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Activists Funds, Leverage, and Procyclicality

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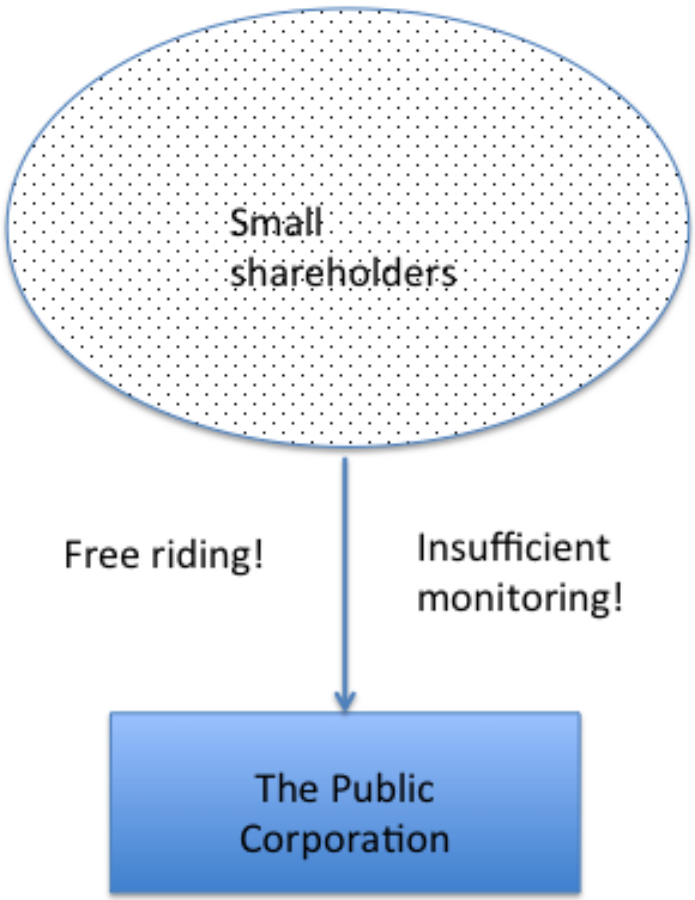
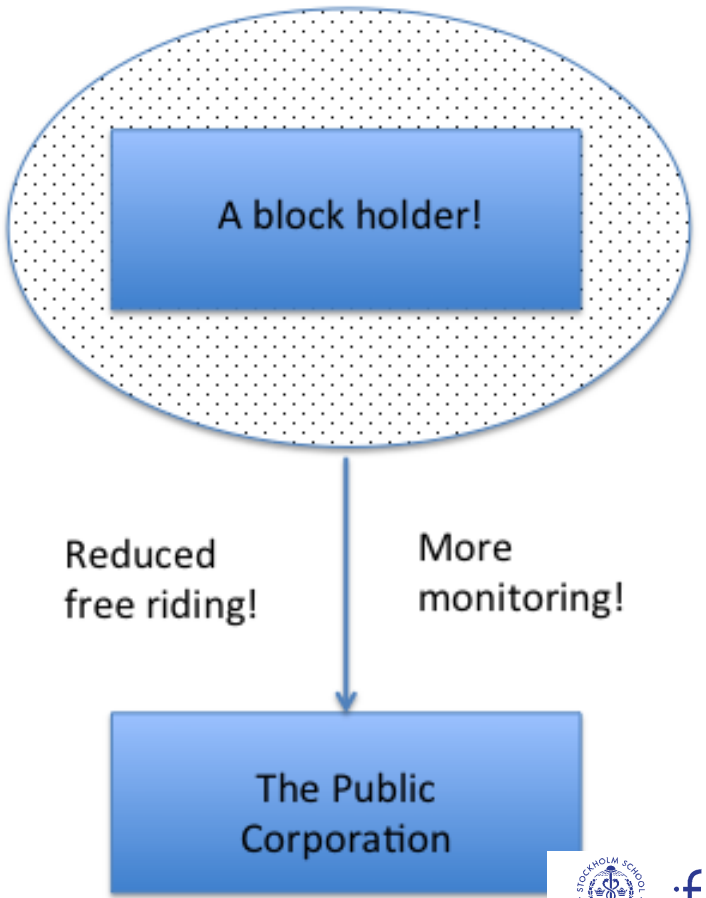
Separation of ownership & control

The governance problem & its "classical" solution





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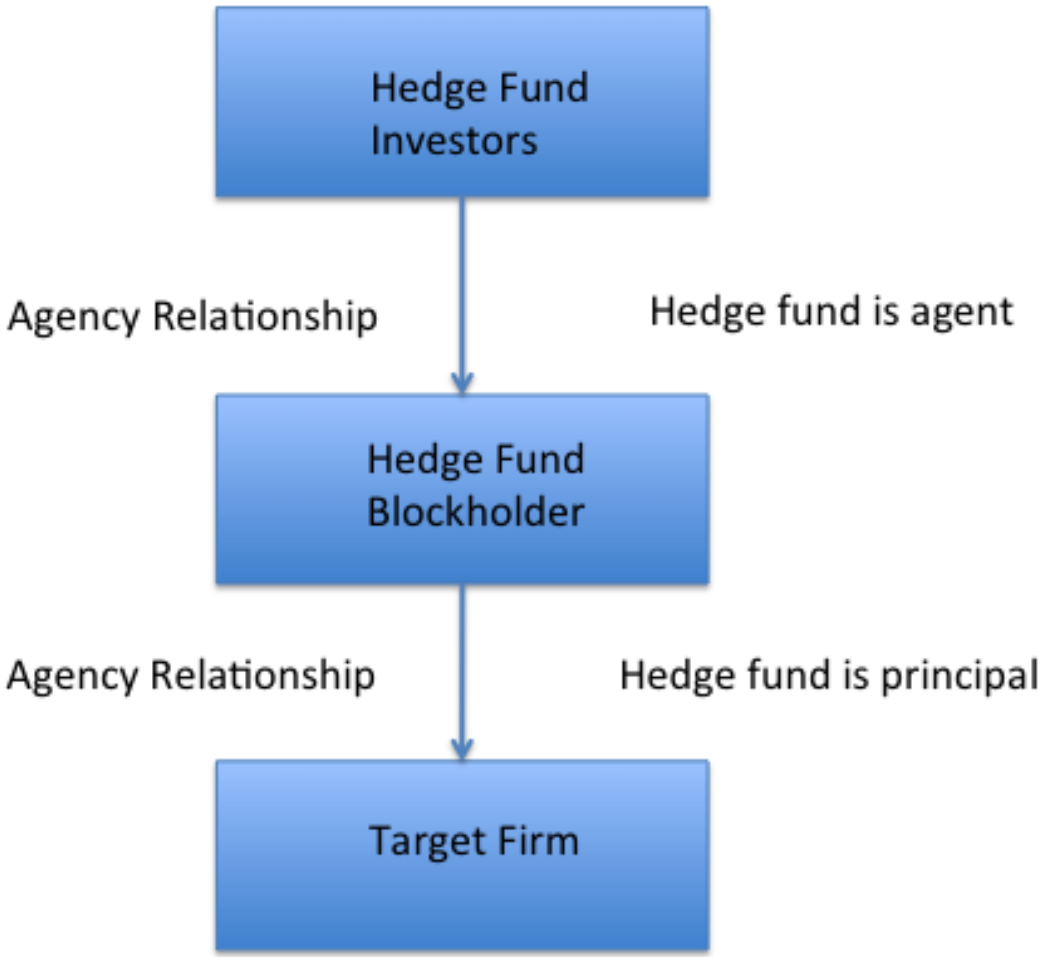
Activist Hedge Funds

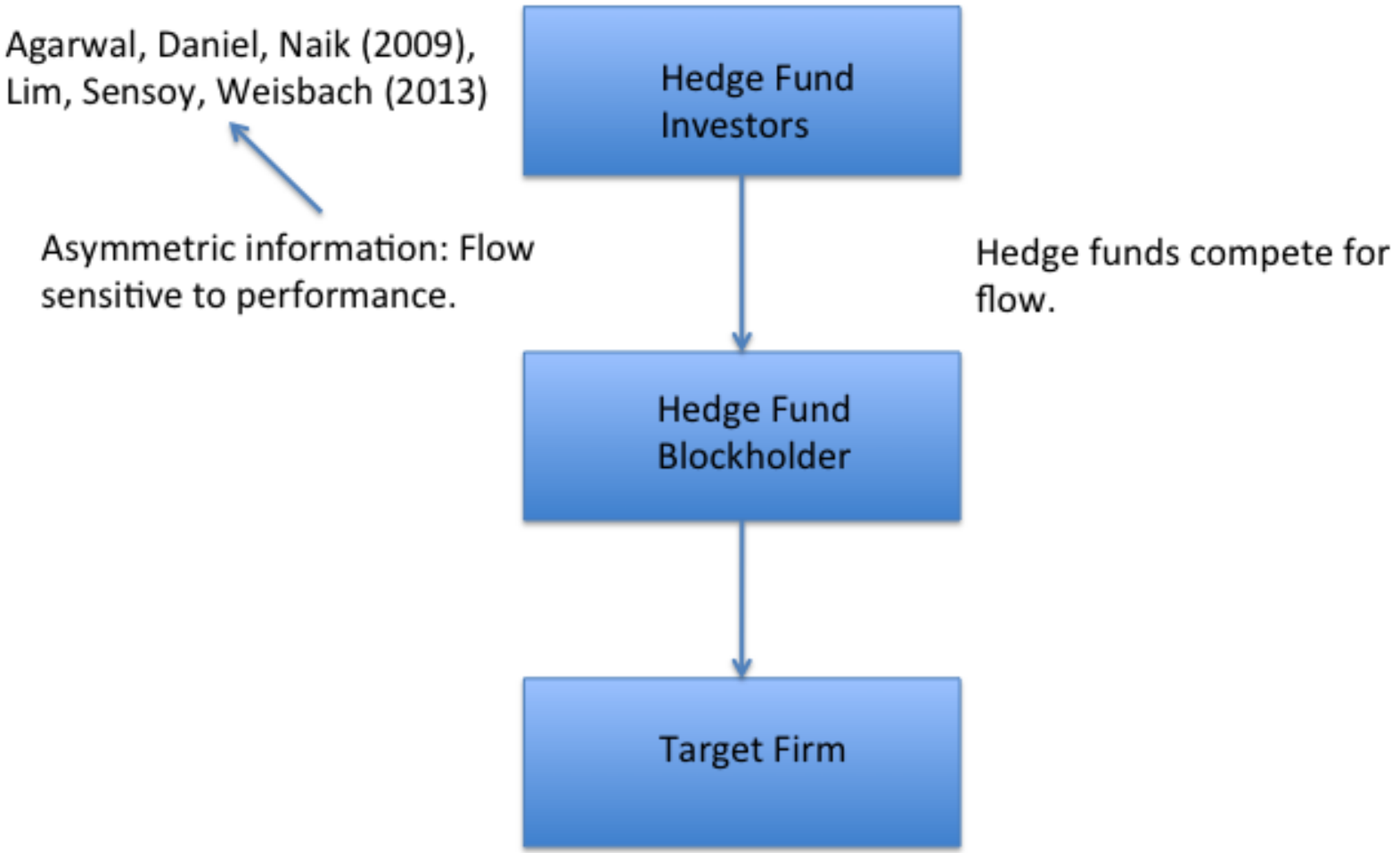
- Activist hedge funds have taken the lead in institutional shareholder activism since the mid-1990s.
  - Surveys by: Gillan and Starks 2007, Armour and Cheffins 2009.
- Hedge fund activism has produced gains to target firms measured by shareholder value and operating performance.
  - Wealth of evidence: Brav, Jiang, Partnoy and Thomas 2008, Clifford 2008, Becht, Franks, Mayers, Rossi 2009, Greenwood and Schor 2009, Klein and Zur 2009, Boyson and Mooradian 2011.
- *Unlike* the blockholders of the theoretical literature activist hedge funds are *delegated* portfolio managers, who act on behalf of their investors.

Dual-layered agency problem



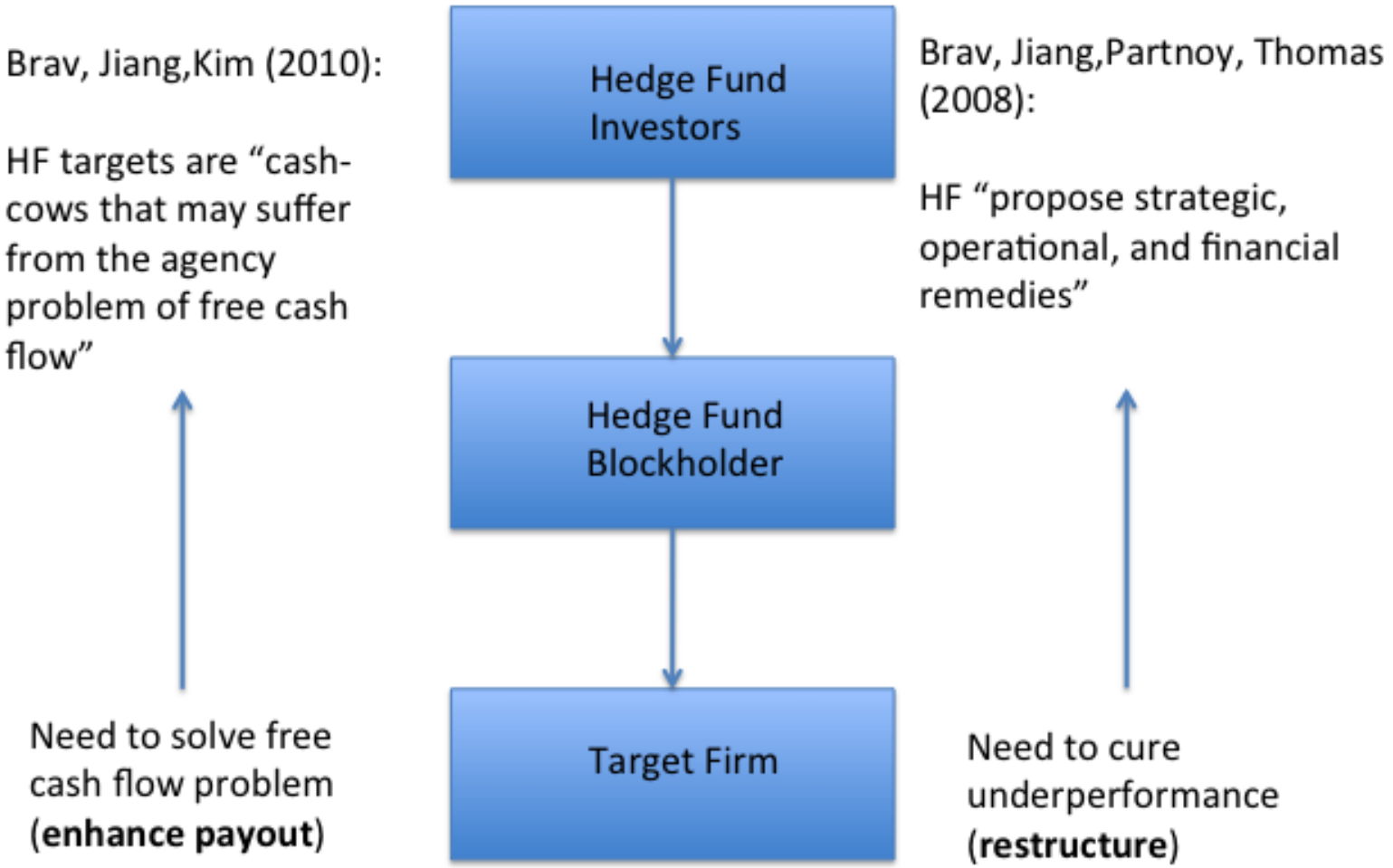
Hedge funds compete for investor flow

Fung et al (JF 2008), Agarwal et al (JF 2009), Lim, Sensoy, Weisbach (NBER 2013)



Hedge funds intervene in corporate decisions

Brav, Jaing Kim (2010), Brav, Jiang Partnoy, Thomas (2008)



Key model features

- Activist hedge funds (HF) own blocks in target firms (TF) and engage in governance activities.
- Good HF generate higher cash flows than bad ones.
- Funding for HF provided by investors (IN) who make (rational) inferences about HF from returns and decide to retain or fire.
- Competition for flow: HF (rationally) tempted to *covertly enhance* intrinsically generated returns.
- Enhancement activities are at the level of a target portfolio firm (less visible).
- Two enhancement possibilities: (1) Raise *external* finance or (2) Divert *internal* resources.
- Two versions of the model: In the baseline focus on (1); in extension allow for both (1) and (2).

Results

- Competition for flow is an essential part of equilibrium.
- Competition for flow leads to payout levels that require target firms to raise additional funds.
- The new funds are best raised through issuing debt.
- The resulting higher (net) leverage can lead to shutdown of activist effort in economic downturns (debt overhang).
- Activist hedge funds can raise funding only when economic prospects are sufficiently good.

Two key themes emerge from model

i. Increased target leverage and
ii. Procyclical activist block formation.

Both resonate with the available empirical evidence.

Increased target leverage

- Hedge funds appear to increase the net leverage (debt net of cash) of their target firms.

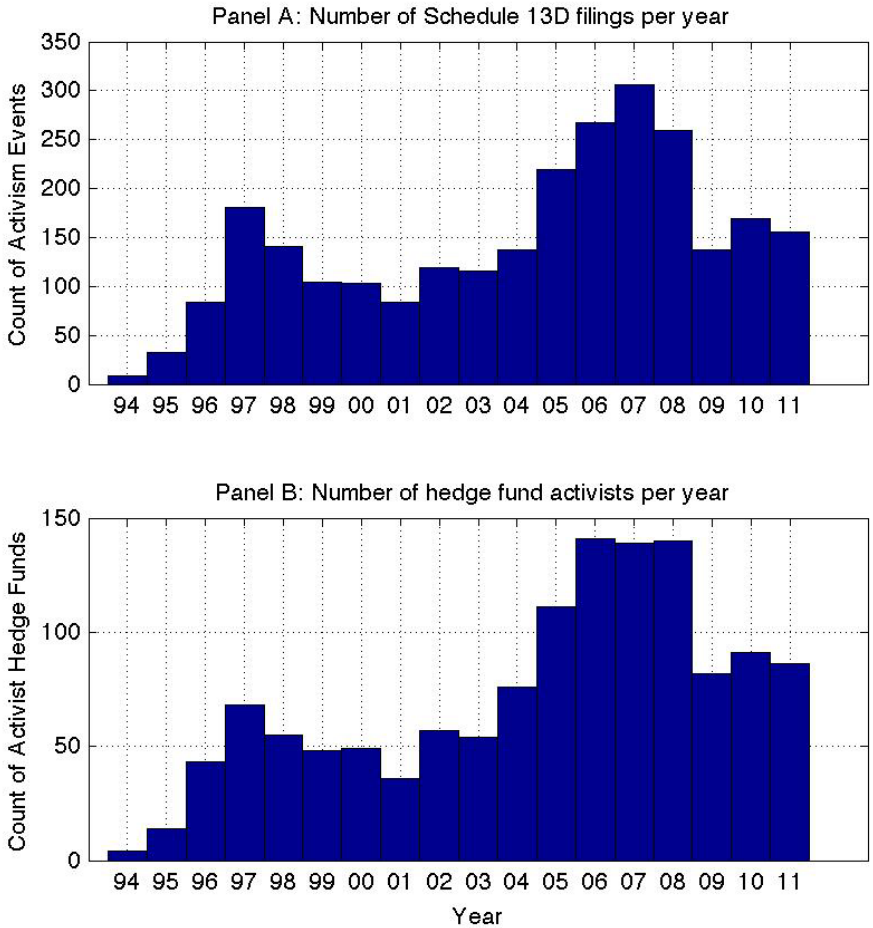
  1. HF activists target companies with low payout ratios and increase payouts and leverage (Brav et al 2008, Klein and Zur 2009, Li and Xu 2010, Boyson and Mooradian 2011).

  2. Targets disproportionately experience credit downgrades (Byrd et al 2007, Aslan and Maraachlian 2009, Klein and Zur 2011).

  3. Targets' debt becomes riskier: Li and Xu (2010) show bank loans to targets have higher spreads and shorter maturities; Klein and Zur (2011) document negative abnormal bond returns at the announcement of activism.

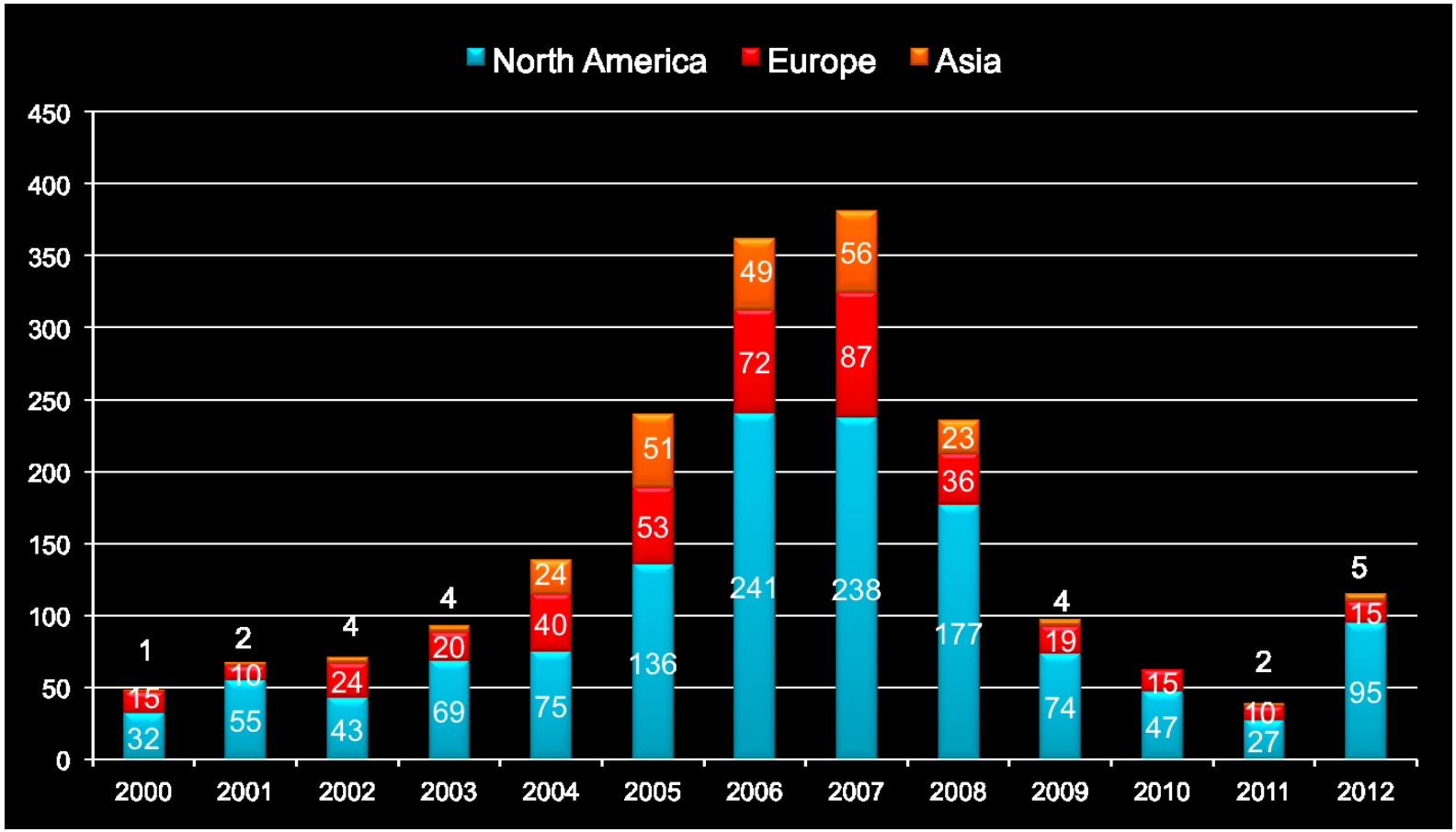
Procyclicality I

Brav, Jiang, Kim (2010)



Procyclicality II

Becht, Franks, Grant, Wagner (2014)



Actors

- Two periods: 1,2.
- Target firms (TF), hedge funds (HF), hedge fund investors (IN), competitive deep pocketed financiers (FI).
- HF enters period 1 having used IN's capital to acquire a stake in a TF.
- HF come in two types $\theta \in \{G, B\}$, $\Pr(\theta = G) = \gamma_\theta$.
- Type G are better activists and can produce higher cash flow from each of two forms of activism:
  1. *Mitigating free cash flow problem* (period 1): TF has excess cash $C_1 > 0$ in period 1 – if not identified and paid out by HF – will be wasted.
  2. *Restructuring* (period 2): business improvements (Brav et al 2008), asset reduction (Clifford 2008) or merger (Greenwood and Schor 2009) of TF:
     Two characteristics (1) Requires costly effort by HF; (2) Cash flows produced depend on the economic state.

Activism

1. *Free cash flow mitigation* (period 1):
   - HF can salvage and pay out x_1^θ.
   - $x_1^G \sim H$ on $[\Delta x_1, C]$ and $x_1^B = x_1^G - \Delta x_1$ where $\Delta x_1 > 0$.
   - HF can increase period 1 payout (D_1) by raising F from FI (against TF second period cash flows) at a small cost.
2. *Restructuring* (period 2):
   - Aggregate economic state: $s \in \{H, L\}$, with $\Pr(s = H) = \gamma_s$, revealed at the beginning of period 2.
   - Given s, HF can exert effort $e \in \{0, \bar{e}\}$ at private cost e, giving rise to cash flow $\bar{X}_s^\theta$ with probability $\bar{e}$ and $\underline{X}_s^\theta$ with probability $1 - \bar{e}$.
   - While project success or failure is verifiable, the macro state is not.

Informational, Replacement, & Payoffs

- At beginning of period 1 HF learn θ and x_1^B and x_1^G.
- IN only learn realized values of x_1^B and x_1^G, but not θ.
- At end of period 1, IN see D_1 but do not directly F. (Can infer in equilibrium.)
- After observing D_1 IN decide to retain or replace HF.
- At the time of the funding decision FI do not know x_1^G, x_1^B, but observe F, form beliefs $\mu_{FI}(F) = \Pr(\theta = G|F)$, and set competitive repayment terms $R\left(X_s^\theta\right)$.
- HF fees: AUM fee, w, paid at the beginning each period in which employed + "carry" $\alpha \max(D_2, 0)$ for $\alpha \in (0, 1)$.

Assumptions

- Standard monotonicity assumptions.
- Bad HF is bad: Intrinsic ability low enough that, if identified, IN wishes to fire.
- More noteworthy assumptions: For a good HF:
  1. $\alpha \bar{e} \left(\bar{X}_L^G - \underline{X}_L^G \right) \geq c_e$
     - Ensures that, without leverage, activist effort in **both** states.
  2. $\bar{X}_H^G - \underline{X}_H^G > \bar{X}_L^G - \underline{X}_L^G$
     - Higher marginal returns from effort in state H.
     - But **not** sufficient for our results: With non-verifiable macro state, it will **not** generate procyclicality of activism.

No pooling

Proposition: There exists no pooling equilibrium.

- A pooling equilibrium can only exist if D_1 does not reveal the HF type to IN.
  - This requires that bad HF raise Δx_1 more than good HF.
- But bad HF cannot be identified by FI either (otherwise FI would at most invest $\underline{X}_L^B < \Delta x_1$).
  - Bad HF must raise the same amount as good HF.
- This prevents them from offering the same D_1.

Mimicking the good HF in the hedge fund/investor market forces bad HF to reveal their type in the funding market or vice versa.

Necessity for external funding

Look for separating equilibria where FI (or HF) cannot precommit to specific predetermined loan amounts F.

- If IN learns upon observing D_1 that the HF is bad, he should fire the HF.
- In any separating equilibrium, the bad HF sets $F = 0$.
- In any separating equilibrium with leverage, the only HF borrowing is a good HF.
  - Hence, FI is willing to lend up to PI^G, the pledgeable income of TF under control of the good HF.

Proposition: In any separating equilibrium, $D_1^*(G) > x_1^B + PI^G$

- Since FI do not know x_1^B and x_1^G, FI cannot infer how much the good HF borrows in equilibrium.
- Hence, the bad HF can mimic the good HF unless the good HF pays out infinitesimally more than $x_1^B + PI^G$.

Optimal financing contract

- Good HF raises $F = D_1^*(G) - x_1^G \geq PI^G - \Delta x_1$
- Project outcome verifiable but not the macro state. Hence, repayment takes at most two values $\bar{R}$ and $\underline{R}$.
- Logic of Jensen and Meckling (1976) applies to our model: IC constraints are most slack when $(\bar{R} - \underline{R})$ is minimized.
- Imposing monotonicity (Innes 1990) delivers debt as uniquely optimal contract:
  - For $F \leq \underline{X}_L^G$, safe debt with $\bar{R} = \underline{R} \leq \underline{X}_L^G$.
  - For $F > \underline{X}_L^G$, risky debt with $\bar{R} > \underline{R} = \underline{X}_L^G$.

Proposition: Debt is the optimal contract for raising external funding F.

Separating outcomes

Proposition: As long as $\bar{X}_L^G > \underline{X}_L^G + \Delta x_1 / \gamma_s (1 - \gamma_s) \bar{e}$ and $\Delta x_1 > w/(1-\alpha)$, the separating equilibrium with minimal leverage (SEML) involves:

1. For $c_e \in \left(0, (1-\gamma_s)\alpha\bar{e}\left[\bar{X}_L^G - \underline{X}_L^G\right]\right)$, $e^*(s) = \bar{e}$ for all s.
2. For $c_e \in \left[(1-\gamma_s)\alpha\bar{e}\left[\bar{X}_L^G - \underline{X}_L^G\right], \alpha\bar{e}\left[\bar{X}_L^G - \underline{X}_L^G\right]\right)$, $e^*(H) = \bar{e}$ and $e^*(L) = 0$.

- $e^*(L) = 0$ due to leverage required for separation which leaves too little residual cash flow $(\bar{X}_L^G - K)$ to induce effort.
- Intuition: How to maximize PI^G?
  - (i) Promise less but make effort in both states or (ii) promise more but make effort only in high state.
  - Difference between promised amounts increasing in effort costs.
  - When effort costs are low, (i) is better. When effort costs are not low, (ii) is better.

Interpreting the conditions: Skill & costs

- Skill: Large enough $\bar{X}_L^G$ (relative to $\bar{X}_L^B$) and $\Delta x_1 \longrightarrow$ *Sufficient skill difference in restructuring & mitigating free cash flow problems*.
  - Competition for flow generates tournament among funds that induces sufficient leverage to prevent activist effort in low states when ability differences are significant.
- Cost regimes: Two interpretations
  1. Cost variation in the cross section:
     - Different costs for different activist styles: e.g. restructuring more costly than initiating a merger.
  2. Cost variation in the time series:
     - Early wave targets with low cost activism (robust); Late wave targets with high cost activism (fragile).

Fragility of activism

- Better economic prospects (higher γ_s) increases the range of monitoring activities (wider range of c_e) which are susceptible to economic fluctuations (part b).
- When prospects are good ($\gamma_s > 1/2$), higher potential cash flows from activism ($\bar{X}_L^G$) increases the relative range of monitoring activities (wider range of c_e) which are susceptible to economic fluctuations.
- Competition for flow is necessary and sufficient to ensure that the profitability of hedge fund activism is increasing in macroeconomic prospects (γ_s).
  - With random retention, HF would choose $F = 0$, exert effort in both states, and resulting IN payoff would be independent of γ_s (given non-verifiable macro states).

Economic prospects, leverage and returns

- When economic prospects are better (higher γ_s)
  1. TF are more highly leveraged.
  2. Returns to TFs' shareholders from HF activism are more front-loaded.
- Intuition:
  - Better economic prospects imply higher pledgeable income, respectively higher debt capacity.
  - Higher debt capacity in turn translates into more leverage for separation and higher earlier payouts (D_1).

Resolving an empirical controversy?

- Klein and Zur (2011) argue that hedge fund activism leads to an expropriation of existing bondholders.
- Brav et al (2008) argue against and show announcement returns to target shareholders are *higher* in companies which are previously *un*levered.

Proposition: Existing target leverage can reduce shareholder returns from activism even when activism expropriates existing bondholders.

- Since leverage is motivated by competition for flows, it may reduce cash available for existing creditors.
- But pre-existing leverage reduces the (residual) debt capacity, which in turn reduces the payout necessary for separation and hence the payout to target firms' shareholders.

Observable debt model

- To increase D_1, HF can raise F and/or divert assets $k \in [0, \bar{k}]$ where $\bar{k} > \Delta x_1$.
  - Diversion reduces future cash flow $\bar{X}_s^\theta$ to $\left(1 - \frac{k}{\tau}\right)\bar{X}_s^\theta$, $\tau > \bar{k}$.
- FI learns HF type if financing is requested and F is observable to all parties.
- Separation mechanism differs:
  - Mimicking strategy of bad HF: Set $k = \Delta x_1$ and to raise $F^B = F^G$ (observable).
  - Good HF can separate by raising $F = PI^B_{k=\Delta x_1} + \epsilon$ for $\epsilon > 0$.
- Same results: For low costs, effort in both states; for high(er) costs, effort only in good state. Further:
  1. Increasing γ_s increases fragility of HF monitoring.
  2. Competition for flow necessary & sufficient for procyclicality.
  3. Better economic prospects: TF more leveraged and returns to TFs' shareholders more front-loaded.

Conclusion

- Simple benchmark model of HF activism in the presence of competition for investor flow.
    - Applicable to other activist institutional investors, e.g., PE funds.
- Explanation for procyclicality of HF activism & reconciliation with documented effect of HF activism on the net leverage of target firms.
- Some testable implications & resolution to some ostensibly contradictory empirical evidence.
- Highlights how the agency frictions arising out of the delegation of portfolio management can affect the nature of blockholder monitoring.