

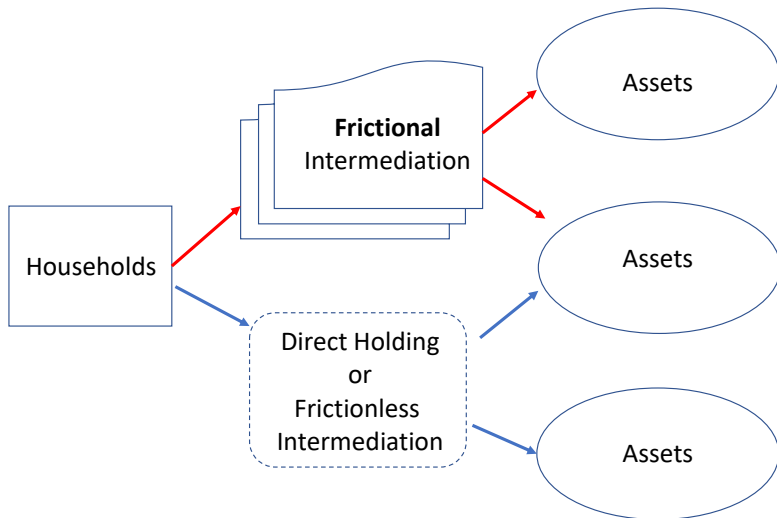
A Discussion of
Heterogeneous Intermediary Asset Pricing
by Mahyar Kargar

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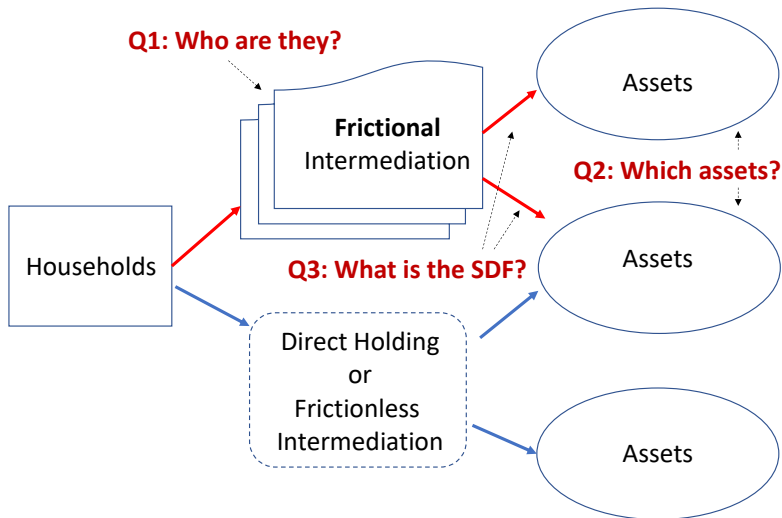
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January 3, 2020

Intermediary Asset Pricing: An Illustration



Intermediary Asset Pricing: An Illustration



Contributions of This Paper

- Build a tractable model with intermediary heterogeneity.
Key message: Heterogeneity matters for asset prices and risk premium!
- Show the empirical relevance for the heterogeneity factor, constructed from bank holding companies and broker-dealers.

Model

- Three types of agents: *intermediaries of type A* (low risk aversion), *intermediaries of type B* (high risk aversion), and *households* (highest risk aversion).
- Intermediaries are subject to a leverage constraints.

Note: general approaches in the literature:

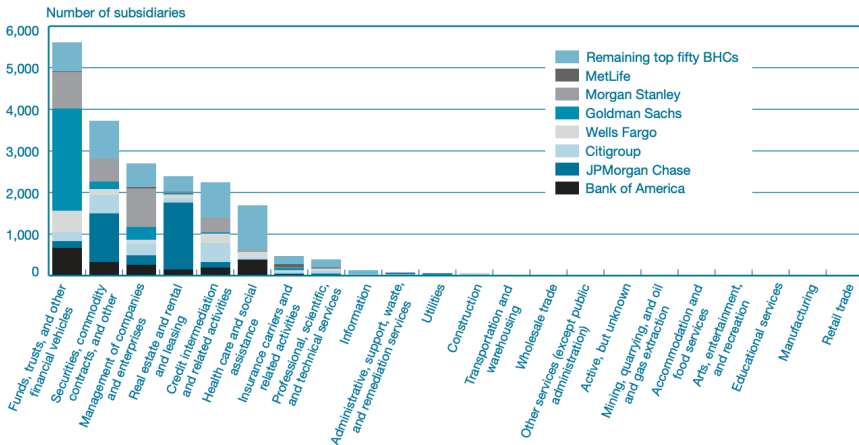
- 1 Only intermediaries invest in risky assets (or lend to firms) + intermediary equity friction
Gertler and Kiyotaki 2010; He and Krishnamurthy 2012; Brunnermeier and Sannikov 2014
- 2 Both intermediaries and households invest in risky assets + intermediaries are “born to be different” .
Drechsler, Savov and Schnabl 2018

Dissecting the Mechanism

- Heterogeneous risk aversions \Rightarrow Intermediary heterogeneity matters.
 - ▶ Less risk averse intermediaries get largest equity decline in downturns.
 - ▶ Intermediary sector is hit more severely than households in downturns.
 - ▶ Both affect the **average risk aversion**, therefore, the risk premium.
- Leverage constraint for intermediaries (binding only for low risk-aversion intermediaries) \Rightarrow Procyclical leverage dynamics.
 - ▶ Is generating procyclical leverage the only role of this assumption?
 - ▶ Tightness of leverage constraint may serve as an independent factor.

How to Categorize Intermediaries?

- The paper focuses on bank holding companies (more risk-averse intermediaries) and broker dealers (less risk-averse intermediaries).
- In reality, bank holding companies own many broker-dealer subsidiaries.



Alternative Construction of Intermediary Heterogeneity

- Current measure is the equity ratio

$$\frac{BD_t}{BHC_t + BD_t}$$

- I suggest checking the other definitions of intermediary heterogeneity.

Example:

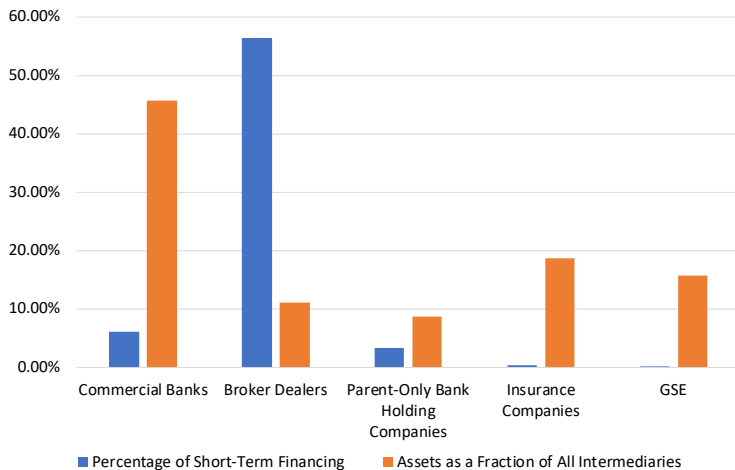
- ▶ Sort intermediaries by their risk tolerance, proxied by the fraction of repo and commercial paper financing (denoted by ξ_j). Denote equity of intermediary j as E_j .
- ▶ Then define an average risk tolerance

$$y_t^{data} = \frac{\sum_{j=1}^N \xi_j E_j}{\sum_{j=1}^N E_j}$$

- ▶ Then take the residual of y_t^{data} regressed on x_t^{data} to maximize the new information content of heterogeneity measure.

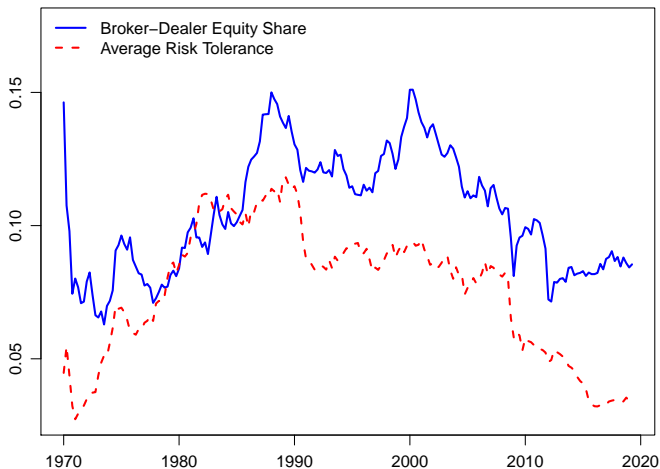
The Heterogeneity Across Intermediaries

- Both short-term financing (repo+CP) ratio and size differ widely.



Comparison between the New and the Old Measures

- An easy exercise for robustness check. Maybe the new measure contains more information.



Conclusion

- The paper addresses a very important question in intermediary asset pricing.
- Excellent executions in both theory and empirics!
- Need more discussions on the relevance of leverage constraint.
- Check alternative constructions of heterogeneity factor for robustness.