

Soft Shareholder Activism

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Abstract

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 in the best interest of the firm. In this framework, I show that voice (launching a public campaign) and exit (selling shares) enhance the ability of activists to govern through communication. The analysis identifies the factors that contribute to successful dialogues between investors and firms. It also shows that public communications are likely to be ineffective, justifying the prevalence of behind-the-scenes communications.

KEYWORDS: Cheap-Talk, Communication, Corporate Governance, Exit, Shareholder Activism, Voice.

JEL CLASSIFICATION: D82, D83, G23, G32, G34

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Introduction

Activist investors typically propose major changes in the strategy, financial policy, or business operations of their target companies. However, incumbent managers and directors, who often have their own agenda, can resist these proposals and defend themselves using 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 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. Simply put, shareholder activism requires communication.

Consistent with this idea, Brav, Jiang, Partnoy, and Thomas (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, Franks, Mayer, and Rossi (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/e-mails) 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 (“he”) who 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 (“she”) 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. The activist could be conflicted with other shareholders of the firm. Based on her private information, the activist sends the board a private message. 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 or ignore her message. The activist observes the board’s response and does one of the following: (i) exit - sell her stake to an uninformed market maker; (ii) hold onto her shares

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

²Some 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.

without taking additional actions; (iii) voice - launch a public campaign to change the status quo (e.g., lobby other shareholders and start a proxy fight). Launching a campaign is costly. Importantly, it is successful only if other shareholders, who are otherwise uninformed, believe it is in their best interests to support the activist. A successful campaign changes the status quo (even if the board resists it) 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 he 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 communication and voice are complements. Specifically, communication is more likely to be effective in equilibrium if the activist's *threat* of launching a campaign is credible. Intuitively, the board can avoid the risk of having a public campaign launched against him by accommodating the activist's demand for a change. If the board perceives the risk as too high, he will choose to listen. In turn, if the activist expects the board to listen, she has stronger incentives to communicate rather than seeking confrontation. The activist's threat is more credible when rallying support from other shareholders is easier (e.g., the shareholder base is non-dispersed and homogeneous), control is contestable (e.g., declassified board, one class of shares, no supermajority provisions), or the reputational damage to target board members from a successful campaign is more severe. The model predicts that these factors contribute to more effective communications. At the same time, the analysis shows that the threat of launching a campaign is more credible when communication is effective in equilibrium. Intuitively, with effective communication, the board learns about the intention of the activist to act if she is ignored, and consequently, takes the threat more seriously.

The analysis of voice and communication 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”. In principle, if exit had weakened the credibility of the activist’s threat to launch a campaign, a corollary of the first result would have suggested that exit also harms communication. Perhaps surprisingly, the second result shows the opposite: communication is more effective in equilibrium when the activist can exit her position at better terms. That is, communication and exit can also be complements. The activist is more likely to enjoy favorable terms of exit when short-term capital gains taxes are low, anonymous trade is feasible (e.g., weak disclosure requirements or fragmented market structure), adverse selection is mild (e.g., due to liquidity shocks, less information is revealed by the activist’s trades), or the share is liquid. The model predicts that these factors contribute to more effective communications.

There are two different channels behind the result that exit enhances communications. First, exit *relaxes the tension* between the activist and the board. To understand this channel, 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, who understands the motives of the activist, is less likely to accommodate 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 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 likely to be effective.

Second, exit also enhances communication by *increasing the credibility* of the activist’s threat to launch a successful public campaign. There are two forces in play. First, as the first

channel indicates, the activist’s demand to change the status quo is a stronger signal about the benefit of doing so when the activist faces better terms of exit. Therefore, conditional on a demand for a change, the board expects the activist to be more determined and willing to act if she is ignored. Second, recall that the success of a campaign is endogenous; it depends on the beliefs of shareholders. If the activist starts a public campaign, she is effectively deciding not to exit. By “putting her money where her mouth is”, the activist demonstrates her strong belief that a change to the status quo is required. As a result, shareholders are more confident that by supporting the activist they are increasing the value of their shares, and the campaign is more likely to succeed. This effect is stronger if by campaigning the activist forgoes an opportunity to exit at better terms. For both of these reasons, the activist’s threat is more credible if the terms of exit are more favorable to her. This result reveals a novel channel of complementarity between exit and voice. Since voice and communication are also complements (as suggested by the first result), this is another channel through which exit enhances communication.

Figure 1 - The effect of voice and exit on communications

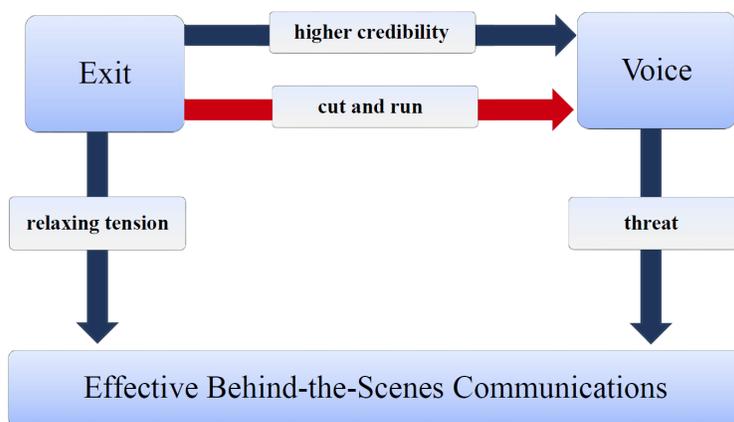


Figure 1 summarizes the interplay between voice, exit, and communications in this paper. It shows that voice and exit have a positive direct effect on communications: exit relaxes the tension between the investor and the board, and voice introduces a threat that can induce the board to comply with the activist’s demand. Figure 1 also illustrates the two indirect effects that exit has on communications, through its effect on voice: while exit increases the incentives

of the activist to “cut and run”, it also increases the likelihood that shareholders will support her public campaign if she chooses to start one. As a whole, the analysis demonstrates that the effectiveness of these governance mechanisms cannot be studied in isolation.

Finally, I explore three extensions to the baseline model. First, I consider a setup in which the activist can also send public messages that are observed by all market participants, not just the board. I show that public communications are less effective than private communications. Intuitively, the temptation of the activist to use public messages to manipulate the stock price harms her credibility, and as a result, limits her ability to influence corporate policy. This result is consistent with the prevalence of behind-the-scenes communications. Second, I consider an extension in which the board is fully informed. In equilibrium, communication can still be effective, but only if the activist has private information about her private benefits from a change or her beliefs about its prospects (even if these beliefs are perceived as misguided by the board). In these cases, 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. Third, I endogenize the activist’s decision to become a shareholder. I show that while in equilibrium the disclosure of the activist’s position alerts the market that the firm can *potentially* benefit from activism, it leaves room for communication since the activist still needs to convince the board that this is indeed the case.

This paper contributes to the governance literature in several ways. Existing models share the idea that large shareholders can unilaterally impose their view through direct interventions.³ By contrast, here the activist must convince the board or other shareholders that adopting her proposal is in their best interests. As a result, the analysis provides novel predictions on the factors that contribute to effective communications between investors and firms. The role of communication in corporate governance has been studied in the context of managerial compensation (Almazan, Banerji, and Motta (2008)), optimal board structure (Adams and Ferreira (2007), Chakraborty and Yilmaz (2016), Harris and Raviv (2008), Levit (2017)),

³E.g., Shleifer and Vishny (1986), Kyle and Vila (1991), Admati et al. (1994), Burkart et al. (1997), Maug (1998), Kahn and Winton (1998), Bolton and von Thadden (1998), Noe (2002), Aghion et al. (2004), and Faure-Grimaud and Gromb (2004), Edmans and Manso (2011), and Dasgupta and Piacentino (2015). See also Edmans (2014) for a survey.

takeovers (Levit (2016)), shareholder voting (Bhattacharya (1997) and Levit and Malenko (2011)), and shareholder activism (Cohn and Rajan (2013), Harris and Raviv (2010)). Unlike these studies, here the focus is on the interaction of shareholder communications (private and public) with voice and exit. An important contribution of the paper is showing that both voice and exit can improve the ability of investors to govern through communication. These aspects also separate the paper from other models of communication. Indeed, here the alternative to communication is itself endogenous: it depends on the market’s expectations if the activist chooses to exit and on shareholders’ beliefs if she resorts to voice.⁴ Finally, the effect of exit in this paper is different from existing models on governance through exit (Admati and Pfleiderer (2009) and Edmans (2009)). In these models, the threat of exit disciplines the board/manager, but only if his compensation is short-term. 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.⁵ 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 by identifying a new channel through which prices affect firm value (Bond, Edmans, and Goldstein (2012)).

1 Setup of the baseline model

Consider a public firm whose value $v(\tilde{\theta}, x)$ depends on action $x \in \{L, R\}$ and random variable $\tilde{\theta}$. Random variable $\tilde{\theta}$ has a continuous probability density function f with full support over $[0, \bar{\theta}]$. I assume

$$v(\tilde{\theta}, x) = \begin{cases} \tilde{\theta} & \text{if } x = R \\ \underline{\theta} & \text{if } x = L. \end{cases} \quad (1)$$

⁴The paper is related to the literature on strategic communication with outside options. Unlike Che et al. (2013), here it is the sender, not the receiver, who has the outside option. Unlike Levit (2017), Matthews (1989), and Shimizu (2017), here the outside option has no direct effect on the receiver’s payoff, it depends on the beliefs of a third party. Moreover, unlike Levit (2017), here the success of intervention (voice) is endogenous and a commitment by the sender (investor) not to intervene is never optimal.

⁵It can be shown that with short-term compensation, the threat of exit and the threat of voice have a similar effect on communication.

If $x = L$ then the status quo remains and the long-term shareholder value is $\underline{\theta} \in (0, \bar{\theta})$. If $x = R$ then the status quo changes and the long-term shareholder value is $\tilde{\theta}$. 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 and 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. The empirical studies that are cited in the introduction suggest that these proposals are commonly stated as objectives by activist investors when they communicate with their portfolio companies. Either way, shareholder value is maximized if action R is implemented when $\tilde{\theta} > \underline{\theta}$ and action L is implemented otherwise. Hereafter, I use “change” (“status quo”) as a synonym for $x = R$ ($x = L$).

The action x is taken by the board of directors,⁶ whose preferences are represented by

$$\omega \cdot v(\tilde{\theta}, x) + \beta \cdot \mathbf{1}_{x=L}, \quad (2)$$

where $\omega > 0$ and $\beta > 0$. The board prefers $x = L$ if $\tilde{\theta} < \underline{\theta} + \frac{\beta}{\omega}$ and $x = R$ otherwise. I assume $\frac{\beta}{\omega} < \bar{\theta} - \underline{\theta}$, which guarantees that the board’s preferences over x depend on $\tilde{\theta}$. I also assume $\mathbb{E}[\tilde{\theta} - \underline{\theta}] \leq \frac{\beta}{\omega}$, which guarantees that the board prefers the status quo based on his 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 or career concerns. The ratio $\frac{\beta}{\omega}$ captures the conflict of interests between the board and the shareholders that cannot be contracted away: if $\tilde{\theta} \in (\underline{\theta}, \underline{\theta} + \frac{\beta}{\omega})$ then shareholders prefer $x = R$ while the board prefers $x = L$.

The ownership structure of the firm consists of passive shareholders (hereafter, shareholders) who collectively own the majority of the voting rights. Their preferences are given by $v(\tilde{\theta}, x)$. Each share has one vote. The firm also has an activist investor (hereafter, investor) who

⁶I do not distinguish between insiders and independent directors.

initially owns a fraction $\alpha \in (0, \frac{1}{2})$ of all shares. As I describe below, the investor (“she”) differs from other shareholders in her expertise. The investor’s preferences are represented by

$$\alpha \cdot v(\tilde{\theta}, x) + \gamma \cdot \mathbf{1}_{x=R}, \quad (3)$$

where $\gamma \in [0, \alpha\theta]$. The investor prefers $x = L$ if $\tilde{\theta} < \underline{\theta} - \frac{\gamma}{\alpha}$ and $x = R$ otherwise. Assuming $\frac{\gamma}{\alpha} < \underline{\theta}$ guarantees that the investor’s preferences depend on the realization of $\tilde{\theta}$. Since $\gamma \geq 0$, the investor is biased toward a change relative to other shareholders. Parameter γ captures in a reduced form the conflict of interests between the investor and other shareholders, which could stem from a desire to establish reputation for having the expertise to influence corporate policy, different investment horizons, or different appetite for risk.

1.1 Information structure

The investor has information about $\tilde{\theta}$ 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), have conflicts with senior management who is their ultimate source of information, 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 investor perfectly observes $\tilde{\theta}$ while the board and other shareholders and market participants are uninformed. In Section 3.2, I consider information structure in which the board is fully informed about $\tilde{\theta}$ and the investor has other sources of private information.

1.2 Sequence of events

1. Behind-the-scenes communication: Initially, the investor privately observes $\tilde{\theta}$, and based on her private information, she sends the board a message $m \in [0, \bar{\theta}]$. I denote by $\mu(\tilde{\theta})$ the message the investor sends conditional on $\tilde{\theta}$. In line with a standard cheap talk framework, the investor's information about $\tilde{\theta}$ is non-verifiable and the content of m does not affect the board's or the investor's payoff directly. This assumption captures the forward-looking nature of the investor's information and the informal nature of communication between investors and firms. Communication is private in the sense that no player other than the investor and the board observes message m . This assumption is relaxed in Section 3.1.

2. Board's decision making: The board observes message m and then chooses between L and R . I denote by $x(m) \in \{L, R\}$ the board's decision conditional on m .

3. Exit: The investor privately observes the board's decision and then decides whether to exit and sell her α shares ($s = 1$) or keep them ($s = 0$). With probability $\delta \in (0, 1)$ the investor is hit by a privately observed liquidity shock ($\tilde{\chi} = 1$) which forces her to sell her entire stake (e.g., withdrawals from her end investors or an alternative investment opportunity). With probability $1 - \delta$ the investor does not suffer a shock ($\tilde{\chi} = 0$) and she is free to choose whether to retain or sell her shares. $\tilde{\chi}$ is independent of $\tilde{\theta}$. I use the terminology "strategic exit" if $\tilde{\chi} = 0$ and $s = 1$. To save on notation, I assume that $\tilde{\chi} = 1$ automatically implies $s = 1$. The investor trades with a competitive and risk neutral market maker. As in Admati and Pfleiderer (2009), the market maker observes the investor's trading decision s , but nothing else (specifically, it does not observe m , x , $\tilde{\chi}$, or $\tilde{\theta}$). Conditional on s , the market maker quotes a price, denoted by $p(s)$, that is equal to the expected share value. Since $p(0)$ will not play a role in the analysis, hereafter, I refer to $p(1)$ as p . Notice that under these assumptions, the investor can exit before the board's decision is publicly announced or executed, but she cannot hide her trades. As I show below, her decision to exit exerts a negative pressure on the stock price.

4. Voice - launching a public campaign: If the investor does not exit ($s = 0$), she can either remain passive ($e = 0$) or launch a public campaign to change the status quo

($e = 1$).⁷ If $e = 1$ then she incurs a non-reimbursable cost $c > 0$.⁸ Campaigning involves lobbying other institutional investors, publicizing the investor’s demand through various media outlets, submitting shareholder proposals, filing lawsuits, or starting a proxy fight to replace the incumbent directors. All of these activities require resources, time, and effort. Since campaigning is more costly than directly communicating with the board, it is natural to assume that the investor launches a campaign only after the communication stage.

The campaign can either succeed ($\zeta = 1$) or fail ($\zeta = 0$), as I describe below. If $e = 0$ or $\zeta = 0$ then the initial decision of the board remains in place and firm value is realized accordingly. If the investor launches a campaign and the campaign succeeds ($e = 1$ and $\zeta = 1$), the status quo changes, action R is implemented, and the board incurs an additional cost $\kappa \geq 0$. Intuitively, being forced by shareholders to accept the change harms directors’ reputation, compensation, private benefits, and may even cost their job. Importantly, the investor cannot unilaterally change the status quo; she must get the support of other shareholders. I assume that shareholders support the campaign if and only if the expected gains from changing the status quo are larger than $\Delta \geq 0$,

$$\zeta = 1 \Leftrightarrow \mathbb{E}[\tilde{\theta} - \underline{\theta} | e = 1] \geq \Delta. \quad (4)$$

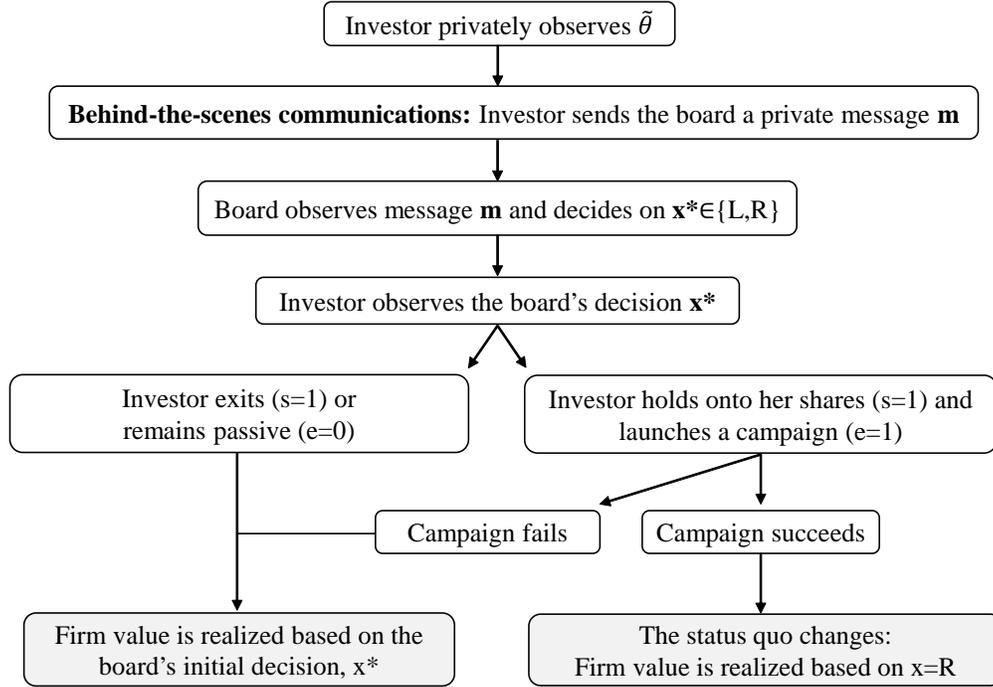
Intuitively, shareholders pay attention to the campaign (and support it) only if the consequences of a change are significant. Alternatively, unless the payoff from a change is high, shareholders might not want to be portrayed as hostile to management, who prefers the status quo. A larger Δ also captures in a reduced form the dispersion and heterogeneity of the shareholder base, conflicts among shareholders, and the board’s entrenchment (e.g., dual class shares, staggered board, supermajority provisions). All else equal, these factors are likely to reduce the probability that the campaign succeeds.

⁷Since relative to the investor the board is biased against changing the status quo, the investor has no incentives to launch a campaign to force the status quo. Moreover, assuming the investor cannot launch a public campaign after exiting is unnecessary. By exiting, the investor reduces her stake and signals that $\tilde{\theta}$ is low. Both effects harm the investor’s credibility, and therefore, her ability to win the support of shareholders.

⁸According to Gantchev (2013), the average cost of a US public activist campaign ending in a proxy contest is \$10.5 millions.

5. Payoffs are realized: Shareholder value is determined by the realization of $\tilde{\theta}$ and the eventual action that is implemented. Figure 2 summarizes the sequence of events.

Figure 2 - Sequence of events in the baseline model



1.3 Payoffs

The board and the investor maximize their expected utilities, which are given respectively, by

$$u_B(\tilde{\theta}, x, e, \zeta) = \omega \cdot v(\tilde{\theta}, x) + \beta \cdot \mathbf{1}_{x=L} - \begin{cases} \kappa & \text{if } x = L \text{ and } e = \zeta = 1 \\ 0 & \text{else} \end{cases} \quad (5)$$

and

$$u_I(\tilde{\theta}, x, e, s, \zeta) = s\alpha p(s) + (1-s) \times \begin{cases} \alpha \cdot v(\tilde{\theta}, R) + \gamma - c & \text{if } x = L \text{ and } e = \zeta = 1 \\ \alpha \cdot v(\tilde{\theta}, x) + \gamma \cdot \mathbf{1}_{x=R} - e \cdot c & \text{else.} \end{cases} \quad (6)$$

Notice that the investor enjoys her private benefits (e.g., getting credit for the change) only if she did not exit. Also notice that if the campaign succeeds, the board's payoff is unaffected by the new strategy, he only suffers the disutility κ . This assumption ensures that the board cannot benefit from intervention.

1.4 Solution concept

A Perfect Bayesian Equilibrium in pure strategies of the game consists of $(\mu^*, x^*, s^*, p^*, e^*, \zeta^*)$ and is defined as follows: (i) For any $\theta \in [0, \bar{\theta}]$, if $\mu^*(\theta) = m$ then m maximizes the investor's expected utility conditional on $\tilde{\theta} = \theta$ and given $(x^*, s^*, p^*, e^*, \zeta^*)$, where the expectations are taken with respect to $\tilde{\chi}$; (ii) If m is on the equilibrium path then $x^*(m)$ maximizes the board's expected utility given $(\mu^*, s^*, p^*, e^*, \zeta^*)$, where the expectations are taken with respect to $(\tilde{\theta}, \tilde{\chi})$ conditional on m ; (iii) For any $\theta \in [0, \bar{\theta}]$, $\chi \in \{0, 1\}$, and $x \in \{L, R\}$, strategies s^* and e^* maximize the investor's expected utility conditional on $(\tilde{\theta}, \tilde{\chi}) = (\theta, \chi)$ and given p^* and ζ^* ; (iv) For any $s \in \{0, 1\}$, the price-setting rule $p^*(s)$ is the expected value of $v(\tilde{\theta}, x)$ conditional on s and given $(\mu^*, x^*, s^*, e^*, \zeta^*)$; (v) $\zeta^* = 1$ if and only if the expected value of $\tilde{\theta}$ conditional on $e = 1$ (and therefore, $s = 0$) and given $(\mu^*, x^*, s^*, p^*, e^*)$ is greater than $\underline{\theta} + \Delta$. Finally, all players have rational expectations in that each player's belief about the other players' strategies is correct in equilibrium. Moreover, the players use Bayes' rules to update their beliefs whenever possible.

2 Analysis

The goal of the analysis is to derive the conditions under which communication is effective in equilibrium. Subsection 2.1 takes as given the investor's message and presents several preliminary results. Subsections 2.2 and 2.3 characterize equilibria of the game in which communication is ineffective and effective, respectively. Subsection 2.4 derives the comparative statics of the model. All omitted proofs can be found in the Appendix.

2.1 Preliminary results

I solve the model backward. Consider first the conditions under which the investor launches a campaign to change the status quo.

Lemma 1 (Public campaign) *Suppose the board keeps the status quo ($x = L$) and the price upon exit is p . The investor launches a campaign ($s = 0$ and $e = 1$) if and only if she does not need liquidity ($\tilde{\chi} = 0$) and the following two conditions hold:*

(i) *The investor has incentives to launch a campaign if it is expected to succeed:*

$$\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}. \quad (7)$$

(ii) *Shareholders support a campaign to change the status quo:*

$$\mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}] \geq \Delta. \quad (8)$$

The investor launches a campaign only if the net benefit from changing the status quo, $\alpha\tilde{\theta} + \gamma - c$, is higher than $\alpha \max\{\underline{\theta}, p\}$, the highest between the value of her shares under the status quo and the price she expects the market maker to quote if she decides to exit and sell these shares. Therefore, a campaign is launched only if (7) holds. Shareholders anticipate the investor's behavior and update their beliefs accordingly when a campaign is launched. The campaign is successful only if conditional on $e = 1$ shareholders are persuaded that the expected benefit from a change is larger than Δ , which gives condition (8).⁹

To ease the exposition, I abuse notation and define

$$\zeta(p) \equiv \begin{cases} 1 & \text{if } \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}] \geq \Delta \\ 0 & \text{else,} \end{cases} \quad (9)$$

⁹Notice that if the investor expects shareholders not to support her campaign, she has no incentives to start one (since $c > 0$). Therefore, $e = 0$ can always be supported as an equilibrium outcome if conditional on $e = 1$ shareholders' off-equilibrium beliefs about $\tilde{\theta}$ are sufficiently low. In the proof of Lemma 1, I require these off-equilibrium beliefs to satisfy the Grossman and Perry (1986) refinement. Under this refinement, the only credible beliefs are $e = 1 \Rightarrow \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}$.

as the indicator for the support of shareholders for a campaign.

The next result characterizes the decision of the investor to exit strategically.

Lemma 2 (Strategic exit) *Suppose the price upon exit is p . The investor exits strategically ($\tilde{\chi} = 0$ and $s = 1$) if and only if one of the following conditions hold:*

$$(i) \quad x = R \text{ and } \tilde{\theta} + \frac{\gamma}{\alpha} \leq p.$$

$$(ii) \quad x = L, \underline{\theta} \leq p, \text{ and either } \zeta(p) = 0 \text{ or } \tilde{\theta} \leq p - \frac{\gamma - c}{\alpha}.$$

Intuitively, if $x = R$ then the board voluntarily changes the status quo and the investor cannot (or does not want to) reverse this decision. The investor exits strategically as long as the price she expects to get is higher than the share value plus her private benefits. If the board keeps the status quo, the investor will exit strategically if and only if the share is overpriced ($\underline{\theta} \leq p$), and launching a campaign to change the status quo is either not feasible ($\zeta(p) = 0$) or does not justify itself ($\tilde{\theta} \leq p - \frac{\gamma - c}{\alpha}$).

Finally, consider the board's decision to change the status quo after the investor sends message m . The board trades off his private benefits β against two factors: (i) the expected gains to firm value from a change, $\mathbb{E}[\tilde{\theta} - \underline{\theta} | m]$, and (ii) the risk that the investor would launch a successful campaign if her demand for a change is ignored. Based on Lemma 1, the expected disutility the board suffers from a campaign is $\kappa \cdot (1 - \delta) \mathbb{E}[\mathbf{1}_{\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}} | m] \cdot \zeta(p)$. The next result follows directly from the comparison of these payoffs.

Lemma 3 (Board's decision) *Suppose the price upon exit is p and the investor sends message m . Then, the board changes the status quo ($x = R$) if and only if*

$$\beta \leq \mathbb{E}[h(\tilde{\theta}, p) | m], \tag{10}$$

where

$$h(\tilde{\theta}, p) \equiv \omega(\tilde{\theta} - \underline{\theta}) + \kappa \cdot (1 - \delta) \cdot \mathbf{1}_{\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}} \cdot \zeta(p) \tag{11}$$

is the board's net benefit from a change in the status quo conditional on $\tilde{\theta}$.

2.2 No communication

In a typical cheap-talk game, there always exists an equilibrium in which the board ignores all messages from the investor, and these messages are uninformative. These equilibria are often referred to as babbling equilibria, and their outcome is equivalent to assuming no communication between the investor and the board. These equilibria are important since if the conditions I derive in Section 2.3 do not hold, every equilibrium of the game is a babbling equilibrium. The next result characterizes the decision of the board and the price upon exit that emerge in these babbling equilibria. Given these two endogenous variables, the investor's decision to launch a campaign and exit are described by Lemmas 1 and 2, respectively.

Proposition 1 (Equilibria without communication)

- (i) *A babbling equilibrium with $x^* = R$ exists if and only if $\beta < \mathbb{E}[h(\tilde{\theta}, \pi_N)]$. In this equilibrium, $p^* = \pi_N$ is the unique solution of*

$$p = \frac{\delta \mathbb{E}[\tilde{\theta}] + (1 - \delta) \Pr[\tilde{\theta} < p - \frac{\gamma}{\alpha}] \mathbb{E}[\tilde{\theta} | \tilde{\theta} < p - \frac{\gamma}{\alpha}]}{\delta + (1 - \delta) \Pr[\tilde{\theta} < p - \frac{\gamma}{\alpha}]}.$$
 (12)

- (ii) *A babbling equilibrium with $x^* = L$ exists if and only if $\mathbb{E}[h(\tilde{\theta}, \underline{\theta})] \leq \beta$. In this equilibrium, $p^* = \underline{\theta}$.*

Without communication, the board makes decisions based on his prior about $\tilde{\theta}$. According to Lemma 3, the board chooses $x = R$ if and only if $\beta < \mathbb{E}[h(\tilde{\theta}, p^*)]$. However, in equilibrium, p^* depends on the market maker's expectations of the board's decision and the investor's exit strategy. Suppose $x^* = R$. According to Lemma 2 part (i), the investor exits for two reasons. Either because she needs liquidity ($\tilde{\chi} = 1$) or because the share is over-priced ($\tilde{\theta} + \frac{\gamma}{\alpha} \leq p^*$). In the former event the share value is $\mathbb{E}[\tilde{\theta}]$ and in the latter event it is $\mathbb{E}[\tilde{\theta} | \tilde{\theta} < p - \frac{\gamma}{\alpha}]$. The expected share value conditional on exit is the weighted average of these two terms, which is given by the right hand side of (12). In equilibrium, the market maker prices the share fairly. Therefore, p^* must solve (12) and an equilibrium with $x^* = R$ requires $\beta < \mathbb{E}[h(\tilde{\theta}, \pi_N)]$. In this equilibrium, the expected shareholder value is $\mathbb{E}[\tilde{\theta}]$. Suppose $x^* = L$. If the investor does not

exit, she may launch a campaign as described by Lemma 1. However, if the investor exits, the status quo does not change and shareholder value is $\underline{\theta}$. Therefore, $p^* = \underline{\theta}$ and an equilibrium with $x^* = L$ requires $\mathbb{E}[h(\tilde{\theta}, \underline{\theta})] \leq \beta$. In this equilibrium, the expected shareholder value is $\underline{\theta} + (1 - \delta) \zeta(\underline{\theta}) \Pr[\tilde{\theta} > \underline{\theta} - \frac{\gamma-c}{\alpha}] \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} \geq \underline{\theta} - \frac{\gamma-c}{\alpha}]$.¹⁰

Proposition 1 and Lemma 1 show that without effective communications, the investor's threat to launch a campaign may not be effective. As a result, the investor is sometimes required to exercise this threat in equilibrium. The next result immediately follows.

Corollary 1 *Suppose $\zeta(\underline{\theta}) = 1$ and $\max\{\mathbb{E}[h(\tilde{\theta}, \underline{\theta})], \mathbb{E}[h(\tilde{\theta}, \pi_N)]\} < \beta$. Then, in any babbling equilibrium the board keeps the status quo ($x^* = L$) and the investor launches a campaign with a positive probability.*

2.3 Behind-the-scenes communications

With behind-the-scenes communications, the investor can potentially influence the decision of the board. Influencing the board requires the investor to reveal information about $\tilde{\theta}$ (i.e., sending different messages for different realizations of $\tilde{\theta}$) 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.

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

In equilibrium, different messages can potentially convey different information about $\tilde{\theta}$. However, Definition 1 implies that in any influential equilibrium we can classify messages on the path into two disjoint sets: those messages that induce action $x = R$ and those that induce action $x = L$. Messages in the first (second) set can be interpreted as demands (suggestions)

¹⁰If $\mathbb{E}[h(\tilde{\theta}, \underline{\theta})] < \beta < \mathbb{E}[h(\tilde{\theta}, \pi_N)]$ then multiple babbling equilibria exist. If $\mathbb{E}[h(\tilde{\theta}, \pi_N)] < \beta < \mathbb{E}[h(\tilde{\theta}, \underline{\theta})]$ then a pure-strategy babbling equilibrium does not exist. In the Online Appendix I show that in this case there exists a mixed-strategy babbling equilibrium. Moreover, if either $\mathbb{E}[\tilde{\theta}] \leq \underline{\theta}$, $(1 - \delta) \kappa / \omega$ is sufficiently small, $\zeta(\underline{\theta}) = 0$, or $f(\cdot)$ has a non-increasing hazard rate, then there exists a non-babbling (influential) pure-strategy equilibrium. Under these assumptions, a pure-strategy equilibrium always exists.

from the board to change (keep) the status quo. Hereafter, I use the terminology “demanding the board” to describe the investor’s communication strategy.

If the equilibrium is influential then the investor can affect the board’s decision by sending the relevant message. Since communication is less costly than launching a campaign, the investor has incentives to communicate rather than campaigning.

Lemma 4 *A campaign is never launched on the path of an influential equilibrium.*

Combined with Corollary 1, Lemma 4 shows that a public campaign is an indication that the communication between the investor and the board is not effective.

To understand the conditions under which influential equilibria exist, suppose first that the price upon exit is given exogenously by p . When the equilibrium is influential, the investor can always secure a payoff of $\alpha \max\{\tilde{\theta} + \frac{\gamma}{\alpha}, \underline{\theta}\}$ by sending the relevant message. If $\max\{\tilde{\theta} + \frac{\gamma}{\alpha}, \underline{\theta}\} > p$ then the share is under-priced. If in addition $\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}$, then the investor has strict incentives to hold onto her shares and demand a change. However, if instead $\max\{\tilde{\theta} + \frac{\gamma}{\alpha}, \underline{\theta}\} < p$, then the share is over-priced and the investor is better off exploiting her private information by selling her shares. Since in this case the investor 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 investor may choose not to send any message.

To ensure that the analysis is robust to this possibility, I assume that by sending a message of any kind the investor incurs a fixed cost $\varepsilon > 0$. The investor can be “silent”, that is, she can choose not to send any message to the board and avoid the messaging costs. Therefore, without the loss of generality, there always exists one message which is costless. I focus on influential equilibria that survive ε -*perturbation of the model*, that is, equilibria that survive the introduction of an arbitrarily small messaging cost (i.e., when $\varepsilon \rightarrow 0$).¹¹

¹¹Note that there always exists a babbling equilibrium that survives ε -perturbation of the model. In this equilibrium, the investor does not send any message on the path. Cheap talk models with messaging costs have been studied by Kartik (2009) and Kartik, Ottaviani, and Squintani (2007). In these papers, however, the cost of sending a message is not fixed, but rather, increasing in its distance from the true state variable.

Proposition 2 (Influential equilibrium with exogenous prices) *Suppose the price upon exit is given exogenously by p . An ε -perturbation influential equilibrium exists if and only if*

$$\beta \leq b^*(p) \equiv \mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}]. \quad (13)$$

Moreover, in this equilibrium:

- (i) *The investor demands the board to change the status quo if and only if $\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}$, and the board accommodates this demand.*
- (ii) *The investor exits strategically if and only if $\underline{\theta} < p$ and $\tilde{\theta} \leq p - \frac{\gamma}{\alpha}$.*

To understand Proposition 2, suppose first that $p \leq \underline{\theta}$. In this case, the investor never exits strategically since the value of her shares under the status quo is higher. The investor demands a change if and only if $\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}$. Since the board is biased toward the status quo and the investor is biased against it, the board always keeps the status quo if the investor suggests he should do so. By contrast, a change requires the board to forgo his private benefits, and therefore, convincing the board to do so is challenging. The equilibrium is influential only if the board responds positively to this demand. According to Lemma 3, the board chooses $x = R$ only if conditional on $\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}$ the expected value of $h(\tilde{\theta}, p)$ is greater than β . Therefore, the board accommodates the investor's demand for a change if and only if $\beta \leq \mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}]$.

Alternatively, suppose that $p > \underline{\theta}$. According to Lemma 2, the investor exits strategically if $\tilde{\theta} \leq p - \frac{\gamma}{\alpha}$. In this case, the investor is indifferent with respect to the board's decision. Since sending a message is costly, the investor remains "silent". Not sending any message also conveys information in equilibrium, and therefore, the investor's silence is interpreted as an implicit suggestion to keep the status quo. By contrast, if $\tilde{\theta} > p - \frac{\gamma}{\alpha}$ then the investor has strict incentives to keep her shares and demand a change, even if the communication of this demand is costly. For the same reasons that were mentioned above, the challenge of the investor is to convince the board to change the status quo when $\tilde{\theta} > p - \frac{\gamma}{\alpha}$. The board accommodates the investor's demand in this case if and only if $\beta \leq \mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} > p - \frac{\gamma}{\alpha}]$. The combination of these two cases explains Proposition 2.

The next result characterizes the price upon exit that arises under influential equilibrium.

Lemma 5 (Endogenous prices under influential equilibrium) *Let p^* the price upon exit in an ε -perturbation influential equilibrium. There exists $\bar{\gamma} \in (0, \alpha\underline{\theta}]$ such that if $\gamma \in [0, \bar{\gamma}]$ then $p^* = \pi^*$ where $\pi^* > \underline{\theta}$ is the unique solution of*

$$p = \underline{\theta} + \frac{\delta \Pr[\tilde{\theta} > p - \frac{\gamma}{\alpha}]}{\delta \Pr[\tilde{\theta} > p - \frac{\gamma}{\alpha}] + \Pr[\tilde{\theta} \leq p - \frac{\gamma}{\alpha}]} \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > p - \frac{\gamma}{\alpha}]. \quad (14)$$

If $\gamma \in (\bar{\gamma}, \alpha\underline{\theta})$ then either $p^* > \underline{\theta}$ and p^* is given by a solution of (14), or $p^* < \underline{\theta}$ and

$$p^* = \underline{\theta} + \Pr[\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}] \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}]. \quad (15)$$

In equilibrium, the communication strategy and the price upon exit must be consistent with each other. Suppose $p^* > \underline{\theta}$. According to Proposition 2, the investor exits strategically exactly when she recommends the board to keep the status quo, i.e., when $\tilde{\theta} \leq p^* - \frac{\gamma}{\alpha}$. Therefore, if the price upon exit is p^* and the investor decides to exit then the application of Bayes' rules on parts (i) and (ii) of Proposition 2 implies that the expected shareholder value is the right hand side of (14). Notice that the right hand side of (14) depends on the quoted price p^* . In equilibrium, the price upon exit must be fair, which explains why $p^* > \underline{\theta}$ must be a solution of (14). In the Appendix, I show that if $\gamma \in [0, \bar{\gamma}]$ then (14) has a unique solution that is strictly higher than $\underline{\theta}$. However, if $\gamma \in (\bar{\gamma}, \alpha\underline{\theta})$ then the price upon exit in equilibrium can be lower than $\underline{\theta}$. Intuitively, if γ is large and the equilibrium is influential then the investor is able to convince the board to change the status quo even when it does not increase shareholder value. The market maker expects the board's decision to be less efficient and he quotes a low price. If γ is sufficiently large, the quoted price is low enough to discourage strategic exit (i.e., $p^* < \underline{\theta}$). In this case, exit must be driven by a liquidity shock, and therefore, the price upon exit must be given by (15).

The next result follows immediately from the combination of Proposition 2 and Lemma 5.

Proposition 3 (Existence of influential equilibria) *Suppose $\gamma \in [0, \bar{\gamma}]$. Then, an ε -perturbation influential equilibrium exists if and only if $\beta \leq b^*(\pi^*)$.*

Proposition 3 gives the conditions under which communication is effective in equilibrium. Notice that if an influential equilibrium does not exist, communication must be ineffective, and the only equilibrium is a babbling equilibrium as described by Proposition 1.

2.4 Comparative statics

Communication is more likely to be used as a governance mechanism when the equilibrium is influential. As standard in the cheap-talk literature, I select the influential equilibrium whenever it exists. Therefore, the effectiveness of behind-the-scenes communications can be measured by

$$\begin{aligned}
 b^*(p^*) &= \omega \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \max\{\underline{\theta}, p^*\} - \frac{\gamma}{\alpha}] \\
 &\quad + \kappa(1 - \delta) \Pr[\tilde{\theta} > \max\{\underline{\theta}, p^*\} - \frac{\gamma - c}{\alpha} | \tilde{\theta} > \max\{\underline{\theta}, p^*\} - \frac{\gamma}{\alpha}] \zeta(p^*).
 \end{aligned} \tag{16}$$

The next result uses (16) to relate the effectiveness of communication to the characteristics of activist investors, corporate boards, and target firms.

Corollary 2 (Comparative statics) *Suppose $\gamma \in [0, \bar{\gamma}]$. An influential equilibrium is more likely to exist (i.e., $\beta \leq b^*(\pi^*)$ holds) when β , γ , and Δ are small, or ω and κ are large. The effect of c , α , and δ is ambiguous.¹²*

According to Corollary 2, if the board or the investor are relatively unbiased (small β/ω and γ , respectively) then communication is more likely to be effective in equilibrium. This is a standard result in the cheap-talk literature. Intuitively, when the conflict of interests between the board and the investor is small, the investor can reveal more information and the board has the incentives to use it for his decision making.

Corollary 2 also shows that if the threat of launching a successful public campaign is credible (small Δ) and has severe consequences for the board (large κ), then communication is more effective in equilibrium. This result highlights the *complementarity between voice and communication*. Intuitively, if the investor's threat to launch a campaign is credible and the

¹²In the proof of Corollary 2, I show that similar analysis holds when $\gamma \in (\bar{\gamma}, \alpha\theta)$.

consequences for the board are severe, the board would try to avoid a public campaign by accommodating the investor's demand for a change. At the same time, if the investor expects the board to be responsive, she will have incentives to communicate rather than launching a costly public campaign. Notice that effective communication also increases the credibility of the investor's threat. To see why, suppose the price upon exit is p . When communication is ineffective (i.e., a babbling equilibrium), the board is uninformed about $\tilde{\theta}$. The board believes that if he keeps the status quo, the investor would launch a campaign with probability $\Pr[\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma-c}{\alpha}]$. However, if communication is effective in equilibrium, the investor's demand for a change informs the board that $\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}$. Conditional on this event, the board believes the investor would launch a campaign with probability $\Pr[\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma-c}{\alpha} | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}]$ if her demand is ignored. Therefore, the board believes that the threat is more credible when communication is effective. Similar intuition holds when prices are endogenous.

The effect of c on communication is ambiguous. On the one hand, $\Pr[\tilde{\theta} > \pi^* - \frac{\gamma-c}{\alpha} | \tilde{\theta} > \pi^* - \frac{\gamma}{\alpha}]$ decreases with c , that is, the investor is less likely to launch a campaign when the cost is higher. On the other hand, higher cost implies that the investor's decision to launch a campaign is a stronger signal of a large $\tilde{\theta}$. Indeed, the investor has no incentives to incur the cost of a campaign if the benefit from a change is not high enough to justify it. Therefore, the campaign is more likely to be supported by shareholders ($\zeta(\pi^*)$ increases in c) and the investor's threat is more credible. This logic suggests that the investor's ability to influence the board can increase with c .

The effect of α depends on c and γ .¹³ Effectively, larger α reduces the investor's bias toward the status quo ($\frac{\gamma}{\alpha}$) but also the cost of launching a campaign ($\frac{c}{\alpha}$). Therefore, if $c > \gamma$ ($c < \gamma$) then the effect of a larger α is similar to the effect of a smaller c (lower γ). In particular, if $c > \gamma$ then a smaller stake can result in more effective communications. Intuitively, the willingness of a relatively unbiased investor to incur the cost of a campaign is a particularly strong signal of a large $\tilde{\theta}$ if she owns only few shares of the target to benefit from this change. As a result,

¹³While α is exogenous in the model, it is clearly a choice variable of the investor in practice. As such, it is likely to be correlated with other firm and investor characteristics (such as liquidity or the presence of other blockholders), which could also affect the investor's ability to influence the board. Note that α might also be affected by exogenous variables such disclosure requirements (13D) or defense measures (poison pills). See also Section 3.3 for an extension in which the formation of the investor's stake is endogenized.

shareholders are more likely to support the campaign when α is small, and communication with the board can be more effective. By contrast, if $c < \gamma$ then the investor is relatively biased. Shareholders have fewer reasons to trust the investor when α is small; they are legitimately concerned that the motive behind the investor's campaign is her private benefits rather than bringing a change that would increase their share value. In this case, larger α could increase the credibility of the biased investor and result in more effective communications.

The effect of δ on communication is also ambiguous. On the one hand, larger δ increases the probability the investor exits. Therefore, the threat of launching a campaign is less credible, and the board is less likely to accommodate the investor's demand. On the other hand, larger δ increases the price upon exit. Indeed, exit is more likely to stem from a liquidity shock rather than over-valuation of the stock. As I explain below, a higher price upon exit can enhance the investor's influence on the board. Through this channel, higher δ can have a positive effect on communication. For example, if $\kappa = 0$ then $b^*(\pi^*)$ increases with δ .

2.4.1 The effect of prices on communication

Understanding the effect of p on the communication between the investor and the board is not only useful for the comparative static of δ , but it can also relate the analysis to other exogenous factors that affect asset prices (e.g., taxes, disclosure requirements, market microstructure, and liquidity).

Corollary 3 *If $\kappa = 0$, $\zeta(p) = 0$, or $\frac{f(x)}{1-F(x)}$ is non-increasing, then $b^*(p)$ is an increasing function of p .*

Corollary 3 derives the conditions under which higher p enhances the investor's ability to influence the board. This result can also be interpreted as a statement about the *complementarity between exit and communication*. There are two channels behind this result. Under the first channel, higher p *relaxes the tension between the investor and the board*. This can be seen by noting that the term in the first line of (16) is increasing in p^* . Intuitively, because of their conflict of interests, the board is suspicious of the investor's motives. The board is concerned that the investor exaggerates the benefit from a change to the status quo in order to convince

him to forgo his private benefits. If the investor can exit at better terms (higher p) then she has fewer incentives to insist on changing of the status quo, even if doing so would increase shareholder value. Indeed, instead of insisting on a change and waiting for its realization, the investor can remain silent, sell her stake, and receive the current market price. The board understands that the investor would insist on a change only if the benefit from doing so is higher than what she expects to get from selling her shares, that is, $p < \tilde{\theta} + \frac{\gamma}{\alpha}$. While higher p implies that the investor is less likely to demand a change, whenever she makes such demand, it is a stronger signal about $\tilde{\theta}$. As a result, the board is more likely to accommodate a demand for a change when p is higher.¹⁴

The second channel, which is captured by the second line of (16), shows that the credibility of the investor’s threat to launch a successful campaign increases with p . There are two effects. First, note that if the hazard rate of $\tilde{\theta}$ is non-increasing then $\Pr[\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma-c}{\alpha} | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}]$ is an increasing function of p . That is, higher p implies that the investor is more likely to launch a campaign if her demand for a change is ignored. Second, note that $\zeta(p)$ is an increasing function of p . That is, higher p implies that shareholders are more likely to support a campaign once it is initiated. Intuitively, if the investor launches a campaign then shareholders infer that the investor is convinced that the benefit from a change is higher than the price she could get by selling her shares. Therefore, shareholders are more likely to support the campaign. This effect is stronger when the price upon exit is higher. Overall, this analysis demonstrates a novel channel through which *exit complements voice*. Since the threat of launching a successful campaign is more credible when p is higher, the board is more willing to accommodate the investor’s demand and communication is more effective.

Remark: If the hazard rate of $\tilde{\theta}$ is increasing, then higher p implies that the investor is more likely to exit if her demand for a change is ignored. This “cut and run” effect is the standard argument behind the substitution between voice and exit (e.g., Kahn and Winton (1998) and Maug (1998)). When this effect is in play, the overall effect of p on $b^*(p)$ is ambiguous: higher

¹⁴The idea that communication can be improved by weakening the sender’s incentives to maximize value is also shared by Adams and Ferreira (2007), Chakraborty and Yilmaz (2016), and Harris and Raviv (2008), who show that a biased board (who is friendly to the manager) can play a more effective advisory role.

p increases $\zeta(p)$ and the term in the first line of (16), but it also weakens the incentives of the investor to launch a campaign if her demand is ignored. If κ/ω is large, then the latter effect can dominate, in which case, exist and communication are substitutes.

Remark: The first channel behind the result that exit enhances communications depends on the assumption that by exiting, the investor sells her entire stake. In principle, selling all shares might require several rounds of trade, from which the model abstracts. If the investor expects to retain few shares even after exiting, she might try to maximize the value of these shares by insisting on a change whenever $\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}$ (rather than $\tilde{\theta} > p - \frac{\gamma}{\alpha}$). In this case, exit will not relax the tension between the investor and the board. Nevertheless, note that if the messaging costs are not trivial ($\varepsilon > 0$) and the number of shares the investor expects to retain after exit is small, the first channel is still likely to hold. Intuitively, the investor will have no incentives to insist on a change and pay the fixed messaging cost if she intends to sell most of her shares. In any case, the second channel behind the result that exit enhances communications does not depend on this assumption. Indeed, the investor's decision to campaign increases her credibility as long as the investor had the option to sell some of her shares.¹⁵

2.4.2 Shareholder value

If the equilibrium is influential and the price upon exit is p^* then the expected shareholder value is

$$W_C^* \equiv \underline{\theta} + \Pr[\tilde{\theta} > \max\{\underline{\theta}, p^*\} - \frac{\gamma}{\alpha}] \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \max\{\underline{\theta}, p^*\} - \frac{\gamma}{\alpha}]. \quad (17)$$

Notice that unlike the existence of an influential equilibrium, the expected shareholder value in this equilibrium does not depend on β , ω , Δ , κ , and c . The next result shows that the bias of the investor toward a change can benefit shareholders.

Corollary 4 *There is $\gamma^* > 0$ such that W_C^* increases in γ if $\gamma < \gamma^*$.*

¹⁵Related, notice that short-selling is not a profitable strategy in this model since it fully reveals that the investor trades for information. In principle, if the investor could short the stock, she would have incentives to recommend the board on actions that harm shareholder value. The investor will lose her credibility in equilibrium. Generally, if the core business model of the investor is shareholder activism, sabotaging and then short-selling will damage her reputation and harm her ability to constructively engage with firms in the future. As such, it is not a sustainable strategy. The analysis of this repeated interaction is left for future research.

Intuitively, when the equilibrium is influential, the investor demands a change only if $\tilde{\theta}$ is sufficiently high. Since the investor can exit and get p^* for her shares, she is not always insisting on a change when it is expected to increase shareholder value. Larger private benefits mitigates the investor's excessive incentives to exit, and thereby, increase shareholder value. Notice that a larger γ has a similar effect to a lower p^* . Therefore, the intuition behind Corollary 4 also suggests that while a higher price upon exit increases the investor's ability to influence the board, it does not necessarily increase shareholder value.

Remark: One might expect a constructive dialogue between the investor and the board to benefit other shareholders of the firm. But this intuition is not always correct. In the Online Appendix, I give sufficient conditions under which the expected shareholder value when the equilibrium is influential is lower than it is under a babbling equilibrium. Intuitively, in order to avoid the risk of a public campaign, the board is willing to accommodate the investor's demand for a change even if it does not always increase shareholder value. In those cases, shareholder value would be higher if the investor did not communicate with the board.

Remark: The analysis suggests that a successful and profitable public campaign (for example, Elliott's campaign against BMC) does not necessarily imply that the employed tactic is more effective or profitable than others; it only suggests that when this tactic is optimally employed, the stakes are likely to be high. Indeed, in the model, the effect of a change on firm value is the same whether it is achieved by communications or by launching a public campaign. Nevertheless, in equilibrium, the expected shareholder value conditional on a public campaign is always higher than it is conditional on effective communications. In the former case it is $\mathbb{E}[\tilde{\theta}|\tilde{\theta} \geq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \frac{\epsilon}{\alpha}]$, and in the latter case it is $\mathbb{E}[\tilde{\theta}|\tilde{\theta} \geq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha}]$. Intuitively, activist investors launch a campaign only if the profit from a change outweighs the cost of campaigning. By contrast, activists communicate and demand a change even if they have no intention to launch a campaign. Since the board cannot tell whether the activist is bluffing or not, effective communications create value even if the benefit from a change is not high enough to justify the cost of campaigning, i.e., when $\max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} < \tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \frac{\epsilon}{\alpha}$.

3 Extensions

This section consider three extensions of the baseline model. All proofs can be found in the Appendix.

3.1 Public communications

In practice, dialogues between investors and firms are typically held behind closed doors. In the baseline model, the message from the investor is private since by assumption only the board observes it. The possibility of launching a public campaign captures instances in which activists escalate their efforts, and among other things, put their demands on the public domain. In this subsection, I consider an extension of the model in which the initial message from the investor is also observed by the market maker and other shareholders of the firm. That is, the message is public.¹⁶ Different from launching a public campaign, sending a public message is not costly ($\varepsilon \rightarrow 0$), it cannot force a change if the board resists it, and the investor can still exit or campaign afterwards.

In principle, public communications could affect the stock price the investor receives when selling her shares or influence the decision of shareholders to support her campaign. The next result shows that public communications are likely to be ineffective.

Proposition 4 (Public communications)

- (i) *If the investor can only send public messages then an influential equilibrium does not exist.*¹⁷
- (ii) *If the investors can send both public and private messages, then the set of equilibria 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.*

¹⁶Farrell and Gibbons (1989) also consider a cheap talk model with multiple audiences and compare public and private communication, although the context is different.

¹⁷The proof shows that an influential equilibrium with only public messages may exist only if $\Delta = 0$ and $\underline{\theta} = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma-c}{\alpha}]$. 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 investor's message in equilibrium only if in addition we require $c = 0$.

To understand the intuition behind Proposition 4, note that public communications target two audiences: the market maker and other shareholders of the firm. When the message is public, the investor is tempted to manipulate the stock price. Regardless of the true value of $\tilde{\theta}$, the investor will send the public message that results in the highest stock price upon exit. The market maker, who has rational expectations, foresees this opportunistic behavior and ignores the content of these public messages. In equilibrium, public messages cannot affect the stock price, a feature which constrains the amount of information they can embed. Similarly, the board and other shareholders understand the investor's incentives to manipulate prices. They also understand her incentives to convince shareholders to support her campaign to gain leverage over the board. For both of these reasons, they will not find the public messages from the investor credible. In equilibrium, they ignore them. This logic explains the intuition behind part (i).

Part (ii) considers an extended game in which the investor can simultaneously send public and private messages. As part (i) suggests, public messages have no credibility. Nevertheless, the possibility of sending public messages does not prevent the investor from communicating with the board behind closed doors, and still exert influence. In this case, the set of equilibria that emerges when both private and public messages are allowed, coincides with the analysis in Section 2.3. This result potentially explains why communications between investors and firms are typically held behind closed doors. Indeed, if sending a public message is costly, even if the cost is arbitrarily small as I assume in the baseline model, then part (ii) suggests that the investor will avoid sending public messages in equilibrium.

Remark: Note that the difference between the effectiveness of private and public messages is solely driven by the possibility of exit and price manipulation. In the Online Appendix, I show that without the possibility of exit, the set of equilibria with public messages is identical to the set of equilibria with private messages. This result suggests that public communications are credible only if the market does not expect the investor to exit prematurely.

3.2 Informed board and alternative sources of private information

A key assumption of the model is that the investor has private information that complements the knowledge of the board. If the board is already informed about $\tilde{\theta}$, there is no information about firm value that the board could learn from the investor. Nevertheless, the board may still wish to learn about the possibility that the investor would launch a successful campaign if her demand is ignored. If $\kappa > 0$, this information may change the calculation behind the board's decision to accommodate the investor's demand.¹⁸ To explore this possibility, I assume that the board is perfectly informed about $\tilde{\theta}$ (the market maker and shareholders remain uninformed) while the investor has an alternative source of private information, as described below.

3.2.1 Private information on the feasibility of a public campaign

Activist investors could have private information about c , the cost of campaigning (e.g., the investor's governance expertise), about Δ , the likelihood that other shareholders would support their campaign (e.g., the discontent of other shareholders, the ownership structure of the firm, the stand of proxy advisory firms on the issue, etc.), or about κ , the consequences of a successful public campaign to the board. In all of these cases, the investor's preferences are common knowledge, and the investor has incentives to pretend that if the board does not accommodate her demand to change the status quo, a successful campaign is more likely than it really is, and that the consequences are more severe than it seems. In equilibrium, the investor has no credibility, and therefore, the board always ignores her messages. In this respect, communications between investors and firms cannot be meaningful when c , Δ , or κ are the only source of the investor's private information.

Proposition 5 (Communicating the feasibility of a public campaign) *Suppose the board and the investor are perfectly informed about $\tilde{\theta}$. If the investor's only source of private information is c , Δ , or κ , then an influential equilibrium does not exist.*

¹⁸Related, Brandenburger and Polak (1996) show that managers with short-term concerns will distort their decisions toward what the market believes is the best even if they know the market is wrong.

3.2.2 Private information about the investor's preferences

Activist investors could also have private information about their private benefits from certain strategies (γ) or about their beliefs on which direction the company should be taking. Specifically, in the second case, the investor and the board agree to disagree: while the board believes that the benefit from a change is $\tilde{\theta}$, the investor believes it is $\tilde{\eta}$, where $\tilde{\eta}$ is independent of $\tilde{\theta}$ and it is the investor's private information. Unlike Section 3.2.1, here the investor has private information about her preferences with respect to the status quo. In the Online Appendix I show that if $\kappa > 0$ then an influential equilibrium can exist in these two setups, that is, communication can be meaningful. Intuitively, as in the baseline model, the investor demands a change if and only if the benefit from doing so is sufficiently high. While the board does not learn from the investor's demand about the benefit to firm value, he learns about the likelihood she will launch a campaign if her demand is ignored. The investor has incentives to reveal her preferences not only because she tries to convince the board to meet her demand to change the status quo, but also because she tries to ensure that board does not mistakenly change the status quo where in fact the investor prefers him to keep it.

3.3 Block formation

The appearance of an activist as a shareholder is likely to signal her private information. In this subsection, I demonstrate that this signaling does not necessarily substitute for effective communications with the board. For this purpose, consider an extension of the model with $N \geq 2$ ex-ante identical firms. Exactly one of these firms is the target. Each firm has an equal chance of being a target. The value of the target is $v(\tilde{\theta}, x)$, while the value of a nontarget firm is $\underline{\theta}$ irrespective of $\tilde{\theta}$. The investor has private information about $\tilde{\theta}$ and about which firm is the target. Everyone else is uninformed. Conditional on this information, the investor submits an order to buy $\alpha \geq 0$ shares from a risk-neutral and competitive market maker. The investor is constrained to invest in one firm only. The share price is set equal to the expected firm value conditional on the order flows. For simplicity, I assume that the market maker can condition the price on α if and only if $\alpha > \bar{\alpha}$, where $\bar{\alpha} > 0$. Parameter $\bar{\alpha}$ captures in a reduced form the

investor's ability to hide her trades and build a position without creating a significant price impact. Finally, the investor's position becomes public prior to any interaction with the board (e.g., 13D filings). This assumption tilts the model against obtaining the result that effective communications can exist in equilibrium when the formation of the block is endogenized. Given the revelation of α , the game unfolds as in the baseline model.

Proposition 6 (Block formation) *Suppose $\gamma \in [0, \bar{\gamma}]$, $N > \frac{W_C^* - \theta}{\pi^* - \theta}$, and $\beta \leq b^*(\pi^*)$.¹⁹ Then, there exists an equilibrium in which the activist buys $\bar{\alpha}$ shares of the target with probability one, and post entry the equilibrium unfolds as described by Propositions 2 and Lemma 5.²⁰*

To understand Proposition 6, note that the investor trades on two pieces of private information: the value of $\tilde{\theta}$ and the identity of the target firm. The information about $\tilde{\theta}$ is not necessarily revealed when her position is disclosed, which leaves room for communications with the board. Specifically, if the investor buys $\bar{\alpha}$ shares of the target and post entry she can influence the board (i.e., $\beta \leq b^*(\pi^*)$), then the expected value of the target is W_C^* , which is given by (17). Ex-ante, the market maker does not know which firm is the target, and therefore, it quotes a price of $p_{\text{entry}}^* = \frac{1}{N}W_C^* + \frac{N-1}{N}\theta$ whenever $\alpha \leq \bar{\alpha}$. The conditions $N > \frac{W_C^* - \theta}{\pi^* - \theta}$ and $\gamma \in [0, \bar{\gamma}]$ guarantee that $\pi^* > p_{\text{entry}}^*$. Therefore, regardless of the realization of $\tilde{\theta}$, the investor can secure an abnormal profit by buying $\bar{\alpha}$ shares of the target, communicating with its board, and then selling whenever $\tilde{\theta} \leq \pi^* - \frac{\gamma}{\alpha}$. This strategy is profitable since the investor can buy enough shares without fully revealing the identity of the target firm. Once the investor's position is revealed, the share price increases by $W_C^* - p_{\text{entry}}^* > 0$, to reflect the identification of the firm as the target. The share price also captures the value the investor is expected to create by communicating with the board. Since the investor can exit her position and still make a profit ($\pi^* > p_{\text{entry}}^*$), a pooling equilibrium with respect to $\tilde{\theta}$ exists. Therefore, in this equilibrium, the disclosure of the investor's position does not reveal $\tilde{\theta}$, which leaves room for strategic communications with the board.

¹⁹Note that $\bar{\gamma}$, π^* , $b^*(\pi^*)$, and W_C^* are evaluated at $\alpha = \bar{\alpha}$. Also, W_C^* is evaluated at $p^* = \pi^*$.

²⁰The pooling equilibrium is supported with off-equilibrium beliefs that if $\alpha \neq \bar{\alpha}$ then the firm is a nontarget. Notice that other equilibria could exist.

Remark: A similar argument can be made if instead the investor has private information about the *type of change* (e.g., restructuring the balance sheet or selling under-performing assets) and the benefit that each change might bring about. The formation of a block might reveal which type of change the investor is pushing for, but will leave room for the investor to convince the board that the proposed change is indeed in the best interest of the firm.

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 enhance the ability of activists to effectively communicate with firms and influence corporate policy. Voice enhances communications 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. Exit also enhances communications, through two different and novel channels: (i) it relaxes the tension and the conflict of interests between investors and firms, and (ii) it allows investors to signal more credibly their beliefs about the benefit from changing the status quo of the firm. The analysis also demonstrates that public communications are likely to be ineffective. Essentially, activists cannot resist the temptation to use their public message to boost the stock price, which in turn, harms their credibility and ability to effectively influence corporate policy. This rationale justifies the prevalence of behind-the-scenes communications.

As a whole, this paper offers a new perspective on shareholder activism and novel predictions on the relationship between the frequency of behind-the-scenes communications and the characteristics of activist investors, corporate boards, and target firms.

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A Appendix

Proof of Lemma 1. Suppose $x = L$. By assumption, $\tilde{\chi} = 1 \Rightarrow s = 1$ and $s = 1 \Rightarrow e = 0$. Therefore, $\tilde{\chi} = 0$ is necessary for $e = 1$. Suppose $\mathbb{E}[\tilde{\theta} - \underline{\theta}|e = 1] \geq \Delta$ in equilibrium. That is, shareholders support a campaign to change the status quo. The investor's expected payoff conditional on $\tilde{\theta}$ is

$$u_I = \alpha \times \begin{cases} p & \text{if } s = 1 \text{ and } e = 0 \\ \underline{\theta} & \text{if } s = 0 \text{ and } e = 0 \\ \tilde{\theta} + \frac{\gamma - c}{\alpha} & \text{if } s = 0 \text{ and } e = 1. \end{cases} \quad (18)$$

Therefore, $e = 1$ if and only if $\tilde{\theta} + \frac{\gamma - c}{\alpha} > \max\{\underline{\theta}, p\}$, which is equivalent to (7) holds. Moreover, this argument implies that

$$\mathbb{E}[\tilde{\theta}|e = 1] = \mathbb{E}[\tilde{\theta}|\tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma - c}{\alpha}] \quad (19)$$

and (8) must hold. Therefore, both (7) and (8) are necessary for an equilibrium in which $e = 1$ is on the path. Given the arguments above, it is straight forward to prove that both conditions are also sufficient.

Note that there may also exist equilibria in which $e = 1$ is off the path. Indeed, if $e = 1$ is off the path and the off-equilibrium beliefs satisfy $\mathbb{E}[\tilde{\theta} - \underline{\theta}|e = 1] < \Delta$, the investor will never deviate to $e = 1$. However, Lemma 6 in the Online Appendix proves that an equilibrium in which $e = 1$ is off the path survives the Grossman and Perry (1986) refinement if and only if (8) does not hold.²¹ ■

Proof of Lemma 2. Suppose $\tilde{\chi} = 0$. If $x = R$ then the investor's expected payoff conditional on $\tilde{\theta}$ is

$$u_I = \alpha \times \begin{cases} p & \text{if } s = 1 \\ \tilde{\theta} + \gamma/\alpha & \text{if } s = 0, \end{cases} \quad (20)$$

and part (i) follows immediately. Suppose $x = L$. If either (7) or (8) do not hold then, according to Lemma 1, it must be $e = 0$ in equilibrium. In this case, the investor's expected payoff conditional on $\tilde{\theta}$ is

$$u_I = \alpha \times \begin{cases} p & \text{if } s = 1 \\ \underline{\theta} & \text{if } s = 0, \end{cases} \quad (21)$$

²¹Note that if $e = 1$ is on the equilibrium path then the equilibrium vacuously satisfies the Grossman and Perry (1986) refinement.

and she exists strategically if and only if $\underline{\theta} \leq p$. If both (7) and (8) hold then, according to Lemma 1, it must be $s = 0$ and $e = 1$ in equilibrium. This completes part (ii). ■

Proof of Proposition 1. Let p^* be the price upon exit. According to Lemma 3, the board chooses $x = R$ if and only if $\beta \leq \mathbb{E}[h(\tilde{\theta}, p^*)|m]$. Since the message is uninformative, $x = L$ ($x = R$) requires $\beta \geq \mathbb{E}[h(\tilde{\theta}, p^*)]$ ($\beta \leq \mathbb{E}[h(\tilde{\theta}, p^*)]$). Suppose first that $x = L$ in equilibrium. Notice that $s = 1 \Rightarrow e = 0$. Therefore, the price upon exit must be $p^* = \underline{\theta}$, and an equilibrium with $x = L$ exists if and only if $\beta \geq \mathbb{E}[h(\tilde{\theta}, \underline{\theta})]$. This completes the proof of part (ii). Next, suppose that $x = R$ in equilibrium. According to Lemma 2 part (i), the price upon exit must be a solution of $p = \varphi(p - \gamma/\alpha)$ where

$$\varphi(y) \equiv \frac{\delta \mathbb{E}[\tilde{\theta}] + (1 - \delta) \Pr[\tilde{\theta} < y] \mathbb{E}[\tilde{\theta} | \tilde{\theta} < y]}{\delta + (1 - \delta) \Pr[\tilde{\theta} < y]}. \quad (22)$$

Note that $\varphi(p - \gamma/\alpha)$ is the right hand side of (12). Below, I prove that π_N is the unique solution of $p = \varphi(p - \gamma/\alpha)$. Therefore, given π_N , an equilibrium with $x = R$ exists if and only if $\beta \leq \mathbb{E}[h(\tilde{\theta}, \pi_N)]$.

To complete the proof of part (i), I show that $p = \varphi(p - \gamma/\alpha)$ has a unique solution. Existence follows from $\lim_{p \rightarrow \pm\infty} \varphi(p - \gamma/\alpha) = \mathbb{E}[\tilde{\theta}]$. For uniqueness, I proceed in two steps:

1. Similar to Proposition 1 in Acharya et al. (2011), a unique solution for $p = \varphi(p)$ always exists and it is given by the global minimum of $\varphi(p)$. For completeness, I repeat their argument here. Consider a solution of $p_0 = \varphi(p_0)$, and note that p_0 is the weighted average of cases where the investor is forced to exit, and cases where she exits strategically, that is, $\theta \leq p_0$. Suppose $p_0 < p'$. Relative to $\varphi(p_0)$, $\varphi(p')$ adds cases where $p_0 < \theta \leq p'$. Since $p_0 = \varphi(p_0)$ and $\varphi(p_0)$ is the average firm value, by adding cases where firm value is above the average, the average value must increase. Therefore, $\varphi(p_0) < \varphi(p')$. Similarly, suppose $p' < p_0$. Relative to $\varphi(p_0)$, $\varphi(p')$ removes cases where $p' \leq \theta < p_0$. Since $p_0 = \varphi(p_0)$ and $\varphi(p_0)$ is the average firm value, by removing cases where firm value is below the average, the average value must increase. Therefore, $\varphi(p_0) < \varphi(p')$. It follows, p_0 must be the global minimum of $\varphi(p)$, and hence, it is unique. Let the global minimum be p_{\min} .
2. Given point #1, $p - \gamma/\alpha = \varphi(p - \gamma/\alpha)$ also has a unique solution given by $p_{\min} + \gamma/\alpha$, which is the global minimum of $\varphi(p - \gamma/\alpha)$. Therefore, the line p must intersect the function $\varphi(p - \gamma/\alpha)$ when it is decreasing. Let this intersection point be π_N , and note

that $\pi_N < p_{\min} + \gamma/\alpha$. Note that $\varphi(p - \gamma/\alpha)$ is a decreasing function of p when $p < p_{\min} + \gamma/\alpha$, and therefore, $p < \pi_N \Rightarrow p < \varphi(p - \gamma/\alpha)$ and $p \in (\pi_N, p_{\min} + \gamma/\alpha) \Rightarrow p > \varphi(p - \gamma/\alpha)$. If $p \geq p_{\min} + \gamma/\alpha$ then $p - \gamma/\alpha \geq \varphi(p - \gamma/\alpha)$ (since $p_{\min} + \gamma/\alpha$ is the unique solution of $p - \gamma/\alpha = \varphi(p - \gamma/\alpha)$), and therefore, $p > p_{\min} + \gamma/\alpha \Rightarrow p > \varphi(p - \gamma/\alpha)$. Combined, this implies that π_N is the unique solution of $p = \varphi(p - \gamma/\alpha)$, as required. This concludes the argument.

Finally, based on parts (i) and (ii), a babbling equilibrium in pure strategies always exists unless $\mathbb{E}[h(\tilde{\theta}, \pi_N)] < \beta < \mathbb{E}[h(\tilde{\theta}, \underline{\theta})]$. In Lemma 7 in the Online Appendix, I show that in this case a unique equilibrium in mixed strategies always exists. ■

Proof of Lemma 4. According to Definition 1, if the equilibrium is influential then there are two messages on the equilibrium path, $m_R \neq m_L$, such that if $m = m_R$ ($m = m_L$) then $x = R$ ($x = L$). Suppose on the contrary the investor launches a campaign on the equilibrium path. Let θ_0 be a realization that triggers this event on the path. Therefore, if $\tilde{\theta} = \theta_0$ then the investor chooses in equilibrium $m = m_L$, $s = 0$ (unless $\tilde{\chi} = 1$) and $e = 1$. Let $\varepsilon(m) > 0$ be the cost of sending message m . The investor's expected payoff from this strategy is

$$\delta \alpha p^* + (1 - \delta)(\alpha \theta_0 + \gamma - c) - \varepsilon(m_L).$$

If instead the investor chooses $m = m_R$, $s = 0$ (unless $\tilde{\chi} = 1$) and $e = 0$, then her expected payoff from this deviation is

$$\delta \alpha p^* + (1 - \delta)(\alpha \theta_0 + \gamma) - \varepsilon(m_R).$$

Comparing the two terms, the deviation is strictly preferred if and only if $c > \frac{\varepsilon(m_R) - \varepsilon(m_L)}{1 - \delta}$. Note that $c > 0$ and the right hand side converges to zero as $\varepsilon \rightarrow 0$. Therefore, for ε sufficiently small, we get a contradiction. ■

Proof of Proposition 2. Suppose the price upon exit is p . Suppose an influential equilibrium exists. For $x \in \{L, R\}$ define

$$M_x \equiv \{m \text{ is on the path s.t. } x^*(m) = x\}. \quad (23)$$

Since the equilibrium is influential, M_L and M_R are not empty. Fix $\varepsilon > 0$ (which is arbitrarily small) and let $\hat{\varepsilon} \equiv \frac{\varepsilon}{\alpha(1-\delta)}$. As was argued in the main text, without the loss of generality, there always exists a message on the equilibrium path that the investor can send without any cost.

I denote this message by ϕ . Therefore, $\phi \in M_L \cup M_R$. I claim the following:

1. $M_L = \{\phi\}$. Proof: Suppose on the contrary that there is $m'' \neq \phi$ such that $m'' \in M_L$ and $\phi \in M_L$. Since $x^*(m'') = x^*(\phi)$, but sending m'' is costly whereas sending ϕ is not, m'' must be off-equilibrium, a contradiction. Therefore, if $\phi \in M_L$ then $M_L = \{\phi\}$. I prove that $\phi \in M_L$. There are two cases to consider. First, suppose $p \geq \underline{\theta}$. Suppose on the contrary $x^*(\phi) = R$. Since the equilibrium is influential, there is exists $m' \neq \phi$ such that $m' \in M_L$. Conditional on $\tilde{\theta}$, the investor prefers sending message ϕ over message m' if and only if

$$\begin{aligned} \delta\alpha p + (1 - \delta) \max\{\alpha\tilde{\theta} + \gamma, \alpha p\} &\geq \delta\alpha p + (1 - \delta) \max\{\alpha\underline{\theta}, \alpha p\} - \varepsilon \Leftrightarrow \\ \max\{\tilde{\theta} + \gamma/\alpha, p\} &\geq \underline{\theta} - \hat{\varepsilon}. \end{aligned}$$

(based on Lemma 4, we can ignore the possibility of launching a campaign). Since $p \geq \underline{\theta}$, the investor strictly prefers sending message ϕ , which means that message m' must be off-equilibrium, a contradiction. We conclude that if $p \geq \underline{\theta}$ then $M_L = \{\phi\}$. Second, suppose $p < \underline{\theta}$. Notice that the investor never exits strategically. To see why, note that since $\hat{\varepsilon} > 0$ can be arbitrarily small, I can assume without the loss of generality that $p < \underline{\theta} - \hat{\varepsilon}$. Since the equilibrium is influential, the investor can affect the board's decision by sending the appropriate message. Therefore, the investor can always send message $m \in M_L$, choose $s = 0$, and obtain an expected value of at least $\delta\alpha p + (1 - \delta) \alpha\underline{\theta} - \varepsilon$, which is larger than αp if and only if $p < \underline{\theta} - \hat{\varepsilon}$. Therefore, the investor never exits strategically. For this reason, the investor is never indifferent between action L and R (unless $\tilde{\theta} + \gamma/\alpha = \underline{\theta} - \hat{\varepsilon}$, which is a zero probability event). Therefore, without the loss of generality, $\phi \in M_L$.

2. The investor sends message ϕ if $\tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}$ and message $m \in M_R$ otherwise. Proof: Based on Claim 1, $x^*(\phi) = L$. Conditional on $\tilde{\theta}$, the investor prefers sending message ϕ over message $m \in M_R$ if and only if

$$\begin{aligned} \delta\alpha p + (1 - \delta) \max\{\alpha\underline{\theta}, \alpha p\} &\geq \delta\alpha p + (1 - \delta) \max\{\alpha\tilde{\theta} + \gamma, \alpha p\} - \varepsilon \Leftrightarrow \\ \max\{\underline{\theta}, p\} &\geq \max\{\tilde{\theta} + \frac{\gamma}{\alpha}, p\} - \hat{\varepsilon} \Leftrightarrow \\ \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon} &\geq \tilde{\theta}. \end{aligned}$$

Note that Lemma 4 was invoked.

3. I argue, if an influential equilibrium exists then

$$\beta \leq \mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}]. \quad (24)$$

Proof: Based on claims 1 and 2, $m \in M_R \Leftrightarrow \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}$. According to Lemma 3, $\beta \leq \mathbb{E}[h(\tilde{\theta}, p) | m]$ must hold for all $m \in M_R$. The result follows by integrating over all $m \in M_R$.²²

4. The investor exits strategically if and only if $p \geq \underline{\theta}$ and $\tilde{\theta} \leq p - \frac{\gamma}{\alpha} + \hat{\varepsilon}$. Proof: Suppose $\tilde{\chi} = 0$. In the proof of Claim 1 I already proved that if $p < \underline{\theta}$ then the investor never exits strategically. Suppose $p \geq \underline{\theta}$. Based on Claim 2, if $\tilde{\theta} \leq p - \frac{\gamma}{\alpha} + \hat{\varepsilon}$ then the investor sends message $m = \phi$. Based on Claim 1, $x^*(\phi) = L$ and the investor's payoff if $s = 0$ is $\alpha\underline{\theta}$. Since $p \geq \underline{\theta}$, the investor exits strategically. Based on Claim 2, if $\tilde{\theta} > p - \frac{\gamma}{\alpha} + \hat{\varepsilon}$ then the investor sends message $m \in M_R$. Based on Claim 1, $x^*(m) = R$ and the investor's payoff if $s = 0$ is $\alpha\tilde{\theta} + \gamma$. The investor exits strategically if and only if $p \geq \tilde{\theta} + \gamma/\alpha$. However, note that $\tilde{\theta} > p - \frac{\gamma}{\alpha} + \hat{\varepsilon} \Rightarrow \tilde{\theta} + \frac{\gamma}{\alpha} > p$, and therefore, the investor does not exit unless $\tilde{\chi} = 1$.
5. Overall, invoking $\varepsilon \rightarrow 0$ on Claim 3 yields (13); invoking $\varepsilon \rightarrow 0$ on Claim 2 yields part (i); invoking $\varepsilon \rightarrow 0$ on Claim 4 yields part (ii).

Next, fix $\varepsilon > 0$ and suppose (24) holds. I prove that an influential equilibrium exists. Consider the following strategies

$$\mu(\tilde{\theta}) = \begin{cases} m_R & \text{if } \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon} \\ m_L \neq m_R & \text{if } \tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon} \end{cases}, \quad x^*(m) = \begin{cases} R & \text{if } m = m_R \\ L & \text{if } m = m_L, \end{cases}$$

and the investor exits strategically if and only if $p \geq \underline{\theta}$ and $\tilde{\theta} \leq p - \frac{\gamma}{\alpha} + \hat{\varepsilon}$. I verify that these strategies are incentive compatible. According to Lemma 3, the strategy $x^*(m)$ maximizes the board's expected utility if and only if

$$\mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] \leq \beta \leq \mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} > \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}]. \quad (25)$$

Notice that $\tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}$ implies $\tilde{\theta} < \max\{\underline{\theta}, p\} - \frac{\gamma - \varepsilon}{\alpha}$ for ε sufficiently small.

²²Note that the cost of sending a message ε is already sunk when the investor decides whether to launch a campaign.

Therefore,

$$\mathbb{E}[h(\tilde{\theta}, p) | \tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] = \omega \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} \leq \max\{\underline{\theta}, p\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}]. \quad (26)$$

Since $\omega \mathbb{E}[\tilde{\theta} - \underline{\theta}] \leq \beta$, then the left hand side of (25) must hold. Moreover, since condition (24) holds, the right hand side of condition (25) also holds. Therefore, the board's strategy is incentives compatible. Consider the investor's decisions. By repeating the arguments in claims 2 and 4, one can prove that given p and the board's strategy, it is optimal for the investor to follow the prescribed communication and exit strategies. Therefore, an influential equilibrium exists, as required. Invoking $\varepsilon \rightarrow 0$ completes the proof. ■

Proof of Lemma 5. Fix $\varepsilon > 0$ and let $\hat{\varepsilon} \equiv \frac{\varepsilon}{\alpha(1-\delta)}$. Suppose the equilibrium is influential and let the price upon exit in this equilibrium be p^* . According to the proof of Proposition 2, the investor sends message ϕ if $\tilde{\theta} \leq \max\{\underline{\theta}, p^*\} - \frac{\gamma}{\alpha} + \hat{\varepsilon}$ and message $m \in M_R$ otherwise. Moreover, the investor exits strategically if and only if $p^* \geq \underline{\theta}$ and $\tilde{\theta} \leq p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon}$. Therefore, p^* must satisfy

$$\begin{cases} p^* = \underline{p} \equiv \underline{\theta} + \Pr[\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] & \text{if } p^* < \underline{\theta} \\ p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon}) & \text{if } p^* \geq \underline{\theta} \end{cases} \quad (27)$$

where

$$\rho(y) \equiv \frac{\delta \Pr[\tilde{\theta} > y] \mathbb{E}[\tilde{\theta} | \tilde{\theta} > y] + \Pr[\tilde{\theta} \leq y] \underline{\theta}}{\delta + (1-\delta) \Pr[\tilde{\theta} \leq y]} = \underline{\theta} + \delta \frac{\int_y (\theta - \underline{\theta}) f(\theta) d\theta}{\delta + (1-\delta) F(y)}$$

I show three claims:

1. There is $r' > 0$ such that if $\frac{\gamma}{\alpha} - \hat{\varepsilon} \leq r'$ then $\underline{p} > \underline{\theta}$. Proof: note that if $\gamma = 0$ and ε is sufficiently small then $\underline{p} > \underline{\theta}$. Suppose $\gamma > 0$ and ε is sufficiently small such that $\frac{\gamma}{\alpha} - \hat{\varepsilon} > 0$. Note that $\frac{\partial \underline{p}}{\partial [\frac{\gamma}{\alpha} - \hat{\varepsilon}]} < 0 \Leftrightarrow \frac{\gamma}{\alpha} - \hat{\varepsilon} > 0$. Therefore, there is $r' > 0$ as required.
2. If $\frac{\gamma}{\alpha} - \hat{\varepsilon} \leq r'$ then there exists a solution of $p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon})$ that is strictly greater than $\underline{\theta}$. Proof: based on Claim 1, if $\frac{\gamma}{\alpha} - \hat{\varepsilon} < r'$ then $\underline{p} > \underline{\theta}$ and therefore, $\mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] > \underline{\theta}$. Notice that $\mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha} + \hat{\varepsilon}] > \underline{\theta}$ implies $\rho(\underline{\theta} - \frac{\gamma}{\alpha} + \hat{\varepsilon}) > \underline{\theta}$. Also notice that $\lim_{p \rightarrow \infty} \rho(p - \frac{\gamma}{\alpha} + \hat{\varepsilon}) = \underline{\theta}$. From the continuity of $\rho(\cdot)$, there exists $p^* > \underline{\theta}$ such that $p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon})$.
3. There is $r'' > 0$ such that if $\frac{\gamma}{\alpha} - \hat{\varepsilon} \leq r''$ then $\frac{\partial \rho(p - \frac{\gamma}{\alpha} + \hat{\varepsilon})}{\partial p} < 0$ for all $p > \underline{\theta}$. Proof: Notice

that $\frac{\partial \rho(p - \frac{\gamma}{\alpha} + \hat{\varepsilon})}{\partial p} = \frac{\partial \rho(y)}{\partial y} \Big|_{y=p - \frac{\gamma}{\alpha} + \hat{\varepsilon}}$. Also note that $\frac{\partial \rho(y)}{\partial y} < 0 \Leftrightarrow$

$$\int_y (\theta - \underline{\theta}) f(\theta) d\theta + (y - \underline{\theta}) \left[\frac{\delta}{1 - \delta} + F(y) \right] > 0.$$

Also notice that there is $\hat{y} \in (0, \underline{\theta})$ such that if $y \geq \hat{y}$ then the left hand side is strictly positive. Let $r'' \equiv \underline{\theta} - \hat{y} > 0$. If $\frac{\gamma}{\alpha} - \hat{\varepsilon} < r''$ and $p > \underline{\theta}$ then $p - \frac{\gamma}{\alpha} + \hat{\varepsilon} > \hat{y}$, and therefore, $\frac{\partial \rho(y)}{\partial y} \Big|_{y=p - \frac{\gamma}{\alpha} + \hat{\varepsilon}} < 0$ for all $p > \underline{\theta}$, as required.

Suppose $\frac{\gamma}{\alpha} - \hat{\varepsilon} \leq \min\{r', r''\}$. Claim 1 implies that $\underline{p} > \underline{\theta}$, claim 2 implies that $p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon})$ has a solution that is strictly greater than $\underline{\theta}$, and Claim 3 implies that this solution must be unique. Therefore, (27) implies that the price upon exit in equilibrium must be the unique solution of $p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon})$. Suppose $\frac{\gamma}{\alpha} - \hat{\varepsilon} > \min\{r', r''\}$. If $\frac{\gamma}{\alpha} - \hat{\varepsilon} < r'$ then, according to Claim 2, $p^* = \rho(p^* - \frac{\gamma}{\alpha} + \hat{\varepsilon})$ has a solution, and it can arise in equilibrium. If $r' < \frac{\gamma}{\alpha} - \hat{\varepsilon}$ then, according to Claim 1, $p^* = \underline{p}$ can arise in equilibrium. Invoking $\varepsilon \rightarrow 0$, and letting $\bar{\gamma} \equiv \alpha \min\{r', r''\}$ completes the proof. ■

Proof of Corollary 2. First note that π^* , which is given by the solution of (14), is invariant to $(\beta, \omega, \Delta, c, \kappa)$. The effect of β and κ on $b^*(\pi^*)$ is straight forward. Since $\zeta(\pi^*)$ is decreasing in Δ , so must $b^*(\pi^*)$. Notice that if $\gamma \in [0, \bar{\gamma}]$ then $\pi^* > \underline{\theta}$, and therefore, $\mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \pi^* - \frac{\gamma}{\alpha}] > 0$. This implies that $b^*(\pi^*)$ increases in ω . The effect of c is ambiguous since $\zeta(\pi^*)$ increases with c but $\Pr[\tilde{\theta} > \pi^* - \frac{\gamma - c}{\alpha} | \tilde{\theta} > \pi^* - \frac{\gamma}{\alpha}]$ decreases with c . The effect of α is ambiguous for similar reasons. To see the effect of γ and δ , below I argue that $\pi^* - \frac{\gamma}{\alpha}$ decreases in γ and increases in δ . If true, then noting that $b^*(\pi^*)$ increases in $\pi^* - \frac{\gamma}{\alpha}$ implies that $b^*(\pi^*)$ decreases in γ .²³ Since δ also has a direct effect (the term $1 - \delta$ in the second line of (16)), its overall effect is ambiguous.

To see why $\pi^* - \frac{\gamma}{\alpha}$ decreases in $\frac{\gamma}{\alpha}$ and increases in δ , let $\rho(p - \frac{\gamma}{\alpha})$ be the right hand side of (14). I make three observations: (i) in the proof of Lemma 5, I show that if $\gamma \in [0, \bar{\gamma}]$ then π^* is unique and $\rho(\cdot)$ is decreasing in p in the neighborhood of $p = \pi^*$; (ii) According to (14), $\pi^* > \underline{\theta} \Rightarrow \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > \pi^* - \frac{\gamma}{\alpha}] > 0$; (iii) $\frac{\partial \rho(p - \frac{\gamma}{\alpha})}{\partial \delta} > 0 \Leftrightarrow \mathbb{E}[\tilde{\theta} - \underline{\theta} | \tilde{\theta} > p - \frac{\gamma}{\alpha}] > 0$. Using these three observation and the application of the implicit function theorem on $p - \rho(p - \frac{\gamma}{\alpha}) = 0$, we get

$$\frac{\partial[\pi^* - \frac{\gamma}{\alpha}]}{\partial \delta} = - \frac{\frac{\partial \rho(p - \frac{\gamma}{\alpha})}{\partial \delta} \Big|_{p=\pi^*}}{\frac{\partial \rho(p - \frac{\gamma}{\alpha})}{\partial p} \Big|_{p=\pi^*}} > 0$$

²³Notice that if f has a non-increasing hazard rate than $\Pr[\tilde{\theta} > \pi + \frac{\varepsilon}{\alpha} | \tilde{\theta} > \pi]$ increases in π .

and

$$\frac{\partial[\pi^* - \frac{\gamma}{\alpha}]}{\partial(\frac{\gamma}{\alpha})} = -\frac{\frac{\partial\rho(p - \frac{\gamma}{\alpha})}{\partial(\frac{\gamma}{\alpha})}|_{p=\pi^*}}{1 - \frac{\partial\rho(p - \frac{\gamma}{\alpha})}{\partial p}|_{p=\pi^*}} - 1 = \frac{\frac{\partial\rho(p - \frac{\gamma}{\alpha})}{\partial p}|_{p=\pi^*}}{1 - \frac{\partial\rho(p - \frac{\gamma}{\alpha})}{\partial p}|_{p=\pi^*}} - 1 < 0.$$

Remark: If $\gamma \in (\bar{\gamma}, \alpha\theta)$ and in equilibrium $p^* \leq \theta$, then $b^*(\theta)$ and $b^*(\pi^*)$ have a similar comparative static. Indeed, the only difference is that π^* is replaced by θ . Notice that π^* depends on $\frac{\gamma}{\alpha}$ and δ . Therefore, one difference is that $b^*(\theta)$ decreases with δ . However, since both $\theta - \frac{\gamma}{\alpha}$ and $\pi^* - \frac{\gamma}{\alpha}$ decrease with $\frac{\gamma}{\alpha}$, $b^*(\theta)$ and $b^*(\pi^*)$ have the same (qualitatively) comparative statics with respect to $\frac{\gamma}{\alpha}$.

Remark: If $\gamma \in (\bar{\gamma}, \alpha\theta)$ and in equilibrium $p^* > \theta$, but (14) has more than one solution, then focusing on equilibria in which $\rho(p - \frac{\gamma}{\alpha})$ crosses the 45 degrees line from above (i.e., $\frac{\partial\rho(p - \frac{\gamma}{\alpha})}{\partial p}|_{p=p^*} < 1$) generates the same comparative static for $b^*(p^*)$. Notice that focusing on equilibria with these properties is reasonable since they are locally stable. ■

Proof of Corollary 3. If $\kappa\zeta(p) = 0$ then $b^*(p) = \mathbb{E}[\tilde{\theta} - \theta | \tilde{\theta} > \max\{\theta, p\} - \frac{\gamma}{\alpha}]$ which is increasing in p . If $\kappa\zeta(p) > 0$ then assuming that $\frac{f(\theta)}{1-F(\theta)}$ is non-increasing guarantees that $\Pr[\tilde{\theta} > y - \frac{\gamma - \varepsilon}{\alpha} | \tilde{\theta} > y - \frac{\gamma}{\alpha}]$ is an increasing function of y , and therefore, $b^*(p)$ increases in p . ■

Proof of Corollary 4. Notice that W_C^* increases in $\pi^* - \frac{\gamma}{\alpha}$ if and only if $\pi^* - \frac{\gamma}{\alpha} < \theta$. In the proof of Corollary 2, I show that $\pi^* - \frac{\gamma}{\alpha}$ decreases in γ . Since $\pi^* > \theta$ for all $\gamma \in [0, \bar{\gamma}]$, there is $\gamma^* > 0$ such that W_C^* increases in γ if and only if $\gamma < \gamma^*$. ■

Proof of Proposition 4. When the messages from the investor 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 $e = 1$ 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) $\zeta^*(\mu^*(\theta')) \neq \zeta^*(\mu^*(\theta''))$.

Consider part (i). I proceed in four steps:

1. First, suppose that $x^*(m') = x^*(m'')$ and $\zeta^*(m') = \zeta^*(m'')$ for every messages m' and m'' on the equilibrium path. Since $\delta > 0$, the investor 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 every messages m' and m'' on the equilibrium path, which means that equilibrium is not influential.
2. Second, suppose $x^*(m') = x^*(m'')$ for every 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 that it must be $x^* = L$. In this equilibrium, $p^*(m_0) = \underline{\theta}$. Notice that among all messages that result in $\zeta^*(m) = 1$, the investor 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 investor sends message m_0 she gets $\underline{\theta}$ per share whether or not she exits. If the investor sends m_1 then her payoff is $\delta p_1^* + (1 - \delta) \max\{p_1^*, \underline{\theta}, \tilde{\theta} + \frac{\gamma - c}{\alpha}\}$. If $p_1^* > \underline{\theta}$ then the investor never sends m_0 , which yields a contradiction. Suppose $p_1^* \leq \underline{\theta}$. Then, the investor prefers sending m_1 over message m_0 if and only if she intends to choose $e = 1$ and

$$\delta p_1^* + (1 - \delta) (\tilde{\theta} + \frac{\gamma - c}{\alpha}) > \underline{\theta} \Leftrightarrow \tilde{\theta} > \frac{\underline{\theta} - \delta p_1^*}{1 - \delta} - \frac{\gamma - c}{\alpha}. \quad (28)$$

Note that $p_1^* \leq \underline{\theta}$ implies that if the investor 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

$$p_1^* = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \frac{\underline{\theta} - \delta p_1^*}{1 - \delta} - \frac{\gamma - c}{\alpha}]. \quad (29)$$

Since $e = 1$ does not provide additional information relative to $m = m_1$, $\zeta^*(m_1) = 1$ requires shareholders to support the campaign, that is,

$$\mathbb{E}[\tilde{\theta} | \tilde{\theta} > \frac{\underline{\theta} - \delta p_1^*}{1 - \delta} - \frac{\gamma - c}{\alpha}] - \underline{\theta} \geq \Delta. \quad (30)$$

Since we require $p_1^* \leq \underline{\theta}$, this equilibrium can exist only if both (29) and (30) hold, which require $p_1^* = \underline{\theta}$, $\Delta = 0$, and $\underline{\theta} = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma - c}{\alpha}]$. These are knife edge conditions, and unless they hold, we get a contradiction.

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

$$\delta p_R^* + (1 - \delta) (\tilde{\theta} + \frac{\gamma}{\alpha}) > \underline{\theta} \Leftrightarrow \tilde{\theta} > \frac{\underline{\theta} - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}. \quad (31)$$

Note that $p_R^* \leq \underline{\theta}$ implies that if the investor sends m_R then she never exits strategically. Therefore, the price upon exit $p_R^* \leq \underline{\theta}$ must solve

$$p_R^* = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}]. \quad (32)$$

Suppose $\zeta^*(m_R) = 0$. The board chooses $x = R$ following message m_R if and only if

$$\beta + \omega \underline{\theta} \leq \omega \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}] \Leftrightarrow \beta/\omega + \underline{\theta} \leq p_R^*. \quad (33)$$

But notice that $p_R^* \leq \underline{\theta}$ and $\beta/\omega > 0$ imply that this condition is never met, which contradicts $x^*(m_R) = R$. Suppose $\zeta^*(m_R) = 1$. Notice that if $m = m_R$ and $x = L$, the investor does exit strategically and she has strict incentives to launch a campaign if and only if $\tilde{\theta} > \underline{\theta} - \frac{\gamma - c}{\alpha}$. Therefore, if $e = 1$ then $\tilde{\theta} \geq \max\{\underline{\theta} - \frac{\gamma - c}{\alpha}, \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}\}$, and $\zeta^*(m_R) = 1$ implies

$$\mathbb{E}[\tilde{\theta} | \tilde{\theta} \geq \max\{\underline{\theta} - \frac{\gamma - c}{\alpha}, \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}\}] - \underline{\theta} \geq \Delta. \quad (34)$$

Suppose $\underline{\theta} - \frac{\gamma - c}{\alpha} \leq \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}$. Since $p_R^* \leq \underline{\theta}$, this equilibrium can exist only if both (32) and (34) hold, which require $p_R^* = \underline{\theta}$, $\Delta = 0$, $c = 0$, and $\underline{\theta} = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}]$. These are knife edge conditions, and unless they hold, we get a contradiction. Instead, suppose that $\underline{\theta} - \frac{\gamma - c}{\alpha} > \frac{\theta - \delta p_R^*}{1 - \delta} - \frac{\gamma}{\alpha}$. This condition requires $p_R^* > \underline{\theta} - \frac{c}{\alpha} \frac{1 - \delta}{\delta}$. However, combined with (32), it must be

$$\underline{\theta} - \frac{c}{\alpha} \frac{1 - \delta}{\delta} > \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \frac{\theta - \delta(\underline{\theta} - \frac{c}{\alpha} \frac{1 - \delta}{\delta})}{1 - \delta} - \frac{\gamma}{\alpha}] \Leftrightarrow \underline{\theta} - \frac{c}{\alpha} \frac{1 - \delta}{\delta} > \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma - c}{\alpha}].$$

However, since (34) must also hold, it must be $p_R^* = \underline{\theta}$, $\Delta = 0$, $c = 0$, and $\underline{\theta} = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}]$. 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 $\underline{\theta} = \mathbb{E}[\tilde{\theta} | \tilde{\theta} > \underline{\theta} - \frac{\gamma - c}{\alpha}]$. If it exists, the price upon exit must be $\underline{\theta}$ regardless of the message sent by the investor. 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 investor can send both public and private messages.

To ease the notation, private messages are denoted by m and 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 $\mu : [0, \bar{\theta}] \rightarrow [0, \bar{\theta}]^2$. 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 4. Suppose there are $(m_L, n_L) \neq (m_R, n_R)$ on the equilibrium path such that $x^*(m_L, n_L) = L$ and $x^*(m_R, n_R) = R$. Since $\delta > 0$, there is always a positive probability that the investor will exit, and therefore, among all messages (m_R, n_R) such that $x^*(m_R, n_R) = R$, she only sends those that generate the highest price upon exit. Similarly, among all messages (m_L, n_L) such that $x^*(m_L, n_L) = L$, she only sends those that generate the highest price upon exit. Also notice that the investor does not pay attention to the effect of these public messages on shareholders' decision to support the campaign, the investor can always influence the board's decision by sending the appropriate message. Therefore, without the loss of generality, (m_L, n_L) and (m_R, n_R) with the properties above are unique. I argue that it must be $n_L = n_R$. Suppose on the contrary that $n_L \neq n_R$. In this case, the messages (m_L, n_L) and (m_R, n_R) are effectively public. That is, the market maker and shareholders infer that if $n = n_R$ ($n = n_L$) then it must be $m = m_R$ ($m = m_L$). Therefore, the same proof as of part (i) of Proposition 4 shows that an influential equilibrium cannot exist. That is, it cannot be $x^*(m_L, n_L) \neq x^*(m_R, n_R)$, which yields a contradiction. Therefore, it must be $n_L = n_R$. However, if $n_L = n_R$ then the messages (m_L, n_L) and (m_R, n_R) are effectively private. In this case, an influential equilibrium will exist under the same conditions of Proposition 2, and will have the same properties. The public messages must be uninformative. Overall, every influential equilibrium must satisfy Definition 1, which completes the proof. ■

Proof of Proposition 5. Suppose the board and the investor are both perfectly informed about $\tilde{\theta}$. Let $\tilde{z} \in \{\tilde{c}, \tilde{\Delta}, \tilde{\kappa}\}$ be a random variable with probability density function f_z . Suppose the investor privately observes \tilde{z} . In this setup, an equilibrium is considered influential if there exist $z' \neq z''$ in the support of f_z and $\Theta \subseteq [0, \bar{\theta}]$ with $\Pr[\tilde{\theta} \in \Theta] > 0$ such that $\mu^*(z') \neq \mu^*(z'')$ and $x^*(\mu^*(z'), \theta) \neq x^*(\mu^*(z''), \theta)$ for every $\theta \in \Theta$.

Suppose an influential equilibrium exists, and let p^* be the price upon exit in this equi-

librium. There are two cases to consider. First, suppose $p^* \geq \underline{\theta}$. As in the baseline model, the investor exits strategically if and only if $\tilde{\theta} > p^* - \frac{\gamma}{\alpha}$. If $\tilde{\theta} \leq p^* - \frac{\gamma}{\alpha}$ then the investor will exit either way, and therefore, she will remain silent, i.e., send message ϕ regardless of the realization of \tilde{z} . Suppose $\tilde{\theta} > p^* - \frac{\gamma}{\alpha}$. The investor has strict incentives to convince the board to choose $x = R$. Therefore, the investor will only send messages that result with $x = R$. Either way, the equilibrium is not influential.

Second, suppose $p^* < \underline{\theta}$. As in the baseline model, the investor has no incentives to exit strategically, and she would like the board to change the status quo if and only if $\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}$. Therefore, if $\tilde{\theta} < \underline{\theta} - \frac{\gamma}{\alpha}$ ($\tilde{\theta} > \underline{\theta} - \frac{\gamma}{\alpha}$) then, regardless of the realization of \tilde{z} , the investor has strict incentives to convince the board to choose $x = L$ ($x = R$), and she will only send messages that result with $x = L$ ($x = R$). Either way, the equilibrium is not influential. ■

Proof of Proposition 6. Let $\pi^*(\alpha)$ be as defined by Lemma 5, let $b^*(\pi^*(\alpha), \alpha)$ be as given by (16), and let $W_C^*(\alpha)$ be as given by (17). Consider an equilibrium in which the investor buys $\bar{\alpha}$ shares of the target regardless of the realization of $\tilde{\theta}$. In this pooling equilibrium, the disclosure of the investor's position does not reveal information about $\tilde{\theta}$. Since $\beta \leq b^*(\pi^*(\bar{\alpha}), \bar{\alpha})$, post-entry the equilibrium unfolds as described by Proposition 2 and Lemma 5, where α is replaced by $\bar{\alpha}$ everywhere. Moreover, in this equilibrium, if $\alpha \leq \bar{\alpha}$ then $p_{\text{entry}}^*(\alpha) = \frac{1}{N}W_C^*(\bar{\alpha}) + \frac{N-1}{N}\underline{\theta}$. Indeed, the market maker believes that there is probability $\frac{1}{N}$ that the firm is targeted by the investor. If the investor targets this firm, then based on Proposition 2, the expected shareholder value is $W_C^*(\bar{\alpha})$. However, if the firm is not the target, then the investor will not buy shares of the firm, the board of this non-target firm will maintain the status quo, and the value of this firm is $\underline{\theta}$. These arguments explain the logic behind $p_{\text{entry}}^*(\alpha)$. Next, the expected payoff of type $\tilde{\theta}$ in equilibrium is $\bar{\alpha}[u_I(\tilde{\theta}, \bar{\alpha}) - p_{\text{entry}}^*(\bar{\alpha})]$ where

$$u_I(\tilde{\theta}, \alpha) = \delta\pi^*(\alpha) + (1 - \delta) \max\{\tilde{\theta} + \gamma/\alpha, \pi^*(\alpha)\}. \quad (35)$$

Notice that $N > \frac{W_C^*(\bar{\alpha}) - \underline{\theta}}{\pi^*(\bar{\alpha}) - \underline{\theta}} \Rightarrow \pi^*(\bar{\alpha}) > p_{\text{entry}}^*(\bar{\alpha})$, which means $u_I(\tilde{\theta}, \bar{\alpha}) - p_{\text{entry}}^*(\bar{\alpha}) > 0$ for all $\tilde{\theta} \geq 0$.

Finally, I support the equilibrium by assuming that for any deviation $\alpha \neq \bar{\alpha}$, the boards and the market maker assume that the firm is a nontarget. Therefore, the board does not change the status quo and market maker quotes a price $\underline{\theta}$ upon exit. Under these off-equilibrium beliefs, the investor's profit from deviation is zero if $\alpha > \bar{\alpha}$ and $\bar{\alpha}[\underline{\theta} - p_{\text{entry}}^*(\alpha)] < 0$ if $\alpha < \bar{\alpha}$ (notice that $W_C^*(\bar{\alpha}) > \underline{\theta}$, and therefore, $p_{\text{entry}}^*(\alpha) > \underline{\theta}$). Therefore, no deviation is profitable, as required. ■