Delegated Blocks

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June 2026

ECGI Global Corporate Governance Symposium

The economics of delegated blockholding

- **Risk sharing** and **monitoring** are two key consequences of equity ownership in financial markets.
- For an investor trading on her own account, the link between the two is mechanical:
  - more equity $\Rightarrow$ more skin in the game $\Rightarrow$ more monitoring.
- But most equity today is held by professional asset managers – mutual funds, hedge funds, and similar intermediaries – on behalf of clients via asset-management contracts.
- Delegation breaks the mechanical link:
  - the entity that trades and monitors (the fund) is not the entity that bears the consequences (the clients)
  - the relationship between the two is governed by an endogenous contract.
- **This paper asks:** How does delegation reshape the link between risk sharing and monitoring?

Our answer: the separation principle

- **Headline.** Optimal delegation contracts separate risk sharing from monitoring.
- The same framework rationalises *two* very different real-world fund types:
  - Activist hedge funds: meaningful managerial co-investment and active monitoring.
  - Mutual funds: vanishing co-investment and no monitoring.
- The common driver is the free-riding logic of Grossman & Hart (1980), applied through two distinct lenses depending on *who extracts the surplus*.
- To obtain our results, we use:
  - only *three minimal instruments*: the number of managers, their skin in the game, and a fee.
  - only *minimal contractibility assumptions*: trading and monitoring decisions are *not* contractible; no party commits to anything.

Two cases, two real-world counterparts

- **When clients have bargaining power and meaningful equity endowments**
  - the optimal contract maps onto activist hedge funds.
- **When managers have bargaining power or client endowments are small**
  - the contract collapses to a mutual fund – zero managerial skin in the game, zero monitoring.

- Hedge-fund-like governance is *fragile* – it requires *both* wealthy clients *and* client bargaining power.
- Mutual-fund-like outcomes are *overdetermined* – they arise whenever either condition fails.
- Matches the empirical fact that mutual funds vastly outweigh hedge funds in number and assets.

- We offer a unified positive theory of why two distinct vehicles from a regulatory angle—Investment Company Act registrants vs. §3(c)(1)/3(c)(7) exempt funds—deliver such different governance.

The setting in plain words

- One firm with risky equity; a riskless storage technology in the background.
- A continuum of risk-averse investors, of two types:
  - Financial investors – experts who can trade and monitor.
  - Nonfinancial investors – otherwise occupied (can't trade/monitor directly); hold a small share of equity *relative* to their risk-bearing capacity (under-exposed to equity).
- Monitoring at intensity m raises expected cash flow at cost $c(m)$; standard concave/convex assumptions.
- Trading happens in a *transparent* (Walrasian) market over an arbitrary number of rounds, then monitoring, then cash flows.
- **Key economic premise:** nonfinancial investors are under-exposed to equity – they would prefer to hold *more* of it. They can only access markets through a fund.

The fund contract: three minimal instruments

- A fund is an asset-management contract specifying just three things:

  1. The **mass of fund managers** (τ);
  2. Their **skin in the game** (ϕ) – the managers' share of fund assets;
  3. An **upfront fee** (f) paid by each client.

- Nothing else: trading and monitoring decisions are not contractible; no party can commit.
- Joining must be incentive-compatible for each individual client and each individual manager.
- Once inside, managers trade and monitor in their own interest. The contract works *indirectly* – it shapes incentives so that managers voluntarily land at the desired allocation.
- **The contractual minimalism is the point:** results hold *without* (convex) performance fees, *without* monitoring covenants, *without* trade restrictions. Three (unavoidable and realistic) instruments are enough.

Who extracts the surplus?

- Who gets the surplus from the fund's existence – clients or managers – depends on real-world forces:
  - Clients dominate when they have *gate keepers* (investment consultants, wealth-management offices of private banks) *or* the fund-management industry is fragmented.
  - Managers dominate when they have *their own gate keepers* (DC plan sponsors, fund platforms, fund supermarkets) *or* the industry is dominated by a few large players.
- Sophistication, skill, and wealth also matter.
- **Shorthand:** "clients (managers) have bargaining power" $\equiv$ they extract the surplus.
- We work out the optimal contract in both cases and show how each maps onto a real-world fund type.

When clients have bargaining power: the key tension

- Imagine clients could act as a single strategic investor. What would they want from the fund?
- Two motives, pulling in different directions:
  - **Risk sharing.** They want to *buy* equity via the fund to reach a better risk-sharing position.
  - **Monitoring.** They only value monitoring at the level justified by their *initial* endowment – any extra monitoring on the shares they buy is capitalized into the price they pay.
- This is the Grossman–Hart (1980) free-riding logic: other traders in the market free-ride on monitoring, so the buyer captures none of the value she creates on the marginal share she acquires for risk-sharing reasons.
- **Risk-sharing and monitoring motives call for different stakes.**

How the contract resolves the tension

- The optimal contract delivers two distinct effective stakes using the three instruments (τ, ϕ, f) as follows:
  - Choosing τ and ϕ determines the fund's effective risk tolerance and thus its holdings, say α_G^D
  - But then $\phi\alpha_G^D$ is the FM's effective exposure (and they monitor): set $\phi\alpha_G^D =$ the FC's initial endowment.
  - Simultaneously, the rest, $(1-\phi)\alpha_G^D$, is the FC's effective position: set $(1-\phi)\alpha_G^D =$ the FC's first best risk sharing.
  - Solve for τ^*,ϕ^*. Then set $f^*$to make financial investors indifferent between being an FM or not.
- The contract is a commitment device through delegation: it doesn't tell managers what to do – it gives them incentives that make them *want* to do the right thing.
- Echoes classic IO results on strategic delegation (Fershtman–Judd, Sklivas, Dewatripont).
- **Bottom line:** monitoring and risk sharing are unbundled – each set at its privately-optimal level without any commitment.

The optimal fund maps onto real hedge funds

Model predictions when clients have bargaining power.

- A non-trivial mass of fund managers, substantial managerial co-investment, and meaningful monitoring.

Matched in the data.

- HF clienteles match wealthy individuals and institutions – qualified purchasers/accredited investors under §3(c)(7)/3(c)(1).
- Wealth and stock-market participation move together (Fed SCF 2019/2022: 34% bottom half; 78% 50–90th pct; 95% top decile).
- HF managers' self-investment estimated at 7% (Agarwal–Daniel–Naik 2009) to 20% (He–Krishnamurthy 2013) of AUM.
- Hedge funds are by far the most active monitors among intermediaries (Brav–Jiang–Kim 2010).
- HF clients shop among managers + have gate keeper who *negotiate* – consistent with the bargaining-power assumption.

Mutual funds: two paths, same outcome

- Mutual funds dominate asset management by clients and AUM, yet look nothing like the optimal hedge fund: vanishing skin in the game, no monitoring, diversification as the sole client benefit.
- Our framework rationalizes this via *two distinct economic forces*, each delivering the same allocation:
- **Path 1: managers have bargaining power.**
  - Risk sharing is excludable (you must join to get it); monitoring is **non**-excludable. Managers can charge for risk sharing but not for monitoring. A profit-maximizing contract therefore *strips monitoring out entirely*.
- **Path 2: small client endowments.**
  - When clients are under-exposed by very little, their privately optimal level of monitoring is itself small. Even with full client bargaining power, the optimal contract calls for vanishing skin in the game and effectively no monitoring.
- The two paths differ only in *why* monitoring vanishes and *who* captures the surplus – not in the allocation.

The optimal fund maps onto real mutual funds

Model predictions. Vanishing co-investment, no monitoring, client stake at the pure risk-sharing optimum.

- 57% of MF managers do not invest in their own fund (Khorana–Servaes–Wedge 2007); the rest average 0.04% of AUM. Matches vanishing skin in the game.
- Mutual funds are muted in firm engagement (Bebchuk–Cohen–Hirst 2017). Matches zero monitoring.
- For mutual-fund clients, diversification—not governance—is the primary benefit.

Workforce asymmetry.

- ICI Fact Book 2024: ∼116M MF shareholders, 68.7M households, ∼9,000 funds ⇒ tens of thousands of investors per MF manager.
- Hedge funds capped by Investment Company Act §3(c)(1) (100 investors) or §3(c)(7) (qualified purchasers) – investors per manager are far lower.
- Consistent with the model: mass of managers vanishes in MFs but is non-trivial in HFs.

When do we get hedge funds vs mutual funds?

	Low client bargaining	**High client bargaining**
Small endowment	Mutual fund, high fees Path 1 *and* Path 2. Big MF companies serving small savers.	Mutual fund, low fees Path 2 only. Fragmented MF sector, small savers.
Large endowment	Mutual fund, medium fees Path 1 only. Wealthy clients without gate keepers; monitoring stripped for profit.	Hedge fund Neither path triggers. Wealthy clients with gate keepers and a desire for monitoring.

- Hedge-fund-like governance is *fragile*; mutual-fund-like outcomes are *overdetermined*. Consistent with MFs vastly outweighing HFs in number and AUM.

Other results in the paper – briefly

- Complementarity of investor types. A monitoring fund requires *two* complementary investor groups: one whose risk-sharing demand makes it worth paying for monitoring, and one willing to provide it. Funds with only financial experts *cannot* monitor.
- Comparison to proprietary blocks (APZ 1994). Both hedge funds and mutual funds deliver *less* risk sharing and *less* monitoring than an exogenously assumed proprietary blockholder of the same risk-bearing capacity – but strictly *more* than autarky.
- Block size is a poor predictor of monitoring intensity. The fund's *internal* structure – not its overall block – determines monitoring. Mutual funds can hold large blocks but never monitor.
- Implications for index funds. If active funds endogenously under-monitor, the governance role of *passive* funds becomes more important (Brav–Malenko–Malenko 2022; Corum–Malenko–Malenko 2023).

Conclusion

Delegation, risk sharing, and monitoring

- Under proprietary blockholding, risk sharing and monitoring are mechanically bundled.
- Takeaways:
  1. Optimal delegation contracts unbundle these – using only three minimal instruments, with no commitment and no contractibility on trades or monitoring.
  2. Activist hedge funds and mutual funds emerge from the *same* framework – different corners of the (endowment, bargaining-power) space.
  3. Delegated monitoring requires two complementary investor types – and even then is not guaranteed.
  4. Delegated blocks deliver less risk sharing and less monitoring than proprietary blocks – but strictly more than autarky.
- **For empiricists:** block size is a poor predictor of monitoring intensity; internal fund structure matters more. As active funds under-monitor, the governance role of passive funds gains importance.

Appendix: Environment

Assets.

- A firm with a unit mass of equity shares and Gaussian cash flows.
- A risk-free asset in perfectly elastic supply, gross return 1.

Investors. Unit continuum of CARA investors, risk tolerance ρ. Two types:

- *Financial investors*: measure $1-\lambda$, experts in trading and monitoring; aggregate endowment $1-\omega$.
- *Nonfinancial investors*: measure $\lambda < \frac{1}{2}$, otherwise occupied (can't trade/monitor directly); aggregate endowment $\omega \in (0, \lambda)$.

Timing.

- Date 1: arbitrary number of rounds of *trading* in a Walrasian market.
- Date 2: *monitoring* at intensity m yields equity cash flow $N(\mu(m), \sigma^2)$ at cost $c(m)$; μ concave increasing, c convex increasing.
- Date 3: cash flows realised.

Risk sharing. Aggregate risk tolerance of a measure x of competitive CARA investors is ρx. Nonfinancial investors are under-exposed: endowment ω, but share of overall aggregate risk tolerance $\lambda > \omega$.

Appendix: The fund contract

- Nonfinancial investors can access financial markets *only* via a fund.
- A fund is an asset management contract:
  - a measure $\tau \in (0, 1-\lambda)$ of financial investors become Fund Managers (FMs);
  - a measure of nonfinancial investors become Fund Clients (FCs);
  - skin in the game $\phi \in [0, 1]$: FMs' share of fund assets;
  - upfront fee f: paid by each FC, shared among FMs.
- The fund is the sole trading vehicle for both groups; FCs and FMs co-invest endowments plus possible cash injections.
- No commitment or contractibility: FMs choose trading and monitoring once inside the fund; neither is in the contract.
- Joining must be incentive-compatible for each FC and each FM individually.
- Small fund formation cost $\epsilon > 0$ (registration, compliance, custody, negotiation).

Appendix: FM decision-making, and who extracts surplus

FM behaviour inside the fund.

- *Trading.* Each FM trades at her own risk tolerance; aggregate is a single competitive investor with risk tolerance $\rho\tau$.
- *Monitoring.* Were FMs to behave as isolated members of a continuum, free-riding would yield zero monitoring. We assume FMs choose monitoring *as a group*, as a single investor with the FMs' aggregate stake $\phi\alpha^D$.
- This biases the analysis toward monitoring, but does *not* guarantee any monitoring – and the IC constraint to join is still individual.

Who extracts surplus? A key issue, with many real-world forces shaping the split:

- FCs are more likely to extract surplus if they have access to *gate keepers* (investment consultants, wealth-management offices of private banks) who can negotiate on their behalf, or if the fund-management industry is *fragmented*.
- FMs are more likely to extract surplus if they have *gate keepers of their own* (DC plan sponsors, fund platforms or supermarkets), or if the industry is dominated by a small number of large players.
- Differences in sophistication, skill, and wealth also matter.
- *Shorthand:* "FCs (FMs) have bargaining power" $\equiv$ FCs (FMs) extract surplus.

Appendix: The clients' full-commitment optimum

Counterfactual. Suppose FCs could act as a single strategic investor and commit ex ante to a monitoring level and a single round of trade. Trading to stake α at price $\mu(m) - \frac{1-\alpha}{\rho(1-\lambda)}\sigma^2$:

$$\max_{m,\alpha} \ \alpha\mu(m) - c(m) - \frac{1}{2\rho\lambda}\alpha^2\sigma^2 - (\alpha-\omega)\left(\mu(m) - \frac{1-\alpha}{\rho(1-\lambda)}\sigma^2\right).$$

Proposition 1

The FCs' full-commitment optimum has

1. monitoring m^C defined by $\omega = c'(m^C)/\mu'(m^C)$;
2. final stake $\alpha^C \equiv \lambda(1+\omega)/(1+\lambda)$, with $\omega < \alpha^C < \lambda$.

Key tension. FCs want to *buy* for risk sharing, but want monitoring *as if* they held only ω. Any extra monitoring is capitalised into the price of the shares they acquire (Grossman–Hart 1980 free-riding logic). Risk-sharing and monitoring motives call for different stakes.

Appendix: Fund feasibility

Question. Can a contract that delivers Π^C_{FC} – the full-commitment payoff – be implemented when individual FCs can free-ride?

Lemma 1

There exists $\hat{\omega} \in (0, \lambda)$ such that for $\omega \leq \hat{\omega}$, FCs join a fund delivering Π^C_{FC}; for $\omega > \hat{\omega}$, they do not.

- Two benefits of joining: an *excludable* risk-sharing benefit, and a *non-excludable* monitoring benefit.
- When ω is close to λ, risk-sharing benefits are small and free-riding dominates.
- Best read as a restriction to clients with *material unmet risk-sharing needs*.

Appendix: the optimal contract

Proposition 2

For $\omega \leq \hat{\omega}$, the fund delivering Π^C_{FC} is:

1. mass of FMs $\tau^* = \dfrac{(1-\lambda^2)\omega}{1-\lambda\omega}$,
2. skin in the game $\phi^* = \dfrac{(1+\lambda)\omega}{2\lambda\omega+\lambda+\omega}$,
3. fee $f^* = \frac{1}{\lambda}\Big[c(m^C) + P^{D*}(\alpha^{D*}_G)\big((1-\phi^*)(\omega+\tau^*\tfrac{1-\omega}{1-\lambda})-\omega\big)\Big]$.

The contract pins down two key quantities:

$$\phi^*\alpha^D_G(\tau^*,\phi^*) = \omega \qquad \text{and} \qquad (1-\phi^*)\alpha^D_G(\tau^*,\phi^*) = \alpha^C.$$

- FMs' effective stake equals the FCs' *initial* endowment $\omega \Rightarrow$ monitoring at m^C.
- FCs' effective stake equals $\alpha^C \Rightarrow$ privately optimal risk sharing.
- The contract enables monitoring at the level FCs would privately choose absent risk-sharing motives, and risk sharing at the level they would choose absent monitoring motives – *simultaneously, without commitment*.

Appendix: The fee, delegation as a commitment device

The fee. Decompose:

$$f^* = \frac{1}{\lambda}\Big[\underbrace{c(m^C)}_{\text{monitoring}} + \underbrace{P^{D*}(\alpha_G^{D*})\big((1-\phi^*)(\omega+\tau^*\tfrac{1-\omega}{1-\lambda})-\omega\big)}_{\text{asset purchases}}\Big].$$

- Red: reimburses FMs for the monitoring cost $c(m^C)$.
- Blue: prices the assets FCs end up holding inside the fund.
- Real-world parallel: an AUM-fee structure – the cash component $c(m^C)/\lambda$ rises with assets under management.

Commitment device.

- The contract does *not* tell FMs what to do; it gives them incentives – via (τ^*, ϕ^*) – that make them *want* to stop at the right point.
- No individual party commits to anything; the contract cannot reach inside trading or monitoring decisions.
- Echoes strategic-delegation results in IO (Fershtman–Judd, Sklivas, Dewatripont, Fershtman–Judd–Kalai).

Appendix: The need for another case, and two paths

- Mutual funds dominate asset management by clients and AUM, yet look nothing like the optimal hedge fund: vanishing skin in the game, no monitoring, diversification as the sole client benefit.
- Our framework rationalises these too, via *two distinct economic forces*, both delivering the same allocation:

$$\tau \to 0, \quad \phi \to 0, \quad m \to 0, \quad \text{FC stake} = \alpha^C = \frac{\lambda(1+\omega)}{1+\lambda}.$$

- The two paths differ only in *why* monitoring vanishes and *who* captures the surplus – not in the allocation.

Path 1: FMs have bargaining power. Risk sharing is excludable, monitoring is non-excludable. FMs cannot charge for monitoring; offering it cuts profits. The profit-maximising contract strips monitoring out entirely (Proposition 3). All risk-sharing surplus accrues to FMs.

Path 2: small client endowments ($\omega \to 0$). Evaluate the *FC-optimal* contract at small ω. FMs' effective stake is exactly ω, so as $\omega \to 0$ both monitoring and skin in the game vanish, even with full FC bargaining power.

Appendix: FM-only funds cannot monitor

Proposition 4

FM-only funds that monitor cannot exist.

Argument.

- In an FM-only fund some subset must bear monitoring costs.
- Any such FM can defect, trade on her own, and enjoy monitoring for free.
- Retaining her requires others to compensate her – so *everyone* shares the cost, and the argument applies again.
- The only stable FM-only arrangement has zero monitoring.

Remark (Complementarity of Investor Types)

Monitoring vehicles require two complementary groups: one that values an excludable service (risk sharing) enough to fund a non-excludable public good (monitoring). Necessary, not sufficient: mutual-fund-like vehicles bring both types together yet supply no monitoring.

Appendix: Admati–Pfleiderer–Zechner (1994) in one slide

Setup. Same CARA-normal economy, but a measure λ of investors is *exogenously* aggregated into a single strategic blockholder L (risk tolerance $\rho\lambda$, endowment ω). L cannot commit to trading or to monitoring.

Proposition 5 (APZ 1994)

The unique globally stable allocation is $\alpha_G = \lambda$ – the competitive risk-sharing allocation. L monitors at the corresponding level.

Driver. An endowment effect: from any holding below λ, L is tempted to buy a bit more for risk-sharing reasons, even paying the full value of future monitoring. The inability to commit *erodes* her strategic advantage.

Why it's a useful benchmark. Ownership and control coincide; no free riding by within-block clients. So APZ shuts down exactly the two frictions that delegation introduces.

Appendix: Delegated vs proprietary: less of everything

Less risk sharing.

- Hedge fund holds $\omega + \frac{\lambda(1+\omega)}{1+\lambda} < \lambda + \tau^*$.
- Mutual fund holds $\frac{(1+\omega)\lambda}{1+\lambda} < \lambda$.
- In both cases, strictly less than APZ. (Corollary 1.)

Less monitoring.

- Hedge fund: monitoring corresponds to FMs' effective stake ω, far below APZ's λ.
- Mutual fund: zero monitoring. (Corollary 2.)

Welfare ranking.

$$W^{FB} > W^{APZ} > W^{DB^{HF}} > W^{DB^{MF}} > W^{A}.$$

- APZ takes the proprietary block as exogenous; we endogenise its delegated analogue.
- Where proprietary blockholders cannot form, delegated blocks are strictly better than autarky.

Appendix: Why the gap with APZ

Two structural features distinguish our setting from APZ:

- Separation friction: ownership and control are separate – monitoring is by a subset whose effective stake differs from the block size.
- Free-riding friction: each individual nonfinancial investor can stay outside the fund.

Each is individually necessary to break the APZ result: if either one fails, there exist conditions under which the APZ result is reinstated.

Proposition 6

Without the separation friction, for sufficiently small ω the APZ outcome is reinstated.

Proposition 7

Without the free-riding friction, as long as ex post recontracting is costless, starting from either the optimal HF or the optimal MF, sequential recontracting converges to the APZ outcome.

Proposition 8

With free riding, even costless ex-post recontracting *cannot* deliver the APZ outcome.

Appendix: Block size, monitoring, role of index funds

Block size $\neq$ monitoring intensity.

- Proprietary: stake pins down both.
- Delegated: internal fund structure separates them.
- Hedge fund: total block $\omega + \frac{\lambda(1+\omega)}{1+\lambda}$ increases in both λ and ω; monitoring depends on skin in the game, hence only on ω.
- Many small-ω FCs $\Rightarrow$ *large* blocks, *little* monitoring; fewer high-ω FCs $\Rightarrow$ *smaller* blocks, *more* monitoring.
- Mutual funds: can hold large blocks but never monitor.
- Consistent with Nockher (2022): smaller blockholders tend to be more engaged.

The role of index funds.

- Our model speaks to *active* funds making deliberate portfolio choices.
- If active funds under-utilise risk-bearing capacity and under-monitor, the governance role of *passive* (index) funds becomes more important (Brav–Malenko–Malenko 2022; Corum–Malenko–Malenko 2023).

Appendix: Why we need $\epsilon > 0$: purely passive vehicles

Thought experiment. Suppose fund formation cost $\epsilon = 0$.

- Each single FMs can offer each single FC an infinitesimally small *purely passive vehicle* (PPV): same risk-sharing allocation as the optimal HF/MF, no monitoring, for free.
- Each individual FC strictly prefers to defect to a PPV.
- Iterating: *no* fund survives in equilibrium.

Resolution.

- With $\epsilon > 0$, no individual FC of measure zero can finance a deviating PPV alone – her share of ϵ is infinite.
- The optimal HF and MF survive in equilibrium.
- Interpretation: ϵ stands in for registration, compliance, custody, and contract-negotiation costs in real fund markets.