Discussion of

What Drives Stock Prices in a Bubble?

By Weihua Chen, Shushu Liang, and Donghui Shi

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Discussant: “J” Jiacui Li

Paper summary

- This paper marries two literatures:
  - 1) Bubbles
  - 2) Demand-system of asset pricing (Koijen Yogo, 2019)

- Main finding:
  - Retail investors contributed substantially to the 2015 China stock bubble
  - Fits the Kindleberger (1978) narrative:
    - Bubble formation: good fundamental news
    - Expansion: increased speculation, especially from new entrants
    - Deflation: preferences changes (back to caring about value)

Outline of my discussion

- First, some obvious points
  - Important research question
  - Rich trading data (retail + institutions)
  - Well-written paper. I learned a lot reading it

- My discussion will focus on the **demand-system**
  - 1) Mostly for the *audience*: what does it add beyond reduced-form evidence?
  - 2) Mostly for the *Shushu*: how to possibly improve it?

1. What does a demand system add?

What does the demand-system do?

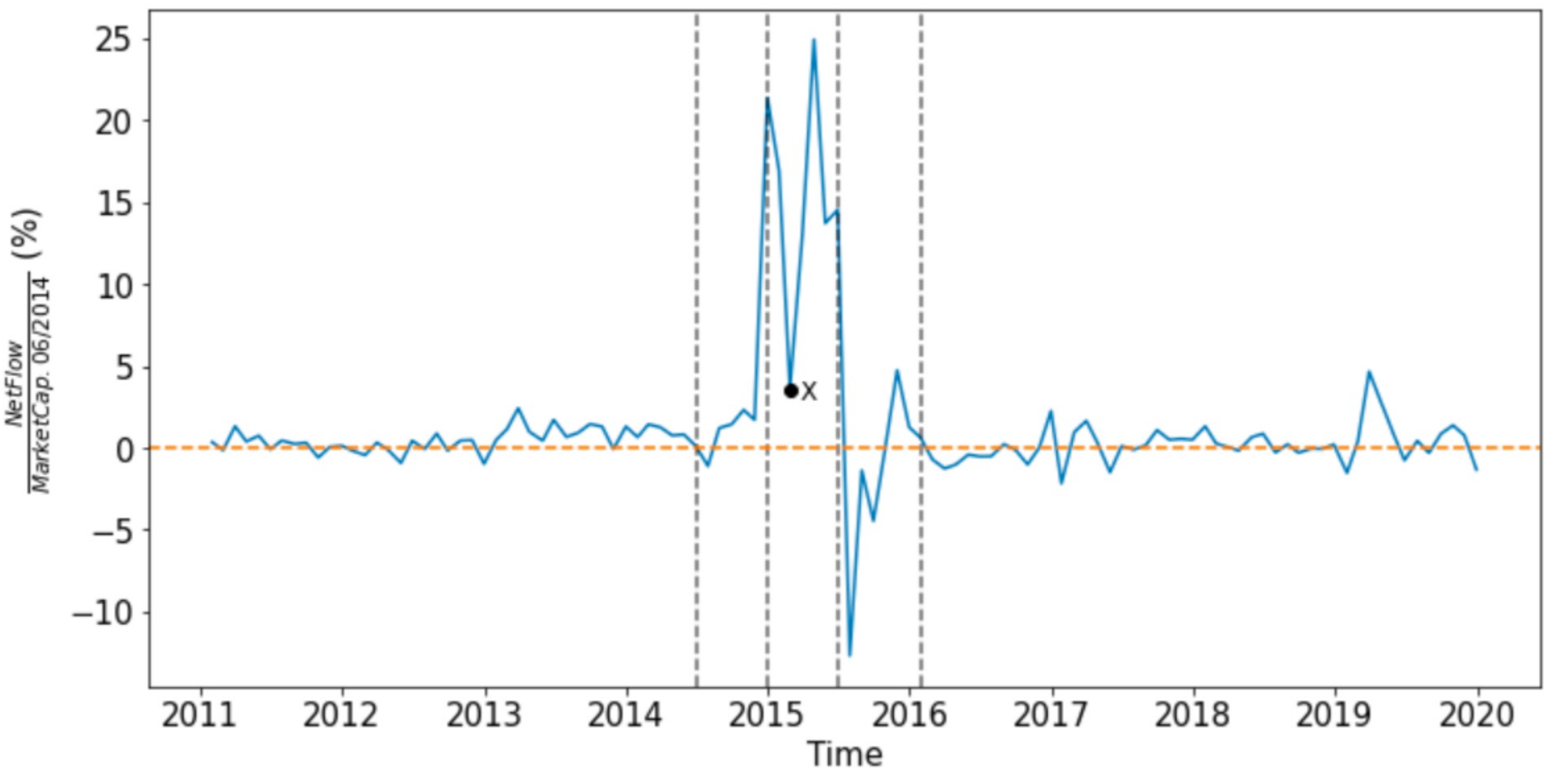
- A model of the *price effect of trading*; allows for *counterfactuals*

- Others have also studied the 2015 Chinese stock market bubble

- They also really want to say that retail trading <u>caused</u> the bubble, but they can't, so ended up saying something else
    - Bian et al (2021): margin-trading behavior
    - Liao, Peng, and Zhu (2022): trading volume
    - An, Lou, and Shi (2022): wealth transfer

Retail investors massively bought stocks in the bubble expansion phase

Figure 4: Retail Investors' Net Capital Flows into Boom-Bust Stocks



Q. What is the price impact of such buying?

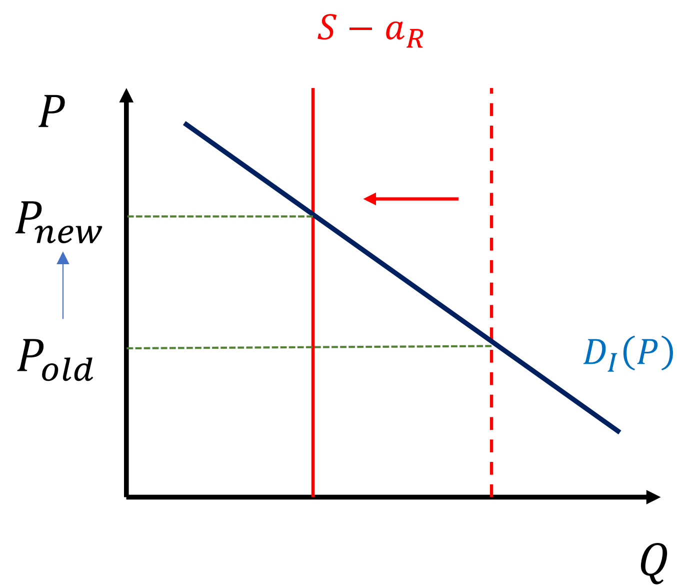
Possible answers:

- 1) *"Zero. For every buyer there is a seller."*

- 2) Positive price impact if there is imperfect liquidity provision, but not sure how much.

- 3) Shushu: *quantify* using a demand-system.

Demand-system, caricature



- One asset with S shares outstanding
- Investors: $i \in \{$**R**etail, **I**nstitution$\}$
- Demand functions:
  - $D_R(P) = a_R$
  - $D_I(P) = a_I - b_I \cdot P$ (b_I = demand elasticity)
- Market clearing: $a_R + (a_I - b_I \cdot P) = S$
  - $\Rightarrow P = \frac{a_R + a_I - S}{b_I}$
- **Takeaway:** price impact of increasing retail demand ($a_R \uparrow$) depends on demand elasticity of other investors (b_I)

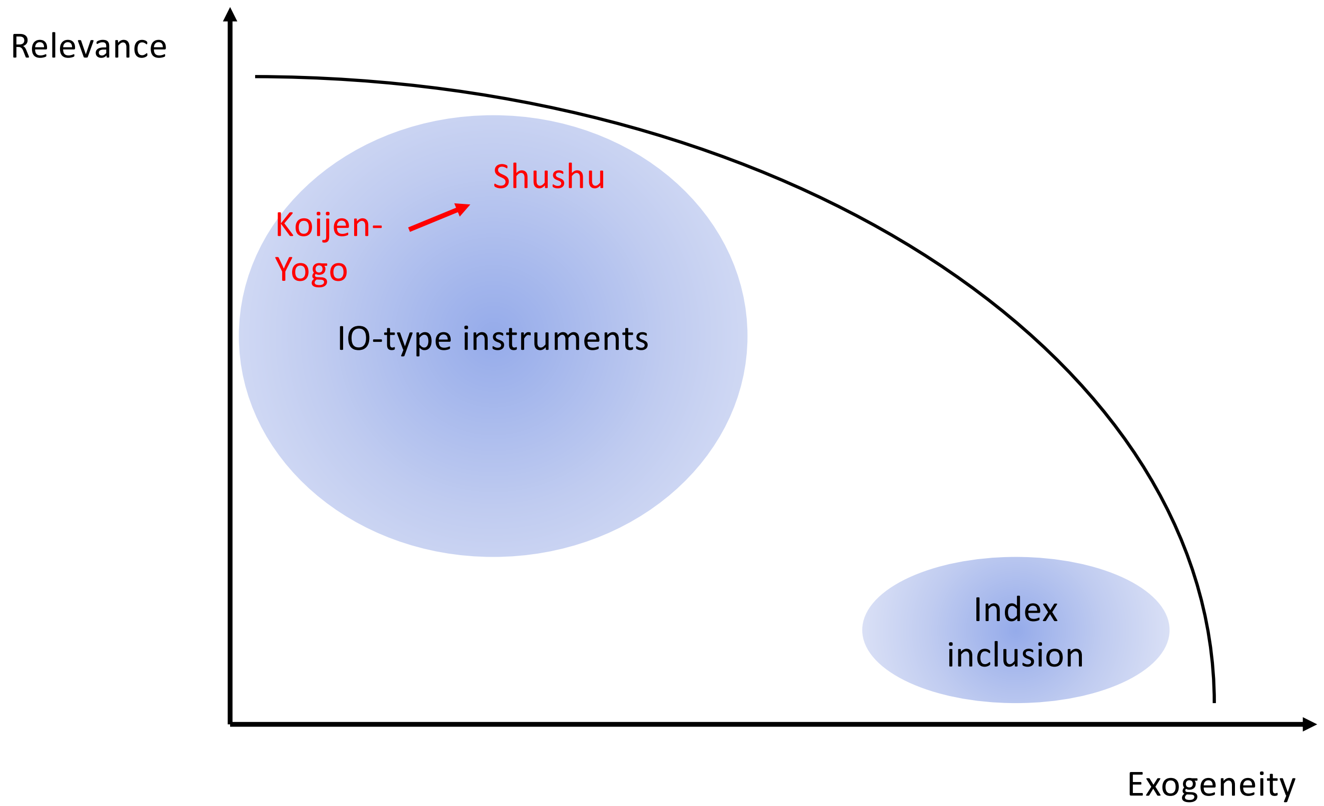
How to you estimate demand elasticities?

- You need instruments (demand shifters).

- Koijen-Yogo uses BLP instruments
  - For each investor i, $\sum_{j \neq i} ExogenousDemand_j$ is the price shifter
  - Koijen-Yogo assumes AUM- and investment universe-induced demand as exogenous

- Shushu improves by focusing on a subset of "stable institutions"

How good are these instruments?



2. Questions/suggestions

Cross-section vs aggregate

- This paper studies the “relative bubble” between “boom-bust stocks” and the others
  - “Boom-bust stocks” up by 400%; market up by 150%

- In estimating price impact, can what extrapolate cross-sectional relationships to the aggregate?
  - Often done in corporate/household, but there are complications here.

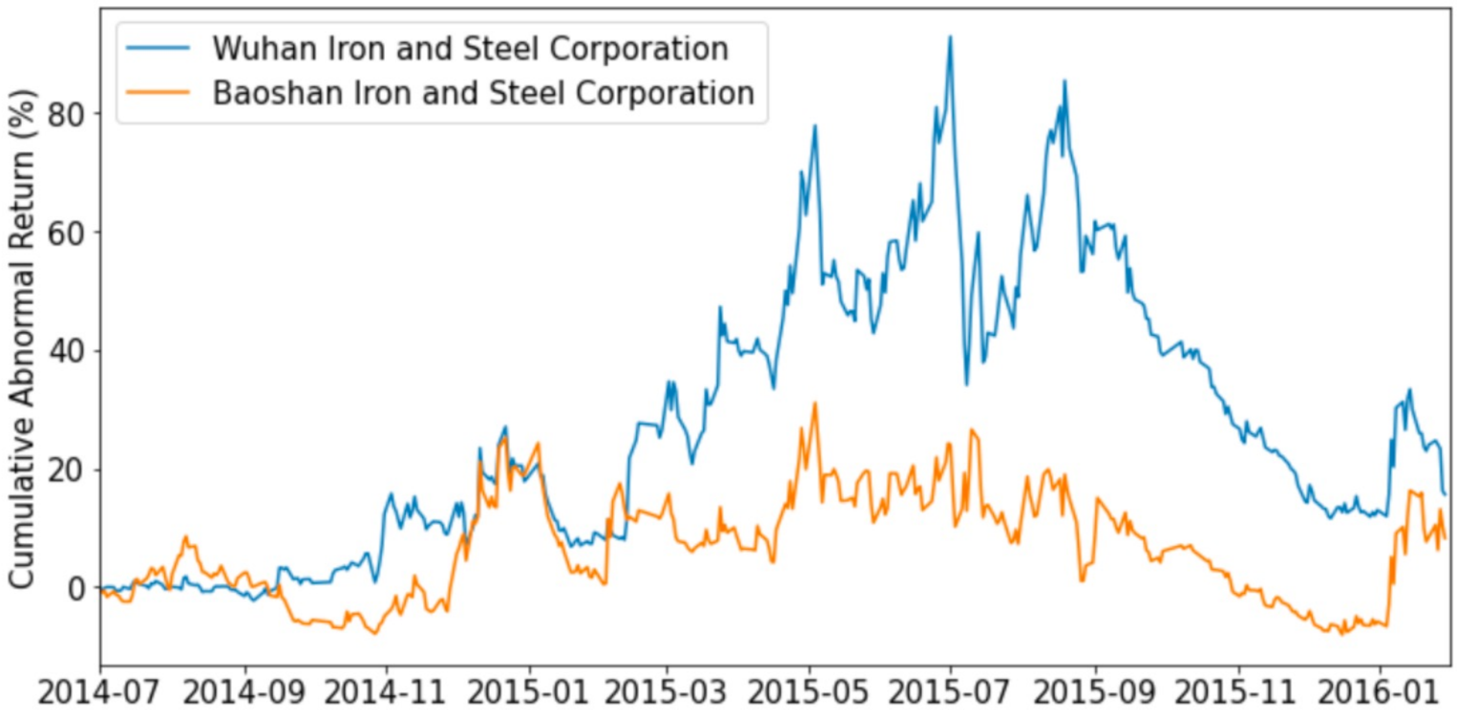
- My concerns are not about the core idea, and only about *specification*
  - But specification matters in a structural exercise

Two issues

- 1) Demand elasticities are *different* at different levels
  - Market < factor/style < stock-level
  - Li and Lin (2022), An, Su, and Wang (2022) , Chaudhary, Fu and Li (2023)

- 2) Spillovers between stocks
  - Buying "boom-bust stocks" will also push up the price of other stocks
    - This channel is shut-off in Koijen-Yogo
  - This is counterfactual. This shortcoming is also widely acknowledged
    - Fixes: nested logit (e.g. Fang (2023)), or modeling covariance (An (2023))

Just to reiterate the spillover point…



- Sadly, asset pricing ≠ corporate finance.

Other suggestions/questions

- 1) Vet the structural model using reduced-form evidence.
  - E.g. does your instrument predict returns?
- 2) What is special about a bubble?
  - Is demand elasticity constant? Should it change in a bubble?
- 3) You often only plot what happened to boom-bust stocks.
  - Also plot what happens to the other stocks, given the paper is explaining a *cross-sectional* bubble?

Summary

- This paper uses a demand-system to study the driver of bubble and busts

- A very nice paper

- People can always have specification suggestions (like mine), but I am bullish on the general direction