Discussion of "From Active to Passive: The Consequences for Demand Elasticity"

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Summary

- Research question: what is the impact of passive investing on market efficiency?
  - This paper focuses on aggregate demand elasticity
- Most existing work are *reduced-form;* this paper is *structural*
  - Modifying Koijen and Yogo (2019)
- Summary of discussion:
  1. High-level: the structural approach is useful
  2. Low-level: specific modeling assumptions

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Outline

1. High-level: the structural approach

2. Specific model comments

A "model"

- A stock w/ fundamental value V, 0 shares outstanding
- Investor i chooses portfolio weight:

$$w_i(P) = \underbrace{\beta_i \cdot (V - P)}_{\text{"demand elasticity" (DE)}} + \underbrace{\epsilon_i}_{\text{noise}}$$

- Equilibrium price:

$$\sum_i A_i \cdot w_i(P) = 0$$

$$\Rightarrow P = V + \left(\underbrace{\sum_i A_i \cdot \epsilon_i}_{\text{aggregate noise trading}} \right) \Big/ \left(\underbrace{\sum_i A_i \cdot \beta_i}_{\text{aggregate DE}} \right)$$

- **Takeaway:** market efficiency increases if 1) noise trading $\downarrow$ or 2) aggregate DE $\uparrow$

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From this perspective, how should the rise of passive investing impact demand elasticity?

- It is not ex-ante clear!

$$\text{Demand: } w_i(P) = \beta_i \cdot (V - P) + \epsilon_i$$

	Smart investor ($\beta > 0, \epsilon = 0$)	Noise trader ($\beta = 0, \lvert\epsilon\rvert > 0$)	Passive ($\beta = \epsilon = 0$)
Active	✓	✓	
Passive			✓

- **The answer depends:**
  1. Where did the passive AUM flow from?
  2. Did existing smart investors become more elastic?
     - e.g. Haddad, Huebner, and Loualiche (2025)

This perspective naturally motivates a structural approach

- This paper follows Koijen and Yogo (2019) to estimate aggregate demand elasticity...

$$P_t - V_t = \underbrace{\left(\sum_i A_{i,t} \epsilon_{i,t} \right)}_{\text{noise trading}} \Big/ \underbrace{\left(\sum_i A_{i,t} \beta_{i,t} \right)}_{\text{DE}}$$

  - By estimating $\beta_{i,t}$ and making use of $A_{i,t}$

The prevailing approach is *reduced-form*

$$\text{InefficiencyMeasure} = a + b \cdot \text{IndexInvesting}$$

- **Benefit:** credibility

- **Limitation:** only examine *local* variation:
  1. RHS: e.g. Russell index reconstitutions
  2. LHS: measures of "obvious inefficiencies"
     - Likely a tiny part of overall inefficiency (e.g. Vuolteenaho, 2002)

$\Rightarrow$ concerns about external validity

Consistent with this view, the reduced-form evidence is *mixed*

- Reduced efficiency
  - Qin and Singal (2015), Israeli, Lee, and Sridharan (2017), Ben-David, Franzoni, and Moussawi (2018), Da and Shive (2018), Brown, Davies, and Ringgenberg (2021), Sammon (2024)
- Increased efficiency
  - Boone and White (2015), Glosten, Nallareddy, and Zou (2021), Huang, O'Hara, and Zhong (2021)
- No effect:
  - Coles, Heath, and Ringgenberg (2022)

(slide borrowed/adapted from Deniz Yavuz)

My view: structural approach as a useful *complement*

- Provides richer answers:
  - Where did AUM flow from and to?
  - Who contributes to efficiency?
  - How much *overall* inefficiency is there?

  - There are questions that the reduced-form approach *fundamentally* do not seek to address.

- Of course, enthusiasm also tempered by *misspecification concerns*
  - Many of us have concerns about Koijen and Yogo (2019)

Outline

1. High-level: the structural approach

2. Specific model comments

Sample comment: modeling index investing

- How to model institution i's tilt towards indices?

- One (in my view) natural specification:

$$\log(w_i(n)) = \sum_{j=1}^{J} \gamma_{i,j} \cdot \mathbb{I}_{n \in \text{Index}_j} \cdot \log(ME(n)) + \text{other stuff}$$

  - $\gamma_{i,j}$ is institution i's tilt to index j

- Expect to find:
  - More heavily indexed institutions are less elastic
  - $\gamma_{i,j} \uparrow$ over time, and AUM flows to more indexed institutions

The paper's demand specification is different

- Demand:

$$\log w_i(n) = \gamma \cdot \text{IXI}(n) + \text{other stuff}$$

  - Where $IXI(n)$ measures (approximately) the fraction of the stock held by all index funds

- It is hard to microfound this

- No easy solution: the specification I proposed have estimation difficulties

Other comments...

... are too detailed for a general audience.

Summary

- Structural approach is a useful complement
  - Addresses the natural limitations of reduced-form approaches

- Room for improvement in specification

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