The Performance of Hedge Fund Performance Fees

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Broad Motivation

- **Financial industry:** costly inefficiencies and dysfunction (Zingales 2015, Philippon 2015, etc)
  - Imperfect competition and agency conflict found in many papers
- **Alternative asset management industry:** desirable features
  1. Thousands of funds competing for "sophisticated" investors
  2. Business model built around performance-based contracts
  - AUM and revenue of alternative asset managers ballooned in recent decades (e.g., Greenwood and Scharfstein 2013)
  - $\Rightarrow$ A "perfect market"?
  - **Our paper** $\Rightarrow$ learn from long-term outcomes of hedge fund fees

Why Hedge Fund Fees

Hedge funds: poster child of asset management industry

- *"Hedge funds benefit by heavily weighting hedge fund managers' remuneration towards performance incentives, thus attracting the best brains in the investment business."* - The Hedge Fund Association
- Major selling point: "2-and-20" fee model
  1. Management fee (**MF**): 1% to 2% of AUM $\rightarrow$ "operating costs"
  2. Incentive fee (**IF**): 20% of gross profits $\rightarrow$ "alignment"
     - High-water mark protects against return volatility
     - "Promise": managers make money only if investors make money

Highlights

1. **"2-and-20" effectively becomes "2-and-50"**
   - How? 60% of gains eventually offset by losses
   - Does not happen in PE
2. **"Promise" of Pay-for-Performance seems to break down**
   - Large distortions in relation between performance and IF
   - Cross-section: disconnect between lifetime fund returns and fees
   - Despite competition and sophistication, outcomes favor the managers
3. Explain and quantify reasons behind results
   - Role of behavior of investors and managers
4. Interpretation?
   - Unintended outcomes hypothesis
   - At minimum, cannot assume "perfect market"

Part 1

1. **Part 1: Data and Incentive Fee Example**
   - Why effective IF $>$ 20% ?
2. Part 2: Empirical Results
   - Illustration of mechanisms
   - Aggregate results
   - Cross-sectional results
3. Part 3: Discussion

Hedge Fund Data

- Standard data from commercial vendors (TASS & BarclayHedge)
  - 6,000 USD funds from 1995 to 2016
  - Institutional grade & HNWI market
  - Self-reported $\Rightarrow$ Representative of investable funds with sufficient reputation/track record
  - Adjust for known biases (backfill/incubation, survivorship, delisting)
  - High validity wrt academic literature; investable fund
- Average Fees: MF $= 1.51\%$; IF $= 19.0\%$ (cluster at 20%)

Incentive Fee Contract

- IF paid annually on profits above high-water mark and hurdle rate
  - When money goes below high-water mark, investors have "fee credits"
- Objective: prevent effective IF rate $>$ nominal IF rate
- Example: Invest \$1,000 in fund A

Fund A	Year 1	Year 2	Year 3
Gross Profit (GP)	+\$100	−\$50	+\$60
Incentive Fee (IF)	\$20	\$0	\$2
Fee Credit	\$0	\$10	\$0
Lifetime GP	\$100	\$50	\$110
Lifetime IF	\$20	\$20	\$22
Effective lifetime IF/GP	20%	40%	20%

- $\Rightarrow$ In ideal case, long-run effective IF $\sim$ 20%

Why Effective IF Rate Is Over 20%? Two Reasons

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1. **Mechanism 1**: Disinvestment of underwater capital (behavior)
   - Exit fund A after year 2; or fund fails/liquidates $\rightarrow$ 40%
   - Leads to loss of fee credits; nullifies HWM protection
2. **Mechanism 2**: Lack of "Performance Netting" (portfolio effect)
   - Fund B: \$50 loss, no IF. Effective IF: 22/(110-50) = 37%
   - $\rightarrow$ Also gives incentive to offer separate vehicles

Part 2

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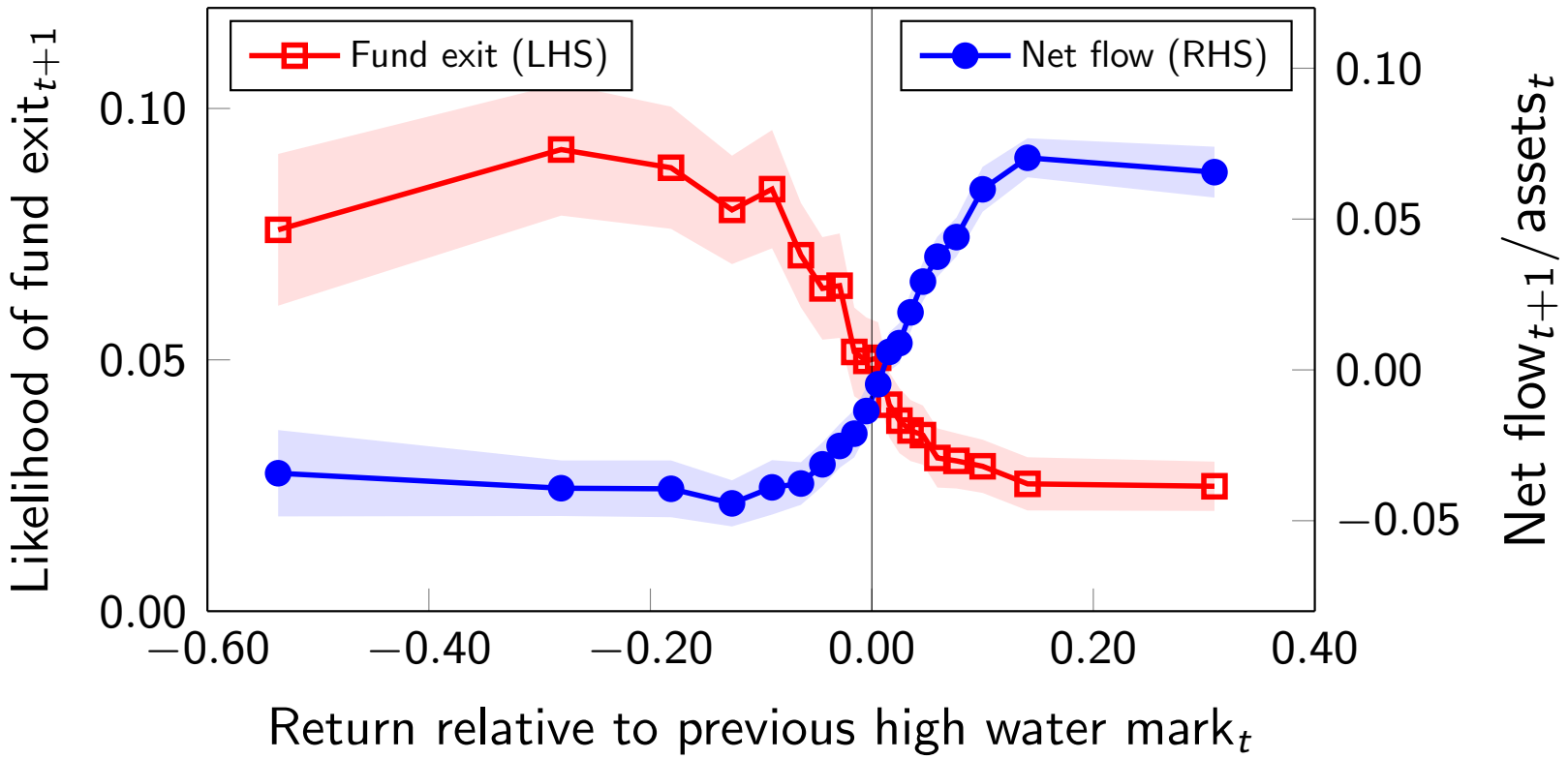
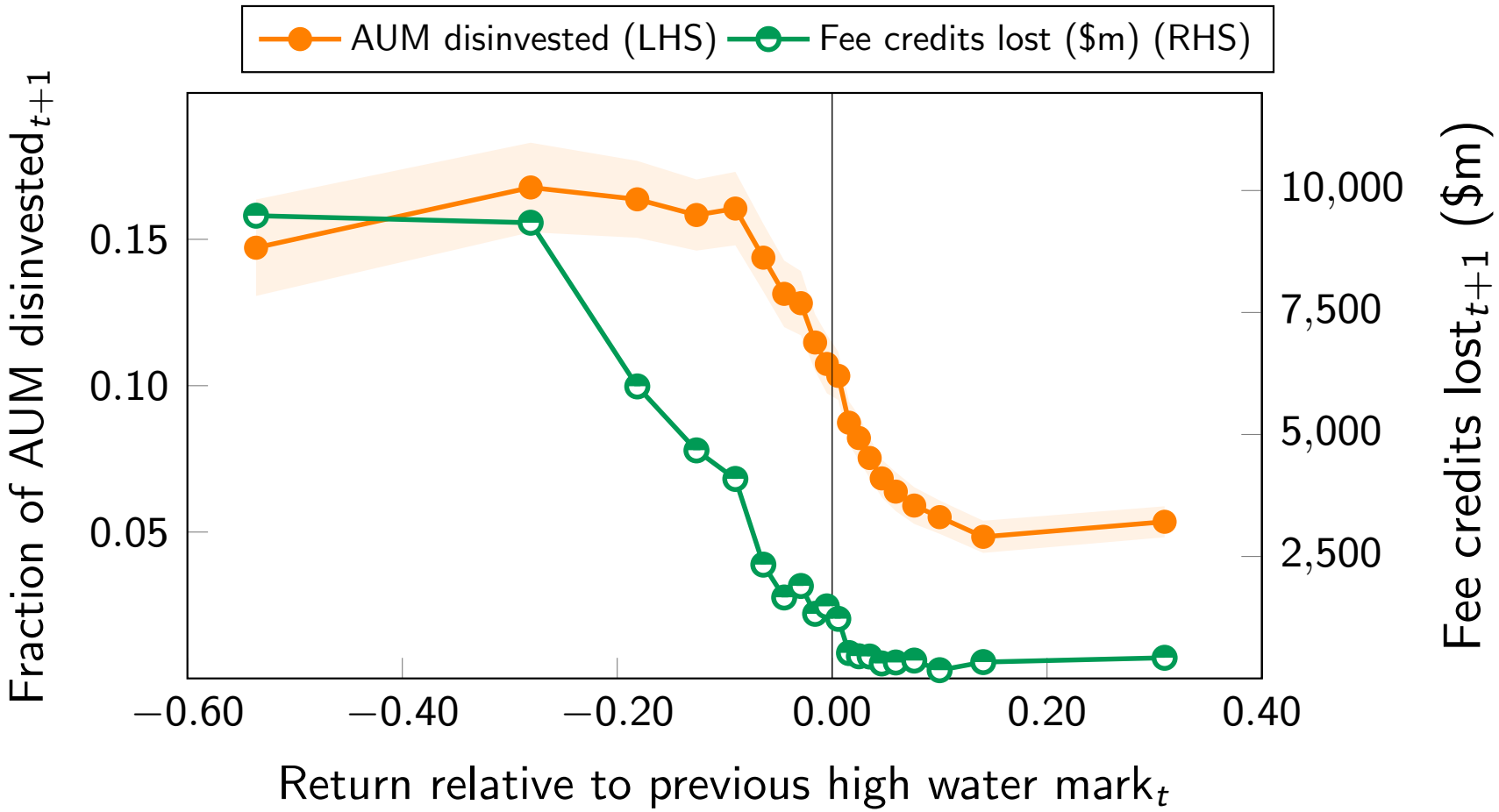
Investor and Manager Behavior Around HWM

Consistent with literature:

1. Investors chase returns
2. Funds close when deep underwater (sometimes intentionally)

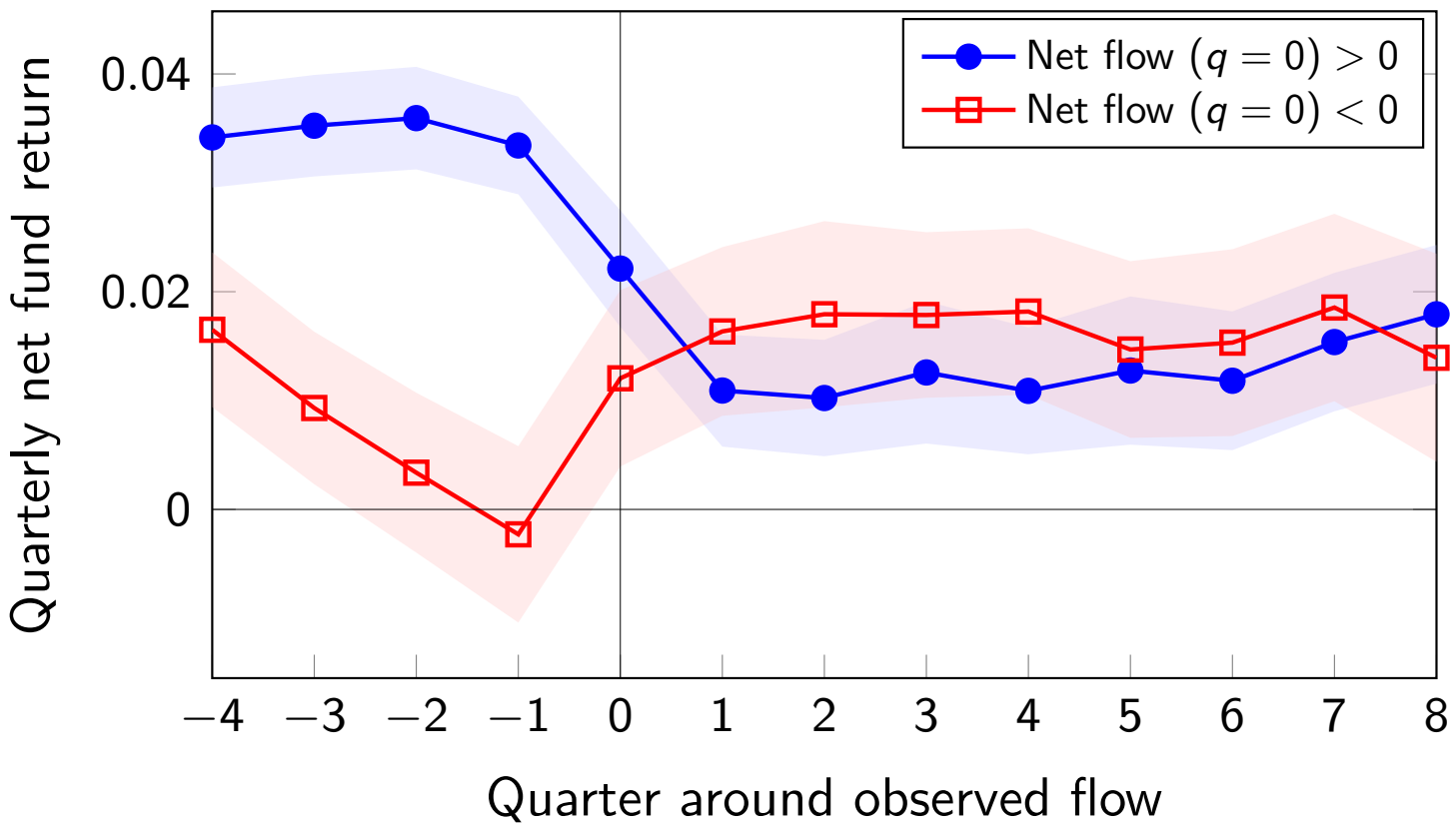


Disinvestment of Capital and Loss of Fee Credits



- $\Rightarrow$ HWM protection eroded when most valuable

Does Return Chasing Lead to Higher Returns?



- $\Rightarrow$ Higher effective fees, not higher returns
- $\Rightarrow$ Within-fund, flow-weighted returns significantly lower than buy-and-hold (as in Dichev and Yu, 2011)

Decomposition of Effective Incentive Fee Rate

- From 20% to 50%? Formal decomposition:

$$\text{Effective IF} = \frac{\$\text{Aggregate IF}}{\$\text{Aggregate Gross Profits}} = \frac{\$113,278m}{\$228,167m} = 49.6\%$$

$$= \frac{\text{IF on Profits Not Lost} + \text{IF on Underwater Profits}}{\text{Gross Profits Not Lost} - \text{Net Losses}}$$

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	Gross profits ($m)	Incentive fees ($m)	Fees/Profits	Marginal effect
Investor-fund profits not lost	410,938	78,640	19.1%	
Net losses	−182,771			+15.3%
Subtotal	228,167	78,640	34.5%	
Underwater investor exits		19,228		+8.4%
Subtotal	228,167	97,868	42.9%	
Underwater fund exits		12,254		+5.4%
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Live underwater funds		3,157		+1.4%
Total	228,167	113,278	49.6%	

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Profit Sharing in Alternative Investments

- 20% profit sharing common across "alternatives"
- Vastly different outcomes (over same 22 years). Puzzle?

Panel A: Hedge Funds

	N funds	Effective IF Rate	Effective/Nominal IF
Hedge Funds	5,917	49.6%	2.62

Panel B: Private Equity Funds

	N funds	Effective IF Rate	Effective/Nominal IF
Buyout & Growth Equity	811	20.8%	1.04
Venture Capital	785	24.4%	1.22
Debt	310	20.3%	1.02
Real Estate	702	26.0%	1.30
Other Private Capital	349	22.4%	1.12
All Private Equity	2,957	21.8%	1.09

Cross-section: Do "Extra" Fees Go to Right-tail Funds?

For each fund, at end of sample (or fund life), define:

$$\text{Justified IF}_i = \text{Contractual IF Rate}_i \times \min\{0, \text{Lifetime Gross Profits}_i\}$$

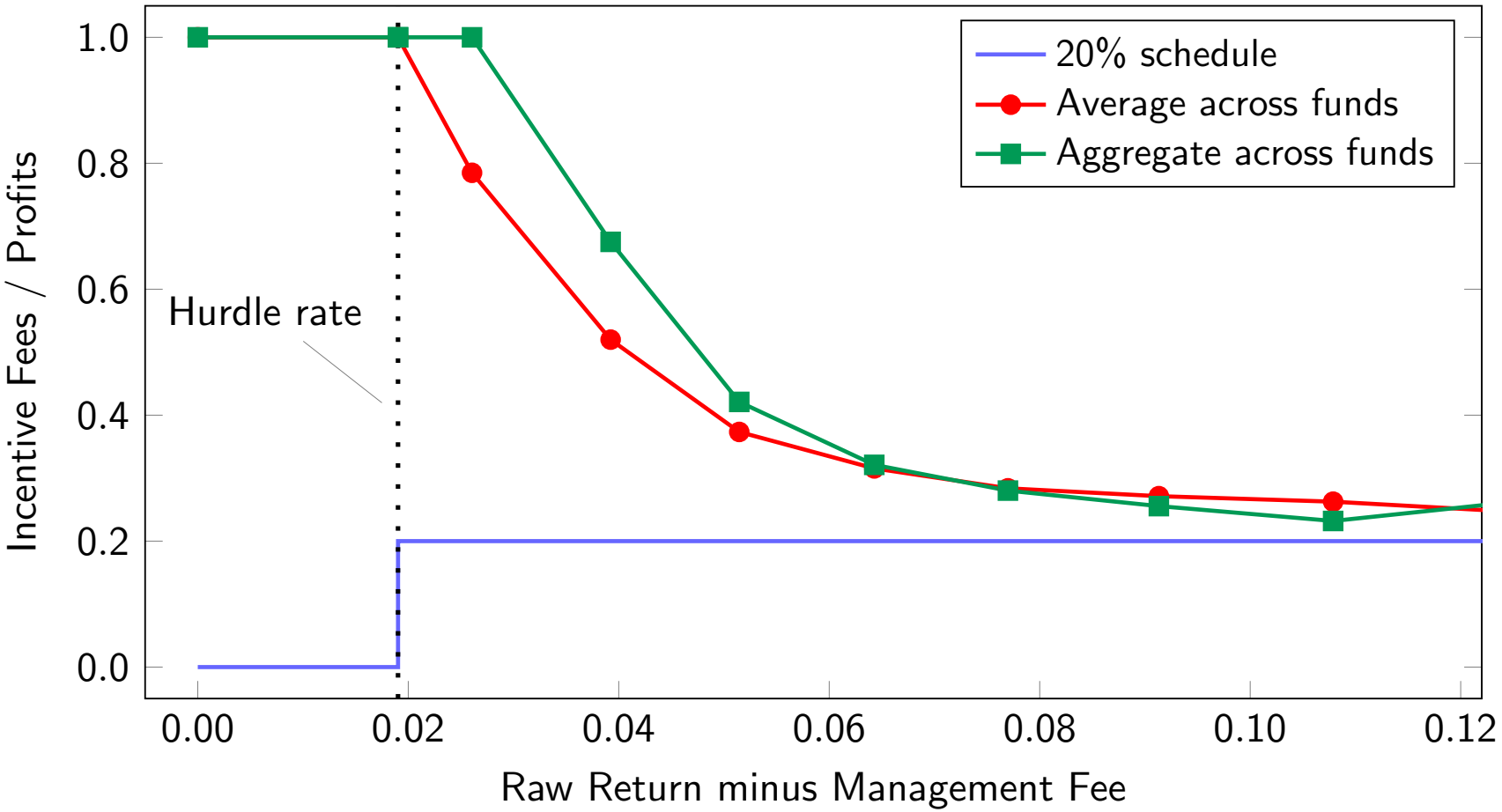
$$\text{Residual IF}_i = \text{Actual IF}_i - \text{Justified IF}_i$$

- Example: \$100m GP, \$30m IF $\Rightarrow$ Justified IF = \$20m, Residual IF = \$10m

- Distribution of IF (annualized, as % of AUM):
  1. Aggregate IF 1.93% $\Rightarrow$ 0.74% justified, 1.19% residual
  2. Residual IF: larger in domain of losses (by 5 bps)
  3. Residual IF: unrelated to realized performance for 95% of funds

Implication: "Inverted" IF Ratio

- 20% schedule (narrowly framed) vs *De facto* IF ratio
- $\Rightarrow$ Suggesting "bug", not "feature"



Part 3

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Discussion: Hypothesis

- Our Hypothesis: outcomes unintended & unanticipated
  1. Magnitude of effective IF
  2. Cross-sectional distortions
     - $\Rightarrow$ Implies HF clients have biased expectations
- Alternative: investors know "2-and-20" $\rightarrow$ "2-and-50"
- No ideal survey available
- Rely on indirect evidence and economic arguments

Discussion of Hypothesis

Suggesting outcomes unintended/not fully anticipated:

1. Comparison with PE profit-sharing
2. Estimation of fees based on HF index returns
3. Practitioner literature, professional education material
   - Narrow-framing: one-fund-one-period
4. Critics of HF performance and/or fees do not focus on effects we document (e.g., Dichev and Yu 2011, Lack 2012, Brown 2012, Abdulali, Tarrant, Weinberg 2017)
5. Media: *WSJ*, *FT*, *Institutional Investor*, *Market Watch*, blogs, etc

Discussion of Hypothesis: Why?

- If outcomes not anticipated, why? $\Rightarrow$ future research
- Our insight: explanation should feature **under-weighting probability of left-tail outcomes** (across funds/time)
- Agency and behavioral factors rooted in investment process
- Role of 'Advisors' (investment staff, internal and external consultants, funds of funds, feeder funds, wealth managers, etc)
  - $\rightarrow$ Common 'value proposition': access good funds and avoid bad ones
  - $\rightarrow$ Advisors will not present full spectrum of outcomes (60% gains offset, 40% funds negative $ returns, short lives, high probability of early liquidations and failure,...)
  - $\rightarrow$ If investors expected these outcomes, they would likely not approve investment portfolios

Discussion: Theories?

- Theories of inefficient or miscalibrated investment in 'new' sectors
  1. Hirshleifer and Plotkin (2020): (i) salience of large successes + (ii) selection neglect $\Rightarrow$ biased, overly-optimistic expectations
  2. Gennaioli, Shleifer, Vishny (2012): neglect of "unlikely risks" due to financial engineering
  3. Biais, Rochet, Woolley (2015): Excess entry, boom and busts, large unexpected negative shocks can arise in first-best in innovative industry with uncertainty
- Implications of our paper
  - Cannot assume all outcomes observed in alternative asset management are consistent with "perfect market"
  - More theory work about asset management warranted

Thank you!

Looking forward to discussion and comments!

Justified and Residual Fees - Table

Annualized Fees (% of AUM)							
		Cross-section of funds					
	Aggregate	Average	Std. Dev.	$I_{\{GP>0\}}$	$I_{\{GP\leq 0\}}$	Difference	Difference
Incentive fee (%)	1.93	1.80	2.67	2.69	0.79	1.89^{***}	1.39^{***}
Justified IF (%)	0.74	1.03	2.08	1.94	0.00	1.94^{***}	1.56^{***}
Residual IF (%)	1.19	0.77	1.37	0.74	0.79	-0.05	-0.16^{***}
Management fee (%)	1.51	1.49	0.48	1.47	1.50	-0.04^{**}	-0.04^{**}
Tails trimmed	No	No	No	No	No	No	2.5%
Observations	5,917	5,917	5,917	3,150	2,767	5,917	5,623