DISCUSSION PAPER SERIES

No. 8587

DELEGATED ACTIVISM AND DISCLOSURE

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FINANCIAL ECONOMICS

Centre for Economic Policy Research

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ISSN 0265-8003

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Discussion Paper No. 8587
October 2011

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CEPR Discussion Paper No. 8587

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ABSTRACT

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JEL Classification: G0 and G3
Keywords: corporate governance, activist investors, mutual funds, delegated portfolio management

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* We are grateful to Andres Almazan, Bernie Black, Cristina Cella, Daniel Ferreira, Marcus Opp, Dimitri Vayanos, and seminar audiences at Amsterdam, LSE, Warwick, the WFA 2011 Annual Meeting, and CEPR's ESSFM 2011 for helpful comments. We thank the Paul Woolley Centre at the LSE for financial support.

Submitted 15 September 2011

Delegated Activism and Disclosure*

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First version: August 2010
This version: September 2011

Abstract

Mutual funds are significant blockholders in many corporations. Concerns that funds vote in a pro-management manner to garner lucrative pensions contracts led the SEC to mandate the disclosure of proxy votes. We present a model of mutual fund voting in the presence of potential business ties. We characterize the limits of delegated activism by mutual funds pre- and post-disclosure and show that disclosure is not a panacea: for some proposals disclosure hurts activism. The desirability of disclosure also depends on the distribution of business ties amongst mutual funds. We provide support for existing empirical findings and generate new testable implications.

1 Introduction

As the institutional asset management industry has grown in size and importance in recent decades, money managers have become increasingly involved in shareholder activism (Gillan and Starks (2007)). There is, however, a notable exception. Mutual funds – which indirectly own nearly 20% of US equity and hold sizeable blocks in many of the largest US corporations (Davis and Yoo (2003)) – have largely abstained from shareholder activism (Kahan and Rock (2007), Gillan and Starks (2007)). Indeed, there has been widespread suspicion over a number of years that mutual funds actually *oppose* value-enhancing activism, voting in a pro-management manner in order to retain or garner lucrative pensions administration contracts with portfolio firms. Davis and Kim (2007) note, for example, that Fidelity assumes a much more activist stance in Europe where it has little role in pensions management while

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being much less activist in the US where a large part of its revenue comes from pensions administration.[1] To put it in the words of the US Securities and Exchange Commission (SEC Release Nos 33-8188, 34-47304, IC-25922, page 3):

> "...in some situations the interests of a mutual fund's shareholders may conflict with those of its investment adviser with respect to proxy voting. This may occur, for example, when a fund's adviser also manages or seeks to manage the retirement plan assets of a company whose securities are held by the fund. In these situations, a fund's adviser may have an incentive to support management recommendations to further its business interests..."

In response to these concerns, the SEC proposed in 2002 new regulations that would require that mutual funds disclose their proxy voting policies on shareholder proposals for portfolio firms and to publish the votes actually cast. The degree of concern in the industry with regard to the potential for conflicted proxy voting by mutual funds is evidenced by the significant response received by the SEC during the consultation period, which was made up of several thousand letters of support for the proposed new rule from activist investors, labour union pensions funds, and other practitioners (SEC (2003)). In sharp contrast, the proposals were almost universally opposed by the mutual fund industry. Nevertheless, the SEC adopted the new rules (Rule 30b1-4 of the Investment Companies Act) effective in April 2003, making proxy voting policy disclosure and the recording of proxy votes by mutual funds mandatory.

Despite the polarization of opinion with regard to the new SEC regulations, little is known theoretically about why mutual fund activism was so limited prior to disclosure, and how mandatory disclosure is likely to affect the degree of activism. In this paper, we fill this gap by developing a simple game-theoretic model of mutual fund activism in the presence of potential business connections with portfolio firms. Our model features a dual-layered agency problem. Firms' executives may shirk to extract private benefits, and risk failure of a project at the expense of shareholders. Shareholders bring forth proposals to reduce such private benefits. But the blockholders whose votes influence the fate of these proposals are mutual funds who compete with each other for lucrative pensions administration contracts which are at the giving of firms' executives. It is worth noting that both the ingredients of our model – the lucrativeness of pensions administration contracts on the one hand, and the presence of multiple mutual fund equity holders who compete for such contracts on the other – are empirically justified (see, for example, Davis and Kim (2007) Tables 1 and 2).

[1] Another telling anecdote can be found in Black (1990), who describes an episode in which, Fidelity seemingly obtained Armstrong Inc's large pensions administration business from Vanguard by removing its opposition to a proposed controversial Pennsylvania law that enhanced the power of existing board to oppose takeovers.

We use this model to make two main contributions. First, we provide theoretical foundations for the limited degree of shareholder activism by mutual funds, tracing its roots to strategic interaction between blockholders and management and amongst competing blockholders. Second, we show that mandatory disclosure is not a panacea with respect to shareholder activism. The effect of mandatory disclosure on shareholder activism depends on the nature of the proposal. We show that there exist a range of shareholder proposals for which mandatory disclosure makes shareholder activism *less* effective. We also show that the effect of disclosure may depend on the distribution of business ties across mutual funds. In addition to these results, our model generates several empirical predictions which either complement existing empirical results or constitute new testable implications.

Several recent empirical studies have highlighted the perverse incentives in the proxy voting of funds arising from their role as pension funds administrators.[2] Davis and Kim (2007), Matvos and Ostrovsky (2010), and Cremers and Romano (2011) all report some ostensible departure from the optimal level of activism, from a firm's shareholders perspective, following disclosure. These findings raise the question of whether disclosure is a desirable regulation, even from the perspective of those in support of shareholder activism. Our paper provides a theoretical response to this question. Importantly, the question is not merely of retrospective interest. In the wake of the recent financial crisis, there is a renewed interest in the role of institutional investors in corporate governance. Other countries may wish to emulate the US in implementing similar disclosure rules for mutual funds' proxy voting. For example, the influential Walker Review (Walker (2009), Recommendation 22, page 19) of the regulatory environment in the United Kingdom suggests that:

> "...Voting powers should be exercised, fund managers and other institutional investors should disclose their voting record, and their policies in respect of voting should be described in statements on their websites or in other publicly accessible form..."

The actors in our model are two ex ante asymmetric mutual funds which invest on behalf of passive investors in a large number of ex ante symmetric firms, the managers of these firms, and a large number of small atomistic direct shareholders who also (directly) hold equity in these firms.[3] The funds hold blocks of equity shares in the firms. One of the funds, by virtue

[2]Early empirical papers that studied the conflicts of interest due to business dealings, which may affect how institutional investors use their proxy votes, include Brickley, Lease, and Smith-Jr. (1988), and Pound (1988).

[3]The direct owners do not necessarily have to be small or uncoordinated. Indeed, they may be proxies for ownership by public pensions funds, labour union funds, activist "clubs" etc. The distinguishing feature of these investors is that they are purely interested in the value of the shares of the firm, and thus in reducing the rents that can be enjoyed by management.

of its larger size, holds larger blocks than the other. We refer to the former fund as the "large fund" and the latter as the "small fund." As a result of its larger equity holdings, the large fund is characterized by greater voting power than the small fund.

In addition to their role in investing in the firms on behalf of their investors, funds may act in the role of pensions administrators for the firms: for a fee, they provide investment advisory and fund allocation services to the employees of the firm with regard to their pensions contributions.

The direct shareholders of the firms can make efforts to reduce the agency rents that can be earned by the firms' managers by bringing forth proposals to reduce their private benefits from effort avoidance. Mutual funds vote on these proposals, along with small shareholders. Firms' managers observe voting and determine the recipient of the pensions administration contract.[4] A vote in favour of a proposal which reduces managerial agency rents represents shareholder activism. We study *delegated* activism: the votes of the blockholding funds are relevant for the success of activist proposals, but the funds vote *on behalf of* their passive investors.

We provide two main sets of theoretical results. The first set of results characterizes the limits on delegated activism that arise from the dual incentives of mutual funds. The second set of results characterizes the effect of mandatory disclosure rules on such delegated activism. Both sets of results have rich – and sometimes counterintuitive – empirical implications.

Our first set of results demonstrates that competition for pensions management contracts by mutual funds imposes significant limits on delegated shareholder activism. These limits of activism arise from a combination of two crucial strategic interactions. The first of these strategic interactions is between the mutual fund blockholders in companies and the management of these companies. Company management wishes to oppose value enhancing shareholder activism because it reduces managerial rents. The success of shareholder activism relies on the voting support of mutual fund blockholders. Yet, these mutual funds are reliant on firms' management to obtain lucrative pensions management contracts. Thus, in equilibrium, management rationally uses pensions allocation decisions as a threat to induce institutional blockholders to vote against activist proposals. By doing so, however, funds pass up value enhancement to their own portfolio which costs them management fees. Thus, funds must trade-off portfolio value enhancement against pensions management fees in de-

[4]Throughout we assume that managers can observe the votes of funds prior to mandatory disclosure. This is a realistic assumption. First, many firms do not have confidential voting, and thus management sees votes as they come in. Even with confidential voting it is hard for a large blockholder to hide votes. Mutual funds usually own millions of shares and proxy solicitors (and hence also managers) are likely to be able to infer their votes. Furthermore, the conflict of interest alleged by so many parties would be absent if a fund could not signal to a firm's manager how it voted. It is worth noting that mutual funds were the only interest group that protested that disclosure might lead to firms penalizing them on how they vote.

ciding how to vote. This strategic interaction implies that funds will generally vote more pro-management for proposals which increase firm value by smaller amounts. We show that such a qualitative relationship between proposal value and activist voting characterizes the voting strategies of funds both prior to and following mandatory disclosure across a wide range of potential ownership structures.

The other – and more subtle – strategic interaction limiting delegated activism in our model is *between* mutual fund blockholders. It is easier to appreciate such a strategic interaction by comparing voting behaviour across two different ownership structures. In the first – baseline – ownership structure (analyzed in Section 3) we effectively shut down strategic interactions between institutional blockholders by making the large fund very large and the small fund very small. In this extreme setting, the large fund acts purely in response to the incentives provided by management (as outlined above) and the small fund is irrelevant and so is indifferent across all voting strategies. The large fund votes pro-management for all but the most value enhancing of proposals.

In order to examine the effect of strategic interactions between blockholders, we then allow (in Section 4) for blockholders of comparable sizes. Interestingly we find that now the large fund becomes *less* activist as a result of such strategic interaction. This is because, now that its votes matter, the small fund will no longer be indifferent: there will be ranges of proposals for which it will strictly prefer to vote in an activist way to enhance portfolio value. But, then the large fund can actually rely on the small fund to create the possibility of portfolio value enhancement *even if the large fund votes pro-management*, thus reducing the trade-off between enhancing portfolio value and garnering pensions contracts. Since ownership structures that enable strategic interaction between blockholders affect the effectiveness of activism by the large and small funds in *opposite* ways, we show that interesting and counterintuitive non-monotonicities may arise. Strategic interactions between institutional blockholders may help or hinder activism. A consequence of this result is that – despite the fact that the presence of mutual fund blockholders are the sole obstacles to shareholder activism in our setting – the effectiveness of shareholder activism may be *non-monotone* in the overall level of mutual fund ownership.

Our second set of results characterizes the effect of mandatory disclosure on the overall effectiveness of delegated activism. Despite the widespread support amongst activists for mandatory disclosure, we find that mandatory disclosure is *not* a panacea: it has an ambiguous effect on the overall effectiveness of delegated activism. Perhaps of greatest significance from a policy perspective is our finding that mandatory disclosure may actually reduce the overall effectiveness of delegated activism for a range of (intermediate-valued) shareholder proposals. This is due to the fact that, post-disclosure funds are forced to choose their voting

strategies independently of business ties. They will thus choose to determine their strategies based on the overall composition of client relationships within their portfolio. While – as advocates of the policy would have hoped – this leads mutual funds to sometimes vote *less* pro-management for firms that they have business ties with, it also leads them to vote *more* pro-management for firms that they *don't* have business ties with. Whether the overall impact is to increase or decrease activism depends on the value of the proposal. Interestingly, we find that disclosure can have a particularly deleterious impact on the effectiveness of delegated activism when more contracts are concentrated in the hands of the larger fund. Thus, when evaluating the potential benefits of mandating disclosure, policy makers must take into account both the distribution of the value of shareholder proposals and the distribution of business ties within the mutual fund industry.

In addition to these policy implications, our theoretical results provide both support for existing empirical evidence and several new testable predictions. For example, our results imply that if we compare firms in which mutual fund owernship is highly concentrated and significant to those in which it is relatively dispersed and less significant, the largest blockholder will be less activist in the latter type of firms. Our empirical and policy implications are detailed in Section 5.

1.1 Some related literature

Our paper speaks directly to a small but growing set of empirical studies that have begun to investigate mutual fund activism in the aftermath of mandatory disclosure. Davis and Kim (2007) use data on business connections and post-disclosure proxy voting by mutual funds to investigate patterns of behaviour. They find that the overall level of activism by mutual funds is decreasing in the amount of pensions management business that the fund is engaged in – a finding for which our results provide a theoretical foundation. Matvos and Ostrovsky (2010) study post-disclosure voting by mutual funds on firms' director elections and find, amongst other things, that there is systematic heterogeneity in how funds vote upon ostensibly similar voting contests. They note that this heterogeneity may be attributed to business ties between funds and portfolio firms. A recent paper that relates voting behaviour by mutual funds pre- and post-disclosure is by Cremers and Romano (2011). They infer voting behaviour from outcomes prior to disclosure and consider the relationship between overall mutual fund ownership and voting outcomes pre- and post-disclosure. For proposals to adopt or amend executive equity incentive compensation plans, they find that overall mutual fund support for management increased following disclosure. We provide a result consistent with

this finding.[5]

Our paper has a family relationship with a number of well known papers that examine the role of large blockholders in monitoring firms (e.g., Grossman and Hart (1980), Shleifer and Vishny (1986), Admati, Pfleiderer, and Zechner (1994), and Kahn and Winton (1998)). This literature has been concerned with costly monitoring, and incentives to monitor given the free-rider problem inherent in monitoring activities in the presence of many small shareholders. In contrast to these papers, we are not interested in costly monitoring or endogenous blockholdings. We are interested in an environment in which the blockholdings – as is the case for many large mutual funds – are essentially determined by explicit or implicit indexing, or are of a size that cannot easily be retraded away. We consider a very specific form of monitoring, that of proxy voting.[6,7] The benefits of being an active shareholder far exceed any costs (e.g., research for firm specific votes) and so "monitoring" in our setup is essentially free: the free-rider problem is not first order in our analysis.[8] Moreover, it is exactly passive captive blockholders who have more value to salvage by becoming involved in the corporate governance of their portfolio firms.

We differ from this prior literature in another, deeper, sense. The theoretical literature discussed above treats large blockholders as, effectively, individual shareholders who happen to own large blocks. However, in reality, most blockholders are institutional traders, typically *delegated portfolio managers*. Although both individual large shareholders and delegated managers can enjoy perks from special relationships with management, the fund's behaviour hurts both the firm's and the fund's shareholders, while the large individual shareholder's behaviour hurts only firm's shareholders. Since mutual funds are motivated by contractual incentives, our environment features an additional agency problem, between mutual funds and their investors, the effect of which is detrimental to *both* these investors and to the shareholders of portfolio firms. Moreover competition by mutual funds for beneficial relationships with firms is an important driver of our results, which is not present in the literature on large individual shareholders.

[5]Other aspects of how these business dealings may alter the incentives of mutual funds can be found in Cohen and Schmidt (2009) who show that mutual funds overweight client firms, and Duan, Hotchkiss, and Jiao (2011) who show that mutual funds may use valuable information they acquire by being pension managers. An important result in Duan, Hotchkiss, and Jiao (2011) that relates to our study is that the decision to hire mutual funds as pension managers is not driven by the portfolio management skills of the fund.

[6]The importance of shareholder vote has increased recently due to impending "proxy access" and "say-on-pay" regulation, the move from plurality to majority voting schemes, the dismantlement of staggered boards, and the end to discretionary voting by brokers, see Choi, Fisch, and Kahan (2010).

[7]Even in the cases where decisions of proxy votes are not binding managers are reluctant, as noted by Gordon (2008), to reject recommendations that are supported by the majority of shareholders.

[8]In some cases institutional investors outsource some of the research to proxy advisors (e.g., ISS and Glass, Lewis & Co.) but even then those proxy advisors do not seem to influence investors' votes in any substantial way, see Choi, Fisch, and Kahan (2010), and McCahery, Sautner, and Starks (2010).

While a recent theoretical literature has started to consider the implications of agency problems in portfolio management for trading, prices, and other financial equilibrium quantities, there has been no attempt, to our knowledge, to examine the effect on corporate governance.[9] Our paper represents a first step to begin to fill that gap.

The rest of the paper is organized as follows. The model is presented in the next section. Section 3 analyzes the benchmark case in which the largest blockholder is quite large. Section 4 considers the more realistic case in which no single blockholder is dominant. In Section 5 we spell out the empirical and policy implications of our model. Section 6 concludes.

2 Model

We consider a single-period model with a large number of ex ante symmetric equity-financed firms and two investment funds.[10] We label the representative firm n. We label the two investment funds L and S. Let $L(n)$, $S(n)$, and $1 - L(n) - S(n)$ denote the proportionate equity holdings in firm n by fund L, fund S, and by the small direct investors, respectively.[11] We assume throughout that $L(n) > S(n)$, i.e., fund L is "larger" than fund S.

Consider the representative firm n. It is run by a manager. The firm consists of a project whose payoff is either $R > 0$ or 0, realized at the end of the period. There is a moral hazard problem, which we model following Holmstrom and Tirole (1997) as follows: By exerting (uncontractible) effort the manager can raise the probability of the positive payoff from ρ_l to $\rho_h > \rho_l$, but the exertion of effort comes at the cost of a private benefit B. The existence of such managerial private benefits is a stylized proxy for imperfections in corporate governance. Projects are positive net present value (NPV) only conditional on managerial effort.

At the beginning of the period shareholders bring forward a proposal to decrease private benefits from B to $b < B$ where $b \in \left\{b^1, \ldots, b^K\right\}$. All shareholders of the firm are allowed to vote on these proposals. The details of the voting game are described in Section 2.2. Following the vote, the manager makes her effort decision.

At the beginning of the game shareholders make a take-it-or-leave-it contract offer to the manager, specifying a division of cash-flows conditional on the observable cash-flow and the outcome of the vote. If, following the vote, the manager's private benefit is $B^* \in \{B, b\}$ then

[9] For models of the impact of incentive conflicts arising out of delegated portfolio management see, for example, Dasgupta and Prat (2008), and Vayanos and Woolley (2009). A very recent paper that examines the effect of the career concerns of portfolio managers on the effectiveness of exit as a governance mechanism is Dasgupta and Piacentino (2011).

[10] Considering more than two funds would yield similar qualitative results at the cost of substantial modelling complexity, arising from the voting game described in Section 2.2.

[11] As discussed in the introduction, we think of the two mutual funds as being explicit or implicit indexers, and thus consider fund blockholdings to be exogenous.

the contract specifies a payment of $R_m(B^*)$ when the cash-flow is R and zero otherwise. The rest is paid to the shareholders, who thus have all the bargaining power.

Since effort is essential for the project to have positive NPV, it is easy to solve for the optimal contract. The manager exerts effort if $\rho_h R_m(B^*) \geq \rho_l R_m(B^*) + B^*$. This leads shareholders to set $R_m(B^*) = B^*/\Delta\rho$, where $\Delta\rho = \rho_h - \rho_l$. The manager then exerts effort that yields an expected payoff of $\rho_h(R - B^*/\Delta\rho)$ for the shareholders.

Since the market value of the firm, $\rho_h(R - B^*/\Delta\rho)$, is decreasing in the managerial private benefit, the passage of the shareholder proposal is value enhancing.[12] We now proceed to describe the incentives of the institutional shareholders.

2.1 Pensions Administration

Firms have pensions plans for their employees, which cannot be administered in-house.[13] Each firm must allocate its pensions contract to one of the investment funds. The funds receive fees for their pensions administration services. Shareholders pay the fee to the relevant investment fund: it is part of the cost of investing in the firm.[14] Each firm enters the game randomly matched to a pensions administrator. However, following voting, the firm's manager can decide whether to retain or replace the current pensions administrator. The pensions administration fee is paid at the end of the game and is thus earned by that fund which is hired by the firm's manager following the vote. Thus the initial random allocation is innocuous, since no fees are earned between the beginning of the period and the vote.

Investment funds thus have a dual role. First, they manage assets for investors. For this they receive a fee that is increasing in their end-of-period portfolio value. The portfolio value, in turn, is determined by the market value of portfolio firms. The value of these portfolio firms depends on the outcome of voting on shareholder proposals. Since firm value depends on the post-voting managerial private benefit B^*, the management fee attributable to holdings in a given firm will be a function $f(B^*)$. Since the value of the firm is decreasing in B^* and the value of the management fee is increasing in the value of the portfolio (which is increasing in the value of the firm), the function $f(\cdot)$ is *decreasing*. Denote by $p = f(b) - f(B)$, i.e., the incremental value due to portfolio value enhancement to funds from the passage of a shareholder proposal b. Since $f(\cdot)$ is decreasing, $p > 0$. Corresponding to $b \in \{b^1, \ldots, b^K\}$ we thus have $p \in \mathcal{P} = \{p^1, \ldots, p^K\}$. Our assumption that the management fee is increasing in end-of-period portfolio value is a reduced form for the well-documented flow-performance

[12] In Appendix C we introduce also management-sponsored proposals which are value reducing.

[13] This is reasonable for all but the largest firms, and could reflect some specific skills possessed by the investment fund manager.

[14] Thus, our assumption that the project has positive NPV conditional on managerial effort should be understood to be valid even taking into account the pensions management fee.

relationship (see, for example, Chevalier and Ellison (1997)): mutual funds that have relatively high performance receive inflows – and thus higher assets-under-management fees – in comparison to mutual funds with relatively low performance.

Investment funds also manage pension-plans of individual firms. They receive pensions administration fees from those firms where they are retained or hired following voting. When a shareholder proposal arises at a firm at the beginning of the period, a given fund may be the current pensions administrator for that firm. If so, we say that the fund is in a state of client relationship with respect to that firm (state C). Alternatively, there is no existing client relationship between the fund and the firm and thus the fund is *not* in a state of client relationship with respect to that firm (state NC). There are set-up costs incurred by the fund to taking over a new pensions management contract (or, equivalently, there are relationship benefits within pensions administration) so that the pensions administration fee paid following the vote translates into a state-dependent payoff. If the fund was in state C before the vote, the rents earned are $x^{\mathrm{C}} > 0$, while if it was in state NC the rents are $x^{\mathrm{NC}} \in \left(0, x^{\mathrm{C}}\right)$. In other words the fund receives x^{C} no matter its state but incurs cost $x^{\mathrm{C}} - x^{\mathrm{NC}}$ if it has to take on a new pensions contract, so that its net payoff in that case is x^{NC}. Hence it *values* relationships with existing clients more highly. All our qualitative results hold for any $x^{\mathrm{C}}, x^{\mathrm{NC}}$ where $0 < x^{\mathrm{NC}} < x^{\mathrm{C}}$. We denote a generic state by $\omega \in \{\mathrm{NC}, \mathrm{C}\}$, and let $\bar{\omega}$ be the compliment of ω.

The timing of the game is depicted in Figure 1. To complete our description of the model, we now describe the details of the voting game.

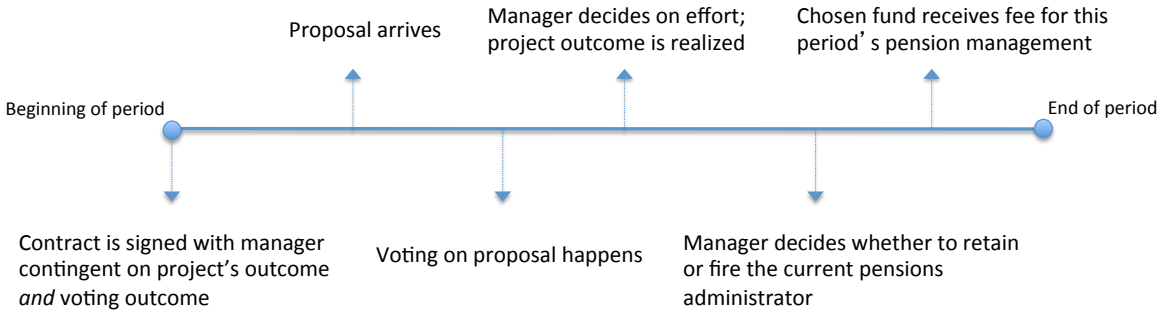

Figure 1: Timing.

2.2 The Voting Game

Equity holders in firms vote on shareholder proposals. Shareholder proposals are sponsored by a wide variety of agents – ranging from large public pensions funds such as CalPERS to

disgruntled groups of individual shareholders – with widely differing goals and motivations (see Gillan and Starks (2007) for a detailed description). While the modelling of the endogenous generation of shareholder proposals represents an interesting goal, we feel that it would signficantly distract from our focus on the voting behaviour of delegated blockholders. For our purposes, therefore, we assume that proposals arrive exogenously and in an i.i.d. fashion in the cross-section of ex ante symmetric firms. The manager can observe votes, and the voting outcome, for any proposal for any firm, is determined by majority rule.[15] To recap, under the optimal contract, a shareholder proposal to change managerial benefits from B to b reduces the payoffs of the manager (from $B/\Delta\rho$ to $b/\Delta\rho$) and increases the value of the firm (from $\rho_h\left(R - B/\Delta\rho\right)$ to $\rho_h\left(R - b/\Delta\rho\right)$).[16] Management would always oppose such a proposal. Small shareholders – who only care about firm value – would always be in favour. Thus, we refer to a vote in favour of such a proposal as *activism*.

Given the dual incentives described in Section 2.1, funds may or may not vote in favour of a proposal. To veto value enhancing proposals one needs $\tau\%$ of the present voters to vote no. Mutual funds blockholders always turn out to vote.[17] However, small shareholder turnout is stochastic, which we capture by letting y be the *random* number of shares of other shareholders who choose to attend the vote, where $y \sim F_n$ in $[0, 1 - L(n) - S(n)]$.[18] The veto power of each fund depends on how the other fund chooses to vote, so for such firm n we accordingly define

$$\begin{aligned}
q_{LS'}(n) &= \mathbb{P}\left[\frac{L(n)}{L(n)+S(n)+y} > \tau\right] = \mathbb{P}\left[y < \frac{(1-\tau)L(n) - \tau S(n)}{\tau}\right], \\
q_{L'S}(n) &= \mathbb{P}\left[\frac{S(n)}{L(n)+S(n)+y} > \tau\right] = \mathbb{P}\left[y < \frac{(1-\tau)S(n) - \tau L(n)}{\tau}\right], \\
q_{LS}(n) &= \mathbb{P}\left[\frac{L(n)+S(n)}{L(n)+S(n)+y} > \tau\right] = \mathbb{P}\left[y < \frac{(1-\tau)\left(L(n)+S(n)\right)}{\tau}\right].
\end{aligned}$$

Hence $q_{LS'}(n)$ is the veto power of L when S votes yes, $q_{L'S}(n)$ is the veto power of S when L votes yes, and $q_{LS}(n)$ is the veto power of either L or S when they both vote no. By virtue of the fact that $L(n) > S(n)$, we can see that $q_{LS}(n) > q_{LS'}(n) > q_{L'S}(n)$, i.e., L has more

[15] It is easy to see that it is immaterial whether we require majority over the whole body of shareholders or just over those who choose to vote.

[16] Note that we have abstracted from the possibility of contractual payments contingent on the retention strategy used by the firm's manager. This is entirely realistic, since managerial compensation packages are rarely explicitly contingent on day-to-day business decisions. Nevertheless, we provide a discussion of richer contracting environments in Appendix B. There we show that, within a reasonable class of enriched contracts that allow for payments contingent upon the manager's retention strategy, it is not possible to find a contract that increases the payoffs to firm's shareholders beyond what is achieved by the contract specified above.

[17] Mutual funds are obliged to vote their proxies by the Investment Companies Act.

[18] This could be, for example, because small shareholders are not perfectly attentive or are subject to small exogenous shocks that prevent them from attending votes.

veto power alone than S alone in any firm n.

2.3 Useful Terminology

Our main concern below will be with regard to how the dual incentives of mutual funds affect their activism. Before proceeding further it is worth introducing some terminology. How a fund votes may, in general, depend both on the value of the proposal and whether the fund has a business relationship with the firm. We say that a fund is *less activist* if either of the following two statements hold: (i) For any given firm, it votes pro-management for a larger range of proposals (i.e., a reduction in *per-firm activism*); or (ii) for any given proposal, it votes pro-management for a larger number of firms (i.e., a reduction in *cross-sectional activism*). Since funds' voting translates stochastically into outcomes for shareholder proposals, it is also useful to define, for any given firm and for any given proposal, the *effectiveness of activism* as the probability of that proposal not being vetoed for that firm. Finally, when we consider changes in regulation, it is imperative to be able to make statements about the impact of regulatory change on the *overall* effectiveness of activism. For a given proposal, we say that a regulatory change lowers the *overall effectiveness of activism* if it weakly reduces the effectiveness of activism for that proposal in all firms and strictly reduces it for some firms. Needless to say, all these statements have symmetric counterparts where we replace "less" by "more," "reduce" by "increase," "lowers" by "raise," etc.

We now proceed to analyze this model. We begin by analyzing a particularly convenient benchmark case in which the large fund has full veto power and the small fund has none. While this is not very realistic – because mutual funds' blocks are sizeable but do not typically allow them full veto power in most companies – starting in this way has three important benefits. First, it allows us to present some of our core results in the simplest possible environment. Second, in Section 4 we show that relaxing the assumption of the pivotality of the large fund leads to similar qualitative results, while vastly enriching the set of predictions. Finally, we believe that the rich predictions arising from Section 4 are best understood in the backdrop of a simpler benchmark case.

3 Baseline Case: Large fund with full veto power

For our baseline analysis we assume that the large fund is quite large and the small fund is quite small, in the sense that for all firms n, $L(n) \geq (1-\tau)S(n)/\tau$, and $L(n) \geq \tau$. These imply, that $q_{LS'} = 1$, and $q_{L'S} = 0$, so that L has full veto power whereas S has none.

3.1 The Limits of Activism Prior to Mandatory Disclosure

When a fund does not need to disclose its vote to a regulator it can solve its decision problem per firm n and so we drop the firm identifier for the rest of this subsection. At the beginning of the period, before voting occurs, the firm's manager can commit to a replacement strategy conditional on how the two blockholders vote in that period. Let $\sigma(v_L, v_S) \in [0,1]$ denote the probability that L is retained (hired) when L and S vote $v_L \in \{Y, N\}$ and $v_S \in \{Y, N\}$, respectively, where Y denotes "yes" and N denotes "no". Recall that vote Y is activist (anti-management) while vote N is pro-management. Note that commitment is fully credible given the payoffs of the model.

Proposition 1 *In any pre-disclosure equilibrium: (i) The manager sets* $\sigma(N,N) = \sigma(N,Y) = 1$ *and* $\sigma(Y,Y) = \sigma(Y,N) = 0$*, i.e., she gives the contract to L if and only if it votes pro-management; (ii) S is indifferent across votes; and (iii) L votes against management for* $x^\omega < p$ *and pro-management for* $x^\omega > p$ *when in state* $\omega \in \{NC,\ C\}$*.*

All proofs are in Appendix A. The intuition is as follows. The manager uses her replacement strategy to incentivize funds to vote pro-management. Thus, he commits to punishing the most anti-management fund by setting $\sigma(N,Y) = 1$ and $\sigma(Y,N) = 0$. In addition – given the pivotal importance of L – when funds behave identically, the manager finds it optimal to purely incentivize L. He does so by setting $\sigma(N,N) = 1$ and $\sigma(Y,Y) = 0$. Fund L responds to these incentives by voting N (i.e., pro-management) unless the proposal p is so valuable that portfolio value benefits outweigh the relationship-dependent rents arising from pensions administration. Fund S is unable to affect portfolio value via voting, and – given the manager's decision to incentivize only L – is also unable to affect the chances of remaining or becoming the pensions administrator. Thus S is indifferent across votes.

We now comment on the implications of this result. Our first observation is that the degree of support given to shareholder proposals by mutual funds is limited. In equilibrium, voting against management leads to a loss of pensions administration contracts, and thus induces fund L, the only potential activist who has impact, to vote pro-management for all but the most value-enhancing of proposals. In this baseline case, S's activism is irrelevant for the effectiveness of activism. Thus – since S is endogenously indifferent across votes anyway – we remain silent on S's strategy. In Section 4, where we consider the more realistic case in which no fund has full veto power, we shall be more explicit on the equilibrium behaviour of S in order to delineate an upper bound on feasible delegated activism.[19]

[19]However, it is easy to see that – if managers reward pro-management voting – it is *weakly dominant* for S to vote with management. Thus, the unique equilibrium in *undominated* strategies involves S *always* voting pro-management (without changing the behaviour of the manager and L).

Our result also ties together two commonly made empirical observations, namely (i) that mutual funds do not usually support shareholder activism (e.g., Kahan and Rock (2007)) and (ii) that pensions administration contracts concentrate in the hands of the larger mutual funds (e.g., Davis and Kim (2007)). In this equilibrium, the firm's manager awards the pensions administration contract to the largest fund when both funds vote pro-management. This is because, quite naturally, the firm's manager is mostly interested in influencing the behaviour of the largest blockholder. When combined with the observation that mutual funds mostly vote pro-management (i.e., (N, N) is a common voting outcome), this implies that pensions administration contracts will cluster in the hands of the largest funds.[20]

3.2 The Effect of Mandatory Disclosure

We now solve for the equilibrium of the model when the funds need to disclose their voting policy ex ante and their votes are made public ex post. In particular, for each proposal in $\mathcal{P}$, each fund must announce whether it will vote yes or no, unconditional on its business relationship with the firm, and their votes for each firm for each proposal are observable. This disclosure protocol is imposed by the new SEC regulations and we treat it as given.

When voting policies and votes are made public, we must consider market and regulatory reactions to observed variables. The market reaction can result from two potential sources. First, anti-management voting by mutual funds lowers firm value, and thus – via the well-established flow-performance relationship – may lead to punishment for mutual funds. As discussed in Section 2.1, this effect is already implicit in our reduced form for mutual fund management fees. An *additional* market reaction could involve mutual fund investors punishing or rewarding funds for activism or the lack thereof, perhaps because investors prefer activist managers over and above their returns-generating capacity. However, empirically, there seems to be no established relationship between investor flows into mutual funds and mutual fund activism, after controlling for performance.[21] Thus, we assume that investors in mutual funds do not react directly to observed activism, in the sense that they do not react to voting policies or observed votes over and above what is reflected in performance, and focus instead on the case of regulatory penalties.

Mutual funds are vested with the fiduciary responsibility to vote their proxies in a way that is beneficial to their shareholders. Following disclosure, the SEC is able to monitor such

[20] Needless to say, there may also be other reasons which make larger funds more attractive as pensions administrators.

[21] The only empirical analysis on this point that we are aware of is by Ashraf and Jayaraman (2007), who find that there is very limited evidence for a flow-response to observed activism. The slope of the activism-flow relationship is an order of magnitude smaller than that of the well-known flow-performance relationship. When broken down by categories of proposals, it is statistically significant for only one out of seven types of shareholder proposals considered.

voting and take legal action against mutual funds who are demonstrably in violation of their fiduciary responsibilities on the basis of their observed proxy votes. We assume, realistically, that the SEC is unable to verify in court whether a specific proposal is value enhancing or not.[22] However, for a given proposal, the SEC is easily able to demonstrate in court that a fund is in violation of fiduciary responsibility if it votes in a conflicted manner, i.e., in a manner that relies on the existence of pensions management relationships. In the proof of Proposition 2 below, we compute a lower bound on the regulatory penalties which eliminates conflicted voting post-disclosure, and assume that the penalties in the model satisfy this lower bound. It is worth pointing out that Davis and Kim (2007) find that there is no conflicted voting post-disclosure. Thus, we effectively calibrate our model along this particular dimension to Davis and Kim (2007)'s findings. We look for equilibria where managers follow symmetric strategies across firms.

Proposition 2 *For a regulatory penalty of at least $x^C - x^{NC}$ in any equilibrium post-disclosure: (i) The manager sets $\sigma(N,N) = \sigma(N,Y) = 1$ and $\sigma(Y,Y) = \sigma(Y,N) = 0$, i.e., she gives the contract to L if and only if it votes pro-management; (ii) S is indifferent across votes; (iii) L votes against management for $\bar{x} < p$ and pro-management for $\bar{x} > p$, where $\bar{x} = r^L x^C + (1 - r^L)x^{NC}$, and r^L is the fraction of firms which are L's clients.*

Comparing the equilibrium strategies outlined in Propositions 1 and 2 yields several interesting predictions. We begin by comparing the activism of funds pre- and post-disclosure.

For fund S, disclosure makes no difference whatsoever. For fund L, disclosure makes a difference in the following way:

1. For $p \in \left(0, x^{\mathrm{NC}}\right)$, both pre- and post- disclosure, fund L votes pro-management. For $p \in \left(x^{\mathrm{C}}, \infty\right)$, both pre- and post-disclosure, fund L votes against management.

2. For $p \in \left(x^{\mathrm{NC}}, \bar{x}\right)$, pre-disclosure fund L voted against management for non-clients and with management for clients, but post-disclosure fund L votes pro-management for *both* clients and non-clients.

3. For $p \in \left(\bar{x}, x^{\mathrm{C}}\right)$, pre-disclosure fund L voted against management for non-clients and with management for clients, but post-disclosure fund L votes against management for *both* clients and non-clients.

From a policy perspective our main interest is in capturing the effect of mandatory disclosure on the overall effectiveness of activism (recall Section 2.3). In this baseline case,

[22] Formally, if we assume that courts/judges/juries understand the model, the non-verifiability of proposal value requires the existence of value-*reducing* proposals. As discussed earlier, we introduce these only in Appendix C to ease exposition in the main text. All our results hold for this more generalized model.

L is the only relevant voter. Thus, the impact of mandatory disclosure on the overall effectiveness of activism can be determined by comparing the voting behavior of L pre- and post-disclosure. As is evident from the list above, post-disclosure, L becomes less activist for proposals $p \in \left(x^{\mathrm{NC}}, \bar{x}\right)$, more activist for proposals $p \in \left(\bar{x}, x^{\mathrm{C}}\right)$, and is equally activist for all other p. Thus, disclosure has an nuanced effect on the overall effectiveness of activism: it decreases for $p \in \left(x^{\mathrm{NC}}, \bar{x}\right)$, increases for $p \in \left(\bar{x}, x^{\mathrm{C}}\right)$, and is unchanged for all other p. Thus, whether disclosure increases or decreases the overall effectiveness of delegated activism for the *average* proposal, depends crucially on the distribution of proposals. In particular:

Remark 1 *If the probability of relatively low valued ($p \leq \bar{x}$) proposals is sufficiently high, mandatory disclosure will result in a reduction on average in the overall effectiveness of activism.*

In determining the desirability of mandating disclosure, policy makers should consider whether a majority of shareholder proposals lead to significant or moderate value enhancement. In the latter case, mandating disclosure may be counterproductive. This discussion also implies that empirical analyses which compare the level of activism pre- and post-disclosure may well fail to arrive at uniform conclusions. Even if voting could reliably be inferred in the pre-disclosure data, the conclusions would depend critically on which proposals are analyzed. For example, Cremers and Romano (2011) find that for EEIC proposals, there is evidence that, post-disclosure, overall mutual fund support for management increased. This is consistent with our results if these proposals satisfy the condition $p \in \left(x^{\mathrm{NC}}, \bar{x}\right)$.

Since $\bar{x} = r^L x^{\mathrm{C}} + (1 - r^L) x^{\mathrm{NC}}$, the relative sizes of the critical regions that determine the effect of mandatory disclosure on the overall effectiveness of activism for proposals on average are determined by the measure of business relationships amongst the portfolio firms of fund L, r^L. In particular:

Remark 2 *We have that:*

(a) *As r^L increases, the set of proposals for which disclosure decreases the overall effectiveness of activism expands, while the set of proposals for which disclosure increases the overall effectiveness of activism shrinks.*

(b) *As r^L increases, fund L becomes less activist post-disclosure.*

Part (a) implies that, in addition to the distribution of shareholder proposals, policy makers should also take into account the allocation of business ties within the fund management industry in determining the desirability of mandating disclosure. Part (b) provides an empirical prediction for which there is direct support: Davis and Kim (2007) find empirically

that, post-disclosure, funds with more business connections vote more pro-management on average.

4 Funds of comparable sizes: The case of smaller large blocks

The baseline model was presented under the extreme, but convenient, assumption that $L(n)$ was large enough and $S(n)$ was small enough that fund L had full veto power, while fund S had no veto power whatsoever. While it is not unreasonable to assume that small funds behave strategically essentially as if they have no veto power, the assumption of full veto power by any fund is clearly a stylization. In this section, we examine the case where the large fund is less influential. In particular, we examine the case in which for all firms n, $L(n) \geq (1-\tau)S(n)/\tau$, and $L(n) < \tau$, which imply that $q_{L'S} = 0$, and $q_{LS'} < q_{LS} \leq 1$. That is, though S still has no unilateral veto power, now L does not have sufficient blockholdings to have full unilateral veto power. As in Section 3, we classify our analysis into the examination of the limits of activism prior to disclosure and the effect of mandatory disclosure on activism.

4.1 The Limits of Activism Prior to Mandatory Disclosure

The following proposition characterizes the limits of activism in this more realistic case:

Proposition 3 *The pre-disclosure equilibrium with maximal effectiveness of activism is as follows: (i) The manager sets* $\sigma(Y,Y) = \sigma(Y,N) = 0$ *and* $\sigma(N,Y) = 1$ *for all* p*, and*

$$\sigma(N,N) = \begin{cases} 1, & \text{for} \quad p > \hat{p}(\omega), \\ \hat{\beta}(\omega), & \text{for} \quad p \leq \hat{p}(\omega); \end{cases}$$

(ii) S *votes yes for proposals* $p \in (\hat{p}(\omega), x^{\omega}/q_{LS})$ *and* $p > x^{\omega}/q_{LS'}$*, and no otherwise; (iii)* L *votes yes for* $p > x^{\omega}/q_{LS}$ *and no for* $p < x^{\omega}/q_{LS}$*, where* $\omega \in \{NC, C\}$ *is the state of* L*, hence* $\bar{\omega}$ *of* S*.*

The parameters $\hat{\beta}(\omega)$ *and* $\hat{p}(\omega)$ *are defined as follows:*

$$\begin{aligned} \hat{\beta}(\omega) &= \frac{x^{\bar{\omega}} q_{LS}}{q_{LS}\left[x^{\omega} + x^{\bar{\omega}}\right] - q_{LS'} x^{\omega}} < 1, \\ \hat{p}(\omega) &= \frac{x^{\omega} x^{\bar{\omega}}}{q_{LS}\left[x^{\omega} + x^{\bar{\omega}}\right] - q_{LS'} x^{\omega}} < \frac{x^{\omega}}{q_{LS}} < \frac{x^{\omega}}{q_{LS'}}. \end{aligned}$$

The proposition shows that, as in the baseline case, competition to retain or garner business relationships with portfolio firms imposes limits on delegated activism: firm managers optimally reward pro-management behaviour and in response to this both S and L endogenously vote with management over a range of proposals.

It is worth clarifying at the outset the sense in which this result characterizes the *maximal effectiveness of activism* in equilibrium. As the proof in Appendix A shows, for $p \in (x^\omega/q_{LS}, x^\omega/q_{LS'})$ it is possible to support two distinct voting profiles as pure strategy equilibria: (i) L votes yes and S votes no, and (ii) L votes no and S votes yes. Of these, (i) clearly leads to more effective activism – as it leads to the shareholder proposal being approved for sure. Thus, in order to establish an upper bound on equilibrium activism, we select (i) in delineating the funds' strategies in Proposition 3. In addition, note that for $p > x^\omega/q_{LS'}$ it is easy to see that L strictly prefers to vote yes, while S is indifferent. Again, in order to establish an upper bound on equilibrium activism, we let S vote yes.

In order to interpret and provide intuition for our result, it is helpful to compare it to our baseline result on the limits of activism. We do this via a series of remarks below.

First, we ask: How does the behaviour of the manager compare to that of the baseline case?

Remark 3 *In comparison to the baseline case, the firm manager has less of a bias towards awarding the pensions contract to the large fund. In particular, for low valued proposals, when L and S both vote no, she mixes between hiring the two.*

The intuition for this observation is as follows. In contrast to the baseline case S can now affect the voting outcome (by siding either with the large fund or with other shareholders). Proposition 3 shows that, for some proposals – in contrast to the baseline case – the small fund *strictly* prefers to vote against management, and such votes have impact. This changes the behaviour of the manager for low-valued proposals as follows. For low-valued proposals L is inclined to vote no. If the manager gives the contract to L when they both vote no (i.e., if $\sigma(N, N) = 1$), and L votes no, then S prefers to vote yes to enhance its portfolio value. But, when L no longer has full veto power, the firm's manager wants to please S too, so she is enticed to give S an incentive to vote no by mixing. However, the manager cannot lower the probability too much, because then L would vote yes. The proof shows the computation of the unique mixing probability selected by the manager and defines the range of proposals over which both funds vote no. This has the implication that the small fund is now hired (retained) with positive probability even if both the funds vote no, i.e., pro-management.

Next, we ask: How does the activism of the large fund compare to that of the baseline case? For this, first consider the realistic case where aggregate institutional holdings are not very large so that the two funds jointly do not have full veto power. That is, consider the case in which $L(n) + S(n) < \tau \Rightarrow q_{LS} < 1$. Now, inspection of Propositions 1 and 3 show that L votes pro-management over a strictly larger set of proposals, because $x^\omega/q_{LS} > x^\omega$. Thus:

Remark 4 *If the large fund and the small fund do not jointly have full veto power, the large fund is less activist relative to the baseline case.*

The intuition for this is that voting pro-management in the case of absolute majority blocks ensures (in equilibrium) that the large fund remains or becomes the pensions fund administrator, but eliminates the possibility of portfolio value improvements. So when the large fund does not hold absolute majority blocks, then voting pro-management guarantees continuation/hiring and pensions administration, but does *not* eliminate the possibility of portfolio value improvement, exactly because the funds are not pivotal on aggregate. Thus, there is, perversely, *greater* incentive at the margin for fund L to vote pro-management.

The discussion to date makes it clear that there are two competing effects on the effectiveness of delegated activism relative to the baseline case. First, Remark 4 shows that the fund that matters most – fund L – is *less* activist, reducing the effectiveness of activism. Second, the discussion following Remark 3 points out that there is now a second fund – fund S – whose activism can have an impact. In addition, Proposition 3 shows that S *will* strictly prefer to be activist for some proposals, increasing the effectiveness of activism. Since these two effects go in opposite directions, the effectiveness of activism in this more realistic case can be either higher or lower in comparison to the benchmark case. Note that proposals always passed in the baseline case if $p > x^{\omega}$, but now they pass for sure only if $p > x^{\omega}/q_{LS}$. But, for $p < x^{\omega}$, in the baseline case, proposals always failed. Now, if $p < x^{\omega}/q_{LS}$, proposals pass with positive probability (in the baseline case $q_{LS} = 1$). Thus:

Remark 5 *The effectiveness of activism can be either smaller or larger than in the baseline case.*

In particular, there exist distributions of proposals that can either increase, decrease, or not change the probability of proposals acceptance. This implies that there is *not* a uniform relationship between the total degree of ownership by mutual funds and the likelihood of shareholder proposals passing. For example, since the baseline case involved $L(n) > \tau$ and this case involves $L(n) + S(n) < \tau$, there is lower overall mutual fund shareholdings in this latter case with smaller largest blocks. Thus, it is possible to make the probability of overall passage of proposals *lower* with *lower* mutual fund ownership. This gives us the following new result, which has immediate – and highly counterintuitive – empirical implications:

Proposition 4 *Higher mutual fund ownership will not necessarily translate into more pro-management voting outcomes on specific proposals.*

This suggests that caution is required in making inferences from the relationship between overall mutual fund ownership and the effectiveness of shareholder activism.

As a final step, we briefly outline the case in which – perhaps less realistically – the two funds jointly have full veto power: $L(n) + S(n) \geq \tau \Rightarrow q_{LS} = 1$. For proposals in the region $(\hat{p}(\omega), x^{\omega})$ the probability of a *no* voting outcome is one in the baseline case, and $q_{LS'} < 1$ in the case of funds of comparable sizes (and in every other region the probability of a *no* voting outcome is the same). Hence we state the following:

Remark 6 *If the large fund and the small fund jointly have full veto power, the effectiveness of activism is larger than in the baseline case.*

This is a direct consequence of the fact that the small fund's activism can have impact while the large fund's actions remain the same.

We now turn to the question of the impact of mandatory disclosure on activism in the case where no fund has absolute veto power.

4.2 The Effect of Mandatory Disclosure

Now with *disclosure* and smaller large blocks we have a similar result to Proposition 3 (in the same sense that Proposition 2 is similar to Proposition 1). Thus we state the following result without proof.

Proposition 5 *For a regulatory penalty of at least $x^C - x^{NC}$ the equilibrium with maximal activism post-disclosure is as follows: (i) The manager sets $\sigma(Y,Y) = \sigma(Y,N) = 0$ and $\sigma(N,Y) = 1$ for all p, and*

$$\sigma(N,N) = \begin{cases} 1, & for \quad p > \bar{p}, \\ \bar{\beta}, & for \quad p \leq \bar{p}; \end{cases}$$

(ii) S votes yes, i.e., against management, for proposals such that $p \in (\bar{p}, \bar{x}/q_{LS})$ and for $p > \bar{x}/q_{LS'}$, and votes no otherwise; (iii) L votes yes for $p > \bar{x}/q_{LS}$ and no for $p < \bar{x}/q_{LS}$. The parameters $\bar{\beta}$, $\bar{p}$, $\hat{x}$, and $\bar{x}$ are defined as follows:

$$\begin{aligned} \bar{\beta} &= \frac{\hat{x} q_{LS}}{q_{LS}[\bar{x} + \hat{x}] - q_{LS'}\bar{x}} < 1, \\ \bar{p} &= \frac{\bar{x}\hat{x}}{q_{LS}[\bar{x} + \hat{x}] - q_{LS'}\bar{x}} < \frac{\bar{x}}{q_{LS}} < \frac{\bar{x}}{q_{LS'}}, \\ \hat{x} &= (1 - r^L)x^C + r^L x^{NC}, \\ \bar{x} &= r^L x^C + (1 - r^L)x^{NC}, \end{aligned}$$

where r^L is the fraction of firms which are L's clients.

Hence Proposition 5 is like Proposition 3 if one replaces, $\hat{\beta}(\omega)$, $\hat{p}(\omega)$, x^{ω}, $x^{\bar{\omega}}$ with $\bar{\beta}$, $\bar{p}$, $\hat{x}$, $\bar{x}$, respectively. Thus Remarks 3 through 6 and Proposition 4 regarding the pre-disclosure equilibrium in the case of smaller large blocks also hold post-disclosure. In particular, this means that the lack of monotonicity in the effectiveness of activism as a function of the size of mutual fund blockholdings will persist in post-disclosure data. We now proceed to compare the overall effectiveness of activism prior to and after disclosure, as we did in the baseline case in Section 3.

The pre-disclosure vs post-disclosure comparison was particularly simple in the baseline case because the small fund was irrelevant for the effectiveness of activism. The comparison could therefore be achieved by considering only the change in the behaviour of the large fund. In the current, more realistic, case both funds matter. In addition, given the richness of the strategy delineated for S in Propositions 3 and 5, the comparison can involve a tedium of cases. For both clarity and brevity, we proceed as follows. First, we establish a general property that holds for all parameter values: there exists a range of proposals for which disclosure will reduce the overall effectiveness of activism. Second, imposing a mild restriction on the parameter set, we provide a detailed comparison – proposal by proposal – of the maximal effectiveness of activism that can be sustained in equilibrium before and after mandatory disclosure. The following statement holds true for all parameters x^{C}, x^{NC}, q_{LS}, $q_{LS'}$, r^L:

Proposition 6 *There exists a range of proposals for which the overall effectiveness of activism declines following mandatory disclosure.*

Intuition for this result can be obtained by comparison to the baseline case. We learned from the baseline case that disclosure is likely to diminish the effectiveness of activism for those proposals for which the large fund voted pro-management for clients and anti-management for non-clients prior to disclosure, but following disclosure always votes pro-management. In other words, based on Propositions 3 and 5, the most likely candidate set of proposals is between x^{NC}/q_{LS} and $\bar{x}/q_{LS}$ (in the baseline case $q_{LS} = 1$). However, when the large fund is *not* pivotal, even within this range of proposals there may be cases in which the small fund becomes *more* activist after disclosure. Thus, in general, it is only for some *subset* of this region that disclosure reduces the overall effectiveness of activism. However, as the proof in Appendix A shows, now there may also be an *additional* range of proposals strictly outside the region $\left(x^{\mathrm{NC}}/q_{LS}, \bar{x}/q_{LS}\right)$ for which disclosure reduces the overall effect of activism. These are proposals for which the large fund's behaviour does *not* change as a result of disclosure, but the *small fund* (which now matters, in contrast to the baseline case) becomes *less* activist.

Now we impose a mild restriction on the parameter set in order to be able to provide a complete proposal-by-proposal comparison of the maximal effectiveness of activism before and after mandatory disclosure. To this effect, we set $x^{\mathrm{NC}} = 0$. This is an innocuous step, in the following two senses: First, by eliminating incentive conflicts for funds who are not currently pensions administrators, it *increases* the incentives of funds to be activist. Second, our sufficient conditions for characterizing post-disclosure activism rely only on the *difference* between x^{C} and x^{NC}. The voting behaviour of L pre- and post-disclosure is determined by x^{NC}/q_{LS}, $\bar{x}/q_{LS}$, and x^{C}/q_{LS}. The voting behaviour of S pre- and post-disclosure is determined by $\hat{p}(\mathrm{NC})$, $\hat{p}(\mathrm{C})$, $\bar{p}$, x^{NC}/q_{LS}, $\bar{x}/q_{LS}$, x^{C}/q_{LS}, $x^{\mathrm{NC}}/q_{LS'}$, $\bar{x}/q_{LS'}$, and $x^{\mathrm{C}}/q_{LS'}$. With $x^{\mathrm{NC}} = 0$, $\hat{p}(\mathrm{NC}) = \hat{p}(\mathrm{C}) = x^{\mathrm{NC}}/q_{LS} = x^{\mathrm{NC}}/q_{LS'} = 0$. The remaining quantities are strictly ranked, except for $\bar{x}/q_{LS}$ and $x^{\mathrm{C}}/q_{LS'}$. We thus consider separately the two cases in which (i) $\bar{x}/q_{LS} > x^{\mathrm{C}}/q_{LS'}$ which arises if and only if $r^L > q_{LS'}/q_{LS}$; and (ii) $\bar{x}/q_{LS} \leq x^{\mathrm{C}}/q_{LS'}$ which arises if and only if $r^L \leq q_{LS'}/q_{LS}$. The proposal by proposal comparison for case (i) is contained in Table 1 while that for case (ii) is contained in Table 2.

$p \in$	$(0, \bar{p})$	$\left(\bar{p}, \frac{\bar{x}}{q_{LS}}\right)$	$\left(\frac{\bar{x}}{q_{LS}}, \frac{x^{\mathrm{C}}}{q_{LS}}\right)$	$\left(\frac{x^{\mathrm{C}}}{q_{LS}}, \frac{\bar{x}}{q_{LS'}}\right)$	$\left(\frac{\bar{x}}{q_{LS'}}, \frac{x^{\mathrm{C}}}{q_{LS'}}\right)$	$\left(\frac{x^{\mathrm{C}}}{q_{LS'}}, \infty\right)$
Pre-discl. votes (v_L, v_S) for $\omega = \mathrm{C}$	(N, Y)	(N, Y)	(N, Y)	(Y, Y)	(Y, Y)	(Y, Y)
Pre-discl. votes (v_L, v_S) for $\omega = \mathrm{NC}$	(Y, Y)	(Y, Y)	(Y, Y)	(Y, N)	(Y, N)	(Y, Y)
Post-discl. votes (v_L, v_S)	(N, N)	(N, Y)	(Y, N)	(Y, N)	(Y, Y)	(Y, Y)
Effect on Activism of (L, S)	$(-, -)$	$(-, 0)$	$(+, -)$	$(0, -)$	$(0, +)$	$(0, 0)$
Overall Effectiveness of Activism	$(-)$	$(-)$	$(+)$	(0)	(0)	(0)

Table 1: Votes by the large fund and the small fund pre-disclosure (Rows 2 & 3) and post-disclosure (Row 4), for different values of proposal p (Row 1). Votes are given in the form (v_L, v_S), and ω is the state of L that affects pre-disclosure voting. Also we report the effect of disclosure on the level of activism of individual funds (L, S) (Row 5) as well as on the overall effectiveness of activism (Row 6). In both Rows 5 & 6, "+" denotes an increase, "−" a decrease, and "0" no change. This is for $x^{\mathrm{NC}} = 0$ and $r^L > q_{LS'}/q_{LS}$.

Upon inspection of Tables 1 and 2, we conclude that the overall effectiveness of activism is reduced for proposals between $0 = x^{\mathrm{NC}}/q_{LS}$ and $\bar{x}/q_{LS}$. This has the same measure as the set of proposals for which the overall effectiveness of activism was reduced in the baseline case. Also as in the baseline case, the range of proposals for which mandatory disclosure leads to a higher overall effectiveness of activism is $p \in \left(\bar{x}/q_{LS}, x^{\mathrm{C}}/q_{LS}\right)$ which decreases in

$p \in$	$(0, \bar{p})$	$\left(\bar{p}, \frac{\bar{x}}{q_{LS}}\right)$	$\left(\frac{\bar{x}}{q_{LS}}, \frac{\bar{x}}{q_{LS'}}\right)$	$\left(\frac{\bar{x}}{q_{LS'}}, \frac{x^{\mathrm{C}}}{q_{LS}}\right)$	$\left(\frac{x^{\mathrm{C}}}{q_{LS}}, \frac{x^{\mathrm{C}}}{q_{LS'}}\right)$	$\left(\frac{x^{\mathrm{C}}}{q_{LS'}}, \infty\right)$
Pre-discl. votes (v_L, v_S) for $\omega = \mathrm{C}$	(N, Y)	(N, Y)	(N, Y)	(N, Y)	(Y, Y)	(Y, Y)
Pre-discl. votes (v_L, v_S) for $\omega = \mathrm{NC}$	(Y, Y)	(Y, Y)	(Y, Y)	(Y, Y)	(Y, N)	(Y, Y)
Post-discl. votes (v_L, v_S)	(N, N)	(N, Y)	(Y, N)	(Y, Y)	(Y, Y)	(Y, Y)
Effect on Activism of (L, S)	$(-, -)$	$(-, 0)$	$(+, -)$	$(+, 0)$	$(0, +)$	$(0, 0)$
Overall Effectiveness of Activism	$(-)$	$(-)$	$(+)$	$(+)$	(0)	(0)

Table 2: Votes by the large fund and the small fund pre-disclosure (Rows 2 & 3) and post-disclosure (Row 4), for different values of proposal p (Row 1). Votes are given in the form (v_L, v_S), and ω is the state of L that affects pre-disclosure voting. Also we report the effect of disclosure on the level of activism of individual funds (L, S) (Row 5) as well as on the overall effectiveness of activism (Row 6). In both Rows 5 & 6, "+" denotes an increase, "−" a decrease, and "0" no change. This is for $x^{\mathrm{NC}} = 0$ and $r^L < q_{LS'}/q_{LS}$.

r^L.[23] Finally, unlike in the baseline case, the value of r^L can have an impact on the activism of *both* funds. In particular, for proposals between x^{C}/q_{LS} and $\bar{x}/q_{LS'}$, when $r^L > q_{LS'}/q_{LS}$, the small fund becomes less activist following disclosure while the activism of the large fund is unchanged. In contrast, for the same range of proposals, when $r^L < q_{LS'}/q_{LS}$, the large fund becomes more activist following disclosure, while the activism of the small fund is unchanged. Thus, we can state:

Remark 7 *When pensions administration contracts are primarily concentrated in the hands of the large fund, i..e., when $r^L > q_{LS'}/q_{LS}$, disclosure has a relatively deleterious effect on the overall effectiveness of delegated activism and the relative impact on the activism of each fund is more negative.*

This result has obvious implications for the desirability of mandatory disclosure as a function of the existing set of business ties between mutual funds and their portfolio firms.

5 Empirical and Policy Implications

In this section, we collect together the empirical predictions and policy implications of our model. We theoretically relate the activism of mutual funds to business ties both pre- and post-disclosure. The two most relevant factors driving our characterization are: (i) the

[23] This is actually true for all parameter values, not just for $x^{\mathrm{NC}} = 0$.

relative voting power of funds as measured by the relative sizes of their equity blocks in firms and (ii) a measure of shareholder value-enhancement provided by individual proposals. Firstly, our results provide theoretical support for some existing empirical results obtained in the literature examining *post-disclosure* data:

I1. There is heterogeneity in voting across firms based on the number of clients in the portfolio of funds. (Davis and Kim (2007, Section 4.5), Matvos and Ostrovsky (2010, Section 4.1), our Remark 2 and Remark 7).

I2. The effectiveness of activism depends on the proposal value. (Davis and Kim (2007, Section 4.5), our Proposition 2 and Propositions 5).

In addition, we outline a number of new empirical implications. Each of our new empirical implications apply to *both* pre- and post-disclosure regimes. Needless to say, they may be more easy to test in the post-disclosure data. It is helpful to classify our implications into firm-level (cross-sectional) predictions and (mutual fund) industry-level predictions.

Our cross-sectional predictions relate the ownership structure of firms to the characteristics of delegated activism that should be evident in the data. These are as follows:

I3. Compare firms in which mutual fund owernship is highly concentrated and significant to those in which it is relatively dispersed and less significant. The largest blockholder will be less activist in the latter type of firms. (This follows from Remark 4. As noted in Section 4.2, the qualitative properties of this remark hold post-disclosure as well.)

I4. Compare firms in which mutual fund owernship is highly concentrated and significant to those in which it is relatively dispersed but also significant. The effectiveness of delegated activism will be higher in the latter type of firms. (This follows from Remark 6. As noted in Section 4.2, the qualitative properties of this remark hold post-disclosure as well.)

I5. Compare firms in which mutual fund ownership is highly concentrated to those in which it is relatively dispersed. The proportion of firms in which the largest blockholder is the pensions administrator will be higher for the former category than the latter. (This follows from the discussion at the end of Section 3.1 and Remark 3.)

Finally, we provide the following industry-level prediction.

I6. Disclosure will have a relatively negative effect on the overall effectiveness of delegated activism when large funds have high levels of business connections with portfolio firms. (This follows from Remark 2 and Remark 7.)

Our model also delivers some policy implications. Mandatory disclosure is highly topical since it is under consideration for regulatory implementation in countries outside the US. We show that the state of the delegated portfolio management industry at the time of the introduction of the rule matters. In particular, disclosure will be more effective if, at the time of adoption, large funds do not have many business relationships with portfolio firms (see I6 above). Our paper also underscores the broader limitations of mandatory disclosure as a disciplinary mechanism. Thus, our results suggest that regulators may have to look for alternative measures to mitigate conflicts of interest in the mutual fund industry with regard to stewardship. Needless to say, a simple regulatory remedy that would resolve (or at least greatly mitigate) all conflicts of interest is the outright separation between the pensions management business and the portfolio management business of mutual funds, perhaps by the enforcement of so-called "Chinese Walls" within mutual fund companies. Then business ties with firms will not interfere with mutual funds' treatment of these firms as part of their portfolio.

6 Conclusions

Mutual funds hold significant blocks of shares in many major corporations. Practitioners and regulators alike have been concerned that mutual funds use their proxy votes in a pro-management manner in order to retain lucrative pensions administration contracts, thus hindering shareholder value. Such concerns led the SEC to mandate the disclosure of mutual fund proxy votes starting in 2003. Relatively little is known about the impact of such regulation on the behaviour of mutual funds and thus on the potential welfare implications of such regulation. A growing empirical literature (Davis and Kim (2007), Matvos and Ostrovsky (2010), and Cremers and Romano (2011)) reports some ostensible departure from the optimal level of activism, from a firm's shareholders perspective, following mandatory disclosure. Is mandatory disclosure desirable? The issue is of significant current relevance, as similar regulatory changes are now in consideration outside the US. Yet, the absence of data on mutual fund voting prior to disclosure makes it difficult to empirically delineate the effect of mandatory disclosure.

To bridge this gap, we present a simple model of mutual fund proxy voting prior to and following mandatory disclosure. Our model, which incorporates a stylized basis for conflicted proxy voting by mutual funds, provides predictions on how funds would vote both prior and subsequent to disclosure. Our results provide a theoretical foundation for why activism by mutual funds is very limited, both before and after mandatory disclosure. In addition, we are able to evaluate the effect of mandatory disclosure on the overall effectiveness of mutual

fund activism. We find that mandatory disclosure is not a panacea: it can actually reduce the effectiveness of activism for some types of shareholder proposals. The desirability of mandatory disclosure also depends on the distribution of business ties within the mutual fund industry. Finally, we find that the distribution of mutual ownership within firms can have significant and counterintuitive effects on activism. In addition to providing a theoretical basis for a number of existing empirical results, our model also generates several new testable implications.

Despite the existence of a large and insightful literature on the role of blockholders in corporate governance, there has been no systematic theoretical attempt to date to recognize that blockholders are often delegated portfolio managers. The incentives of such delegated blockholders should have an impact on corporate governance mechanisms and on policy tools intended to improve it. In this paper we have explicitly modeled the delegated nature of blockholder activism. Our analysis represents a first step and captures only part of the significant richness of delegated activism. Extensions to incorporate such richness represent promising directions for future research.

Appendix

A Proofs

Proof of Proposition 1: Given $p = f(b) - f(B) > 0$, let L be in state ω, and hence S in state $\bar{\omega}$.

- If S votes *yes*, L votes *yes* only if

$$\sigma(Y,Y)x^{\omega} + f(b) \geq \sigma(N,Y)x^{\omega} + f(B), \text{ i.e., only if } (\sigma(N,Y) - \sigma(Y,Y))x^{\omega} \leq p. \quad (1)$$

- If S votes *no*, L votes *yes* only if

$$\sigma(Y,N)x^{\omega} + f(b) \geq \sigma(N,N)\,x^{\omega} + f(B), \text{ i.e., only if } (\sigma(N,N) - \sigma(Y,N))x^{\omega} \leq p. \quad (2)$$

Similarly S's strategy is:

- If L votes *yes*, S votes *yes* only if

$$(1 - \sigma(Y,Y))\,x^{\bar{\omega}} + f(b) \geq (1 - \sigma(Y,N))\,x^{\bar{\omega}} + f(b), \text{ i.e., only if}$$
$$(\sigma(Y,Y) - \sigma(Y,N))x^{\bar{\omega}} \leq 0. \quad (3)$$

- If L votes *no*, S votes *yes* only if

$$(1-\sigma(N,Y))\,x^{\bar{\omega}} + f(B) \geq (1-\sigma(N,N))x^{\bar{\omega}} + f(B), \text{ i.e., only if}$$
$$(\sigma(N,Y)-\sigma(N,N))x^{\bar{\omega}} \leq 0. \tag{4}$$

Since L is the only fund with impact the manager will try to maximize the range of proposals for which it votes no. By inspection of (1) and (2) we see that this is attainable by maximizing $\sigma(N,Y)-\sigma(Y,Y)$ and $\sigma(N,N)-\sigma(Y,N)$. Hence the manager picks $\sigma(N,Y) = \sigma(N,N) = 1$ and $\sigma(Y,Y) = \sigma(Y,N) = 0$, i.e., she gives the contract to L if it votes pro-management and gives it to S otherwise. In turn L in equilibrium votes yes only if $x^{\omega} \leq p$. Finally, we see that the choice of strategies makes S indifferent across votes, regardless of what L does and the value of p. ■

Proof of Proposition 2: For each proposal $p \in \mathcal{P}$, the fund announces a voting strategy, which requires it to calculate, for that proposal, the probability that it will face a client vs a non-client. Our assumptions earlier in the paper imply that the proposal arrival process is independent of the firm's relationship with any particular fund (and the ex ante allocation of funds is independent across firms). So for any proposal p, the fraction of clients L encounters (on average) is exactly the fraction of clients L has, r^L. Since there are only two funds, the fractions of clients S encounters (on average for any proposal p) is $1-r^L$.[24]

Consider an arbitrary proposal, $p = f(b) - f(B) > 0$. Since each fund must commit to K-unconditional voting strategies, each will maximize its ex ante (expected) payoff from voting for or against each given proposal.

If S votes *yes*, L votes *yes* only if

$$r^L\left(\sigma(Y,Y)x^{\mathrm{C}} + f(b)\right) + (1-r^L)\left(\sigma(Y,Y)x^{\mathrm{NC}} + f(b)\right) \geq$$
$$r^L\left(\sigma(N,Y)x^{\mathrm{C}} + f(B)\right) + (1-r^L)\left(\sigma(N,Y)x^{\mathrm{NC}} + f(B)\right),$$

i.e., only if $(\sigma(N,Y)-\sigma(Y,Y))\bar{x} \leq p$, where

$$\bar{x} \;=\; r^L x^{\mathrm{C}} + (1-r^L)x^{\mathrm{NC}}.$$

[24] Let $\omega_n^f \in \{\mathrm{NC}, \mathrm{C}\}$ be the state of fund $f \in \{L,S\}$ at firm n. If we have a discrete number of firms $n \in \{1,\ldots,N\}$ then

$$r^f = \frac{1}{N}\sum_{i=1}^{N} \mathbb{I}\left(\omega_i^f = \mathrm{C}\right),$$

where $\mathbb{I}(\cdot)$ is the indicator function. While for a continuum of firms $n \in (0,1)$, $r^f = \mathbb{P}(\omega_n^f = \mathrm{C})$, same for all n. In any case $r^L + r^S = 1$.

Similarly, if S votes *no*, L votes *yes* only if $(\sigma(N,N)-\sigma(Y,N))\bar{x} \leq p$.

If L votes *yes*, S votes *yes* only if

$$\begin{aligned}(1-r^L)\left((1-\sigma(Y,Y))x^{\mathrm{C}}+f(b)\right)+r^L\left((1-\sigma(Y,Y))x^{\mathrm{NC}}+f(b)\right) \geq \\ (1-r^L)\left((1-\sigma(Y,N))x^{\mathrm{C}}+f(b)\right)+r^L\left((1-\sigma(Y,N))x^{\mathrm{NC}}+f(b)\right),\end{aligned}$$

i.e., only if $(\sigma(Y,Y)-\sigma(Y,N))\hat{x} \leq 0$, where

$$\hat{x} \;=\; (1-r^L)x^{\mathrm{C}}+r^L x^{\mathrm{NC}}.$$

Similarly, if L votes *no*, S votes *yes* only if $(\sigma(N,Y)-\sigma(N,N))\hat{x} \leq 0$.

These are the same as equations (1)-(4) where x^ω is substituted by $\bar{x}$ and $x^{\bar{\omega}}$ by $\hat{x}$. Hence the manager will again choose $\sigma(N,Y)=\sigma(N,N)=0$ and $\sigma(Y,Y)=\sigma(Y,N)=1$. The above analysis guarantees that no fund has any incentives to deviate from its strategy for *all* firms in the cross-section. Let us then consider firm specific deviations. As it is clear from the disclosure case L, for example, would find it optimal, if there were no penalty, to vote no for clients and non-clients when $x^{\mathrm{C}} > x^{\mathrm{NC}} > p$, no just for clients when $x^{\mathrm{C}} > p > x^{\mathrm{NC}}$, and yes for both when $p > x^{\mathrm{C}} > x^{\mathrm{NC}}$. Hence there are deviations that would allow the SEC to credibly accuse the fund for a violation of its fiduciary obligations; this is when the fund's voting strategy is not the same across firms for the same proposal p ($x^{\mathrm{C}} > p > x^{\mathrm{NC}}$). So the maximum average benefit L can get by deviating is $x^{\mathrm{C}} - x^{\mathrm{NC}}$. This is the lowest penalty the SEC has to impose for any identifiable violation. In response to this L finds it optimal to stick to the aforementioned strategy of uniform voting. ■

Proof of Proposition 3: It is useful to write the best response correspondence of L and S for general veto powers, q_{LS}, $q_{L'S}$, and $q_{LS'}$, given the manager's strategy $\sigma(Y,Y)$, $\sigma(Y,N)$, $\sigma(N,Y)$, $\sigma(N,N)$. Given these, and $p = f(b) - f(B) > 0$, L's strategy, if in state $\omega \in \{\mathrm{NC}, \mathrm{C}\}$, and hence S in state $\bar{\omega}$, is:

- If S votes *yes*, L votes *yes* only if

$$\begin{aligned}\sigma(Y,Y)\,x^\omega + f(b) \;&\geq\; \sigma(N,Y)x^\omega + q_{LS'}f(B) + (1-q_{LS'})f(b) \Rightarrow \\ (\sigma(N,Y)-\sigma(Y,Y))x^\omega \;&\leq\; q_{LS'}p. \qquad (5)\end{aligned}$$

- If S votes *no*, L votes *yes* only if

$$\begin{aligned}\sigma(Y,N)x^\omega + q_{L'S}f(B) + (1-q_{L'S})f(b) \;&\geq\; \sigma(N,N)\,x^\omega + q_{LS}f(B) + (1-q_{LS})f(b) \Rightarrow \\ (\sigma(N,N)-\sigma(Y,N))x^\omega \;&\leq\; (q_{LS}-q_{L'S})p. \qquad (6)\end{aligned}$$

Similarly S's strategy is:

- If L votes *yes*, S votes *yes* only if

$$\begin{aligned}(1-\sigma(Y,Y))x^{\bar{\omega}}+f(b) &\geq (1-\sigma(Y,N))x^{\bar{\omega}}+q_{L'S}f(B)+(1-q_{L'S})f(b)\Rightarrow\\ (\sigma(Y,Y)-\sigma(Y,N))x^{\bar{\omega}} &\leq q_{L'S}p. \end{aligned} \tag{7}$$

- If L votes *no*, S votes *yes* only if

$$\begin{aligned}(1-\sigma(N,Y))x^{\bar{\omega}}+q_{LS'}f(B)+(1-q_{LS'})f(b)\geq\\ (1-\sigma(N,N))x^{\bar{\omega}}+q_{LS}f(B)+(1-q_{LS})f(b)\Rightarrow\\ (\sigma(N,Y)-\sigma(N,N))x^{\bar{\omega}} \leq (q_{LS}-q_{LS'})p.\end{aligned} \tag{8}$$

Setting $q_{L'S}=0$, it is clear that equations (5)-(7) are essentially the same as (1)-(3), with p substituted by $q_{LS'}p$. Hence the only essential difference between the baseline case and here is equation (8), this is because the small fund has impact only when it decides on whether to side with the large fund in voting no. So the manager now has to take S's impact into account when deciding on her optimal strategy to maximize the range of proposals that are rejected. In particular she has to pick her strategy to maximize $\sigma(N,Y)-\sigma(Y,Y)$, $\sigma(N,N)-\sigma(Y,N)$ (as before) *and* $\sigma(N,Y)-\sigma(N,N)$.

We begin with two simplifying observations: First observe that $\sigma(N,Y)$ appears with the same sign in the decisions of L and S, equations (5) and (8), respectively. Similarly, for $\sigma(Y,N)$. Hence the manager sets $\sigma(N,Y)=1$ and $\sigma(Y,N)=0$. Second the term $\sigma(Y,Y)$ is only relevant for L (since $q_{L'S}=0$) and hence the manager sets $\sigma(Y,Y)=0$.

Now regarding $\sigma(N,N)$ we compare the following two choices (we shall show at the conclusion of the proof that these are the only two possible values of $\sigma(N,N)$ we need to consider):

1. $\underline{\sigma(N,N)=1}$. Then S votes *yes* for any p if L votes *no*. Regarding the choice of L we have to consider the possible regions of the proposal:

   - For
   $$p<x^{\omega}\frac{1}{q_{LS}},$$
   L votes *no* regardless of S, to which S responds by voting *yes*, resulting in probability of rejection of the proposal, $\mathbb{P}[no]=q_{LS'}$.

   - For
   $$x^{\omega}\frac{1}{q_{LS}}<p\leq x^{\omega}\frac{1}{q_{LS'}},$$

there are two possible equilibria (in pure strategies): one in which L votes *yes*, and S votes *no*, which results to $\mathbb{P}[no] = 0$, and one in which L votes *no*, and S votes *yes*, with $\mathbb{P}[no] = q_{LS'}$.

- For
$$p > x^{\omega}\frac{1}{q_{LS'}},$$
L votes votes *yes* regardless of S, and as a result S is indifferent across votes. No matter what S decides to vote we have $\mathbb{P}[no] = 0$.

2. $\underline{\sigma(N,N) = \hat{\beta}(\omega)}$, where
$$\hat{\beta}(\omega) = \frac{x^{\bar{\omega}}q_{LS}}{q_{LS}\left[x^{\omega} + x^{\bar{\omega}}\right] - q_{LS'}x^{\omega}},$$
and let
$$\hat{p}(\omega) = \frac{x^{\omega}x^{\bar{\omega}}}{q_{LS}\left[x^{\omega} + x^{\bar{\omega}}\right] - q_{LS'}x^{\omega}}.$$
Note that $\hat{\beta}(\omega) < 1$ and $\hat{p}(\omega) < x^{\omega}/q_{LS} < x^{\omega}/q_{LS'}$. Regarding the choices of both funds we have to consider the possible regions of the proposal:

- For
$$p < \hat{p}(\omega),$$
L votes *no* regardless of S, to which S responds by voting *no*, resulting in probability of rejection of the proposal, $\mathbb{P}[no] = q_{LS}$.
- For
$$\hat{p}(\omega) < p \leq x^{\omega}\frac{1}{q_{LS'}},$$
there are two possible equilibria (in pure strategies): one in which L votes *yes*, and S votes *no*, which results to $\mathbb{P}[no] = 0$, and one in which L votes *no*, and S votes *yes*, with $\mathbb{P}[no] = q_{LS'}$.
- For
$$p > x^{\omega}\frac{1}{q_{LS'}},$$
L votes *yes* regardless of S, and as a result S is indifferent across votes. No matter what S decides to vote we have $\mathbb{P}[no] = 0$.

The manager wants to maximize $\mathbb{P}[no]$ for each proposal p.

- For proposals $\underline{p < \hat{p}(\omega) < x^{\omega}/q_{LS}}$, the manager chooses $\sigma(N,N) = \hat{\beta}(\omega) < 1$, since this induces the unique equilibrium behaviour that leads to $\mathbb{P}[no] = q_{LS} > q_{LS'}$, which

is better than the unique behaviour induced for proposals in this range by setting $\sigma(N,N)=1$.

- For proposals $\underline{\hat{p}(\omega) < p < x^{\omega}/q_{LS}}$, it is a best response for her to choose $\sigma(N,N)=1$ since this guarantees $\mathbb{P}[no] = q_{LS'}$, which is weakly larger than the corresponding probability under *any* equilibrium occurring for $\sigma(N,N)=\hat{\beta}(\omega)$ for proposals in this region.

- For proposals $\underline{p > x^{\omega}/q_{LS}}$, the choice of $\sigma(N,N) \in \{\hat{\beta}(\omega),1\}$ is irrelevant to the behaviour of the funds, and so it is a weak best response for the firm's manager to choose $\sigma(N,N)=1$.

We conclude the proof by arguing that it is sufficient to consider $\sigma(N,N) \in \{\hat{\beta}(\omega),1\}$. The firm's manager's goal is to get L to vote *no*, and if, in addition it is possible, to get S also to vote *no*. If L votes *no*, we know that S also votes *no* if $p < \frac{(1-\sigma(N,N))x^{\bar{\omega}}}{q_{LS}-q_{LS'}}$. In order to induce S to vote *no* over as wide a range of proposals as possible, the manager should aim to make $\sigma(N,N)$ small, but, unfortunately, that gets in the way of inducing L to vote *no*, since if S votes *no*, L votes no if $p < \frac{\sigma(N,N)x^{\omega}}{q_{LS}}$. Since the two relevant upper bounds are, respectively, decreasing and increasing in $\sigma(N,N)$, there is a unique $\sigma(N,N)$, defined by $\frac{(1-\sigma(N,N))x^{\bar{\omega}}}{q_{LS}-q_{LS'}} = \frac{\sigma(N,N)x^{\omega}}{q_{LS}} \equiv \hat{p}\,(\omega)$ which guarantees that both funds vote *no* in equilibrium for $p < \hat{p}\,(\omega)$. Everywhere else, the manager cannot induce both funds to vote *no*, and thus may as well choose (sometimes with indifference, as the proof above demonstrates) to set $\sigma(N,N)=1$. ■

Proof of Proposition 6: First of all we note that $\hat{p}(\text{NC})$ is the minimum of $\hat{p}(\text{NC})$, $\hat{p}(\text{C})$, $\bar{p}$, x^{NC}/q_{LS}, $\bar{x}/q_{LS}$, x^{C}/q_{LS}, $x^{\text{NC}}/q_{LS'}$, $\bar{x}/q_{LS'}$, and $x^{\text{C}}/q_{LS'}$. The rest of the parameters are ranked as described by Propositions 3 and 5. However, we cannot be sure of the ranking between $\hat{p}(\text{C})$ and $\bar{p}$, as well as of $\hat{p}(\text{C})$ with $\bar{x}/q_{LS}$, $\bar{x}/q_{LS'}$, x^{NC}/q_{LS}, $x^{\text{NC}}/q_{LS'}$, and of $\bar{p}$ with x^{NC}/q_{LS}, $x^{\text{NC}}/q_{LS'}$.[25] Hence we will consider cases depending on where these "free" parameters lie in the region of proposals. We will proceed with a proof by construction, i.e., for each case we will indicate a region of proposals for which disclosure reduces the overall effectiveness of activism. So at the end, for any parameter value, we will have identified a region of proposals (not the same for each case) for which disclosure is harmful. We proceed with our case by case discussion below.

Case 1: $\underline{\hat{p}(\text{C}) \in \left(\bar{x}/q_{LS}, x^{\text{C}}/q_{LS}\right)}$. Consider the region of proposals $p \in \left(\hat{p}(\text{NC}), \min\left\{\bar{p}, x^{\text{NC}}/q_{LS}\right\}\right)$. Then for these proposals,

[25] Also we cannot rank the following: $\{x^{\text{NC}}/q_{LS'}, \bar{x}/q_{LS}\}$, $\{x^{\text{NC}}/q_{LS'}, x^{\text{C}}/q_{LS}\}$, and $\{\bar{x}/q_{LS'}, x^{\text{C}}/q_{LS}\}$, which have to do with the primitives of the model.

- Pre-disclosure, for $\omega = \text{NC}$, L votes no, S votes yes, and the probability of rejection is $q_{LS'}$.
- Pre-disclosure, for $\omega = \text{C}$, L votes no, S votes no, and the probability of rejection is q_{LS}.
- Post-disclosure, L votes no, S votes no, and the probability of rejection is $q_{LS} > q_{LS'}$.

So in this region disclosure reduces the overall effectiveness of activism, since for non-clients (of L) the veto probability strictly increases, while for clients it remains the same.

Case 2: $\underline{\hat{p}(\text{C}) \in \left(x^{\text{NC}}/q_{LS}, \bar{x}/q_{LS}\right)}$. Consider the region of proposals $p \in (\max\{\bar{p}, \hat{p}(\text{C})\}, \bar{x}/q_{LS})$. Then for these proposals,

- Pre-disclosure, for $\omega = \text{NC}$, L votes yes, S's vote is irrelevant, and the probability of rejection is *zero*.
- Pre-disclosure, for $\omega = \text{C}$, L votes no, S votes yes, and the probability of rejection is $q_{LS'}$.
- Post-disclosure, L votes no, S votes yes, and the probability of rejection is $q_{LS'} > 0$.

So in this region disclosure reduces the overall effectiveness of activism, since for non-clients the veto probability strictly increases, while for clients it remains the same.

Case 3: $\underline{\hat{p}(\text{C}) \in \left(\hat{p}(\text{NC}), x^{\text{NC}}/q_{LS}\right)}$. Consider the region of proposals $p \in \left(\max\{\bar{p}, x^{\text{NC}}/q_{LS}\}, \bar{x}/q_{LS}\right)$. Then for these proposals,

- Pre-disclosure, for $\omega = \text{NC}$, L votes yes, S's vote is irrelevant, and the probability of rejection is *zero*.
- Pre-disclosure, for $\omega = \text{C}$, L votes no, S votes yes, and the probability of rejection is $q_{LS'}$.
- Post-disclosure, L votes no, S votes yes, and the probability of rejection is $q_{LS'} > 0$.

So in this region disclosure reduces the overall effectiveness of activism, since for non-clients the veto probability strictly increases, while for clients it remains the same.

■

B Richer contracts

In the analysis to date, we have assumed that managerial compensation can only be based on observed cash-flows. In other words, the firm's shareholders cannot contract on their manager's replacement strategy with regard to pensions administrators, summarized in our notation by $\{\sigma(N,N),\ \sigma(N,Y),\ \sigma(Y,N),\ \sigma(Y,Y)\}$. It is worth noting that such non-contractibility of individual business decisions is quite realistic and can be justified by various reasonable frictions. In addition, if we allowed each firm's shareholders to contract on the manager's retainment (hiring) strategy the resulting contracting problem would be highly non-standard. For example, if fund S is the current pensions administrator, it would always prefer for the manager to unconditionally retain the current pensions manager $\sigma(N,N) = \sigma(N,Y) = \sigma(Y,N) = \sigma(Y,Y) = 0$, while fund L would prefer for the manager to unconditionally replace the current pensions administrator $\sigma(N,N) = \sigma(N,Y) = \sigma(Y,N) = \sigma(Y,Y) = 1$; Small shareholders, on the other hand, would be indifferent amongst a class of strategies that do not condition replacement on voting, e.g., $\sigma(N,N) = \sigma(N,Y) = \sigma(Y,N) = \sigma(Y,Y) = 1/2$. The outcome of any potential contracting negotiation would depend on the relative bargaining power of at least three different principals in addition to the manager, resulting in a rich and non-standard contracting problem. While the analysis of this problem is beyond the scope of our exercise, we can shed some light on one important special case, in which the optimal contract is determined purely from the perspective of small shareholders. We do so in the context of the baseline case of Section 3. We show that, within the class of contracts that induce effort by the manager regardless of her replacement strategy, the optimal contract leaves at least as much agency rent to the manager as the contract used in our baseline model.

Small shareholders are indifferent between a class of unconditional replacement strategies (including the three noted above). Consider contracts under which, if cash flows are R, small shareholders offer a payoff of R_1^m to the manager if he commits to an unconditional replacement strategy (which we denote by $\varsigma = u$), and a payoff of R_2^m if he instead commits to a contingent replacement strategy (which we denote by $\varsigma = c$). All payoffs are zero in case of zero cash flows.

It is clear that under such a contract, if the manager commits to a contingent replacement strategy, he will choose $\sigma(Y,Y) = \sigma(Y,N) = 0$, $\sigma(N,N) = \sigma(N,Y) = 1$ as in the baseline model, inducing the same voting behaviour by the funds as in Proposition 1. If, on the other hand, she commits to an unconditional replacement strategy, then funds will always vote against management (to enhance portfolio values). Consider a firm where the current level of managerial private benefits is B, and consider the proposal p which intends to reduce these private benefits to b and satisfies the following conditions: fund L votes *against* p under $\varsigma = c$,

but *for* p under $\varsigma = u$. The other cases are uninteresting from a contracting perspective. Any contract that gives the manager incentives to choose $\varsigma = u$ and, regardless of this choice, provides incentives to exert effort, must satisfy the following incentive compatibility constraints.[26] First, effort and $\varsigma = u$ must be preferred to no-effort and $\varsigma = u$, so that:

$$\rho_h R_1^m \geq \rho_l R_1^m + b.$$

Second, effort and $\varsigma = u$ must be preferred to effort and $\varsigma = c$, so that:

$$\rho_h R_1^m \geq \rho_h R_2^m.$$

Third, effort and $\varsigma = u$ must be preferred to no-effort and $\varsigma = c$, so that:

$$\rho_h R_1^m \geq \rho_l R_2^m + B.$$

Finally, effort and $\varsigma = c$ must be preferred to no-effort and $\varsigma = c$, so that:

$$\rho_h R_2^m \geq \rho_l R_2^m + B.$$

These constraints jointly imply that $R_1^m \geq R_2^m \geq \frac{B}{\Delta\rho}$, and thus the resulting contract implies no less a payment to the managers than the contract used in the baseline model.

C Managerial proposals

Consider the following extension of our model. At the beginning of the period there are two types of proposals brought forward: (i) *shareholder proposals* to decrease the private benefits of the manager of a firm from B to $b^+ < B$, (ii) *managerial proposals* to increase a manager's private benefits from B to $b^- > B$. We refer to proposals of type (i) as value enhancing or positive, and to proposals of type (ii) as value reducing or negative. Hence, a *yes* vote to a positive proposal and a *no* vote to a negative proposals are actions against management, and we dub such actions as *activism*. All proposals arrive exogenously and are voted on by shareholders. Direct shareholders always vote *yes* to a positive proposal and *no* to a negative proposal, that is against management. Hence in this case the private benefit of the manager B^* is equal to B if the voting outcome is no to either a positive or a negative proposal. If the outcome is yes to a positive proposal the private benefit is $b^+ < B$, while if the outcome is yes to a negative proposal it is $b^- > B$.

Recall that $f(B^*)$ are the returns earned by the fund if the private benefits following the

[26] Formally, we are looking for contracts that induce effort both on and off the equilibrium path.

vote are B^* net of any pensions administration fees. Let then,

$$\begin{aligned} p^+ &= f(b^+) - f(B), \\ p^- &= f(b^-) - f(B), \end{aligned}$$

i.e., the incremental benefit (detriment) to funds by voting yes to a value enhancing (reducing) proposal. Since function $f(\cdot)$ is decreasing in its argument we have $p^+ > 0 > p^-$. As we assume in the main text that $p^+ \in \mathcal{P}^+ = \{p^1, \ldots, p^K\}$, we also assume that $p^- \in \mathcal{P}^- = \{-p^1, \ldots, -p^K\}$. Let $\mathcal{P} = \mathcal{P}^- \cup \mathcal{P}^+$.

Regarding voting, we impose a symmetry in the sense that to pass a value reducing proposal one needs, also, $\tau\%$ of the present voters to vote *yes* (small shareholders vote *yes* to value enhancing proposals and *no* to value reducing ones).[27] Then although we refer to q_{LS}, $q_{LS'}$ $q_{L'S}$ as veto powers it should be clear that when the proposal is negative they refer to the "power" of the fund(s) to pass (and not veto) the proposal.

We now express the main results of the baseline case of Section 3 in the presence of both shareholder and managerial proposals.

Proposition 7 (Proposition 1 with managerial proposals) *In any pre-disclosure equilibrium: (i) The manager sets* $\sigma(N,N) = \sigma(N,Y) = 1$ *and* $\sigma(Y,Y) = \sigma(Y,N) = 0$*, for* $p \in \mathcal{P}^+$*, and sets* $\sigma(N,N) = \sigma(N,Y) = 0$ *and* $\sigma(Y,Y) = \sigma(Y,N) = 1$*, for* $p \in \mathcal{P}^-$*, i.e., she gives the contract to L if and only if it votes pro-management; (ii) S is indifferent across votes; and (iii) L votes against management for* $x^\omega < |p|$ *and pro-management for* $x^\omega > |p|$ *when in state* $\omega \in \{NC, C\}$*.*

Proposition 8 (Proposition 2 with managerial proposals) *For a regulatory penalty of at least* $x^C - x^{NC}$ *in any equilibrium post-disclosure: (i) The manager sets* $\sigma(N,N) = \sigma(N,Y) = 1$ *and* $\sigma(Y,Y) = \sigma(Y,N) = 0$*, for* $p \in \mathcal{P}^+$*, and sets* $\sigma(N,N) = \sigma(N,Y) = 0$ *and* $\sigma(Y,Y) = \sigma(Y,N) = 1$*, for* $p \in \mathcal{P}^-$*, i.e., she gives the contract to L if and only if it votes pro-management; (ii) S is indifferent across votes; (iii) L votes against management for* $\bar{x} < |p|$ *and pro-management for* $\bar{x} > |p|$*, where* $\bar{x} = r^L x^C + (1 - r^L) x^{NC}$*, and* r^L *is the fraction of firms which are L's clients.*

The proofs of these results are straightforward variations of the proofs of Proposition 1 and 2 and are omitted for brevity. They are available from the authors upon request. All statements made after Proposition 2 on the effect of disclosure in the main text hold if we just replace p by the absolute value of p, i.e., $|p|$.

[27] This symmetry is purely imposed for notational ease.

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