predicts that the positive effect of directors' pay for performance on communication is larger when voice is ineffective. Voice is ineffective when control is not contestable (e.g., because of a dual class structure, a controlling shareholder, or supermajority provisions), the board is staggered and highly entrenched, or the cost of campaigning is prohibitively high.

Part (iii.a) of Proposition 6 gives conditions under which the overall effect of exit on communication is positive. As was explained in Section 2.3, a higher share price directly increases the ability of the activist to influence the board by relaxing the tension between the two. This channel is captured by the first term in the numerator of Expression (13). If voice is entirely ineffective (for any of the reasons mentioned above) then $b^* = \omega \mathbb{E}\left[\theta - \underline{\theta} | \theta > p\right]$ and the overall effect of exit on communication is positive. The effect of exit can be measured by the activist's expected net gains from selling her shares. All else equal, the net gains from exit are larger

[21] Disclosure requirements (e.g., 13D filing) and defense measures (poison pills) can affect α, which is exogenous in the model. However, since in practice α is endogenous, it is likely to be correlated with other firm and activist characteristics (such as liquidity or the presence of other blockholders), which could also affect the activist's ability to influence the board.

when the stock is liquid, the short-term capital gains taxes are low, anonymous trade is feasible (e.g., weak disclosure requirements or fragmented market structure), or the activist is prone to liquidly shocks (e.g., due to the short lock-up provisions or large redemptions rights given to the fund's end investors) that soften the adverse selection of selling over-valued shares. If voice is considered ineffective, the model predicts that these factors would be positively associated with frequent communications between activist investors and firms.

In many cases, however, voice is likely to be at least somewhat effective as a governance mechanism. According to Corollary 1, exit affects voice, and through this channel it also affects communication. Specifically, exit enhances the positive effect of voice on communication if the hazard rate of θ is weakly decreasing. Notice that distributions with decreasing hazard rates have decreasing densities, a coefficient of variation larger than one, and they typically have long right tails (e.g., see Barlow and Marshall 1965).[22] Therefore, one can interpret activists' proposals that feature a decreasing hazard rate as risky and bold alternatives to the status quo. Under this interpretation, exit facilitates communication when the activist's proposal has high risk, which is more likely when the target is in emerging industries (such as high technology) and the proposal involves a radical change to target's key personal or internal organization and business strategy.

At the same time, Proposition 6 part (iii.b) gives sufficient conditions under which the overall effect of exit on communication is negative. Similarly to part (ii) of Corollary 1, the overall effect of exit is negative when the hazard rate of θ is strictly increasing and firm value under the status quo, $\underline{\theta}$, is relatively low. These conditions capture situations in the activist's proposal to change the status quo is relatively safe. Therefore, exit hinders communication when the activist's proposal has low risk, which is more likely when the target is in traditional industries and the proposal is a relatively standard fix of the target's corporate governance or capital structure. In those cases, factors that proxy for high gains from exit would be negatively associated with frequent communications between activist investors and firms.[23]

[22] While assuming increasing hazard rate is common in many applications, various distributions have some parameterizations that feature weakly decreasing hazard rates (e.g., Exponential, Weibull, Gamma, and Pareto).

[23] The proof of Proposition 6 also shows that if θ is uniformly distributed then b^* decreases with p for any value of $\underline{\theta}$. Notice that all the results up to Proposition 5 included, hold when the distribution of θ is bounded from above. Since distributions with a bounded support do not have a decreasing hazard rate, this assumption

Remark. Recall that a public campaign is on the path only if the equilibrium is not influential. Therefore, the same factors that predict the existence of an influential equilibrium (i.e., high b^*) also predict a low frequency of public campaigns. By exploiting this inverse relationship, Proposition 6 can also be used to study the factors that affect the frequency of proxy fights.

4 Concluding remarks

This paper studies the conditions under which communications between investors and firms is an effective form of shareholder activism. The main premise of this paper is that activist investors cannot force their ideas on companies; they must persuade the company's board of directors or the majority of shareholders that adopting their proposals is in the best interests of the firm.

In this framework, I show that voice and exit have a significant effect on the ability of activists to communicate with firms and influence their corporate policy. Voice enhances communication since the most effective way corporate boards can avoid the consequences of a public campaign is by accommodating the activist's demand, which in turn, increases the incentives of the activist to engage and communicate with the board. The effect of exit on communication is more nuanced. While the incentives of an activist to cut and run harm the credibility of her threat to launch a public campaign if her demand is ignored, exit also relaxes the tension between the activist and board and gives her an opportunity to "put her money where her mouth is" by not exercising her option to exit, thereby increasing her credibility. The trade-off between these opposing forces, which is affected by the properties of the activist's proposal and the voice mechanism, determines the effect of exit on communication. As a whole, this paper offers a new perspective on shareholder activism and novel predictions on the factors that contribute to successful dialogues between investors and firms.

matters only for Corollary 1 part (i) and Proposition 6 part (iii.a).

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A Proofs of main results

Remark. The results of Section 2 and Section 3 are proved more generally. First, the proofs consider a biased activist who obtains an additional private benefit γ if the status quo of the firm changes (either voluntarily by the board or forcefully through a successful campaign). I assume $|\gamma| < \overline{\gamma}$ where $\overline{\gamma} > 0$.[24] Second, the proofs also consider cases in which the activist may lack shareholder support, that is, $\zeta = \textit{success}$ requires $\mathbb{E}[\theta - \underline{\theta} | a = \textit{fight}] \geq \Delta$, where $\Delta \geq 0$. In addition, the proofs are derived for the complete model, with voice and exit; the results with only one governance mechanism (or neither) follow as a special case. Finally, to ease the notation I assume $\omega = \alpha = 1$ and define

$$h(\theta) \equiv \theta - \underline{\theta} + \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta} | \theta > p + c - \gamma] \geq \Delta} \cdot K(\theta, p - \gamma), \tag{14}$$

where $K(\theta, z)$ is given by Expression (7). The term $h(\theta)$ will be used to prove the main results.

Table 1 - Summary of notation

Notation	**Interpretation**
$x \in \{\textit{keep}, \textit{change}\}$	board's decision
$a \in \{\textit{exit}, \textit{passive}, \textit{fight}\}$	activist's action
$\zeta \in \{\textit{success}, \textit{failure}\}$	campaign's outcome
m	activist's message
μ	activist's communication strategy
$\theta \sim F$	shareholder value if the status quo changes
$\underline{\theta} > 0$	shareholder value under the status quo
$\Delta \geq 0$	shareholders' resistance to the campaign
$\beta > 0$	board's bias toward the status quo
$\alpha \in (0, 1)$	fraction of shares owned by the activist
$\omega \in (0, 1)$	fraction of shares owned by the board
$c > 0$	activist's cost of launching a campaign
$\kappa \geq \omega$	board's cost from a successful campaign
γ	activist's bias against the status quo
$\varepsilon > 0$	activist's fixed cost of sending a message
p	share price upon the activist's exit

[24] I assume $\overline{\gamma}/\alpha < \beta/\omega$, that is, relative to the activist the board is biased toward $x = \textit{keep}$. I also assume $\overline{\gamma}/\alpha < \underline{\theta}$, which implies that the biased activist sometimes prefers keeping the status quo.

Lemma 2 (Generalization of Lemma 1) Suppose $x = keep$. The activist launches a campaign if and only if $\theta > p + c - \gamma$ and $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] \geq \Delta$.

Proof. Suppose $x = keep$ and consider an equilibrium in which $a = fight$ is on the path. By assumption, if the activist exits she cannot run a campaign. Since $c > 0$, the activist launches a campaign only if it is expected to succeed. Since a campaign is on the path, $a = fight$ implies $\zeta = success$. Therefore, the activist's expected payoff conditional on θ is

$$u_A = \begin{cases} p & \textit{if } a = exit \\ \underline{\theta} & \textit{if } a = passive \\ \theta - c + \gamma & \textit{if } a = fight. \end{cases} \tag{15}$$

Recall $p > \underline{\theta}$. Therefore, the activist chooses $a = fight \Leftrightarrow \theta - c + \gamma > p$, which implies

$$\mathbb{E}[\theta - \underline{\theta}|a = fight] = \mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma].$$

Since $\zeta = success \Leftrightarrow \mathbb{E}[\theta - \underline{\theta}|a = fight] \geq \Delta$, in this equilibrium it must be $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] \geq \Delta$, as required. Given the arguments above, it is straight forward to prove that if $\theta > p + c - \gamma$ and $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] \geq \Delta$ then following $x = keep$ there exists an equilibrium in which $a = fight$ is on the path. However, note that there may also exist equilibria in which $a = fight$ is off the path. Indeed, if $a = fight$ is off the path and the off-equilibrium beliefs satisfy $\mathbb{E}[\theta - \underline{\theta}|a = fight] < \Delta$, the activist will never deviate to $a = fight$. However, Lemma 5 in Appendix D proves that an equilibrium in which $a = fight$ is off the path survives the Grossman and Perry (1986) refinement if and only if $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] < \Delta$.[25] ■

Lemma 3 (Auxiliary result) The activist exits if and only if:

(*i*) $x = change$ and $\theta \leq p - \gamma$, or

(*ii*) $x = keep$, and either $\theta \leq p + c - \gamma$ or $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] < \Delta$.

Proof. Suppose $x = change$. If $a = passive$ then the activist's expected payoff conditional on θ is $\theta + \gamma$. Therefore, $a = exit \Leftrightarrow \theta \leq p - \gamma$. Suppose $x = keep$ and either $\theta \leq p + c - \gamma$ or $\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] < \Delta$. According to Lemma 2 it must be $a \neq fight$. However, if

[25] Note that if $a = fight$ is on the equilibrium path then the equilibrium vacuously satisfies the Grossman and Perry (1986) refinement.

$a = passive$ then the activist's expected payoff is $\underline{\theta}$. Since $p > \underline{\theta}$, we have $a = exit$. If $x = keep$, $\mathbb{E}[\theta - \underline{\theta} | \theta > p + c - \gamma] \geq \Delta$, and $\theta > p + c - \gamma$, then according to Lemma 2 the activist chooses $a = fight$. This completes the proof. ■

Lemma 4 (Auxiliary result) If the activist sends message m then the board chooses $x = change$ if and only if $\beta \leq \mathbb{E}[h(\theta)|m]$.

Proof. If $x = change$ then the board's payoff is θ irrespective of the activist's decision. Suppose $x = keep$. If $a = fight$ then the board's payoff is $\theta - \kappa(\theta - \underline{\theta})$ and if $a \neq fight$ then its payoff is $\underline{\theta} + \beta$. Recall that according to Lemma 2, $a = fight$ if and only if $\mathbf{1}_{\theta > p+c-\gamma} \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta} | \theta > p+c-\gamma] \geq \Delta} = 1$. The board's expected payoff conditional on message m is

$$\mathbb{E}[u_B(\theta, x, a, \zeta)|m] = \begin{cases} \mathbb{E}[\theta|m] & \textit{if } x = change \\ \underline{\theta} + \beta - \mathbb{E}\left[\mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p+c-\gamma] \geq \Delta} \cdot K(\theta, p - \gamma)|m\right] & \textit{if } x = keep. \end{cases}$$

Therefore, $\mathbb{E}[u_B(\theta, keep, a, \zeta)|m] \leq \mathbb{E}[u_B(\theta, change, a, \zeta)|m]$ if and only if

$$\beta \leq \mathbb{E}[\theta - \underline{\theta}|m] + \mathbb{E}\left[\mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p+c-\gamma] \geq \Delta} \cdot K(\theta, p - \gamma)|m\right],$$

which holds if and only if $\beta \leq \mathbb{E}[h(\theta)|m]$, as required. ■

Proposition 7 (Generalization of Proposition 1) A babbling equilibrium always exists:

(i) *If* $\mathbb{E}[h(\theta)] \leq \beta$ then $x^* = keep$ and otherwise, $x^* = change$. Given x^*, the activist's intervention and exit decisions are described by Lemmas 2 and 3, respectively.

(ii) There exists $\overline{\beta} > 0$ such that if $\overline{\beta} < \beta$ and $\mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta} + c - \gamma] \geq \Delta$ then in any babbling *equilibrium* $x^* = keep$ and $a^* = fight$ with a strictly positive probability.

Proof. Since in a babbling equilibrium the message from the activist is uninformative, Lemma 4 implies that a babbling equilibrium with $x^* = keep$ exists if and only if $\beta \geq \mathbb{E}[h(\theta)]$. Note that $h(\theta)$ also depends on β. Therefore, $\beta < \mathbb{E}[h(\theta)] \Leftrightarrow \beta < b^*$ where

$$b^* = \frac{\mathbb{E}[\theta - \underline{\theta} + (\kappa - 1)(\theta - \underline{\theta}) \cdot \mathbf{1}_{\theta > p+c-\gamma} \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p+c-\gamma] \geq \Delta}]}{1 - \mathbb{E}[\mathbf{1}_{\theta > p+c-\gamma} \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p+c-\gamma] \geq \Delta}]}.$$

As a result, if $\beta > b^*$ then $\beta > \mathbb{E}[h(\theta)]$ and in any babbling equilibrium $x^* = keep$. If in addition $\mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta} + c - \gamma] \geq \Delta$ then Lemma 2 and Lemma 3 imply that $a = fight$ is on the equilibrium path with a positive probability, which completes the proof. ■

Proposition 8 (Generalization of Proposition 5) An influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[h(\theta)|\theta > p - \gamma]. \tag{16}$$

Moreover, in this equilibrium*:*

(*i*) The activist demands a change to the status quo if and only if $\theta > p - \gamma$, and the board accommodates this demand.

(*ii*) The activist exits if and only if $\theta \leq p - \gamma$.

(*iii*) A campaign is never launched on the equilibrium path.

Proof. Suppose an influential equilibrium exists. Define $M_x \equiv \{m \text{ is on the path s.t. } x^*(m) = x\}$ for $x \in \{keep, change\}$. Since the equilibrium is influential, M_{keep} and M_{change} are not empty. Fix $\varepsilon > 0$ (which is arbitrarily small). As was argued in the main text, without the loss of generality there always exists a message on the equilibrium path that the activist can send without any cost. I denote this message by ϕ. Therefore, $\phi \in M_{keep} \cup M_{change}$. Also note that the intersection of M_{keep} and M_{change} is empty by definition. I claim the following:

1. A campaign is never launched on the path of an influential equilibrium. Proof: Suppose on the contrary the activist launches a campaign on the equilibrium path. Let θ_0 be a realization that triggers this event. Therefore, if $\theta = \theta_0$ then the activist must be choosing $m_{keep} \in M_{keep}$ and $a = fight$. Let $\varepsilon(m)$ be the cost of sending message m, where $\varepsilon(m) = 0$ if $m = \phi$ and $\varepsilon(m) = \varepsilon > 0$ otherwise. The activist's expected payoff from this strategy is $\theta_0 + \gamma - c - \varepsilon(m_{keep})$. If instead the activist chooses $m_{change} \in M_{change}$ and $a = passive$ then her expected payoff from this deviation is $\theta_0 + \gamma - \varepsilon(m_{change})$. Comparing the two terms, the deviation is strictly preferred if and only if $c > \varepsilon(m_{change}) - \varepsilon(m_{keep})$. Note that $c > 0$ and the right hand side converges to zero as $\varepsilon \to 0$. Therefore, for ε sufficiently small we get a contradiction as required. Note that the proof of this claim also implies that the possibility of launching a campaign can be ignored in the arguments below.

2. $M_{keep} = \{\phi\}$. Proof: Suppose on the contrary that there is $m'' \neq \phi$ such that $m'' \in M_{keep}$ and $\phi \in M_{keep}$. Since $x^*(m'') = x^*(\phi)$, but sending m'' is costly whereas sending ϕ is not, m'' must be off-equilibrium, a contradiction. Therefore, if $\phi \in M_{keep}$ then $M_{keep} = \{\phi\}$.

I prove that $\phi \in M_{keep}$. Suppose on the contrary $\phi \in M_{change}$. Since the equilibrium is influential, there exists $m' \neq \phi$ such that $m' \in M_{keep}$. Conditional on θ, the activist prefers sending message ϕ over message m' if and only if

$$\max\{\theta + \gamma, p\} \geq \max\{\underline{\theta}, p\} - \varepsilon.$$

Since $p > \underline{\theta}$, the activist strictly prefers sending message ϕ, which means that message m' must be off-equilibrium, a contradiction.

3. The activist sends message ϕ if $\theta \leq p - \gamma + \varepsilon$ and message $m \in M_{change}$ otherwise. Proof: Based on Claim 2, $\phi \in M_{keep}$. Conditional on θ, the activist prefers sending message ϕ over $m \in M_{change}$ if and only if

$$\max\{\underline{\theta}, p\} \geq \max\{\theta + \gamma, p\} - \varepsilon \Leftrightarrow \theta \leq \max\{\underline{\theta}, p\} - \gamma + \varepsilon.$$

Noting that $p \geq \underline{\theta}$ completes the proof.

4. If an influential equilibrium exists then

$$\beta \leq \mathbb{E}[h(\theta) | \theta > p - \gamma + \varepsilon]. \tag{17}$$

Proof: Based on claims 2 and 3, $m \in M_{change} \Leftrightarrow \theta > p - \gamma + \varepsilon$. According to Lemma 4, $\beta \leq \mathbb{E}[h(\theta)|m]$ must hold for all $m \in M_{change}$. The result follows by integrating over all $m \in M_{change}$.

5. The activist exits if and only if $\theta \leq p - \gamma + \varepsilon$. Proof: Recall $p > \underline{\theta}$. If $\theta \leq p - \gamma + \varepsilon$ then based on Claim 3 the activist sends message ϕ. Since $\phi \in M_{keep}$, $m = \phi$ and $a = \textit{passive}$ imply that the activist's payoff is $\underline{\theta}$. Since $p > \underline{\theta}$, the activist prefers to exit. If $\theta > p - \gamma + \varepsilon$ then based on Claim 3 the activist sends message $m \in M_{change}$. Thus, if in addition $a = \textit{passive}$ then the activist's payoff is $\theta + \gamma$. The activist exits if and only if $p \geq \theta + \gamma$. However, note that $\theta > p - \gamma + \varepsilon$ implies $\theta + \gamma > p$, and therefore, the activist does not exit, as required.

6. Overall, invoking $\varepsilon \to 0$ on Claim 4 yields Condition (16); invoking $\varepsilon \to 0$ on Claim 3 yields part (i); invoking $\varepsilon \to 0$ on Claim 5 yields part (ii). Claim 1 yields part (iii).

Next, fix $\varepsilon > 0$ and suppose Condition (17) holds. I prove that an influential equilibrium exists. Define $\hat{\gamma} \equiv \gamma - \varepsilon$ and consider the following strategies:

$$\mu(\theta) = \begin{cases} m_{change} & \textit{if } \theta > p - \hat{\gamma} \\ m_{keep} \neq m_{change} & \textit{if } \theta \leq p - \hat{\gamma} \end{cases} \qquad x^*(m) = \begin{cases} \textit{change} & \textit{if } m = m_{change} \\ \textit{keep} & \textit{if } m = m_{keep}, \end{cases}$$

and the activist exits if and only if $\theta \leq p - \hat{\gamma}$. I verify that these strategies are incentive compatible. According to Lemma 4, the strategy $x^*(m)$ maximizes the board's expected utility if and only if

$$\mathbb{E}[h(\theta)|\theta \leq p - \hat{\gamma}] \leq \beta \leq \mathbb{E}[h(\theta)|\theta > p - \hat{\gamma}]. \tag{18}$$

Notice that $\theta \leq p - \hat{\gamma}$ implies $\theta < p - \gamma + c$ for ε sufficiently small. Therefore after sending message m_{keep} the activist never launches campaign and $\mathbb{E}[h(\theta)|\theta \leq p - \hat{\gamma}] = \mathbb{E}[\theta - \underline{\theta}|\theta \leq p - \hat{\gamma}]$. Since $\mathbb{E}[\theta - \underline{\theta}] \leq \beta$, then the left hand side of Condition (18) must hold. Moreover, since Condition (17) holds, the right hand side of Condition (18) also holds. Therefore, the board's strategy is incentives compatible. Consider the activist's decisions. By repeating the arguments in claims 3 and 5, one can prove that given p and the board's strategy, it is optimal for the activist to follow the prescribed communication and exit strategies. Therefore, an influential equilibrium exists, as required. Invoking $\varepsilon \to 0$ completes the proof. ■

Corollary 2 (Generalization of Corollary 1) Define $\Lambda(z) \equiv \mathbb{E}\left[\mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > z + c] \geq \Delta} K(\theta, z)|\theta > z\right]$. There are $\underline{\Delta} > 0$ and $\overline{\theta}$ such that:

(*i*) If $\Delta \in [0, \underline{\Delta}]$ and the hazard rate of θ is non-increasing then $\Lambda(p - \gamma)$ increases in p.

(*ii*) If $\Delta \in [0, \underline{\Delta}]$, $\underline{\theta} < \overline{\theta}$, and the hazard rate of θ is increasing then $\Lambda(p - \gamma)$ decreases in p.

Proof. Define $\underline{\Delta} \equiv \mathbb{E}[\theta - \underline{\theta}|\theta > \underline{\theta} - \gamma + c]$, and note that if $\overline{\gamma}$ is sufficiently small as we assume, then $\underline{\Delta} > 0$. Also note that if $\Delta \leq \underline{\Delta}$ then $\mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p + c - \gamma] \geq \Delta} = 1$ for all $p > \underline{\theta}$. Suppose $\Delta \leq \underline{\Delta}$ and note that

$$\begin{aligned} \Lambda(z) &= \mathbb{E}[K(\theta, z)|\theta > z] \\ &= \Pr[\theta > z + c|\theta > z](\beta + (\kappa - 1)\mathbb{E}[\theta - \underline{\theta}|\theta > z + c]) \\ &= \beta \frac{1 - F(z + c)}{1 - F(z)} + (\kappa - 1) \frac{\int_{z+c} (\theta - \underline{\theta}) f(\theta) d\theta}{1 - F(z)} \end{aligned}$$

and

$$\frac{\partial \Lambda(z)}{\partial z} = \frac{1-F(z+c)}{1-F(z)} \begin{bmatrix} \beta \left(\frac{f(z)}{1-F(z)} - \frac{f(z+c)}{1-F(z+c)} \right) \\ +(\kappa-1) \left(\mathbb{E}[\theta - \underline{\theta} | \theta > z+c] \frac{f(z)}{1-F(z)} - (z+c-\underline{\theta}) \frac{f(z+c)}{1-F(z+c)} \right) \end{bmatrix}$$

Also notice that $\kappa \geq 1$ and $\mathbb{E}[\theta - \underline{\theta} | \theta > z+c] > z+c-\underline{\theta}$. Therefore, if $\frac{f(\theta)}{1-F(\theta)}$ is non-increasing then $\frac{\partial \Lambda(z)}{\partial z} \geq 0$ for all $z > \underline{\theta}$. This completes part (i).

Consider part (ii). Suppose $\Delta \leq \underline{\Delta}$, $\frac{f(\theta)}{1-F(\theta)}$ is a strictly increasing function, and $p \in [\underline{\theta}, \overline{p}]$ for $\overline{p} \in (\underline{\theta}, \infty)$. Note that $\frac{\partial \Lambda(z)}{\partial z} < 0$ if and only if

$$\begin{bmatrix} (\kappa-1)\, \mathbb{E}[\theta - z - c | \theta > z+c] \frac{f(z)}{1-F(z)} \\ -[\beta + (\kappa-1)(z+c-\underline{\theta})] \left(\frac{f(z+c)}{1-F(z+c)} - \frac{f(z)}{1-F(z)} \right) \end{bmatrix} < 0 \Leftrightarrow \underline{\theta} < \overline{\theta}(z)$$

where

$$\overline{\theta}(z) \equiv \frac{\beta}{\kappa-1} + z + c - \mathbb{E}[\theta - z - c | \theta > z+c] \frac{\frac{f(z)}{1-F(z)}}{\frac{f(z+c)}{1-F(z+c)} - \frac{f(z)}{1-F(z)}}.$$

Recall we focus on $z < \overline{z}$, for some $\overline{z} < \infty$. To conclude the proof, let $\overline{\theta} \equiv \min_{z \in [0, \overline{z}]} \overline{\theta}(z)$. Note that if $\kappa \geq 1$ is sufficiently close to one then $\overline{\theta} > 0$. ■

Proposition 9 (Generalization of Proposition 6) Let

$$b^* = \frac{\omega \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha}] + (\kappa - \omega) \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha} | \theta > p - \frac{\gamma}{\alpha}] \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \geq \Delta}}{1 - \Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha} | \theta > p - \frac{\gamma}{\alpha}] \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \geq \Delta}}, \tag{19}$$

which is a generalized version of Expression (13). There is $\overline{\gamma} > 0$ such that if $|\gamma| < \overline{\gamma}$ then:

(*i*) b^* increases with κ.

(*ii*) b^* decreases with Δ.

(*iii*) b^* increases with ω. Moreover, the effect of ω on b^* is stronger when voice is ineffective.

(*iv*) b^* decreases with c/α if $\Delta \leq \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha}]$.

(*v.a*) If the hazard rate of θ is weakly decreasing or $\Delta > \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}]$ then b^* increases in p.

$(v.b)$ There is $\overline{\theta}$ such that if the hazard rate of θ is strictly increasing and $\Delta \leq \mathbb{E}[\theta - \underline{\theta}|\theta > \underline{\theta} - \frac{\gamma}{\alpha} + \frac{c}{\alpha}]$ then b^* decreases in p whenever $\underline{\theta} < \overline{\theta}$.

Proof. Recall $p > \underline{\theta}$. Throughout this proof I assume $\frac{\overline{\gamma}}{\alpha} \leq p - \underline{\theta}$.[26] Since $c \geq 0$, assuming $\underline{\theta} \leq p - \frac{\overline{\gamma}}{\alpha}$ guarantees that $b^* > 0$ under all admissible values of the parameters of the model. Intuitively, the activist is not too biased toward the status quo in the sense that an unbiased board with $\beta = 0$ would be willing to accommodate her demand to change the status quo. We use this condition in the arguments below.

To prove part (i), note that Expression (19) implies $\frac{\partial b^*}{\partial \kappa} = b_\kappa \cdot \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \geq \Delta}$ where

$$b_\kappa \equiv \frac{\Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}]}{1 - \Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]}.$$

Note that $p - \frac{\overline{\gamma}}{\alpha} \geq \underline{\theta}$ and $c \geq 0$ imply $\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] > 0$, which in turn implies $b_\kappa > 0$ as required.

To prove part (ii), note that Expression (19) implies $b^* = \omega\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha}]$ if $\mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \geq \Delta} = 0$ and

$$b^* = \frac{\omega\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha}] + (\kappa - \omega)\,\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}]\Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]}{1 - \Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]} \quad (20)$$

otherwise. The latter is larger than the former if and only if

$$\omega\mathbb{E}[\theta - \underline{\theta}|\theta > p - \tfrac{\gamma}{\alpha}] + (\kappa - \omega)\,\mathbb{E}[\theta - \underline{\theta}|\theta > p - \tfrac{\gamma}{\alpha} + \tfrac{c}{\alpha}] > 0 \ . \quad (21)$$

Since $p - \frac{\overline{\gamma}}{\alpha} \geq \underline{\theta}$ and $c \geq 0$, the inequality above holds as required.

To prove part (iii), note that Expression (19) implies

$$\frac{\partial b^*}{\partial \omega} = \begin{cases} b_{\omega,1} \equiv \frac{\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha}] - \mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}]\Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]}{1 - \Pr[\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}|\theta > p - \frac{\gamma}{\alpha}]} & \textit{if } \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] \geq \Delta} \\ b_{\omega,2} \equiv \mathbb{E}[\theta - \underline{\theta}|\theta > p - \frac{\gamma}{\alpha}] & \textit{else.} \end{cases}$$

Note that $p - \frac{\overline{\gamma}}{\alpha} \geq \underline{\theta}$ implies $b_{\omega,2} > 0$. Also note that $b_{\omega,1} > 0$ holds if and only if

$$\mathbb{E}[\theta - \underline{\theta}|p - \tfrac{\gamma}{\alpha} + \tfrac{c}{\alpha} > \theta > p - \tfrac{\gamma}{\alpha}] > 0.$$

[26] In a previous version of this paper it was proved that if $\overline{\gamma} > 0$ is sufficiently small and the share price is endogenously determined as described in Appendix B, then it must be $\frac{\overline{\gamma}}{\alpha} \leq p^* - \underline{\theta}$ in equilibrium.

Since $p-\frac{\overline{\gamma}}{\alpha}\geq\underline{\theta}$, this condition holds as well. Therefore, $\frac{\partial b^*}{\partial\omega}>0$. Note also that

$$b_{\omega,1}<b_{\omega,2}\Leftrightarrow\ \mathbb{E}[\theta-\underline{\theta}|\theta>p-\tfrac{\gamma}{\alpha}]<\mathbb{E}[\theta-\underline{\theta}|\theta>p-\tfrac{\gamma}{\alpha}+\tfrac{c}{\alpha}].$$

which always holds. This proves that the effect of ω on b^* is larger when Δ is larger. Moreover, it shows that if voice is ineffective (i.e., $\mathbf{1}_{\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}]\geq\Delta}=0$) then $\frac{\partial b^*}{\partial\omega}$ is larger as required.

To prove part (iv), suppose $\Delta\leq\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}]$. Since in this case $\mathbf{1}_{\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}]\geq\Delta}=1$ for every $c\geq0$, b^* is given by Expression (20), and as a result,

$$\frac{\partial b^*}{\partial c}=-\frac{f\left(p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}\right)\left[(\kappa-\omega)\left(p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}-\underline{\theta}\right)+b^*\right]}{F\left(p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}\right)-F\left(p-\frac{\gamma}{\alpha}\right)}.$$

Notice that $\frac{\partial b^*}{\partial c}<0$ if $p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}\geq\underline{\theta}$. Since $\frac{\overline{\gamma}}{\alpha}\leq p-\underline{\theta}$, this condition holds as required. Note that if $\overline{\gamma}$ is small enough then the effect of α has the opposite sign of the effect of c.

To prove parts (v.a) and (v.b), note that if $\mathbf{1}_{\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}]\geq\Delta}=0$ then $b^*=\omega\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}]$, which is an increasing function of p. Suppose $\mathbf{1}_{\mathbb{E}[\theta-\underline{\theta}|\theta>p-\frac{\gamma}{\alpha}+\frac{c}{\alpha}]\geq\Delta}=1$. Then, b^* is given by Expression (20). Let

$$\Gamma(z,c)=\frac{\omega\int_z(\theta-\underline{\theta})f(\theta)\,d\theta+(\kappa-\omega)\int_{z+c}(\theta-\underline{\theta})f(\theta)\,d\theta}{F(z+c)-F(z)},$$

then $b^*=\Gamma\left(p-\frac{\gamma}{\alpha},\frac{c}{\alpha}\right)$. Notice that

$$\begin{aligned}\frac{\partial\Gamma(z,c)}{\partial z}&=-\frac{[\omega(z-\underline{\theta})f(z)+(\kappa-\omega)(z+c-\underline{\theta})f(z+c)][F(z+c)-F(z)]}{[F(z+c)-F(z)]^2}\\&\quad-\frac{\left[\omega\int_z(\theta-\underline{\theta})f(\theta)\,d\theta+(\kappa-\omega)\int_{z+c}(\theta-\underline{\theta})f(\theta)\,d\theta\right][f(z+c)-f(z)]}{[F(z+c)-F(z)]^2}\end{aligned}$$

which can be rewritten as

$$\frac{\partial\Gamma(z)}{\partial z}=-\frac{(1-F(z))(1-F(z+c))}{[F(z+c)-F(z)]^2}\times\left[\begin{array}{c}[(\kappa-\omega)(z+c-\underline{\theta})+\omega(z-\underline{\theta})]\left[\frac{f(z+c)}{1-F(z+c)}-\frac{f(z)}{1-F(z)}\right]\\+\left[\frac{\omega\mathbb{E}[\theta-z|\theta-z>0]}{1-F(z+c)}+\frac{(\kappa-\omega)\mathbb{E}[\theta-z-c|\theta-z-c>0]}{1-F(z)}\right][f(z+c)-f(z)]\end{array}\right]$$

Recall we focus attention on $z>\underline{\theta}$. Therefore, if the hazard rate is non-increasing then $\frac{f(z)}{1-F(z)}\geq\frac{f(z+c)}{1-F(z+c)}$ and f must be a decreasing function, that is, $f(z+c)-f(z)<0$. Therefore, $\frac{\partial\Gamma(z)}{\partial z}\geq0$ as required by part (v.a). Suppose the hazard rate is strictly increasing. Then,

$\frac{\partial \Gamma(z)}{\partial z} < 0$ if and only if $\underline{\theta} < \overline{\theta}(z)$ where

$$\overline{\theta}(z) \equiv z + \frac{\kappa - \omega}{\kappa} c - \left[\begin{array}{c} \frac{\omega}{\kappa} \frac{\mathbb{E}[\theta - z | \theta - z > 0]}{1 - F(z+c)} + \\ \frac{\kappa - \omega}{\kappa} \frac{\mathbb{E}[\theta - z - c | \theta - z - c > 0]}{1 - F(z)} \end{array} \right] \frac{f(z) - f(z+c)}{\frac{f(z+c)}{1 - F(z+c)} - \frac{f(z)}{1 - F(z)}} \tag{22}$$

Similar to the proof of Corollary 1, we focus on $z < \overline{z}$, for some $\overline{z} < \infty$. To conclude the proof of part (v.b), let $\overline{\theta} \equiv \min_{z \in [\underline{\theta}, \overline{z}]} \overline{\theta}(z)$. Note that if θ is uniformly distributed then $f(\cdot)$ is a constant, and therefore, $\overline{\theta}(z) = z + \frac{\kappa - \omega}{\kappa} \frac{c}{\alpha}$, which implies that $\underline{\theta} < \overline{\theta}(z)$ holds for any $z > \underline{\theta}$. ■

B Endogenous share price

This appendix demonstrates that Proposition 5 holds when the share price is endogenous, with the main difference being that p is replaced everywhere by the endogenous share price. For this purpose, I assume that when the activist exits, she sells her shares to a competitive and risk neutral market maker. The activist may be forced to exit if she is hit by a liquidity shock (e.g., withdrawals from her end investors or an alternative investment opportunity), which is independent of θ and occurs with probability $\delta \in (0, 1)$. With probability $1 - \delta$ the activist is free to choose whether or not to exit as in the baseline model. As in Admati and Pfleiderer (2009), the market maker observes the activist's decision to exit, and quotes a share price equal to the conditional expected value of $v(\theta, x)$.[27,28] For simplicity, I also assume $\gamma = 0$, that is, the activist is unbiased. Finally, let

$$\hat{h}(\theta, p) \equiv \theta - \underline{\theta} + \mathbf{1}_{\mathbb{E}[\theta - \underline{\theta} | \theta > p + c] \geq \Delta} \cdot (1 - \delta) K(\theta, p), \tag{23}$$

and note that the only difference between $\hat{h}(\theta, p)$ and $h(\theta)$ is that in the former $\gamma = 0$ and the term $K(\theta, p)$ is multiplied by $1 - \delta$.

Proposition 10 (Generalization of Proposition 5 to endogenous prices) Consider the communication game with voice and exit. If the equilibrium is influential then the share price upon exit, denoted by p^*, is strictly greater than $\underline{\theta}$, smaller than $\mathbb{E}[\max\{\theta, \underline{\theta}\}]$, and given by

[27] In practice, large shareholders such as activist investors are subject to regulations (e.g., filing of a schedule 13D) that require them to disclose changes in their positions.

[28] The market maker does not observe θ, m, x, or the activist's liquidity shock, before quoting a price.

the unique solution of

$$p = \frac{\Pr[\theta \leq p]\underline{\theta} + \delta \Pr[\theta > p]\mathbb{E}[\theta|\theta > p]}{\Pr[\theta \leq p] + \delta \Pr[\theta > p]}. \tag{24}$$

Moreover, an influential equilibrium exists if and only if

$$\beta \leq \mathbb{E}[\hat{h}(\theta, p^*)|\theta > p^*]. \tag{25}$$

In this equilibrium, the activist demands a change to the status quo if and only if $\theta > p^*$, the board accommodates this demand, and a campaign is never launched on the equilibrium path. Moreover, the activist exits if and only if she needs liquidity or $\theta \leq p^*$.

Proof. Fix $\varepsilon > 0$ and suppose $\gamma = 0$ and $p > \underline{\theta}$. Note that Proposition 8 relies on Lemma 2 and Lemma 4. Both lemmas and the arguments in the proof of Proposition 8 have to be adjusted for the fact that the activist always exits whenever she is hit by a liquidity shock, which happens with probability δ. These, however, can be trivially adjusted: The only difference is that when analyzing the communicating strategy of the activist, the her expected payoff is now the weighted average between p and whatever was calculated in the proof of Proposition 8, where the weight on the former is δ. The other key difference is that $h(\theta)$ is replaced by $\hat{h}(\theta, p)$.[29]

Next, I argue that the endogenous share price in influential equilibrium must satisfy $p^* \geq \underline{\theta}$. Indeed, suppose on the contrary the equilibrium is influential and $p^* < \underline{\theta}$. Then, the activist is better off influencing the board's decision and keeping her shares rather than exiting, a strategy which yields her a payoff of $\max\{\theta, \underline{\theta}\} > p^*$. However, if the activist were only to exit because she needs liquidity, the quoted share price must be $\mathbb{E}[\max\{\theta, \underline{\theta}\}] > \underline{\theta}$, a contradiction.

If $p^* \geq \underline{\theta}$ then similar to the arguments in the proof of Proposition 8, the activist sends message ϕ if $\theta \leq p^*$ and message $m \in M_{change}$ otherwise. Moreover, the market maker expects the activist to exit whenever she sends message ϕ or because she needs liquidity. Therefore, conditional on the activist's exit, the status quo changes with probability $\frac{\delta \Pr[\theta > p^*]}{\Pr[\theta \leq p^*] + \delta \Pr[\theta > p^*]}$, and the conditional expected share value is $\mathbb{E}[\theta|\theta > p^*]$. In all other cases, the board is expected to keep the status quo and the share value is $\underline{\theta}$. The application of Bayes' rules implies that the expected shareholder value conditional on exit is the right hand side of Equation (24). In equilibrium, the price upon exit must be fair, which explains why p^* must be a solution of Equation (24).

[29] In addition, since $\varepsilon > 0$ is a fixed cost, it should be replaced by $\frac{\varepsilon}{1-\delta}$. But notice that since ε can be arbitrarily small, this normalization has no effect on the argument.

Next, denote the right hand side of Equation (24) by $\rho(p)$. I argue that $p = \rho(p)$ has a solution that is strictly greater than $\underline{\theta}$. Notice that $\rho(p)$ is a weighted average of $\underline{\theta}$ and $\mathbb{E}[\theta|\theta > p]$, and that $\mathbb{E}[\theta|\theta > \underline{\theta}] > \underline{\theta}$. Therefore, $\rho(\underline{\theta}) > \underline{\theta}$. Also notice that $\lim_{p\to\infty} \rho(p) = \underline{\theta}$. From the continuity of $\rho(\cdot)$ there exists $p > \underline{\theta}$ such that $p = \rho(p)$, as required. Next, notice that

$$\frac{\partial \rho(p)}{\partial p} = f(p) \frac{\underline{\theta} - \delta p - \rho(p)(1-\delta)}{F(p) + \delta(1 - F(p))}.$$

Notice that if $p > \underline{\theta}$ then $\rho(p) > \underline{\theta}$, and therefore, $\underline{\theta} - \delta p - \rho(p)(1-\delta) < 0$, which implies $\frac{\partial \rho(p)}{\partial p} < 0$. Since $\rho(p)$ is a decreasing function of p when $p > \underline{\theta}$, the solution of $p = \rho(p)$ is unique. Finally, note that $\rho(p) \leq \rho(\underline{\theta})$ for every $p > \underline{\theta}$. Moreover, $\rho(\underline{\theta})$ obtains its highest value when $\delta = 1$, which is given by $\Pr[\theta \leq \underline{\theta}]\underline{\theta} + \Pr[\theta > \underline{\theta}]\mathbb{E}[\theta|\theta > \underline{\theta}] = \mathbb{E}[\max\{\theta, \underline{\theta}\}]$. Since $p^* = \rho(p^*)$ and $p^* > \underline{\theta}$, it must also be $p^* < \mathbb{E}[\max\{\theta, \underline{\theta}\}]$, which completes the proof. ■

C Public communications

This appendix considers situations in which the activist makes her *initial* message to the board public.[30] I assume prices are endogenous as described in Appendix B. The message is public in the sense that it is also observed by the market maker and other shareholders of the firm. Below, I show that when the share price is endogenous, the activist has incentives to send the public message that results in the highest stock price irrespective of the true value of θ. For this reason, public messages cannot affect the stock price in equilibrium, a feature which constrains the amount of information they can embed. Since these messages are uninformative, the board and other shareholders also ignore them. This result suggests that communications between activists and firms are more likely to be effective when they are held behind closed doors.

Proposition 11

(i) If the activist can only send public messages then an influential equilibrium does not exist.[31]

(ii) If the activist can send both public and private messages, then the set of equilibria

[30] Farrell and Gibbons (1989) also consider a cheap talk model with multiple audiences and compare public and private communication, although the context is different.

[31] The proof shows that an influential equilibrium with only public messages may exist only if $\Delta = 0$ and $\underline{\theta} = \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma + c]$. These are very restrictive conditions. If an influential equilibrium exists under these conditions, then the price upon exit must be $\underline{\theta}$ regardless of the investor's message. The board's decision depends on the activist's message in equilibrium only if in addition we require $c = 0$.

is identical to the set of equilibria that emerges with only private messages. In these equilibria, public messages are uninformative and ignored by all market participants.

Proof. When the messages from the activist are public the definition of an influential equilibrium is extended as follows. Let $p^*(m)$ be the price upon exit as a function of message m and let $\zeta(m)$ be the decision of shareholders to support a campaign conditional on $a = \textit{fight}$ and message m. Then, an equilibrium with public messages is influential if there exist $\theta' \neq \theta''$ in the support of f such that $\mu^*(\theta') \neq \mu^*(\theta'')$ and at least one of the following holds: (a) $x^*(\mu^*(\theta')) \neq x^*(\mu^*(\theta''))$; (b) $p^*(\mu^*(\theta')) \neq p^*(\mu^*(\theta''))$; (c) $\zeta^*(\mu^*(\theta')) \neq \zeta^*(\mu^*(\theta''))$. Part (i) is proved in four steps:

1. First, suppose that $x^*(m') = x^*(m'')$ and $\zeta^*(m') = \zeta^*(m'')$ for all messages m' and m'' on the equilibrium path. Since $\delta > 0$, the activist sometimes must exit, and therefore, she has strict incentives to send the message that maximizes the price upon exit. Therefore, it must be $p^*(m') = p^*(m'')$ for all messages m' and m'' on the equilibrium path, which means that equilibrium is not influential.

2. Second, suppose $x^*(m') = x^*(m'')$ for all messages m' and m'' on the equilibrium path, but on the contrary, there are $m_1 \neq m_0$ on the equilibrium path such that $\zeta^*(m_0) = 0$ and $\zeta^*(m_1) = 1$. Since $x^*(m)$ is invariant to all messages, $\zeta^*(m_1) = 1$ implies $x^* = \textit{keep}$. In this equilibrium, $p^*(m_0) = \underline{\theta}$. Notice that among all messages that result in $\zeta^*(m) = 1$, the activist will choose the one that maximizes $p^*(m)$. Without the loss of generality, suppose there is only one message such that $\zeta^*(m_1) = 1$, and let $p_1^* \equiv p^*(m_1)$. If the activist sends message m_0 she gets $\underline{\theta}$ per share whether or not she exits. If the activist sends m_1 then her payoff is $\delta p_1^* + (1-\delta)\max\{p_1^*, \underline{\theta}, \theta + \gamma - c\}$. If $p_1^* > \underline{\theta}$ then the activist never sends m_0, which yields a contradiction. Suppose $p_1^* \leq \underline{\theta}$. Then, the activist prefers sending m_1 over message m_0 if and only if she intends to choose $a = \textit{fight}$ and

$$\delta p_1^* + (1-\delta)(\theta + \gamma - c) > \underline{\theta} \Leftrightarrow \theta > \tfrac{\underline{\theta} - \delta p_1^*}{1-\delta} - \gamma + c. \tag{26}$$

   Note that $p_1^* \leq \underline{\theta}$ implies that if the activist sends m_1 then she never exits strategically (otherwise, she could choose m_0 and get $\underline{\theta}$ instead of $p_1^* \leq \underline{\theta}$). Therefore, the price upon exit $p_1^* \leq \underline{\theta}$ must solve

$$p_1^* = \mathbb{E}[\theta | \theta > \tfrac{\underline{\theta} - \delta p_1^*}{1-\delta} - \gamma + c]. \tag{27}$$

   Since $a = \textit{fight}$ does not provide additional information relative to m_1, $\zeta^*(m_1) = 1$

requires shareholders to support the campaign, that is,

$$\mathbb{E}[\theta|\theta > \tfrac{\underline{\theta}-\delta p_1^*}{1-\delta} - \gamma + c] - \underline{\theta} \geq \Delta. \tag{28}$$

Since we require $p_1^* \leq \underline{\theta}$, this equilibrium can exist only if both Condition (27) and Condition (28) hold, which require $p_1^* = \underline{\theta}$, $\Delta = 0$, and $\underline{\theta} = \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma + c]$. These are knife edge conditions, and unless they hold, we get a contradiction.

3. Third, suppose there are $m_{keep} \neq m_{change}$ on the equilibrium path such that $x^*(m_{keep}) = keep$ and $x^*(m_{change}) = change$. In this equilibrium, $p^*(m_{keep}) = \underline{\theta}$. Notice that among all messages that result in $x^* = change$, the activist will choose the one that maximizes $p^*(m)$. Without the loss of generality, suppose there is only one message such that $x^*(m_{change}) = change$, and let $p^*_{change} \equiv p^*(m_{change})$. If the activist sends message m_{keep} then she gets $\underline{\theta}$ per share whether or not she exits. If the activist sends message m_{change} then she gets $\delta p^*_{change} + (1-\delta)\max\{p^*_{change}, \theta + \gamma\}$. If $p^*_{change} > \underline{\theta}$ then the activist never sends message m_{keep}, which yields a contradiction. Suppose $p^*_{change} \leq \underline{\theta}$. Then, the activist prefers sending message m_{change} over message m_{keep} if and only if

$$\delta p^*_{change} + (1-\delta)(\theta + \gamma) > \underline{\theta} \Leftrightarrow \theta > \tfrac{\underline{\theta}-\delta p^*_{change}}{1-\delta} - \gamma. \tag{29}$$

Note that $p^*_{change} \leq \underline{\theta}$ implies that if the activist sends m_{change} then she never exits strategically. Therefore, the price upon exit $p^*_{change} \leq \underline{\theta}$ must solve

$$p^*_{change} = \mathbb{E}[\theta|\theta > \tfrac{\underline{\theta}-\delta p^*_{change}}{1-\delta} - \gamma]. \tag{30}$$

Suppose $\zeta^*(m_{change}) = 0$. The board chooses $x = change$ following message m_{change} if and only if

$$\beta + \underline{\theta} \leq \mathbb{E}[\theta|\theta > \tfrac{\underline{\theta}-\delta p^*_{change}}{1-\delta} - \gamma] \Leftrightarrow \beta + \underline{\theta} \leq p^*_{change}. \tag{31}$$

But notice that $p^*_{change} \leq \underline{\theta}$ and $\beta > 0$ imply that this condition is never met, which contradicts $x^*(m_{change}) = change$. Suppose $\zeta^*(m_{change}) = 1$. Notice that if $m = m_{change}$ and $x = keep$, the activist does exit strategically and she has strict incentives to launch a campaign if and only if $\theta > \underline{\theta} - \gamma + c$. Therefore, if $a = fight$ then $\theta \geq \max\{\underline{\theta} - \gamma + c, \tfrac{\underline{\theta}-\delta p^*_{change}}{1-\delta} - \gamma\}$, and $\zeta^*(m_{change}) = 1$ implies

$$\mathbb{E}[\theta|\theta \geq \max\{\underline{\theta} - \gamma + c, \tfrac{\underline{\theta}-\delta p^*_{change}}{1-\delta} - \gamma\}] - \underline{\theta} \geq \Delta. \tag{32}$$

Suppose $\underline{\theta} - \gamma + c \leq \frac{\underline{\theta} - \delta p^*_{change}}{1-\delta} - \gamma$. Since $p^*_{change} \leq \underline{\theta}$, this equilibrium can exist only if both Condition (30) and Condition (32) hold, which require $p^*_{change} = \underline{\theta}$, $\Delta = 0$, $c = 0$, and $\underline{\theta} = \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma]$. These are knife edge conditions, and unless they hold, we get a contradiction. Instead, suppose that $\underline{\theta} - \gamma + c > \frac{\underline{\theta} - \delta p^*_{change}}{1-\delta} - \gamma$. This condition requires $p^*_{change} > \underline{\theta} - c\frac{1-\delta}{\delta}$. However, combined with Condition (30), it must be

$$\underline{\theta} - c\tfrac{1-\delta}{\delta} > \mathbb{E}[\theta|\theta > \tfrac{\underline{\theta} - \delta\left(\underline{\theta} - c\frac{1-\delta}{\delta}\right)}{1-\delta} - \gamma] \Leftrightarrow \underline{\theta} - c\tfrac{1-\delta}{\delta} > \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma + c].$$

However, since Condition (32) must also holds, it must be $p^*_{change} = \underline{\theta}$, $\Delta = 0$, $c = 0$, and $\underline{\theta} = \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma]$. Once again, these are knife edge conditions, and unless they hold, we get a contradiction.

4. Overall, an influential equilibrium with public messages exist only if $\Delta = 0$ and $\underline{\theta} = \mathbb{E}[\theta|\theta > \underline{\theta} - \gamma + c]$. If it exists, the price upon exit must be $\underline{\theta}$ regardless of the message sent by the activist. If $c > 0$, then in this equilibrium the board must be non-responsive to the message (but the shareholders are responsive). If $c = 0$ then there may exist an equilibrium in which the board is also responsive. This completes part (i).

Consider part (ii), and suppose the activist can send both public and private messages. To ease the exposition, private messages are denoted by m while public messages are denoted by n. The board observes both types of messages while the market maker and other shareholders only observe the public messages. The communication strategy is now a mapping $\mu : [0, \infty) \to [0, \infty)^2$. Note that $\mu(\theta) = (\mu_{\text{private}}(\theta), \mu_{\text{public}}(\theta))$. An equilibrium is influential if there exist $\theta' \neq \theta''$ in the support of f such that $\mu^*(\theta') \neq \mu^*(\theta'')$ and at least one of the following holds: (a) $x^*(\mu^*(\theta')) \neq x^*(\mu^*(\theta''))$; (b) $p^*(\mu^*_{\text{public}}(\theta')) \neq p^*(\mu^*_{\text{public}}(\theta''))$; (c) $\zeta^*(\mu^*_{\text{public}}(\theta')) \neq \zeta^*(\mu^*_{\text{public}}(\theta''))$.

I argue that there is no influential equilibrium in which part (b) or part (c) of the definition hold. If $x^*(m', n') = x^*(m'', n'')$ for every messages (m', n') and (m'', n'') on the equilibrium path, then the result follows immediately from the first part of the proof of Proposition 11. Suppose there are $(m_{keep}, n_{keep}) \neq (m_{change}, n_{change})$ on the equilibrium path such that $x^*(m_{keep}, n_{keep}) = keep$ and $x^*(m_{change}, n_{change}) = change$. Since $\delta > 0$, there is always a positive probability that the activist will exit, and therefore, among all messages (m_{change}, n_{change}) such that $x^*(m_{change}, n_{change}) = change$, she only sends those that generate the highest price upon exit. Similarly, among all messages (m_{keep}, n_{keep}) such that $x^*(m_{keep}, n_{keep}) = keep$, she only sends those that generate the highest price upon exit. Also notice that the activist does not pay attention to the effect of these pubic messages on shareholders' decision to support the campaign, the activist can always influence the board's decision by sending the appropriate message. Therefore, without the loss of generality, (m_{keep}, n_{keep}) and (m_{change}, n_{change}) with the properties above are unique. I argue that it must be $n_{keep} = n_{change}$. Suppose on the contrary that $n_{keep} \neq n_{change}$. In this case, the messages (m_{keep}, n_{keep}) and (m_{change}, n_{change}) are effectively public. That is, the market maker and shareholders infer that if $n = n_{change}$ ($n = n_{keep}$) then it must be $m = m_{change}$ ($m = m_{keep}$). Therefore, the same proof as of part (i) of Proposition 11 shows that an influential equilibrium cannot exist. That is, it cannot be $x^* (m_{keep}, n_{keep}) \neq x^* (m_{change}, n_{change})$, which yields a contradiction. Therefore, it must be $n_{keep} = n_{change}$. However, if $n_{keep} = n_{change}$ then the messages (m_{keep}, n_{keep}) and (m_{change}, n_{change}) are effectively private. In this case, an influential equilibrium will exist under the same conditions of Proposition 8, and will have the same properties. The public messages must be uninformative. Overall, every influential equilibrium must satisfy Definition 1, which completes the proof. ■

D Supplemental analysis

Proposition 12 (The effect of exit when $\Delta > 0$) If $\mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta} - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] < \Delta$ then there exists $\overline{p} > \underline{\theta}$ such that $b^* (p_1) < b^* (p_2)$ for every $p_1 < \overline{p} < p_2$.

Proof. Suppose $\mathbb{E}[\theta - \underline{\theta} | \theta > \underline{\theta} - \frac{\gamma}{\alpha} + \frac{c}{\alpha}] < \Delta$. Then, there exists $\overline{p} > \underline{\theta}$ such that

$$\mathbb{E}[\theta - \underline{\theta} | \theta > p - \tfrac{\gamma}{\alpha} + \tfrac{c}{\alpha}] \geq \Delta \Leftrightarrow p \geq \overline{p}.$$

That is, shareholders support the campaign if and only if $p \geq \overline{p}$. Therefore, if $p < \overline{p}$ then $b^* = \omega \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha}]$. If $p > \overline{p}$ then b^* is given by Expression (20). Notice that $\omega \mathbb{E}[\theta - \underline{\theta} | \theta > p - \frac{\gamma}{\alpha}]$ is smaller than Expression (20) if and only if Condition (21) holds, which is true whenever $p - \frac{\gamma}{\alpha} > \underline{\theta}$. Therefore, $b^* (p_1) < b^* (p_2)$ for every $p_1 < \overline{p} < p_2$ as required. ■

Lemma 5 (Auxiliary result for Lemma 1) An equilibrium in which $a = \textit{fight}$ is off the path survives the Grossman and Perry (1986) refinement if and only if $\mathbb{E}[\theta - \underline{\theta} | \theta > p + c - \gamma] < \Delta$.

Proof. Suppose $a = \textit{fight}$ is off the equilibrium path. Then, the off-equilibrium beliefs must satisfy $\mathbb{E}[\theta - \underline{\theta} | a = \textit{fight}] < \Delta$. There are two cases to consider. First, suppose $\mathbb{E}[\theta - \underline{\theta} | \theta > p + c - \gamma] \geq \Delta$. Consider a deviation in which all types $\theta > p + c - \gamma$ choose $a = \textit{fight}$ and all types $\theta \leq p + c - \gamma$ choose $a = \textit{passive}$. The shareholders' belief upon this deviation is

$\mathbb{E}[\theta|\theta > p+c-\gamma]$. Since $\mathbb{E}[\theta-\underline{\theta}|\theta > p+c-\gamma] \geq \Delta$, shareholders would support the campaign. Therefore, the activist benefits from this deviation relative to her equilibrium payoff if and only if $\theta > p+c-\gamma$. Therefore, the off-equilibrium beliefs do not survive the Grossman and Perry (1986) refinement.

Second, suppose $\mathbb{E}[\theta-\underline{\theta}|\theta > p+c-\gamma] < \Delta$. I prove that the off-equilibrium beliefs $\mathbb{E}[\theta|a = \textit{fight}] = \mathbb{E}[\theta|\theta > p+c-\gamma]$ satisfy the Grossman and Perry (1986) refinement. For this purpose, it is sufficient to show that *there is no* (non-empty) subset of activist types Λ, that satisfies the following:

1. If $a = \textit{fight}$ then shareholders' beliefs are $\mathbb{E}[\theta|\theta \in \Lambda]$

2. If $\theta \in \Lambda$ ($\theta \notin \Lambda$), the activist's payoff from deviating to $a = \textit{fight}$, if deviation leads to beliefs $\mathbb{E}[\theta|\theta \in \Lambda]$, is strictly higher (weakly lower) than her equilibrium payoff (in which $a = \textit{passive}$).

There are two cases to consider. First, suppose that conditional on $x = \textit{keep}$, $\theta \leq p+c-\gamma$ with probability one. If $\theta \leq p+c-\gamma$ then regardless of the shareholders' beliefs upon $a = \textit{fight}$, the activist does not have incentives to choose $a = \textit{fight}$. Therefore, a non-empty subset Λ as described above does not exist. Second, suppose that conditional on $x = \textit{keep}$, $\theta > p+c-\gamma$ with a positive probability. There are two subcases. First, suppose Λ is such that $\mathbb{E}[\theta|\theta \in \Lambda]-\underline{\theta} < \Delta$. Then, regardless of θ, the activist has no incentives to choose $a = \textit{fight}$, and Λ as described above must be empty. Suppose instead that Λ is such that $\mathbb{E}[\theta|\theta \in \Lambda]-\underline{\theta} \geq \Delta$. In this case, the activist has incentives to choose $a = \textit{fight}$ if and only if $\theta > p+c-\gamma$. Note that combined, requirements #1 and #2 require $\mathbb{E}[\theta|\theta \in \Lambda] = \mathbb{E}[\theta|\theta > p+c-\gamma]$. But since $\mathbb{E}[\theta-\underline{\theta}|\theta > p+c-\gamma] < \Delta$, we get a contradiction. ■