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Keywords: Corporate Governance, Common Ownership, Market Power, Shareholder Rights, Hedge Fund Activism, Agency Costs, Principal Costs

JEL Classifications: D74, G23, G34, K22, D62

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This paper proposes a novel mechanism linking common ownership to anticompetitive outcomes. By promoting shareholder-friendly governance, common owners empower activist investors to pressure managers into reducing investment. This widespread disinvestment lowers labor demand, enabling common owners, perhaps unintentionally, to exert economy-wide monopsony power without explicit collusion between firms. The result is wage suppression, rising capital returns, and lower social welfare. These effects are consistent with increased market entry and the growing prominence of private capital markets. Together, the paper offers new insights into antitrust enforcement, the social impact of hedge fund activism, and the evolving balance between private and public capital markets.

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1 Introduction

Since the 1980s, U.S. stock markets have shifted from individual retail investors to a few powerful financial institutions that own large blocks of shares in practically all public corporations. The once-prevalent dispersed ownership structure has been replaced by common ownership (Azar 2017; Backus et al. 2019; Gilje et al. 2020). Theoretically, this shift could affect firms' strategic choices because common owners internalize externalities across portfolio companies (Easterbrook and Fischel 1982; Hansen and Lott 1996; Rubin 2006). More recently, scholars have argued that common ownership by large asset managers such as BlackRock, State Street, and Vanguard contributes to anticompetitive behavior by firms (e.g., Azar et al. 2018), prompting proposals for new regulatory measures to address this antitrust risk (e.g., Elhauge 2016; Posner et al. 2016). These claims have sparked heated debate about the plausibility of a causal relationship between common ownership and anticompetitive outcomes (e.g., Hemphill and Kahan 2020).

This paper proposes a novel mechanism through which common ownership generates anticompetitive effects. It builds on three concurrent trends in corporate America: the rise of diversified institutional investment, the widespread adoption of shareholder-friendly governance policies (e.g., Karpoff and Wittry 2023), and the emergence of hedge fund activism (e.g., Brav et al. 2015a). Unlike existing literature, our mechanism does not rely on common owners exercising control (or avoid doing so) to induce anticompetitive corporate conduct. Instead, common owners indirectly, and perhaps unintentionally, exert market power by delegating control rights to other shareholders through the widespread adoption of strong governance structures across their portfolios. These delegated control rights are then exercised by non-diversified investors, such as activist hedge funds. While individual activists do not internalize cross-firm externalities, the aggregate effect of their interventions generates economy-wide monopsony in labor markets. Importantly, the resulting social harm stems not from activism per se, but from common owners' excessive empowerment of activists through governance choices. Notably, these anticompetitive effects are consistent with increased market entry and the growing prominence of private markets.

In our model, multiple firms face a decision to invest in new projects or increase payouts to shareholders. Investment is risky, non-contractible, and requires resources, acquired in a com-

petitive market; labor being the primary resource of focus. The firm's governance structure, initially set by shareholders, determines control over investment decisions. This governance choice is central to our analysis. Under weak governance structures, such as dual-class firms where outside shareholders owning non-voting shares, managers are shielded from shareholder discipline and retain control over investment decisions. Disloyal managers may overinvest (e.g., "empire-building" aspirations) or underinvest (e.g., "quiet life" motives) relative to shareholder value-maximizing policies, with the severity of these agency costs varying across firms. Strong governance structures, found in firms without staggered boards and poison pills, enable holding managers accountable through the empowerment of hedge fund activism. While activist interventions alleviate agency costs, they also impose non-trivial principal costs stemming from their mistakes or conflicts with other shareholders (Goshen and Squire 2017). In the baseline model, these principal costs manifest as excessive pressure on managers to increase payouts, inevitably leading to missed profitable investment opportunities.

Given these trade-offs, stronger governance increases shareholder value for firms facing severe agency conflicts, while weaker governance benefits firms with milder conflicts. Within this spectrum lies a marginal firm, one whose shareholder value is invariant to governance structure. The identity of this marginal firm is endogenous, determined by equilibrium wages that affect investment profitability and thus the relative importance of agency versus principal costs.

Since managers are prone to both overinvestment and underinvestment, the impact of stronger governance on firm investment is generally ambiguous. Yet we obtain a sharp result: the marginal firm always invests more under weak governance than under strong governance, even when managerial agency costs primarily reflect underinvestment in positive-NPV projects. The intuition is as follows. For the marginal firm to be indifferent between governance structures, managerial agency costs under weak governance must adjust endogenously to offset the principal costs imposed by activists under strong governance. This balance is obtained when losses from overinvestment in negative-NPV projects are exactly offset by gains from additional investment in positive-NPV projects, yielding higher total investment under weak governance. Importantly, this result holds even when activists' principal costs stem from overinvestment in negative-NPV projects.[1]

[1] An exception arises when managers primarily underinvest *and* activists primarily overinvest, a combination

Having characterized the relationship between a firm's governance, investment policy, and shareholder value, we examine how governance choices are determined under two distinct ownership structures. Under separate ownership, each firm is owned by different investors, and governance structures are set competitively to maximize individual firm value. Under common ownership, multiple firms are owned by the same investors, and governance structures are set to maximize aggregate portfolio value, effectively granting common owners market power in governance choices.

We begin with the separate ownership benchmark. The optimal governance structure for each firm depends on investment profitability and, consequently, wage levels. When wages are low, shareholders adopt weaker governance structures that insulate managers from activists, enabling them to invest and capitalize on cheap labor. As more firms adopt weaker governance and expand investment, labor demand rises, pushing wages upward and gradually eroding investment profitability. This process continues until further weakening of governance becomes unprofitable. Conversely, when wages are high, firms adopt stronger governance structures to empower activists, thereby restraining investment and reducing labor demand. This interplay between wages and governance creates a feedback loop that culminates in an equilibrium where the balance between agency and principal costs determines both governance choices and labor allocation. Notably, the competitive equilibrium is socially efficient, rendering any intervention in governance structures welfare-reducing.

Common ownership breaks this feedback loop between wages and governance. Importantly, since the marginal firm always invests less under strong governance, common owners benefit from pushing firms en masse toward strong governance. This widespread adoption of strong governance empowers hedge fund activism and curtails investment economy-wide. As aggregate investment declines, labor demand falls correspondingly, and firms no longer require additional workers to support new projects or expansion. The resulting wage suppression benefits all portfolio firms, increasing aggregate portfolio value for common owners at the expense of workers and social welfare. To achieve this wage reduction, however, the common owner must impose strong governance on some firms even when weak governance would maximize their stand-alone value. In equilibrium, the optimal governance allocation is pinned down by the

that appears empirically less relevant (see Section 4.7 for discussion). In Section 3.3.1, we show that under this configuration, the anticompetitive effects of common ownership manifest through excessive adoption of *weak* governance structures.

point at which the wage savings captured by the entire portfolio exactly offset the aggregate losses from imposing suboptimal governance on those firms.

This mechanism has several distinctive features that distinguish it from traditional anti-competitive behavior. Common owners effectively establish labor market monopsony without requiring any collusion among firms or managers. This market power arises purely from large investors' control over governance structures across numerous firms. Critically, individual managers and activist investors pursue their own narrow economic interests, neither coordinating with one another nor internalizing cross-firm externalities. The anticompetitive harm emerges organically from the aggregate effect of decentralized decisions, making it inherently difficult to detect through traditional enforcement mechanisms. Indeed, the only action taken by common owners is encouraging portfolio firms (often operating in unrelated industries) to adopt strong governance structures, a practice that appears benign in isolation. Thus, the absence of a clear "smoking gun" does not imply the absence of anticompetitive harm, but rather reflects how common ownership exerts market power through indirect, decentralized channels.[2]

Crucially, this mechanism requires neither intent nor sophistication. Common owners need not consciously pursue monopsony power; the anticompetitive effects emerge naturally from their advocacy for strong governance. Conventional wisdom celebrates institutional investors for strengthening corporate governance to mitigate agency costs (Jensen and Meckling 1976), and institutional investors consistently push for strong governance structures in publicly traded firms (Carleton et al. 1998; McCahery et al. 2016). However, this perspective overlooks heightened principal costs, specifically, inefficient investment resulting from increased activist pressure. Consequently, common owners who promote strong governance may mistakenly attribute their abnormal portfolio returns to reduced agency costs rather than to wage suppression across their holdings. Put differently, the widely held belief that strong governance unequivocally benefits shareholders can itself generate the anticompetitive effects of common ownership.[3] Indeed, even a simple one-size-fits-all governance policy mandating strong governance across all firms can increase aggregate portfolio value beyond competitive levels.

[2]Section 4.1 discusses model predictions that can help identify these anticompetitive effects indirectly.

[3]Such anticompetitive effects may also arise as unintended consequences of regulatory reforms that strengthen corporate governance while overlooking principal costs, such as the Sarbanes-Oxley Act of 2002, or from the influence of proxy advisory firms, such as ISS (Institutional Shareholder Services), that promote standardized, shareholder-friendly governance policies across the economy.

The preceding discussion highlights activist hedge funds as the channel through which common ownership produces anticompetitive outcomes. Does this imply that hedge fund activism is inherently harmful? We show that under separate ownership with competitive governance, hedge fund activism enhances social welfare when firms can insulate managers from activists through dual-class share structures or shareholder-approved anti-activism poison pills. However, these welfare gains come at the cost of increased inequality between capital and labor. This result is particularly striking because it holds even when activists impose non-trivial principal costs stemming from myopia or incompetence. Ultimately, when firms can effectively insulate their managers from external pressure, hedge fund activism itself causes no harm under separate ownership. Thus, social harm arises specifically from the interaction between activism and common ownership. Our findings thus highlight a potential social cost of regulations that either prevent firms from adopting protective measures or limit hedge fund activists' ability to intervene.

The anticompetitive effects of common ownership lower investments and increase average firm value, creating new investment opportunities for potential entrants. Can increased entry raise aggregate investment, labor demand, and wages sufficiently to offset the initial harmful effects? While entry does increase labor demand and initially puts upward pressure on wages, common ownership responds by inducing wider adoption of strong governance among both incumbents and entrants, which depresses investment economy-wide and exerts downward pressure on wages. The negative effect dominates, resulting in lower equilibrium investment, wages, and social welfare under common ownership, despite increased market entry. Effectively, anticipated monopsony rents induce excessive firm entry at the expense of worker surplus. The persistence of anticompetitive effects alongside increased entry further underscores the difficulty of detecting common ownership's harm through traditional regulatory metrics.

Distortions in investment and wage dynamics driven by common ownership can also influence firms' decisions about whether to go public. On one hand, by promoting stronger governance, common ownership increases average public firm value, potentially attracting growth-oriented companies seeking access to public capital. On the other hand, remaining private becomes more appealing, as private firms benefit from the wage suppression created by common owners' monopsony power in labor markets. We show that, when private capital is abundant, this latter effect dominates. Given the growing depth of private funding markets

in recent years (Stulz 2020), our analysis suggests that common ownership contributes to the ongoing shift toward private markets in the U.S.

Overall, our theory provides a unifying framework that connects several key empirical trends in modern financial markets: the rise in common ownership, widespread adoption of shareholder-friendly governance, increased hedge fund activism, and concurrent declines in aggregate investment, employment, and labor share. The model's predictions find strong empirical support across multiple studies. Institutional investors systematically promote shareholder empowerment (Appel et al. 2016, 2019), common ownership reduces investment (Gutiérrez and Philippon 2017), and firms with concentrated institutional ownership exhibit lower employment and wages while generating higher shareholder returns (Falato et al. 2022; Schlingemann and Stulz 2022; Brav et al. 2015b). These findings collectively suggest that changes in ownership structures and governance practices have fundamentally reshaped the balance between shareholder and worker interests in public corporations.

Related literature

Our paper contributes to the theoretical literature on common ownership, building upon prior work by Hansen and Lott (1996), O'Brien and Salop (2000), Rubin (2006), Kraus and Rubin (2010), Azar (2017), Edmans et al. (2019), López and Vives (2019), Backus et al. (2019), Gilje et al. (2020), Azar and Vives (2021), Anton et al. (2023), and Adler and Mitkov (2023). Unlike these models, ours emphasizes that anticompetitive effects arise from the *allocation* of control between shareholders and managers, rather than from how control is *exercised*. A distinctive feature of our framework is the interaction between common owners and activist hedge funds.[4] In addition, while existing models focus on strategic interaction between competitors with overlapping ownership, our firms are price-takers that need not operate in the same industry and do not interact strategically. This broader applicability, extending to universal owners across unrelated industries, further highlights the difficulty of detecting such anticompetitive behavior.

Like Anton et al. (2023), our model produces anticompetitive effects arising from common

[4]Our analysis of the interaction between common ownership and hedge fund activism, with implications for activism's social value, activist entry, firm entry, and private-public market dynamics, also differentiates our work from Goshen and Levit (2022). They informally argue that common owners achieve monopsony power by promoting strong governance, which deters managerial investment through heightened dismissal risk.

ownership without requiring any communication or coordination among firms. In their framework, common owners soften competition by offering low-powered incentives to managers. Our approach differs in three key respects. First, in their framework, investors explicitly account for cross-firm externalities when exercising control, whereas in ours, control is exercised by activists who do not internalize such externalities, making anticompetitive effects even more difficult to detect. Second, their model predicts that anticompetitive effects arise under weak governance by allowing managers to "enjoy the quiet life." In contrast, our model finds the opposite—that these effects require strong governance, consistent with observed trends in U.S. public markets. Third, while their framework excludes activists, it implies that common owners would oppose activist investors seeking to restore high-powered managerial incentives. Our model predicts the opposite: common owners welcome activist campaigns, consistent with empirical evidence (e.g., Appel et al. 2016, 2019). Indeed, activists would cure anticompetitive effects in their model, whereas in ours they serve as the transmission channel.

Beyond the literature on common ownership, our paper contributes to the broader theoretical work on shareholder activism as a governance mechanism that mitigates agency costs within individual firms (see Edmans and Holderness 2017 for a survey).[5] While this literature typically analyzes activism's effects at the individual-firm level, we embed activism in a broader market framework that captures its interaction with common ownership, its labor market externalities across firms, and its wider welfare implications under different governance regimes.

Our work also relates to studies of governance externalities across firms, including Acharya and Volpin (2010), Dicks (2012), Acharya et al. (2013), Burkart and Raff (2015), Nielsen (2006), Cheng (2011), and Levit and Malenko (2016). We identify a novel channel through which governance externalities operate via real markets, examining how different ownership structures shape these effects. In doing so, we build on Gibbons et al. (2012), who examined interactions between governance structures and real markets by focusing on the interplay between price informativeness and internal organization. We contribute by showing how control rights allocation between shareholders and managers, shaped by governance market power,

[5]More specifically, see Shleifer and Vishny (1986); Admati et al. (1994); Zwiebel (1995); Burkart et al. (1997); Maug (1998); Kahn and Winton (1998); Bolton and von Thadden (1998); Noe (2002); Faure-Grimaud and Gromb (2004); Attari et al. (2006); Harris and Raviv (2010); Brav and Mathews (2011); Cohn and Rajan (2013); Levit (2019); Corum and Levit (2019); Brav et al. (2022); Burkart and Lee (2022).

determines the trade-off between agency and principal costs.[6]

2 Model Setup

Consider an economy with a continuum of public firms of total mass $\theta > 0$, indexed by i. Each firm is run by a manager and owned by shareholders, all of which are risk neutral. Firms have non-contractible investment opportunities. If $x_i = 0$, the firm does not invest, cash is hoarded or paid out to shareholders,[7] and firm value is normalized to zero. If $x_i = 1$, the firm invests in a project that yields a gross return r_i, where r_i is identically and independently distributed across firms according to a differentiable CDF $F(\cdot)$ with full support on $[0, \overline{r}]$, where $\overline{r} > 0$.

Investment requires resources such as labor, raw materials, or machinery. For concreteness, we focus on labor. All firms draw from a common pool of workers in a competitive labor market, with wage denoted by p. Each firm must hire l workers to invest; normalizing $l = 1$, the net return on investment is $r_i - p$. Let $s(p) \geq 0$ denote the labor supply, defined as the mass of workers whose outside option is valued below p. We assume $s(p) = 0$ for all $p \leq \mathbb{E}[r]$, $s'(p) > 0$ for all $p > \mathbb{E}[r]$, and $s(\overline{r}) > \theta$. These assumptions ensure an interior equilibrium wage and imply that, absent additional information, investment has a negative-NPV.[8]

The governance structure of the firm is denoted by $g_i \in \{\underline{g}, \overline{g}\}$, where $0 \leq \underline{g} < \overline{g} \leq 1$. We refer to firms with $g_i = \underline{g}$ as weak governance firms, and those with $g_i = \overline{g}$ as strong governance firms. With probability $1 - g_i$, the manager has formal control over the firm's investment policy; with probability g_i, control rests with the shareholders. If $\underline{g} > 0$, the legal and institutional environment ensures that managers are not fully insulated from shareholder pressure. If $\overline{g} < 1$, managers have minimal level of entrenchment and insulation from markets that shareholders cannot undo.[9]

[6] Unlike Hart (1983), Scharfstein (1988), Nickell (1996), Schmidt (1997), Raith (2003), and Giroud and Mueller (2010, 2011), in our model, competition does not eliminate agency costs but rather implies that these costs are offset by principal costs. Thus, governance remains critical for firm investment and value even in highly competitive markets.

[7] Payouts represent outflows of corporate funds that do not fully circulate back into corporate investment. Instead, they may be allocated for consumption, invested in safer assets such as Treasuries, or redirected into international markets.

[8] Online Appendix D shows that the main results hold when investment has a positive average NPV. The Online Appendix is available here.

[9] Since expected shareholder value is linear in g, choosing $\underline{g} < g_i < \overline{g}$ is suboptimal, even if allowed.

Under management control, the investment policy is delegated to the manager. The manager observes r_i and then chooses x_i. With probability $1 - b_i$, the manager is fully aligned with maximizing the shareholder value, and she invests in the project if and only if $r_i > p$. With probability b_i, the manager is conflicted with shareholders. Parameter b_i is distributed across firms according to a differentiable CDF $H(\cdot)$ with full support on the interval $[0, 1]$. We consider two types of conflicts. First, with (conditional) probability $\eta \in (0, 1]$, the manager has private benefits from investment (e.g., "pet projects" and "empire building" motives, or diversion of cash-flows). This conflict creates an overinvestment problem: the manager always invests, even if the project has a negative-NPV. Second, with probability $1 - \eta$, the manager incurs private costs from investment. The execution of projects requires managerial effort and attention but the manager seeks the "quiet life" (Bertrand and Mullainathan 2003). This conflict creates an underinvestment problem: the manager never invests, even if the project has a positive-NPV. While b_i and η are common knowledge, the realization of the conflict and its nature are the manager's private information.[10]

Under shareholder control, the investment policy can be influenced by shareholders, but doing so requires an activist investor to hold shares in the firm. The probability that a firm has an activist is denoted by $\varphi \in (0, 1)$, independently drawn across firms; in Section 4.5, we endogenize φ. If present, the activist runs a campaign, and if shareholders approve it, the activist determines x_i. Activist investors are often less informed than managers and may have conflicting interests with other shareholders. We assume the activist is either fully informed about r_i or entirely uninformed. In addition, the activist may be either unbiased, seeking to maximize shareholder value, or biased, blocking investment regardless of their NPV. Bias can stem from short-term horizons or reputational concerns, favoring immediate payouts over long-term value. In Section 3.3.1, we show that our main results continue to hold when the activist's bias is toward investment. Let $\tau \in [0, 1)$ denote the prior probability that the activist is both informed and unbiased. The severity of these principal costs is captured by lower values of τ. In the Appendix, we extend our analysis to a more general framework in which even the threat

[10] Wages do not affect conflicted managers' private benefits and costs of investment. If they did, the separate ownership equilibrium might be socially inefficient due to direct governance externalities: shareholders would fail to internalize that by selecting strong governance, they reduce wages, thereby mitigating agency costs (overinvestment) at other firms. The separate ownership equilibrium could then exhibit insufficient strong governance, and common ownership could enhance welfare by internalizing this externality. By abstracting from this channel, we isolate the purely anticompetitive effects of common ownership.

of activist intervention discourages managers from acquiring information about firm-specific projects (Burkart et al. 1997), which represents yet another manifestation of principal costs.

Shareholders do not observe activist types and often lack the competence, attention, or incentives to screen proposals effectively. Consequently, some value-reducing campaigns may succeed. This assumption also capture situations where activists pressure managers without securing majority shareholder support, for example, through negative publicity. We assume an activist campaign succeeds with probability $\mu(b) \in (0, 1]$, where $\mu'(b) \geq 0$. This implies campaigns are more likely to succeed in firms with severe agency problems (higher b), where activist intervention would enhance value the most. When no activist is present or campaigns fail, investment policy control defaults to the manager, who chooses x_i.

We consider two ownership structures. Under separate ownership, each firm's shareholders independently select a governance structure g_i to maximize the expected share value of their respective firm. In contrast, under common ownership, a single investor, or a small group of investors, determines the governance structures across all firms with the goal of maximizing the total value of the portfolio.[11] In both regimes, governance structures are chosen before shareholders observe the firm-specific investment opportunity r_i or the characteristics of the managerial agency conflict. Once governance structures are in place, firms simultaneously decide whether to hire workers and invest. Subsequently, the labor market clears, and investment returns are realized.

3 Analysis

3.1 Preliminaries

We begin by analyzing the firm's investment decision, given its governance structure g_i and wage level p. Let $v_m(b, p)$ and $v_{sh}(b, p)$ denote the expected share values under managerial and shareholder control, respectively, where the manager is disloyal with probability b. The

[11] Asset managers have a fiduciary duty to act in the best interests of their beneficiaries, which entails maximizing portfolio value. Since higher valuations tend to attract greater inflows, this objective is also, at least in part, aligned with increasing assets under management (AUM).

expected shareholder value under governance structure g is given by

$$v_g(b,p) \equiv g v_{sh}(b,p) + (1-g)\, v_m(b,p). \tag{1}$$

Under management control, shareholders have no influence over investment choices. A loyal manager undertakes the project if and only if it has a positive-NPV ($r_i > p$). A disloyal manager invests only if she derives private benefits from the project, which occurs with probability η. Hence, the expected share value under managerial control is:

$$v_m(b,p) = (1-b)\, R(p) - b\eta\,(p - \mathbb{E}[r]), \tag{2}$$

where

$$R(p) \equiv \int_p^{\overline{r}} (r-p)\, dF(r). \tag{3}$$

Since $R(p) > 0$ and $p > \mathbb{E}[r]$, as expected, higher agency costs b lead to a lower firm value.

Under shareholder control, firm value depends on activist intervention. If no activist intervenes or the campaign fails, the manager retains control over the firm's investment policy, and the expected share value remains $v_m(b,p)$. If an activist intervenes and the campaign succeeds, then with probability τ, the activist is informed and unbiased, and only positive-NPV projects are undertaken. With probability $1-\tau$, the activist is either uninformed or biased, and since $p > \mathbb{E}[r]$, no investment occurs.[12] Thus, the expected share value from a successful campaign is $\tau R(p)$. Given arrival probability φ and success probability $\mu(b)$, the expected share value under shareholder control is:

$$v_{sh}(b,p) = v_m(b,p) + \varphi\mu(b)\,(\tau R(p) - v_m(b,p)). \tag{4}$$

Remark: Conditional on the firm's governance structure g_i, managers' investment choices, activist interventions, and shareholder approvals are independent of ownership structures. That is, investment decisions are made without considering cross-firm externalities. Thus, any anticompetitive effects of common ownership in our model stem solely from the *allocation* of

[12] In Online Appendix C, we examine cases in which uninformed yet unbiased activists may delegate investment decisions to informed managers. Delegation effectively reduces the principal costs associated with activist intervention, while leaving the core results of our model unchanged.

control between managers and shareholders, not from how that control is *exercised*.

The effect of governance on firm value. Firms with stronger governance (i.e., higher g) have higher valuations whenever $v_{sh}(b,p) > v_m(b,p)$. Comparing (4) with (2) leads to the following result:

Lemma 1 *For any wage level p, firms with stronger governance have higher valuations if and only if $b > \beta(p)$, where*

$$\beta(p) = \frac{(1-\tau)R(p)}{R(p) + \eta(p - \mathbb{E}[r])}. \tag{5}$$

All else equal, firms with higher b face greater agency costs, so their shareholders have more to gain from strong governance. In particular, if $\tau = 1$, then $\beta(p) = 0$ for all p; that is, in the absence of principal costs, all firms benefit from stronger governance regardless of the severity of agency problems.

From here on, we refer to a firm with $b = \beta(p)$ as the *marginal firm*. By definition, $v_{sh}(\beta(p), p) = v_m(\beta(p), p)$, so its shareholders are indifferent between governance structures. Since p is determined in equilibrium, the identity of the marginal firm is endogenous and depends on wages.

The effect of governance on firm's investment. Analogous to the firm value expressions in (1), (2), and (4), we define the expected investment levels as $I_g(b,p)$, $I_m(b,p)$, and $I_{sh}(b,p)$, respectively. Since wages affect firm value only through the term $r_i - p$, observe that a firm's investment level corresponds to the marginal effect of wages on firm value:

$$I_g(b,p) = -\frac{\partial v_g(b,p)}{\partial p}. \tag{6}$$

It's straightforward to verify that $I_g(b,p)$ decreases with p. However, as the following result shows, the impact of corporate governance on investment is more nuanced.

Lemma 2 *For any wage level p, firms with strong governance invest more if and only if $\eta < \tau(1 - F(p))$ and $b > \sigma(p)$, where $\sigma(p) > \beta(p)$ is defined in Equation (A8) in the Appendix.*

Lemma 2 shows that a firm invests more under weaker governance, except when the agency problem is sufficiently severe, i.e., when $b > \sigma(p)$, and primarily takes the form of underinvestment, meaning $\eta < \tau(1 - F(p))$. These same conditions determine whether activist intervention reduces investment. Importantly, because both conditions depend on the wage p, the effect of stronger governance on investment is endogenous.

The cutoff $\sigma(p)$ represents the lowest agency cost level b at which strong governance induces higher investment than weak governance. Since $\beta(p) < \sigma(p)$, Lemma 2 implies that the marginal firm always invests more under weaker governance, even when the agency problem primarily involves underinvestment (i.e., when η is small). This would be key for analyzing equilibrium under common ownership.

The intuition is as follows: a firm with weak governance is less vulnerable to activist interventions and, as long as $\eta > 0$, is more likely to invest in negative-NPV projects. Shareholder indifference to the governance structure of the marginal firm implies that, to offset losses from excessive investment in negative-NPV projects, the firm must also invest more in positive-NPV projects when governance is weak. Consequently, the marginal firm invests more overall under weak governance, $I_m(\beta(p), p) > I_{sh}(\beta(p), p)$. As highlighted in Section 3.3.1, this result holds even when activists themselves pursue negative-NPV projects. When activists impose greater principal costs through overinvestment, agency costs must endogenously intensify (i.e., β increases) to preserve shareholder indifference to governance structure. The activist's overinvestment is thus offset by heightened managerial overinvestment at the marginal firm.

The fact that the marginal firm invests more under weaker governance also implies $\beta'(p) < 0$; that is, higher wages reduce the relative value of weakly governed firms. Intuitively, rising wages lower investment profitability for all firms, but a weakly governed firm, which invests more, experiences a greater decline in valuation. As a result, for shareholders to remain indifferent between governance structures, agency costs of the marginal firm must be lower as wages increase.

Threshold allocation rules. We define a threshold allocation rule where firm i adopts strong governance if and only if $b_i > b^*$, for some cutoff $b^* \in [0, 1]$. The corresponding market

clearing wage $\pi(b^*)$ is the solution of $D(b^*, p) = s(p)$ where

$$D(b^*, p) \equiv \theta \left[\int_0^{b^*} I_{\underline{g}}(b, p)\, dH(b) + \int_{b^*}^1 I_{\overline{g}}(b, p)\, dH(b) \right] \tag{7}$$

is the demand for labor by weak and strong governance firms. In the Appendix we show that $\pi(b^*)$ is well-defined and unique.

3.2 Separate ownership

Under separate ownership, governance markets are competitive: each firm's shareholders choose the governance structure that maximizes their expected share value, given the expected wages and the behavior of other managers and activists. While both governance choices and investment profitability depend on wages, governance also influences firms' investment policies, which in turn affect wages through market clearing. Accounting for this feedback loop, the following result characterizes the governance equilibrium under separate ownership.

Proposition 1 *A unique equilibrium exists under separate ownership. Firms adopt strong governance if and only if $b > b^*_{so}$, where b^*_{so} is the unique solution to*

$$b^* = \beta(\pi(b^*)). \tag{8}$$

The equilibrium wage is $p^*_{so} = \pi(b^*_{so})$.

Shareholders choose governance structures by trading off agency costs from managers (e.g., overinvestment) against principal costs from activists (e.g., bias and errors). Strong governance reduces agency costs but increases principal costs. By Lemma 1, firms with higher agency costs ($b > b^*_{so}$) adopt strong governance in equilibrium. The cutoff b^*_{so} reflects the marginal firm's conflict given expected wages, so $b^*_{so} = \beta(p^*_{so})$. As Lemma 2 shows, governance choices of firms affect the aggregate labor demand, requiring wages to satisfy $p^*_{so} = \pi(b^*_{so})$ to clear the market. Thus, equilibrium wages and governance structures are jointly determined, as captured by (8).

Social welfare. The expected social welfare in the separate ownership equilibrium is:

$$W(b^*_{so}, p^*_{so}) = \theta V(b^*_{so}, p^*_{so}) + p^*_{so} s(p^*_{so}) + \int_{p^*_{so}}^{\infty} y\, ds(y), \tag{9}$$

where

$$V(b^*, p) \equiv \int_0^{b^*} v_{\underline{g}}(b, p)\, dH(b) + \int_{b^*}^1 v_{\overline{g}}(b, p)\, dH(b) \tag{10}$$

is the expected shareholder value. The second term in (9) captures total payments to hired workers, while the third reflects the outside options of non-hired workers, those with reservation values above p^*_{so}. Together, these two terms form the worker surplus.

Proposition 2 *The separate ownership equilibrium is socially efficient; all other allocations are strictly suboptimal.*

To understand Proposition 2, note that changing the set of firms with strong governance affects social welfare through two channels. First, there is a direct effect operating through firms' valuations. Holding wages fixed, a change in a firm's governance structure—from weak to strong or vice versa—affects social welfare by the difference $v_{sh}(b, p^*_{so}) - v_m(b, p^*_{so})$. The optimal allocation ensures that no firm can profitably deviate by unilaterally changing its governance structure, given equilibrium wages. This condition is precisely satisfied in the competitive equilibrium under separate ownership.

Second, there is an indirect effect operating through the impact of governance on wages. Since firms with strong governance invest differently than those with weak governance, changes in the governance distribution can alter aggregate investment and labor demand, thereby affecting equilibrium wages. Higher wages reduce firms' valuations in proportion to aggregate investment, but increase worker surplus in proportion to aggregate labor supply. However, because labor market clearing requires that aggregate labor demand equals aggregate labor supply, these two effects exactly cancel. Consequently, the general equilibrium effect of governance changes on wages has no net impact on social welfare.

3.3 Common ownership

Under common ownership, a single investor, or a small group of large investors, determines the governance structures of all firms, thereby wielding governance market power. The common owner's objective is to maximize aggregate expected shareholder value across the entire portfolio. This scenario mirrors the rapid growth of the three largest U.S. asset managers—BlackRock, State Street, and Vanguard—who together hold significant equity stakes in nearly

every publicly traded company.

Proposition 3 *A marginal increase in the share of firms with strong governance raises the aggregate shareholder value relative to the separate ownership equilibrium,* $\frac{\partial V(b^*_{so}, p^*_{so})}{\partial b^*} < 0$. *Moreover, in the allocation that maximizes aggregate shareholder value, both the equilibrium wage* p^*_{co} *and aggregate investment are strictly lower than under separate ownership.*

The common owner always benefits from increasing the number of strong-governance firms. Two key effects are at play. First, changing a firm's governance structure alters the trade-off between agency and principal costs, directly affecting its value. However, for the marginal firm, this effect is negligible by definition, as its value remains unchanged across governance regimes. Second, governance changes influence investment behavior even when firm value is unaffected. As shown in Lemma 2, the marginal firm always invests less under strong governance. By steering marginal firms toward stronger governance, the common owner reduces aggregate investment and lowers labor demand. This puts downward pressure on wages, benefiting all firms in the common owner's portfolio.

Proposition 3 implies that the common owner selects a control allocation that differs from the one arising under separate ownership. Since the common owner maximizes aggregate shareholder value, total shareholder value is strictly higher under this allocation. However, Proposition 2 implies that any deviation from the separate ownership allocation is socially inefficient. This yields an immediate corollary:

Corollary 1 *Common ownership strictly reduces social welfare and worker surplus while strictly increasing aggregate shareholder value relative to separate ownership:* $W(b^*_{co}, p^*_{co}) < W(b^*_{so}, p^*_{so})$ *and* $V(b^*_{co}, p^*_{co}) > V(b^*_{so}, p^*_{so})$.

According to Proposition 3, both wages and total investment are lower under common ownership. This occurs because the common owner's sole instrument is altering firms' governance structures. Since separate ownership maximizes aggregate shareholder value at the prevailing wage p^*_{so}, any deviation requires some firms to adopt governance structures that are individually suboptimal. The common owner forces such deviations only when the resulting wage reduction sufficiently boosts investment profitability across the entire portfolio. Proposition 3 demonstrates that such profitable deviations exist, ensuring $p^*_{co} < p^*_{so}$.

Reducing wages requires curtailing aggregate labor demand and, consequently, total investment. Essentially, the common owner exercises monopsony power by internalizing the negative wage externality that firms impose on each other through their investment decisions. However, this intervention creates social inefficiency. The common owner ignores the welfare gains arising when firms employ workers whose alternative job options yield lower utility, thereby capturing monopsonistic rents at the expense of broader economic welfare.[13]

Notably, Proposition 3 is independent of parameter η, holding even when the dominant agency conflict is underinvestment. Going forward, we focus on settings where overinvestment concerns are significant, i.e., $\eta \geq \eta^*$ where

$$\eta^* \equiv \tau \left(1 - F\left(\mathbb{E}\left[r\right]\right)\right), \tag{11}$$

so that, for any admissible wage level (i.e., $p > \mathbb{E}\left[r\right]$), a disloyal manager invests more than the average activist. Under this assumption, the next result characterizes the common owner's optimal governance allocation.[14]

Proposition 4 *Suppose $\eta \geq \eta^*$. The allocation maximizing aggregate shareholder value features a threshold $b^*_{co} \in [0, b^*_{so})$, where firms adopt strong governance if and only if $b > b^*_{co}$.*

An immediate implication of Proposition 4 is that under common ownership, more firms adopt strong governance than under separate ownership (i.e., $b^*_{co} < b^*_{so}$), and the equilibrium wage satisfies $p^*_{co} = \pi\left(b^*_{co}\right)$. In contrast to the separate ownership equilibrium, the cutoff firm is no longer indifferent between governance structures. Instead

$$b^*_{co} < b^*_{so} = \beta\left(p^*_{so}\right) < \beta\left(p^*_{co}\right). \tag{12}$$

Consequently, if $b^*_{co} < b < \beta\left(p^*_{co}\right)$, the firm is assigned strong governance under common

[13] If common owners internalized worker surplus, they would have little or no incentive to deviate from the competitive allocation (which would remain unchanged since firms are price takers).

[14] Proposition A-1 in Online Appendix A.1 shows that when $\eta < \eta^*$, either the allocation in Proposition 4 remains optimal, or firms adopt strong governance if and only if $b < b^*_{co}$, for some $b^*_{co} > 0$. The latter arises when severe underinvestment leads weak governance firms to invest less than strong ones (Lemma 2), prompting the common owner to push some strong governance firms toward weak governance. This is not observed in practice, likely due to the impracticality of forcing firms with severe (mild) agency problems to adopt weak (strong) governance. The lemma also shows that when labor is sufficiently scarce, the allocation in Proposition 4 remains optimal even when $\eta < \eta^*$.

ownership even though its individual value would be higher under weak governance. The optimality of a threshold strategy trades off the gains from lower wages with the losses from suboptimal firm-level governance. To reduce aggregate investment and wages, the common owner must force some firms to adopt strong governance even when their individual valuations would favor weak governance. To minimize the distortion, the common owner targets firms currently under weak governance but with relatively high agency costs, specifically, those in the interval $[b^*_{co}, b^*_{so}]$.[15]

The threshold b^*_{co} is characterized by the first-order condition:

$$\theta[v_{\underline{g}}(b^*_{co}, p^*_{co}) - v_{\overline{g}}(b^*_{co}, p^*_{co})]h(b^*_{co}) = s(p^*_{co})\frac{\partial p^*_{co}}{\partial b^*}|_{b^*=b^*_{co}}. \tag{13}$$

The left-hand side of Equation (13) represents the marginal cost of the governance intervention, the loss incurred by forcing a firm to adopt strong governance. The right-hand side reflects the marginal benefit to the overall portfolio: the marginal wage reduction ($\frac{\partial p^*_{co}}{\partial b^*}$) multiplied by aggregate investment, which equals $s(p^*_{co})$ in equilibrium. The optimal allocation equates these two margins, ensuring that the common owner maximizes portfolio value while internalizing the general equilibrium effects of governance restructuring.

3.3.1 Overinvesting activists

Our main results extend to cases in which the activist is biased toward investment. Specifically, suppose that with probability $\xi < 1 - \tau$, the activist is biased and invests regardless of the project's NPV, while with probability $1 - \tau - \xi$, the activist does not invest, either because they are biased against investment or because they are uninformed. In the Appendix, we show that Propositions 1-3 continue to hold if $\xi < \eta(1 - \tau)$.[16]

Strikingly, when managers' only agency problem is overinvestment (i.e., $\eta = 1$), the common owner *always* finds it optimal to promote stronger governance relative to the competitive equilibrium, regardless of how severe the activist's bias toward overinvestment is (i.e., how large ξ is). Intuitively, as ξ increases, the marginal firm, which is indifferent to governance structures, endogenously becomes one that faces a more severe agency problem and therefore

[15] For firms with $b^*_{so} < b < \beta(p^*_{co})$, governance was already strong under separate ownership. While lower wages would make switching to weak governance beneficial, common ownership prevents this transition.

[16] Proposition 4 requires a tighter bound on ξ, see condition (A19) in the Appendix.

its manager tends to overinvest more (i.e., β increases with ξ). This amplification of the agency problem more than offsets the activist's bias toward investment, causing the marginal firm to invest more under weak governance than under strong governance. Following the same intuition as in Proposition 3, this in turn leads the common owner to promote stronger governance, which gives rise to anticompetitive effects in equilibrium.

In Online Appendix A.1.1, we show that, if $\xi > \eta(1-\tau)$, the marginal firm may actually invest *more* under strong governance. In this case, the managerial overinvestment problem is too weak to offset the activist's overinvestment bias. Common owners still have incentives to pressure the marginal firm to deviate from the governance structure that would otherwise arise in competitive equilibrium, as a means of exercising monopsony power in the labor market. In this case, however, they promote *weaker* governance structures, which reduce investment and depress equilibrium wages. In other words, the anticompetitive effects of common ownership persist even when activists tend to overinvest, only now, they are achieved by disempowering activist hedge funds.[17] While theoretically intriguing, assuming $\xi > \eta(1-\tau)$ generates several predictions inconsistent with empirical evidence: it implies systematic overinvestment and reduced payouts under activism, positive correlations between firm-level investment and strong governance, and large asset managers promoting weaker governance. We therefore focus on the empirically relevant case where $\xi < \eta(1-\tau)$.

4 Implications

This section explores the broader implications of common ownership's anticompetitive effects across several dimensions. In Section 4.1, we argue that these effects are largely undetectable by traditional antitrust tools. Section 4.2 examines whether the possibility of free firm entry can mitigate or overturn these distortions. In Section 4.3, we consider whether common ownership contributes to the expansion of private markets. Section 4.4 evaluates whether activist investors are inherently detrimental to society, or whether the harm stems specifically from their symbiotic relationship with common owners, and Section 4.5 endogenizes the entry decision of the activist. In Section 4.6, we discuss how similar outcomes may arise even under

[17] For the same reasons outlined in Proposition 6, activists do not harm social welfare under the competitive equilibrium, even when they exhibit a bias toward overinvestment.

naïveté or limited firm-specific knowledge on the part of common owners. Finally, Section 4.7 assesses the empirical relevance of our framework by linking it to recent trends in ownership concentration, governance practices, investment behavior, and labor market outcomes.

4.1 Undetectable anticompetitive effects

Our analysis reveals that the anticompetitive effects of common ownership arise not from how control rights are *exercised*, but from how these rights are *allocated* between managers and shareholders. Crucially, this mechanism operates without any collusion or coordination among managers or firms. Activist investors intervene based solely on firm-specific considerations, ignoring cross-firm externalities, while shareholders support campaigns purely on the basis of individual firm value enhancement.

To emphasize this point, we deliberately assumed that common ownership does not alter activists' incentives or capacity to intervene. Since control rights are never exercised with anti-competitive intent, regulators and empirical researchers would find it difficult, if not impossible, to identify direct evidence of such effects. This insight has important implications for policy and enforcement. Traditional antitrust frameworks focus on detecting explicit coordination or anticompetitive conduct, but common ownership operates through subtler channels embedded in strengthening corporate governance structures that, in isolation, may appear innocuous. Moreover, common owners influence the governance of portfolio firms that may operate in different industries and do not interact strategically, further highlighting the difficulty of detecting such anticompetitive effects.

Although a clear "smoking gun" cannot be found, our theory provides novel predictions that can be suggestive of anticompetitive effects. Specifically, as highlighted in Equation (13), the common owner trades off the portfolio-level monopsony gains against lower valuations for firms pressured to adopt strong governance. Thus, anticompetitive effects can be indirectly identified by observing *negative* abnormal returns to firms that adopted strong governance due to common owner pressure, and *positive* abnormal returns for all other portfolio firms that maintained their governance structures, including those in different industries. Moreover, these abnormal returns should be larger in absolute value for firms that invest more.

4.2 Firm entry

The anticompetitive effects of common ownership manifest through some firms forgoing positive-NPV projects, which creates profitable investment opportunities for potential entrants.[18] This dynamic raises the question wether entry by new firms increases aggregate investment, labor demand, and wages, sufficiently to offset, or even overturn, common ownership's anticompetitive distortions.

To explore this question, we extend the baseline model with an initial entry stage and endogenize parameter θ. A firm chooses to enter if its expected value exceeds the entry cost c. After entry decisions are made, how many firms entered becomes public information and each firm learns its own manager's agency cost b. The game then proceeds as in the baseline model. We assume $\eta \geq \eta^*$ to focus on cases where the threshold allocation in Proposition 4 is guaranteed, and obtain the following result.

Proposition 5 *Consider the extended game with firm endogenous entry and $\eta \geq \eta^*$. Under common ownership, the equilibrium features more firms, stronger governance, lower wages, lower investment, and lower social welfare relative to separate ownership.*

Proposition 5 shows that endogenous entry does not eliminate common ownership's anticompetitive effects. Common ownership increases the average shareholder value, encouraging entry. While greater entry raises labor demand and puts upward pressure on wages, more firms adopt strong governance under common ownership ($b^*_{co} < b^*_{so}$), and these firms invest less, exerting downward pressure on wages. It turns out that this negative effect dominates, yielding lower equilibrium wages: $p^*_{co} < p^*_{so}$. Since equilibrium entry conditions require that shareholder expected value equals c under both ownership structures, differences in social welfare are driven by worker surplus. Lower wages under common ownership thus reduce both worker surplus and overall social welfare.

Why must the aforementioned negative effect dominate? Higher entry by firms increases wages initially, making strong governance endogenously more profitable for more firms (recall $\beta'(p) < 0$), which mitigate the initial wage increase (since strong governance firms invest less). Importantly, common owners push for strong governance even among firms that don't privately

[18] Since new firms must finance their investments, we assume that entry requires raising public equity through initial public offerings (IPOs). See Section 4.3 below for further discussion.

benefit (Proposition 3), amplifying the negative pressure on wages, and resulting with $b^*_{co} < b^*_{so}$. Recall $b^*_{so} = \beta(p^*_{so})$ and that the threshold $\beta(p)$ maximizes portfolio value at a given wage level p. Since $b^*_{co} < \beta(p^*_{co})$, maintaining equal portfolio valuations across ownership structures requires lower equilibrium wages under common ownership, despite increased entry, that is, $p^*_{co} < p^*_{so}$.

Overall, common ownership induces excessive firm entry, but free entry does not eliminate its anticompetitive effects. The anticipated monopsony rents attract more firms into the market, yet common ownership generates no increase in equilibrium portfolio valuation. Instead, the welfare gains from additional entry accrue entirely to new firm owners at the expense of worker surplus, distorting allocations and reducing total social welfare.

4.3 Private markets

While common ownership leads to more entry, its anticompetitive effects may also influence a firm's choice between remaining private at a smaller scale or going public to pursue expansion. To illustrate this trade-off, fix θ and suppose that θ_{pub} firms choose to go public, while the remaining $\theta - \theta_{pub}$ firms stay private. Both private and public firms require labor for investment. Private firms are constrained to a fixed investment level of $\lambda \in (0, 1)$. However, since ownership and control are unified, their investment is not subject to agency or principal costs, and a private firm's value is $\lambda R(p)$. Public firms, by contrast, have better access to capital and can expand investment by $1 - \lambda$, but they face agency-related costs. Accordingly, the expected value of a public firm is $V(b^*, p)$, where b^* reflects the prevailing governance structures.

In Online Appendix A.2, we first show that the analysis of the baseline model extends to any given θ_{pub}. One might expect an increase in θ_{pub} to amplify the common owner's monopsony power, as their influence spans a larger set of firms. While this direct effect does hold, the general equilibrium implications are more nuanced. Specifically, the impact of θ_{pub} on investment depends on λ, which captures the depth of private capital markets. When λ is low (i.e., private capital is limited), investment increases with θ_{pub}; when λ is high, investment declines. The net effect is therefore ambiguous: as public markets expand, common owners may control more firms, but each invests less on average, dampening common owners' incentive to suppress wages. This challenges the standard intuition that the expansion of public markets

necessarily strengthens the anticompetitive effects of common ownership.

These dynamics become even more complex when the decision to go public is itself endogenous. All else equal, firms choose to go public whenever $V(b^*, p) > \lambda R(p)$.[19] The equilibrium level of θ_{pub} is therefore determined by the firm's indifference between remaining private or going public. As in Section 4.2, governance structures and wages are determined jointly with θ_{pub}.

Common ownership leads to an expansion of private markets if, for any given level of θ_{pub}, the net benefit of going public, $V(b^*, p) - \lambda R(p)$, is reduced by the presence of common owners. On one hand, by pressuring their portfolio firms to adopt stronger governance, common ownership can raise the average value of public firms: $V(b^*_{co}(\theta_{pub}), p^*_{co}(\theta_{pub})) > V(b^*_{so}(\theta_{pub}), p^*_{so}(\theta_{pub}))$, potentially attracting firms seeking growth. On the other hand, the relative benefits of staying private increase, particularly because private firms also enjoy lower wage costs resulting from common owners' exercise of monopsony power in public governance markets. Specifically, $R(p^*_{co}(\theta_{pub})) > R(p^*_{so}(\theta_{pub}))$. When private funding is abundant (i.e., λ is high), this latter effect dominates, reducing the net benefit of going public under common ownership. In recent years, the growing depth of private capital markets has eroded the advantages of going public (Stulz 2020). In this context, our analysis suggests common ownership may paradoxically contribute to the continued expansion of private markets.[20]

4.4 The social value of hedge fund activism

Our analysis shows that common ownership can lead to anticompetitive outcomes by empowering activist investors through the adoption of stronger governance structures. This raises an important question: are activist investors inherently detrimental to society, or does the harm arise specifically from their symbiotic relationship with common owners?

To address this question, first consider the case without activism (i.e., when $\varphi \equiv 0$). In this setting, the firm's governance structure becomes irrelevant under both ownership structures, and all firms effectively behave as if they have weak governance, resulting in $b^* = 1$. Accordingly, social welfare in the absence of activism is given by $W_{NoActivism} \equiv W(1, \pi(1))$. Impor-

[19] We abstract from the direct costs of IPOs (e.g., investment banking fees) as well as other benefits of being publicly traded (e.g., liquidity).

[20] Since parameter λ (private capital availability) is exogenous to common ownership, our result differs from the assumption that large asset managers are merely increasing their direct investments in private markets.

tantly, in the absence of activism, common ownership does not lead to any anti-competitive outcomes.

Activist investors can be considered inherently detrimental only if $W\left(b_{so}^{*}, p_{so}^{*}\right) < W_{NoActivism}$, that is, their presence reduces social welfare even under separate ownership. If instead activism improves welfare under separate ownership, the source of harm lies not in activism per se, but in its interaction with common ownership.

Proposition 6 *If τ is sufficiently large or $\underline{g}$ is sufficiently small, then $\frac{\partial W(b_{so}^{*}, p_{so}^{*})}{\partial \varphi} > 0$, i.e., hedge fund activism improves social welfare.*

Proposition 6 identifies two conditions under which activists improve social welfare in the competitive governance equilibrium. The first condition requires that activist hedge funds be sufficiently informed and unbiased (i.e., τ is large). While this may seem intuitive, it is important to note that in our model activist hedge funds influence corporate decision-making without considering the externalities their actions impose on other firms or other stakeholders. In other words, even though their objective is not to promote social welfare, welfare gains may nonetheless arise as an unintended consequence of their interventions.

The second condition requires weak governance structures to provide managers with sufficient insulation from activist pressure (i.e., small $\underline{g}$). This result is striking, as it holds even when activist interventions do not necessarily maximize shareholder value.

To understand this result, note that a change in the likelihood of activist intervention affects social welfare through three channels. First, it changes the allocation of control (captured by b_{so}^{*}), as some firms may adjust their governance structures in response. However, since the competitive allocation is already efficient, these marginal reallocations have only a negligible, second-order effect on welfare. Second, it changes firms' investment decisions and the demand for labor. Yet, because market clearing ensures that the marginal worker values employment at the prevailing market wage, this channel has zero marginal impact on welfare. Third, it affects the valuation of firms, given their *existing* governance structures and wages; this is the channel through which changes in activist likelihood matter for social welfare. This effect is given by

$$\frac{\partial W\left(b_{so}^{*}, p_{so}^{*}\right)}{\partial \varphi} = \underline{g}\theta \int_{0}^{b_{so}^{*}} \frac{\partial v_{sh}\left(b, p_{so}^{*}\right)}{\partial \varphi} dH\left(b\right) + \overline{g}\theta \int_{b_{so}^{*}}^{1} \frac{\partial v_{sh}\left(b, p_{so}^{*}\right)}{\partial \varphi} dH\left(b\right). \tag{14}$$

In a competitive equilibrium, strong-governance firms ($b > b^*_{so}$) always benefit from activism, while weak governance firms ($b < b^*_{so}$) are always harmed. This occurs because shareholders adopt strong or weak governance precisely to capture the anticipated net benefits or avoid net costs of activist interventions. Thus, the first term in (14) is unambiguously negative while the second term is unambiguously positive.

The overall welfare implications thus depend critically on firms' ability to insulate managers from activist pressure. When this insulation is effective (low $\underline{g}$), activism has minimal impact on weak governance firms while still benefiting strong governance firms, yielding a positive net effect on social welfare. However, when weak governance firms cannot adequately shield managers (non-trivial $\underline{g}$), their valuation losses from activism may exceed strong governance firms' gains, potentially making activism socially harmful (see Lemma A-4 in Online Appendix A.3). Interestingly, hedge fund activism is socially beneficial only when firms can adopt robust defenses against it. As long as firms can implement effective measures such as shareholder-approved anti-activism poison pills or dual-class structures, increased activism enhances social welfare even when activists impose non-trivial costs on target firms. Lemma A-5 in Online Appendix A.3 shows that, when the managerial overinvestment problem is severe ($\eta \geq \eta^*$), activism enhances social welfare but at the same time redistributes wealth from workers to shareholders.

Finally, recall that Corollary 1 has established that with activism, social welfare is lower under common ownership, $W\left(b^*_{co}, \pi\left(b^*_{co}\right)\right) < W\left(b^*_{so}, \pi\left(b^*_{so}\right)\right)$. However, one cannot rule out the possibility that social welfare under common ownership is higher with activism than without it; that is, $W\left(b^*_{co}, \pi\left(b^*_{co}\right)\right) > W_{NoActivism}$. Ultimately, two opposing forces are at play. On one hand, as in the competitive equilibrium, activism can improve firm value given the prevailing governance structures and wage levels. On the other hand, it can reduce social welfare by enabling common owners to exercise monopsony power. Either way, we conclude that activism is not inherently detrimental to social welfare; in fact, in many cases, $W\left(b^*_{so}, \pi\left(b^*_{so}\right)\right) > W_{NoActivism}$, and welfare losses arise not from activism itself, but from its symbiotic relationship with common owners.

4.5 Endogenous hedge fund activism

The incentives of activist investors to identify targets and allocate capital to campaigns depend on their expected returns from intervention. These returns are shaped by firms' governance structures, which are themselves endogenous and influenced by the presence of common owners. In Online Appendix B, we extend the model by endogenizing φ, and show that common ownership can either encourage or discourage the entry of activist hedge funds.

Common ownership can encourage entry by strengthening activists' influence through the adoption of stronger governance mechanisms. We refer to this as the governance effect. Conversely, it can deter entry by lowering wages and raising firm valuations, thereby increasing the cost of acquiring a sufficiently large stake for effective intervention. We refer to this channel as the monopsony effect.

We show that when biased activists derive sufficiently large private benefits from blocking investment and increasing payouts (due, for example, to short-term investment horizons or reputational concerns), the governance effect dominates, and common ownership leads to greater activist entry in equilibrium. In contrast, when these private benefits are modest, the monopsony effect dominates, and common ownership reduces activist entry.[21]

4.6 Common ownership characteristics

Naivety. Our analysis emphasizes the monopsony effect as the primary motivation behind the common owner's strategy to pressure portfolio companies to adopt strong governance measures. Implicitly, common owners are assumed to be sophisticated and aware of the anticompetitive effects of their actions. We argue that this assumption is not required, and that the equilibrium outcome is also consistent with institutional *naivety*.

To illustrate this point, suppose that common owners naively believe that strong governance structures mitigate agency costs (Jensen and Meckling 1976) without imposing any principal costs on the firm. In other words, they believe that the increased pressure exerted by activist hedge funds does not result in missed profitable investment opportunities. If this is the case, common owners will push weak governance firms with significant agency conflicts to adopt

[21] As discussed in Section 4.2, with free entry and fixed activism intensity, more firms adopt strong governance under common ownership, yet average firm value remains unchanged relative to separate ownership. Consequently, the monopsony effect vanishes, and common ownership leads to greater activist entry in equilibrium.

strong governance measures, thereby targeting firms close to the cutoff point b^*_{so} from below. They will continue to pressure these weak governance firms to adopt stronger governance as long as the value of the entire portfolio increases. However, they would mistakenly attribute the positive realized returns on the portfolio to the reduced agency costs rather than the underlying monopsony effect. In other words, the commonly held view that strong governance unambiguously increases shareholder value could motivate the same anticompetitive governance strategy described in Proposition 4 above.

Inept. Due to their inherent diversification, common owners may struggle to assess and distinguish the idiosyncratic characteristics of each portfolio company. This challenge extends to discerning the varying degrees of agency conflicts within different firms. Despite these complexities, there are scenarios where adopting a one-size-fits-all governance policy proves to be the optimal strategy, that is, $b^*_{co} = 0$.[22] Notably, under relaxed conditions, this one-size-fits-all strategy, even if not optimal, still yields a portfolio value that is higher than the one that emerges under the competitive allocation.

Moreover, common owners can implement a threshold strategy (similar to the one described in part (i) of Proposition 4) even without directly observing b_i. Indeed, suppose common owners randomly selects the firms to pressure into adopting strong governance structures. The common owners are likely to encounter heightened resistance from management and other stakeholders of firms with relatively small agency costs. For these firms, the adverse effects associated with a stronger governance can be particularly detrimental, diminishing the likelihood of successful implementation. Consequently, randomly targeting weak governance firms may inadvertently lead to the strengthening of the governance structures of firms hovering just below the cutoff point b^*_{so}. In this regard, the anticompetitive effects of common ownership does not necessarily require common ownership sophistication.

4.7 Empirical relevance

Our theory establishes a novel linkage between several recently documented trends: the secular rise in common ownership (e.g., Gilje et al. 2020), the widespread adoption of shareholder-friendly governance policies (e.g., Karpoff and Wittry 2023), the surge in hedge fund activism

[22] See the proof of Proposition 4 for details.

(e.g., Brav et al. 2015a), and concurrent decline in aggregate investment (e.g., Gutiérrez and Philippon 2017), employment by U.S. public firms (Schlingemann and Stulz, 2022), and labor share (e.g., Barkai 2020).

Importantly, existing empirical evidence provides substantial support for our model's key predictions. First, institutional investors promote strong governance structures through various mechanisms, including destaggering boards (Bebchuk et al., 2013), restricting poison pill adoption (Subramanian, 2014), excluding dual-class firms from major indices (Friedman et al., 2017), and advocating for mandatory sunset provisions on dual-class structures (NYSE petition, 2018). Importantly, Appel et al. (2016, 2019) demonstrate that diversified institutional investors systematically vote in favor of measures that empower shareholders and activist investors. Seconed, extensive empirical research documents a robust negative relationship between strong corporate governance and firm-level investment (Asker et al., 2015; Billett et al., 2011; Fang et al., 2014; Gompers et al., 2003; Harford et al., 2008; Richardson, 2006; Wurgler, 2000). Importantly, and consistent with our theoretical predictions, Gutiérrez and Philippon (2017) provide compelling evidence that common ownership reduces aggregate investment levels.

Further supporting our framework, Schlingemann and Stulz (2022) find that listed firms contributed proportionally less to employment and GDP in the 2010s compared to the 1970s, periods corresponding to increasing common ownership concentration. Falato et al. (2022) strengthen these findings by documenting that firms with concentrated ownership by large institutional shareholders exhibit systematically lower employment levels and wages, while generating higher shareholder returns. Finally, Brav et al. (2015b) provide direct evidence of negative associations between activist investor presence and both firm-level employment and total compensation expenses.

5 Concluding Remarks

This paper proposes a novel mechanism linking common ownership to anticompetitive outcomes in labor markets. Unlike existing theories that rely on explicit coordination or conscious internalization of cross-firm externalities, our framework demonstrates how large institutional investors can inadvertently establish labor market monopsony power through their promotion

of strong governance structures across portfolio firms. The key insight is that common owners, by systematically empowering activist hedge funds through governance reforms, indirectly suppress aggregate investment and wages, even as individual actors pursue their own narrow interests without regard to broader market effects.

Our analysis has several important implications. First, the alliance between common owners and activist investors, while seemingly beneficial from a corporate governance perspective, can produce substantial negative externalities for workers and social welfare. Second, the anticompetitive effects we identify are inherently difficult to detect through traditional antitrust enforcement because they manifest through governance choices that appear benign in isolation. Third, hedge fund activism itself is not inherently harmful; rather, its social costs emerge specifically from its interaction with common ownership structures. Under separate ownership, activism can enhance welfare by improving capital allocation, albeit with distributional consequences.

The model also sheds light on contemporary trends in capital markets. Our framework helps explain the concurrent rise of institutional ownership, shareholder-friendly governance practices, activist interventions, and declining labor shares. Existing theories have largely treated these as independent developments. Furthermore, by demonstrating that common ownership can persist alongside robust market entry and may actually discourage firms from going public, our analysis addresses the regulatory challenge of identifying anticompetitive effects in evolving market structures.

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A Derivations and Proofs

We establish all results within a more general framework. First, we incorporate the deterrent effect of activist intervention on managerial investment in firm-specific initiatives. Anticipating potential activist opposition, managers may refrain from gathering information or conducting preparatory work for projects that could later face resistance (e.g., Burkart et al., 1997). Formally, we assume that under shareholder control, the manager acquires information about project returns r_i with probability

$$\delta \in [0, 1]. \tag{A1}$$

Lower values of δ capture a stronger perceived threat of intervention, as managers limit information acquisition to avoid committing to projects that may subsequently be challenged. Second, we generalize the model to allow for activist bias toward investment. Specifically, with probability $\xi \leq 1 - \tau$, the activist is biased and chooses to invest regardless of the project's NPV. With probability $1 - \tau - \xi$, the activist does not invest, either due to a bias against investment or lack of information. We focus on cases satisfying

$$\xi < (1 - \tau)\, \eta. \tag{A2}$$

In Appendix A.1.1, we analyze the complementary cases where $(1 - \tau)\, \eta < \xi < 1 - \tau$. The baseline model arises as a special case with $\delta = 1$ and $\xi = 0$.

The derivation of $v_m(b, p)$ remains unchanged under this generalization, but $v_{sh}(b, p)$ is affected. Specifically, under shareholder control, if no activist intervenes, or if an activist does intervene but shareholders reject the campaign, the partly informed manager retains effective control over the firm's investment policy. The manager invests if and only if she is loyal, informed, and the project has a positive-NPV, or if she is disloyal and derives private benefits from the investment. The expected share value in this case is

$$v_m(b, p; \delta) = \delta\,(1 - b)\, R(p) - b\eta\,(p - \mathbb{E}[r]). \tag{A3}$$

Notice $v_m(b, p)$, as defined in expression (2), is equal to $v_m(b, p; 1)$. If the activist intervenes and the campaign succeeds, then the expected share value becomes $\tau R(p) - \xi\,(p - \mathbb{E}[r])$. Therefore, the generalized expected share value under shareholder control is

$$v_{sh}(b, p; \delta) = v_m(b, p; \delta) + \varphi\mu(b)\,(\tau R(p) - \xi\,(p - \mathbb{E}[r]) - v_m(b, p; \delta)), \tag{A4}$$

and $v_g(b,p;\delta) = gv_{sh}(b,p;\delta) + (1-g)\,v_m(b,p;1)$. To ease the exposition, we let

$$z(b) \equiv \frac{1}{\mu(b)}\frac{1-\delta}{\varphi} + \delta. \tag{A5}$$

Notice that $z(b) \geq 1$, $z'(b) \leq 0$, and $\delta = 1 \Rightarrow z(b) = 1$.

Proof of Lemma 1. We prove that $\beta(p)$ is the unique solution of

$$b = \frac{z(b) - \tau + \xi\frac{p-\mathbb{E}[r]}{R(p)}}{z(b) + \eta\frac{p-\mathbb{E}[r]}{R(p)}}. \tag{A6}$$

The share value $v_g(b,p;\delta)$ increases in g if and only if

$$\begin{aligned}
v_m(b,p;\delta) + \varphi\mu(b)\left(\tau R(p) + \xi(\mathbb{E}[r]-p) - v_m(b,p;\delta)\right) &> v_m(b,p;1) \Leftrightarrow \\
\varphi\mu(b)\left(\tau R(p) + \xi(\mathbb{E}[r]-p) - v_m(b,p;\delta)\right) &> (1-\delta)(1-b)R(p) \Leftrightarrow \\
\varphi\mu(b)\left(\tau R(p) + \xi(\mathbb{E}[r]-p) - \delta(1-b)R(p) - b\eta(\mathbb{E}[r]-p)\right) &> (1-\delta)(1-b)R(p) \Leftrightarrow \\
\tau - \xi\frac{p-\mathbb{E}[r]}{R(p)} + b\eta\frac{p-\mathbb{E}[r]}{R(p)} &> z(b)(1-b) \Leftrightarrow \\
b\left(z(b) + \eta\frac{p-\mathbb{E}[r]}{R(p)}\right) &> z(b) - \tau + \xi\frac{p-\mathbb{E}[r]}{R(p)}.
\end{aligned}$$

It can be easily verified that

$$\frac{p-\mathbb{E}[r]}{R(p)} > -1.$$

This has two implications. First,

$$z(b) + \eta\frac{p-\mathbb{E}[r]}{R(p)} > z(b) - \eta \geq 0,$$

so $v_{sh}(b,p;\delta) > v_m(b,p;1)$ if and only if b is strictly greater than the RHS of (A6). Second, the RHS of (A6) is strictly positive:

$$z(b) - \tau + \xi\frac{p-\mathbb{E}[r]}{R(p)} > z(b) - \tau - \xi \geq 0.$$

The derivative of RHS of (A6) with respect to b is negative if and only if $(\frac{1}{\mu(b)})'[(\eta-\xi)\frac{p-\mathbb{E}[r]}{R(p)} +$

$\tau] < 0$. Since $\mu'(b) \geq 0$, the RHS of (A6) is decreasing in b if and only if

$$\frac{\eta - \xi}{\tau} \frac{p - \mathbb{E}[r]}{R(p)} > -1. \tag{A7}$$

Notice that the RHS of (A6) is smaller than one if and only if (A7). Thus, if (A7) holds then (A6) has a unique solution in $(0,1)$, and $v_{sh}(b,p;\delta) > v_m(b,p;1) \Leftrightarrow b > \beta(p)$, as required. Observe that since $\frac{p-\mathbb{E}[r]}{R(p)} > -1$, Assumption (A2) ensures that condition (A7) is satisfied. ■

Proof of Lemma 2. We prove a generalization of Lemma 2, specifically: Let $\sigma(p)$ be the unique solution of

$$\sigma = \frac{z(\sigma) - \tau - \frac{\xi}{1-F(p)}}{z(\sigma) - \frac{\eta}{1-F(p)}}. \tag{A8}$$

If $\frac{\eta-\xi}{1-F(p)} < \tau$, then $I_m(b,p;1) > I_{sh}(b,p;\delta) \Leftrightarrow b < \sigma(p)$, where $\sigma(p) \in (\beta(p),1)$. If $\frac{\eta-\xi}{1-F(p)} > \tau$, then $I_m(b,p;1) > I_{sh}(b,p;\delta)$ unless $\tau + \frac{\xi}{1-F(p)} > z(b)$ and $b < \sigma(p)$, where $\sigma(p) \in (0,\beta(p))$. This result implies that $I_m(\beta(p),p;1) > I_{sh}(\beta(p),p;\delta)$.

To prove this result, notice that

$$I_m(b,p;\delta) = \delta(1-b)(1-F(p)) + b\eta \tag{A9}$$

$$I_{sh}(b,p;\delta) = I_m(b,p;\delta) + \varphi\mu(b)(\tau(1-F(p)) + \xi - I_m(b,p;\delta)). \tag{A10}$$

Therefore, firm's investment increases in g if and only if $I_m(b,p;1) < I_{sh}(b,p;\delta)$, which holds whenever

$$z(b)(1-b) + b\frac{\eta}{1-F(p)} < \tau + \frac{\xi}{1-F(p)}. \tag{A11}$$

Suppose $\frac{\eta-\xi}{1-F(p)} < \tau$. Assumption (A2) implies

$$\frac{\eta}{\xi} > \frac{1}{1-\tau} \Rightarrow \frac{\eta}{\xi} > \frac{z(b)}{z(b)-\tau} \Leftrightarrow \frac{\eta-\xi}{1-F(p)} > \tau - \tau\frac{z(b) - \tau - \frac{\xi}{1-F(p)}}{z(b)-\tau}$$

Thus, $\frac{\eta-\xi}{1-F(p)} < \tau$ implies $z(b) > \tau + \frac{\xi}{1-F(p)}$, and it must be

$$\frac{\eta}{1-F(p)} < \tau + \frac{\xi}{1-F(p)} < z(b).$$

If so, condition (A11) becomes $b > \sigma(p)$. Notice the RHS of (A8) is in the interval $(0,1)$, and since $\mu'(b) \geq 0$, the RHS of (A8) is decreasing in σ. Therefore, there exists a unique solution for (A8), as required. Also notice that $\beta(p) < \sigma(p)$ if for every b, the RHS of (A6) is smaller

than the RHS of (A8):

$$\frac{z(b)-\tau+\xi\frac{p-\mathbb{E}[r]}{R(p)}}{z(b)+\eta\frac{p-\mathbb{E}[r]}{R(p)}}<\frac{z(b)-\tau-\frac{\xi}{1-F(p)}}{z(b)-\frac{\eta}{1-F(p)}}\Leftrightarrow\frac{\eta}{\xi}>\frac{z(b)}{z(b)-\tau},$$

which always holds given Assumption (A2).

Suppose $\frac{\eta-\xi}{1-F(p)}>\tau$. If $\tau+\frac{\xi}{1-F(p)}<z(b)$ (notice that this case includes $\xi=0$) then condition (A11) never holds. If $z(b)<\tau+\frac{\xi}{1-F(p)}$ then condition (A11) becomes $b<\sigma(p)$.[23] In this case,

$$\frac{z(b)-\tau+\xi\frac{p-\mathbb{E}[r]}{R(p)}}{z(b)+\eta\frac{p-\mathbb{E}[r]}{R(p)}}>\frac{z(b)-\tau-\frac{\xi}{1-F(p)}}{z(b)-\frac{\eta}{1-F(p)}}\Leftrightarrow\frac{\eta}{\xi}>\frac{z(b)}{z(b)-\tau},$$

which always holds given Assumption (A2). Thus, $\sigma(p)<\beta(p)$, as required. ■

Lemma A-1 *$\beta(p)$ decreases in p.*

Proof. Applying the implicit function theorem on (A6), we get

$$\frac{\partial\beta(p)}{\partial p}=-\frac{\frac{\partial[v_{sh}(\beta,p)-v_m(\beta,p)]}{\partial p}}{\frac{\partial[v_{sh}(b,p)-v_m(b,p)]}{\partial b}|_{b=\beta}}=\frac{I_{sh}(\beta,p)-I_m(\beta,p)}{\frac{\partial[v_{sh}(b,p)-v_m(b,p)]}{\partial b}|_{b=\beta}}.$$

According to Lemma 2, the marginal firm invests more under weak governance, thus the numerator is negative. The denominator is positive since, by definition of the marginal firm, $v_{sh}(\beta,p)-v_m(\beta,p)>0\Leftrightarrow b>\beta(p)$. Therefore, $\frac{\partial\beta(p)}{\partial p}<0$, as required. ■

Proof of Proposition 1. Given p, each firms chooses the governance structure that maximizes its share value. Based on Lemma 1, $g_i=\overline{g}$ if $b_i>\beta(p)$, and $g_i=\underline{g}$ otherwise, where $\beta(p)\in(0,1)$. Market clearing requires $p=\pi(\beta(p))$, so it's sufficient to show that $\pi(b^*)$ is uniquely defined and that $p=\pi(\beta(p))$ has a unique solution. Recall $\pi(b^*)$ solves $D(b^*,p)=s(p)$. Since $D(b^*,p)\in[0,\theta]$, $p\in[0,\mathbb{E}[r]]\Rightarrow s(p)=0$, and $s(\overline{r})>\theta$, continuity implies that a solution exists in $(\mathbb{E}[r],s^{-1}(\theta))$. Moreover, since $I_g(b,p;\delta)$ decreases in p, we have $\frac{\partial D(b^*,p)}{\partial p}<0$, implying that $\pi(b^*)$ is uniquely defined.

From Lemma A-1, $\beta'(p)<0$. Thus, to prove that $p=\pi(\beta(p))$ has a unique solution, it suffices to show that $\frac{\partial\pi(b^*)}{\partial b^*}|_{b^*=\beta(p)}>0$. By the implicit function theorem,

$$\frac{\partial\pi(b^*)}{\partial b^*}=-\frac{\frac{\partial D(b^*,p)}{\partial b^*}}{\frac{\partial D(b^*,p)}{\partial p}-s'(p)}.$$

[23] Generally, the derivative of the RHS of (A8) with respect to σ is positive in this region, and hence, multiple solution could exist.

The denominator is negative and $\frac{\partial D(b^*,p)}{\partial b^*} = h(b^*)\left[I_{\underline{g}}(b^*,p;\delta) - I_{\overline{g}}(b^*,p;\delta)\right]$. Thus, $\frac{\partial \pi(b^*)}{\partial b^*}|_{b^*=\beta(p)} > 0$ if and only if $I_{\underline{g}}(\beta(p),p;\delta) > I_{\overline{g}}(\beta(p),p;\delta)$, which always holds by Lemma 2. ■

Proof of Proposition 2. Consider allocation $G(b) \in [\underline{g},\overline{g}]$ such that firms with agency cost b adopt governance structure $G(b)$. The corresponding market clearing wage, p_G, satisfies

$$D_G(p_G) = s(p_G). \tag{A12}$$

where

$$D_G(p) \equiv \theta \int_0^1 I_{G(b)}(b,p;\delta)\, dH(b). \tag{A13}$$

The social welfare is

$$W_G \equiv \theta \int_0^1 v_{G(b)}(b,p_G;\delta)\, dH(b) + p_G s(p_G) + \int_{p_G}^{\infty} y s'(y)\, dy. \tag{A14}$$

To ease the notation, we omit the the subscript G from p_G whenever there is no risk of confusion.

Consider an infinitesimal change to allocation G that changes the governance of firm b from $G(b)$ to $G'(b)$. We abuse notation by letting $\frac{\partial p}{\partial G}$ denote the change in wages induced by a change in the allocation, and $\frac{\partial W_G}{\partial G}$ the corresponding change in welfare. Then,

$$\begin{aligned}
\frac{\partial W_G}{\partial G} &= \theta \frac{\partial p}{\partial G}\left[\int_0^1 \frac{\partial v_{G(b)}(b,p;\delta)}{\partial p} dH(b)\right] + \theta\left(v_{G'(b)}(b,p;\delta) - v_{G(b)}(b,p;\delta)\right)h(b) \\
&\quad + \frac{\partial p}{\partial G} s(p) + p s'(p)\frac{\partial p}{\partial G} - \frac{\partial p}{\partial G} p s'(p) \\
&= -\theta \frac{\partial p}{\partial G}\left[\int_0^1 I_{G(b)}(b,p;\delta)\, dH(b)\right] + \theta\left(v_{G'(b)}(b,p;\delta) - v_{G(b)}(b,p;\delta)\right)h(b) + \frac{\partial p}{\partial G} s(p) \\
&= -\frac{\partial p}{\partial G} D_G(p) + \theta\left(v_{G'(b)}(b,p;\delta) - v_{G(b)}(b,p;\delta)\right)h(b) + \frac{\partial p}{\partial G} s(p) \\
&= \theta\left(v_{G'(b)}(b,p;\delta) - v_{G(b)}(b,p;\delta)\right)h(b),
\end{aligned}$$

where the last equality follows from market clearing. Notice

$$\begin{aligned}
v_{G'(b)}(b,p;\delta) - v_{G(b)}(b,p;\delta) &= G'(b)\, v_{sh}(b,p;\delta) + (1-G'(b))\, v_m(b,p;1) \\
&\quad - \left[G(b)\, v_{sh}(b,p;\delta) + (1-G(b))\, v_m(b,p;1)\right] \\
&= (G'(b) - G(b))\left[v_{sh}(b,p;\delta) - v_m(b,p;1)\right]
\end{aligned}$$

Thus, allocation G is efficient unless there exists $b \in [0,1]$ and $G'(b) \neq G(b)$ such that $v_{G'(b)}(b,p;\delta) > v_{G(b)}(b,p;\delta)$. Recall $v_{sh}(p,b;\delta) > v_m(p,b;1) \Leftrightarrow b > \beta(p)$. Thus, if G is

efficient then it must be $G(b) = \underline{g}$ if $b < \beta(p)$ and $G(b) = \overline{g}$ if $b > \beta(p)$, and the efficient allocation is a threshold allocation that is implemented by the competitive equilibrium. ■

Proof of Proposition 3. Note that

$$\begin{aligned}
\frac{\partial V(b^*, p^*_{so})}{\partial b^*}|_{b^*=b^*_{so}} &= [v_{\underline{g}}(b^*_{so}, p^*_{so}; \delta) - v_{\overline{g}}(b^*_{so}, p^*_{so}; \delta)] h(b^*_{so}) \\
&\quad + \frac{\partial p^*_{so}}{\partial b^*}|_{b^*=b^*_{so}} \left[\int_0^{b^*} \frac{\partial v_{\underline{g}}(b, p^*_{so}; \delta)}{\partial p} dH(b) + \int_{b^*}^1 \frac{\partial v_{\overline{g}}(b, p^*_{so}; \delta)}{\partial p} dH(b) \right] \\
&= [v_{\underline{g}}(b^*_{so}, p^*_{so}; \delta) - v_{\overline{g}}(b^*_{so}, p^*_{so}; \delta)] h(b^*_{so}) \\
&\quad - \frac{\partial p^*_{so}}{\partial b^*}|_{b^*=b^*_{so}} \left[\int_0^{b^*} I_{\underline{g}}(b, p^*_{so}; \delta) dH(b) + \int_{b^*}^1 I_{\overline{g}}(b, p^*_{so}; \delta) dH(b) \right] \\
&= [v_{\underline{g}}(b^*_{so}, p^*_{so}; \delta) - v_{\overline{g}}(b^*_{so}, p^*_{so}; \delta)] h(b^*_{so}) - \frac{s(p^*_{so})}{\theta} \frac{\partial p^*_{so}}{\partial b^*}|_{b^*=b^*_{so}}. \qquad \text{(A15)}
\end{aligned}$$

Since $b^*_{so} = \beta(p^*_{so})$, and the value of the marginal firm is invariant to its governance structure, the first term in (A15) is zero. Since $p^*_{so} = \pi(b^*_{so})$, and $\pi(b^*_{so})$ solves $D(b^*_{so}, p) = s(p)$,

$$\frac{\partial p^*_{so}}{\partial b^*}|_{b^*=b^*_{so}} = -\frac{h(b^*_{so}) [I_{\underline{g}}(b^*_{so}, p^*_{so}; \delta) - I_{\overline{g}}(b^*_{so}, p^*_{so}; \delta)]}{\frac{\partial D(b^*_{so}, p)}{\partial p}|_{p=p^*_{so}} - s'(p^*_{so})} \qquad \text{(A16)}$$

The denominator is negative and Lemma 2 implies the numerator is positive, which implies $\frac{\partial V(b^*, p^*_{so})}{\partial b^*}|_{b^*=b^*_{so}} < 0$, as required. The main text includes the proof that, under the common owner's optimal allocation, both wages and aggregate investment are lower than in the separate ownership equilibrium. ■

Proof of Proposition 4. Define the portfolio value under general allocation G as

$$V_G = \int_0^1 v_{G(b)}(b, p_G; \delta) dH(b),$$

where p_G is given by the solution of (A12). Consider a change of allocation G such that the governance of all firms with bias b changes from $G(b)$ to $G'(b)$, and everything else remains the same. We abuse notation slightly and let $\frac{\partial V_G}{\partial G}$ and $\frac{\partial p_G}{\partial G}$ be the marginal effects of this change. To ease the notation, we omit the the subscript G from p_G whenever there is no risk of confusion. Then, similar to the derivations in the proof of Proposition 3,

$$\frac{\partial V_G}{\partial G} = (G'(b) - G(b)) h(b) \Theta(b, p) - \frac{\partial p}{\partial G} \frac{s(p)}{\theta}, \qquad \text{(A17)}$$

where

$$\Theta(b,p) \equiv v_{sh}(b,p;\delta) - v_m(b,p;1).$$

Applying the implicit function theorem on $D_G(p) = s(p)$, where $D_G(\cdot)$ is defined by (A13), we get

$$\frac{\partial p}{\partial G} = \frac{(G'(b) - G(b))\,\Gamma(b,p)\,h(b)}{s'(p) - D'_G(p)},$$

where

$$\Gamma(b,p) \equiv I_{sh}(b,p;\delta) - I_m(b,p;1).$$

Then, (A17) becomes

$$\frac{\partial V_G}{\partial G} = h(b)\,(G'(b) - G(b))\,[\Theta(b,p) - \Gamma(b,p)\,\Phi_G(p)],$$

where

$$\Phi_G(p) \equiv \frac{s(p)/\theta}{s'(p) - D'_G(p)}.$$

Recall $D'_G(p) < 0$, and therefore, $\Phi_G(p) > 0$. The optimal allocation must satisfy

$$G(b) = \begin{cases} \underline{g} & \text{if } \Theta(b,p) - \Gamma(b,p)\,\Phi_G(p) < 0 \\ \overline{g} & \text{if } \Theta(b,p) - \Gamma(b,p)\,\Phi_G(p) > 0 \end{cases} \tag{A18}$$

We argue the optimal allocation must have the form

$$G(b) = \begin{cases} \underline{g} & \text{if } b \notin (b_L, b_H) \\ \overline{g} & \text{else} \end{cases}$$

where $0 \leq b_L \leq b_H \leq 1$.

Specifically, suppose

$$\eta - \xi > \eta^* \text{ and } \xi < \overline{\xi} \tag{A19}$$

where $\overline{\xi}$ is defined by (IA1).[24] Then, $\frac{\eta-\xi}{1-F(p)} > \tau$ for all $p > \mathbb{E}[r]$ and $b \in [0,1]$. If $\tau + \frac{\xi}{1-F(p)} < z(b)$, then according to Lemma 2, $\Gamma(b,p) < 0$ for all b and p, and (A18) can be rewritten as

$$G(b) = \begin{cases} \underline{g} & \text{if } \Lambda(b,p) > \Phi_G(p) \text{ and } b \leq \beta(p) \\ \overline{g} & \text{else} \end{cases}$$

[24] If $\xi = 0$ then condition (A19) is reduced to $\eta > \eta^*$.

where

$$\Lambda(b,p) \equiv \frac{\Theta(b,p)}{\Gamma(b,p)}. \tag{A20}$$

According to Lemma A-2, $\Lambda(b,p) > 0 \Leftrightarrow b < \beta(p)$ and $\frac{\partial \Lambda(b,p)}{\partial b} < 0$. Since $\Phi_G(p) > 0$, the optimal allocation must satisfy $b_H = 1$ and $b_L \in [0, \beta(p))$ where

$$b_L = \begin{cases} 0 & \text{if } \Lambda(0,p) \leq \Phi_G(p) \\ \text{the solution of } \Lambda(b,p) = \Phi_G(p) & \text{if } \Lambda(0,p) > \Phi_G(p) \end{cases}$$

as required.

If $\tau + \frac{\xi}{1-F(p)} > z(b)$, then According to Lemma 2, $\Gamma(b,p) < 0$ if and only if $b > \sigma(p)$, where $\sigma(p) \in (0, \beta(p))$, and (A18) can be rewritten as

$$G(b) = \begin{cases} \underline{g} & \text{if } b \leq \sigma(p) \\ \underline{g} & \text{if } \Lambda(b,p) > \Phi_G(p) \text{ and } b \in (\sigma(p), \beta(p)) \\ \overline{g} & \text{if } \Lambda(b,p) < \Phi_G(p) \text{ and } b \in (\sigma(p), \beta(p)) \\ \overline{g} & \text{if } b \geq \beta(p) \end{cases}$$

According to Lemma A-2, $\Lambda(b,p) > 0 \Leftrightarrow b \in (\sigma(p), \beta(p))$ and $\frac{\partial \Lambda(b,p)}{\partial b} < 0$. Moreover, $\lim_{b \searrow \sigma(p)} \Lambda(b,p) = \infty$. Since $\Phi_G(p) > 0$, the optimal allocation must satisfy $b_H = 1$ and $b_L \in (\sigma(p), \beta(p))$ is the unique solution of

$$\Lambda(b,p) = \Phi_G(p),$$

as required.

Given the above, the optimal allocation can be found by choosing cutoffs $b^* \in [0,1]$ to maximize $V(b^*, \pi(b^*))$. Since all involved functions are continuous in b^*, so is $V(b^*, \pi(b^*))$, and a maximizer exists. We denote the maximizer by b^*_{co} and let $p^*_{so} = \pi(b^*_{co})$.

We argue that $b^*_{co} < b^*_{so}$. Suppose, to the contrary, that $b^*_{so} \leq b^*_{co}$. If $b^*_{so} = b^*_{co}$, then Proposition 3 implies that there exists a profitable deviation to $b_L < b^*_{co}$, a contradiction. Now suppose $b^*_{so} < b^*_{co}$. Recall that Proposition 3 implies $\pi(b^*_{so}) > \pi(b^*_{co})$. As shown in the derivation of $\frac{\partial p^*_{so}}{\partial b^*}$ in expression (A16) in the proof of Proposition 3, one can show that

$$\frac{\partial \pi(b^*)}{\partial b^*} > 0 \iff \Gamma(b^*, \pi(b^*)) < 0.$$

Thus, if $\Gamma(b^*, \pi(b^*)) < 0$ for all $b^* \in [b^*_{so}, b^*_{co}]$, then $\pi(b^*_{so}) < \pi(b^*_{co})$, contradicting Proposition 3. We prove exactly that. According to Lemma 2, if $\tau + \frac{\xi}{1-F(\pi(b^*))} < z(b^*)$, then $\Gamma(b^*, \pi(b^*)) < 0$.

If instead $\tau + \frac{\xi}{1-F(\pi(b^*))} > z(b^*)$, then $\Gamma(b^*, \pi(b^*)) < 0 \iff \sigma(\pi(b^*)) < b^*$, where $\sigma(p) < \beta(p)$ is given by (A8). We now argue that $b^* \in (b^*_{so}, b^*_{co}) \Rightarrow \beta(\pi(b^*)) < b^*$, which guarantees $\sigma(\pi(b^*)) < b^*$ and hence $\Gamma(b^*, \pi(b^*)) < 0$. Since $\sigma(\pi(b^*_{so})) < \beta(\pi(b^*_{so})) = b^*_{so}$, there exists $b^*_1 \in (b^*_{so}, b^*_{co})$ such that $\beta(\pi(b^*_1)) < b^*_1$. Moreover, the analysis above shows that $b^*_{co} < \beta(\pi(b^*_{co}))$. By continuity of $\beta(\pi(\cdot))$, there exists $b^*_2 \in (b^*_1, b^*_{co})$ such that $b^*_2 = \beta(\pi(b^*_2))$. But $b^*_2 > b^*_{so}$ contradicts Proposition 1, which shows that the equation $b^* = \beta(\pi(b^*))$ has a unique solution at b^*_{so}. Therefore, $\Gamma(b^*, \pi(b^*)) < 0$ for all $b^* \in [b^*_{so}, b^*_{co}]$, implying that the initial assumption must be false. Hence, $b^*_{co} < b^*_{so}$.[25] ■

Proof of Proposition 5. Suppose firms are expected to adopt strong governance if and only if $b > b^*$, and the wage is p^*. Then, a firm chooses to enter the market if and only if:

$$V(b^*, p^*) \geq c,$$

where $V(\cdot, \cdot)$, which is defined in (10). We assume

$$V(\beta(\overline{r}), \overline{r}) < c < V(\beta(\mathbb{E}[r]), \mathbb{E}[r]), \tag{A21}$$

to ensure non-degenerate outcomes.

Consider the separate ownership equilibrium. We parametrize the variables with θ. By Proposition 1, the equilibrium entry mass θ^*_{so} is characterized by

$$V(b^*_{so}(\theta), p^*_{so}(\theta)) = c. \tag{A22}$$

Then,

$$\begin{aligned}
&\frac{\partial V(b^*_{so}(\theta), p^*_{so}(\theta))}{\partial \theta} \\
=\ & \left[\frac{\partial V(b^*_{so}(\theta), p^*_{so}(\theta))}{\partial b^*}\frac{\partial \beta(p^*_{so}(\theta))}{\partial p} + \frac{\partial V(b^*_{so}(\theta), p^*_{so}(\theta))}{\partial p}\right]\frac{\partial \pi(b^*_{so}(\theta);\theta)}{\partial \theta} \\
=\ & \left[\begin{array}{c}[v_{\underline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta) - v_{\overline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta)]h(b^*_{so}(\theta))\frac{\partial \beta(p^*_{so}(\theta))}{\partial p} \\ + \int_0^{b^*_{so}(\theta)} \frac{\partial v_{\underline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta)}{\partial p} dH(b) + \int_{b^*_{so}(\theta)}^1 \frac{v_{\overline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta)}{\partial p} dH(b)\end{array}\right]\frac{\partial \pi(b^*_{so}(\theta);\theta)}{\partial \theta} \\
=\ & -\left[\int_0^{b^*_{so}(\theta)} I_{\underline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta) dH(b) + \int_{b^*_{so}(\theta)}^1 I_{\overline{g}}(b^*_{so}(\theta), p^*_{so}(\theta);\delta) dH(b)\right]\frac{\partial \pi(b^*_{so}(\theta);\theta)}{\partial \theta} \\
=\ & -\frac{s(\pi(b^*_{so}(\theta);\theta))}{\theta}\frac{\partial \pi(b^*_{so}(\theta);\theta)}{\partial \theta} < 0.
\end{aligned}$$

[25] Note that $b^*_{co} = 0$ requires $\tau + \frac{\xi}{1-F(\pi(0))} > z(0)$ and $\Lambda(0, \pi(0)) \leq \Phi_{b_L=0}(\pi(0))$.

The third equality follows from the fact that $b^*_{so}(\theta)$ corresponds to the marginal firm, while the fourth equality follows from the market-clearing condition. Since $\frac{\partial V(b^*_{so}(\theta),p^*_{so}(\theta))}{\partial\theta} < 0$, a solution to (A22), if exists, is unique. Notice that θ spans p over $[\mathbb{E}[r],\overline{r}]$, and since $V(\beta(p),p)$ decreases in p, assumption (A21) implies that there exists $\theta^*_{so} > 0$ such that (A22) indeed holds, where $p^*_{so}(\theta^*_{so}) \in (\mathbb{E}[r],\overline{r})$ and $b^*_{so}(\theta) \in (0,1)$.

Consider the common ownership equilibrium. We assume condition (A19) holds, as Proposition 4. The equilibrium entry mass θ^*_{co} is then characterized by

$$V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right) = c. \tag{A23}$$

Then,

$$\begin{aligned}
& \frac{\partial V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right)}{\partial\theta} \\
= & \left[\frac{\partial V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right)}{\partial b^*}\frac{\partial b^*_{co}(\theta)}{\partial p} + \frac{\partial V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right)}{\partial p}\right]\frac{\partial\pi\left(b^*_{co}(\theta);\theta\right)}{\partial\theta} \\
= & \frac{\partial V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right)}{\partial p}\frac{\partial\pi\left(b^*_{co}(\theta);\theta\right)}{\partial\theta} \\
= & \left[\int_0^{b^*_{co}(\theta)}\frac{\partial v_{\underline{g}}\left(b^*_{co}(\theta),p^*_{co}(\theta);\delta\right)}{\partial p}dH(b) + \int_{b^*_{co}(\theta)}^1\frac{v_{\overline{g}}\left(b^*_{co}(\theta),p^*_{co}(\theta);\delta\right)}{\partial p}dH(b)\right]\frac{\partial\pi\left(b^*_{co}(\theta);\theta\right)}{\partial\theta} \\
= & -\left[\int_0^{b^*_{co}(\theta)} I_{\underline{g}}\left(b^*_{co}(\theta),p^*_{co}(\theta);\delta\right)dH(b) + \int_{b^*_{co}(\theta)}^1 I_{\overline{g}}\left(b^*_{co}(\theta),p^*_{co}(\theta);\delta\right)dH(b)\right]\frac{\partial\pi\left(b^*_{co}(\theta);\theta\right)}{\partial\theta} \\
= & -\frac{s\left(\pi\left(b^*_{co}(\theta);\theta\right)\right)}{\theta}\frac{\partial\pi\left(b^*_{co}(\theta);\theta\right)}{\partial\theta} \\
< & \ 0.
\end{aligned}$$

The second equality follows from the fact that $b^*_{co}(\theta)$ is the maximizer of $V(b^*,\pi(b^*;\theta))$, while the fourth equality follows from the market-clearing condition. Since $\frac{\partial V(b^*_{co}(\theta),p^*_{co}(\theta))}{\partial\theta} < 0$, a solution to (A23), if exists, is unique. Since the common owner deviates from the competitive equilibrium only if it increases the average valuation, and such deviation indeed exists (Proposition 3), then $V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right) > V\left(b^*_{so}(\theta),p^*_{so}(\theta)\right)$ for every θ, and hence $\theta^*_{co} > \theta^*_{so}$. Notice that if θ is sufficiently large, then it must be $p = \overline{r}$ for any $b^* \in [0,1]$. Therefore, for such large θ,

$$\begin{aligned}
V\left(b^*_{co}(\theta),p^*_{co}(\theta)\right) &= V\left(b^*_{co}(\theta),\overline{r}\right) \\
&\leq V\left(\beta\left(\overline{r};\delta\right),\overline{r}\right) < c.
\end{aligned}$$

Thus, θ^*_{co} is well-defined given assumption (A21).

Next, we prove that $b^*_{co}(\theta^*_{co}) < b^*_{so}(\theta^*_{so})$. First notice that $b^*_{co}(\theta) < b^*_{so}(\theta)$ for any given θ, and in particular, $b^*_{co}(\theta^*_{co}) < b^*_{so}(\theta^*_{co})$. Second, recall that $b^*_{so}(\theta)$ solves $b^* = \beta(\pi(b^*;\theta))$. Thus,

$$\frac{\partial b^*_{so}(\theta)}{\partial \theta} = -\frac{-\beta'(\pi(b^*;\theta))\frac{\partial \pi(b^*;\theta)}{\partial \theta}}{1-\beta'(\pi(b^*;\theta))\frac{\partial \pi(b^*;\theta)}{\partial b^*}} < 0.$$

Therefore, $\theta^*_{co} > \theta^*_{so} \Rightarrow b^*_{so}(\theta^*_{co}) < b^*_{so}(\theta^*_{so})$. Combined, $b^*_{co}(\theta^*_{co}) < b^*_{so}(\theta^*_{co}) < b^*_{so}(\theta^*_{so})$, as required.

Next, we prove $p^*_{co}(\theta^*_{co}) < p^*_{so}(\theta^*_{so})$. Notice that for a given p, $V(\cdot, p)$ does not depend on θ, and the maximizer of $V(b^*, p)$ is $\beta(p)$. Thus

$$V(b^*_{so}(\theta^*_{so}), p^*_{so}(\theta^*_{so})) > V(b^*_{co}(\theta^*_{co}), p^*_{so}(\theta^*_{so})).$$

But the entry conditions under both ownership structures implies

$$V(b^*_{so}(\theta^*_{so}), p^*_{so}(\theta^*_{so})) = V(b^*_{co}(\theta^*_{co}), p^*_{co}(\theta^*_{co})).$$

thus, $V(b^*_{co}(\theta^*_{co}), p^*_{co}(\theta^*_{co})) > V(b^*_{co}(\theta^*_{co}), p^*_{so}(\theta^*_{so}))$. Since for a given b^*, $V(b^*, p)$ decreases in p. Therefore, it must be $p^*_{co}(\theta^*_{co}) < p^*_{so}(\theta^*_{so})$, as required. Notice that this also implies that there is less investment under common ownership.

Finally since the entry condition imply that, net of entry cost, the value of each firm is zero in equilibrium, social welfare is reduced to the employee surplus. But since $p^*_{co}(\theta^*_{co}) < p^*_{so}(\theta^*_{so})$, the employees surplus under common ownership is lower, as required. ■

Proof of Proposition 6. From (9),

$$\begin{aligned}
\frac{\partial W(b^*_{so}, p^*_{so})}{\partial \varphi} &= \frac{\partial W(b^*_{so}, p^*_{so})}{\partial b^*}\frac{\partial b^*}{\partial \varphi} + \theta\frac{\partial V(b^*_{so}, p^*_{so})}{\partial p}\frac{\partial p^*_{so}}{\partial \varphi} + \theta\frac{\partial V(b^*_{so}, p^*_{so})}{\partial \varphi} \\
&\quad + \frac{\partial p^*_{so}}{\partial \varphi}s(p^*_{so}) + p^*_{so}\frac{\partial p^*_{so}}{\partial \varphi}s'(p^*_{so}) - p^*_{so}\frac{\partial p^*_{so}}{\partial \varphi}s'(p^*_{so}) \\
&= -\theta\frac{s(p^*_{so})}{\theta}\frac{\partial p^*_{so}}{\partial \varphi} + \theta\frac{\partial V(b^*_{so}, p^*_{so})}{\partial \varphi} + \frac{\partial p^*_{so}}{\partial \varphi}s(p^*_{so}) \\
&= \theta\frac{\partial V(b^*_{so}, p^*_{so})}{\partial \varphi}.
\end{aligned}$$

The second equality follows from the efficiency of the competitive equilibrium, $\frac{\partial W(b^*_{so}, p^*_{so})}{\partial b^*}|_{b^*=b^*_{so}} =$

0, and from the observation that

$$\frac{\partial v_g(b,p;\delta)}{\partial p} = -I_g(b,p;\delta) \Rightarrow \frac{\partial V(b^*,p)}{\partial p} = -\frac{D(b^*,p)}{\theta} = -\frac{s(p)}{\theta}.$$

Since $\frac{\partial v_m(b,p;\delta)}{\partial \varphi} = 0$, we have

$$\frac{\partial W(b^*_{so},p^*_{so})}{\partial \varphi}\frac{1}{\theta} = \underline{g}\int_0^{b^*_{so}} \frac{\partial v_{sh}(b^*_{so},p^*_{so};\delta)}{\partial \varphi} dH(b) + \overline{g}\int_{b^*_{so}}^1 \frac{\partial v_{sh}(b^*_{so},p^*_{so};\delta)}{\partial \varphi} dH(b).$$

Notice

$$\frac{\partial v_{sh}(b,p;\delta)}{\partial \varphi} = \mu(b)\left(\tau R(p) - \xi(p - \mathbb{E}[r]) - [\delta(1-b)R(p) + b\eta(\mathbb{E}[r] - p)]\right), \tag{A24}$$

and hence, $\frac{\partial v_{sh}(b,p;\delta)}{\partial \varphi} > 0 \Leftrightarrow b > \kappa(p)$ where

$$\kappa(p) \equiv \frac{\delta - \tau + \xi\frac{p-\mathbb{E}[r]}{R(p)}}{\delta + \eta\frac{p-\mathbb{E}[r]}{R(p)}}. \tag{A25}$$

Comparing (A25) and (A6) reveals that $\kappa(p) \leq \beta(p)$ for all p if and only if condition (A7) holds, which is always satisfied under Assumption (A2).[26] Since $b^*_{so} = \beta(p^*_{so}) \geq \kappa(p^*_{so})$, we have

$$\begin{aligned}\frac{\partial W(b^*_{so},p^*_{so})}{\partial \varphi}\frac{1}{\theta} &= \underline{g}\int_0^{\kappa(p^*_{so})} \frac{\partial v_{sh}(b,p^*_{so};\delta)}{\partial \varphi} dH(b) + \underline{g}\int_{\kappa(p^*_{so})}^{b^*_{so}} \frac{\partial v_{sh}(b,p^*_{so};\delta)}{\partial \varphi} dH(b) \\ &\quad + \overline{g}\int_{b^*_{so}}^1 \frac{\partial v_{sh}(b,p^*_{so};\delta)}{\partial \varphi} dH(b).\end{aligned} \tag{A26}$$

The first term in the RHS is strictly negative, the second and third terms are strictly positive. Thus, if $\underline{g}$ is sufficiently small or $\tau \geq \delta + \xi\frac{p-\mathbb{E}[r]}{R(p)}$ such that $\kappa(p^*_{so}) \leq 0$, then the first term above ≈ 0 and $\frac{\partial W(b^*_{so},p^*_{so})}{\partial \varphi} > 0$, as required. ■

[26] Notice $\delta = 1 \Rightarrow \kappa(p) = \beta(p)$. If $\delta < 1$ and $b \in (\kappa(p), \beta(p))$, then a firm may prefer a weak governance structure while still benefiting from the arrival of an activist. The intuition is as follows: when $\delta < 1$ the benefit of adopting a weak governance structure includes avoiding the harm caused by the threat of activism (i.e., discouraging managerial initiatives), in cases where an activist does not arrive. As a result, the incentives for weak governance are relatively strong. However, conditional on the firm's governance structure, the cost of the threat of activism is largely sunk, so the marginal benefit from the activist's campaign can be positive, which could garner the needed support for the activist's campaign.

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