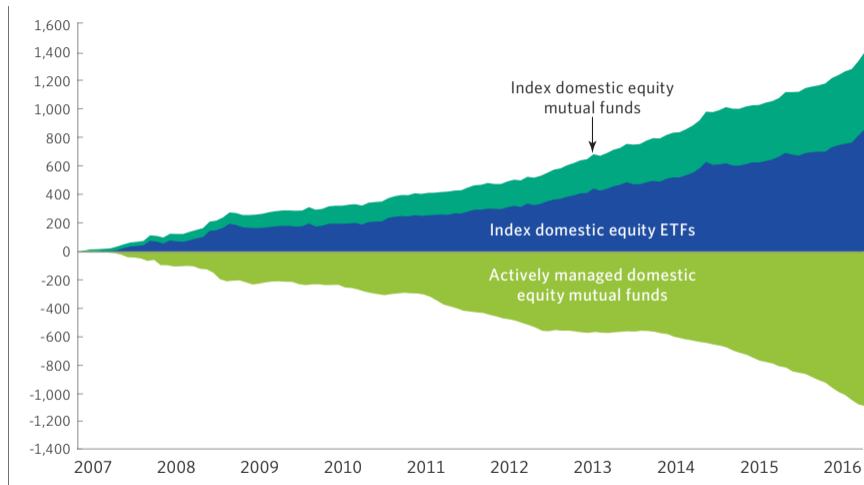


# Institutional Investors and Information Acquisition: Implications for Asset Prices and Informational Efficiency

Discussant: Anna Pavlova (London Business School)

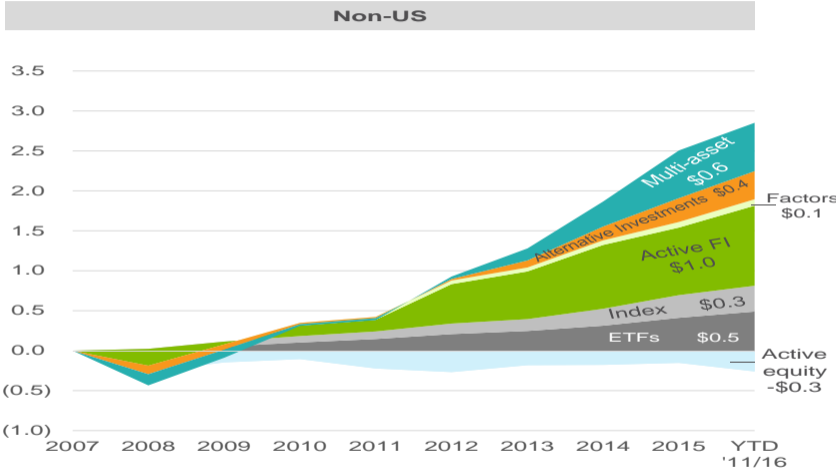
NBER New Developments in Long-Term Asset Management 2017

# Latest Trends in US Mutual Fund Industry



Source: 2017 Investment Company Fact Book (in \$bn).

# Non-US: A Similar Picture



Source: BlackRock (in \$tn)

## Motivation and Overview

- A sizeable shift from active to passive investing
- ... raising concerns that asset prices are becoming less informative
- **This paper:** Amplifies this concern
- Why? Performance of most active managers is evaluated relative to an index
- Managers' fee:  $\alpha + \beta R + \gamma(R - R_{\text{Benchmark index}})$
- "Closet indexers?" Managers' optimal portfolios are  
$$w \text{ Index} + (1 - w) \text{ Mean-Variance Portfolio}$$
- No incentive to collect information about the index

# Main Results

- Fund managers contracts distort their information acquisition incentives
- Fund managers value private information less and acquire less of it
- With more fund managers price informativeness declines
- This decline in price informativeness leads to higher stock return volatility

## Related Literature

- *Information acquisition*. Large literature, usually in a CARA-normal framework
- *Benchmarking and asset prices*: Brennan (1993), Cuoco and Kaniel (2011), Basak and Pavlova (2013, 2016), Buffa, Vayanos and Woolley (2016)
- *Information acquisition and benchmarking*: Admati and Pfleiderer (1997)
  - ▶ Surprisingly, no interaction (in a CARA-normal setting)

This paper contributes to the latter strand and finds interesting interaction between benchmarking and information acquisition

# Model

- One period (with multiple subperiods)
- Assets: one risky asset, one riskless (exogenous  $r_f = 0$ )
- The risky asset pays off  $D_L$  or  $D_H$
- The risky asset is in noisy supply of  $z$  shares,  $z \sim N(\mu_z, \sigma_z^2)$ 
  - ▶ Legacy assumption originally from a CARA-normal setting?
  - ▶ Are possible negative  $z$ -s really needed?
  - ▶ Instead of noisy supply, could one think about noisy inflows/outflows into the fund?

# Agents

- Retail investors

$$U(W) = \frac{W^{1-\gamma}}{1-\gamma}$$

- Fund managers

$$U(\text{fee}) = \frac{\text{fee}^{1-\gamma}}{1-\gamma},$$

where

$$\text{fee} = \alpha + (1 - \beta)W + \beta(W - B)$$

$W$  – NAV of the fund,  $B$  – benchmark (=D)

- Probably better to specify  $\text{fee} = \alpha + \beta R + \gamma(R - R^B)$ 
  - ▶ in terms of returns rather than levels
- Ibert, Kaniel, Van Nieuwerburgh and Vestman (2017) provide empirical evidence for  $\beta$  and  $\gamma$  being surprisingly small



## Manager's Objective (cont.)

- Fund managers

$$U(W) = \frac{(\alpha + (1 - \beta)W + \beta(W - D))^{1-\gamma}}{1 - \gamma}$$

- In the calibration, take  $\alpha = 0$ . Then the manager's utility becomes

$$U(W) = \frac{(W - \beta D)^{1-\gamma}}{1 - \gamma}$$

- Note that  $\lim_{W \rightarrow \beta D} U'(W) = \infty$
- The manager will never allow  $W$  to drop below  $\beta D$ . A bit like in models of portfolio insurance, but with stochastic floor (Basak (2002)).
- Hedging portfolios: Indexing (holding  $D$ ) or staying above  $\beta D$ ? It would be useful to provide expressions for optimal portfolios.

## Information Acquisition

- Both retail investor and asset manager can buy a signal with precision  $x$
- Higher  $x$  raises the probability of predicting future payoff  $D$
- But comes at a cost of  $C(x) = kx^c$ ,  $c > 1$ .
- For future work:
  - ▶ Can relate to the literature on agency problems (moral hazard) in asset management. Perhaps relabel  $x$  as effort.
  - ▶ This (very small) literature tries to provide justification for benchmarking, based on agency problems
  - ▶ Here, benchmarking is bad, but surely there are some redeeming features (managers are better at collecting information than retail investors?)
  - ▶ A promising, open area of research

# Results

## Partial Equilibrium:

- Benchmarking reduces incentives to acquire information. Higher  $\beta \Rightarrow$  less information acquisition

## General Equilibrium

- More fund managers  $\Rightarrow$ 
  - ▶ aggregate signal precision decreases
  - ▶ price of risky asset becomes less informative
  - ▶ price of risky asset declines
  - ▶ expected return of risky asset increases
  - ▶ return volatility of risky asset increases

## Main Complaints

- The results are great, but I would like to be more certain what is driving them
- A bit of a black box!
  - ▶ Analysis in the paper:  $14N + 2$  equations in  $14N + 2$  unknowns. Numerical.
- Many intuitions rely on hedging portfolio of managers being essentially the index, i.e., optimal portfolios:

$$w_1 \text{ Index} + w_2 \text{ Mean-Variance Portfolio}$$

- True in CARA-normal models (with  $w_1 = (1 - \beta)/\beta?$ ), but  $w$  can depend on other variables in CRRA models
- What exactly is the hedging portfolio hedging: deviations from the index  $D$  or distance from the floor  $\beta D$ ?
- I would find it very useful to see an expression for the hedging portfolio

## References to CARA-Normal Setting

- Many references to analogous results in CARA-Normal setting, without references or proofs, e.g.,
  - ▶ *...with CARA-utility, benchmarking would not affect the sensitivity of institutional investors' portfolios with respect to their private signals and their information choices. Accordingly, the fraction of institutional investors would be irrelevant for price informativeness and related quantities.*
- Why?
  - ▶ Is the CARA model in authors' mind the same as in Admati-Pfleiderer (1997)?
  - ▶ Admati-Pfleiderer's intuition is that the manager can “undo” the contract via portfolio choice. Any parallels here?
- Bottom line: I would find it useful to compare and contrast expressions for CARA and CRRA optimal portfolios.

# Summary

- A important and relevant topic
- The paper delivers nice, provocative results. They make a lot of sense intuitively.
  - ▶ Looks like people tried to do this before but failed to get any interaction between benchmarking and information acquisition (Admati-Pfleiderer)
- Main area for improvement: deriving some analytical results, to guide intuitions
- Future work: Benchmarking and agency