Evolution of Dealer Markets

Discussant: Jay Kahn
Board of Governors of the Federal Reserve System

Evolving Structure of the Financial Services Industry, 2024

Disclaimer: The views expressed in this presentation are those of the speaker and do not necessarily represent the views of the Board of Governors of the Federal Reserve System.

Two papers in this section are unified by a focus on dealer-intermediated markets.

Two components:

1. **Interdealer market:** brokered exchange.
2. **Dealer-to-customer market:** bilateral OTC.

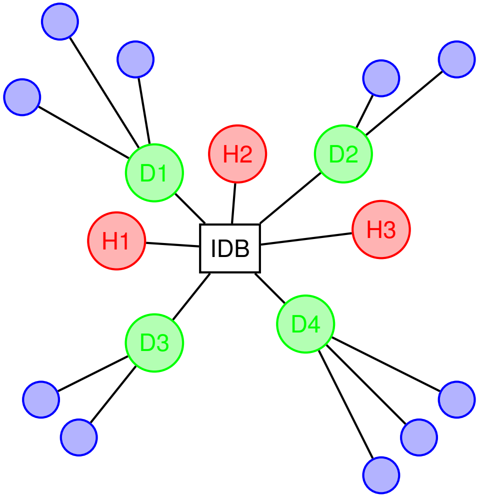
Dealers make this structure work.

- Maintain inventories.
- Source securities for customers.
- Provide liquidity.
- Aid price discovery.

Common structure in key markets:

- Bräuning and Stein: Treasury markets.
- Huang, O'Neill, Ranaldo and Yu: FX markets.

Also corporate debt, repo, etc.

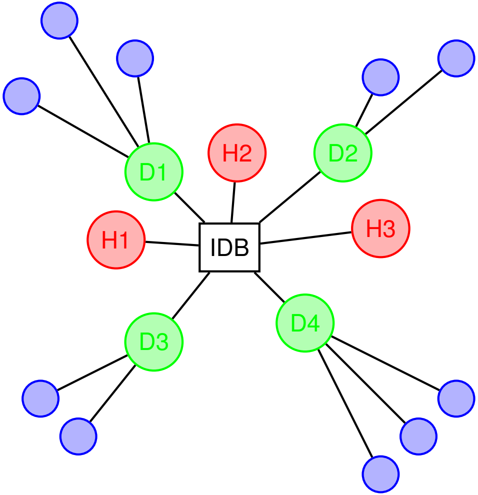


Two papers in this section are unified by a focus on dealer-intermediated markets.

A lot of interest in this structure recently:

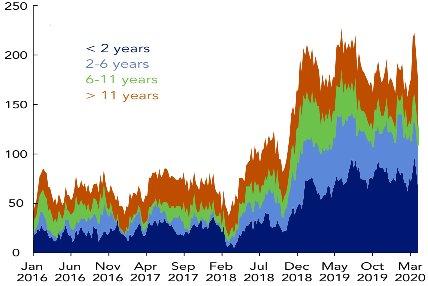
- Dealers increasingly restricted by regulation.
  - *Du et al. (2018), Fleckenstein and Longstaff (2020), Boyarchenko et al. (2020)...*
- Dealer-intermediated markets have experienced... some problems.
  - *Duffie (2020), Vissing-Jorgensen (2021), He et al. (2022)...*
  - Push towards "all-to-all" trading.
    - *Chaboud et al. (2022).*

How resilient is the dealer model and what is the alternative?

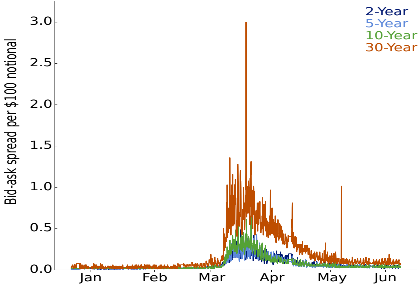


The problem: What happens when dealers pull back their intermediation?

Dealer Treasury exposure



Bid-ask spreads



Source: Barth and Kahn (2021)

During March 2020, the dealer-intermediated Treasury market broke down.

- Large sales by foreign CBs, mutual funds, and hedge funds to dealers with swollen inventories.
  - *Vissing-Jorgensen (2021), Ma et al. (2022), Barth and Kahn (2021).*
- Bid-ask spreads widened, and reportedly some dealers stopped quoting prices.

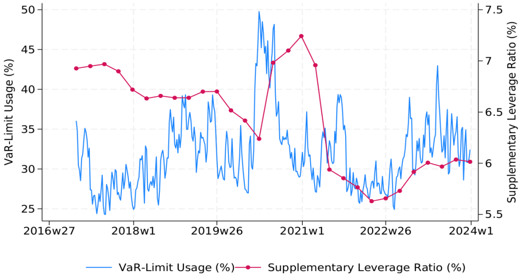
Bräuning and Stein: What leads dealers to pull back from intermediation?

Much debate on exact reasons dealers were unable to intermediate in March 2020.

- Primary suspect has long been the Supplementary Leverage Ratio (SLR).

This paper: use novel data on risk-limits and dealer positions.

- Look at the causal effect of the SLR and VaR limits on dealer Treasury positions.
  - Find both have economically significant effects on dealer Treasury positions.
    - Eat up almost 9% of dealer margins.
  - VaR limits also affect bid-ask spreads and primary market activity.



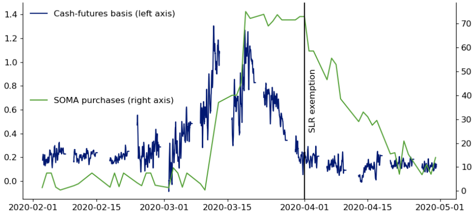
How much can dealer constraints explain?

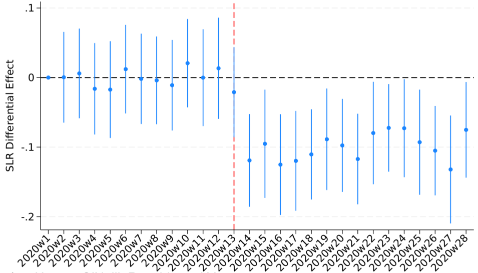
SLR exemption came late in the crisis.

- Spreads (like cash-futures basis) had mostly returned to normal.

Duffie (2020), He et al. (2022) focus on the SLR as driving dealer spreads in March 2020.

- So actually surprising there's no pre-trend.
  - Why don't we see effects *during* the crisis?

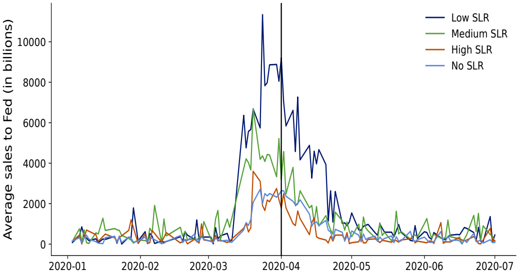




Why don't the effects of the SLR start *earlier*?

Possibility: Dealers with low SLR offloaded excess Treasuries to the Fed.

- Chart uses 2019 SLR and dealer-level transactions with SOMA.
- Lower SLR associated with higher sales during crisis, greater reduction after exemption.
- No controls for dealer size, positions, etc.



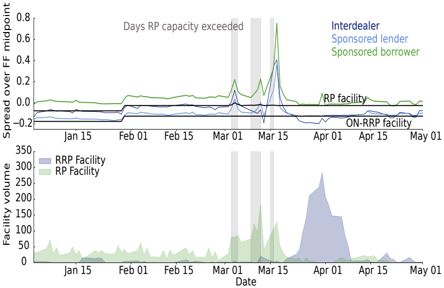
Similar results for VaR limits?

More generally: Can we use estimates to figure out contribution of two constraints to March stress?

Minor comments

- **Construction of limit shock:** Weighted average of residual from panel VAR less two PCs.
  - How can we properly account for estimation error in the second stage?
  - Is it possible to use a simpler construction and get similar results?
- **Can anything be done with non-bank primary dealers?**

- **What about Treasury repo?**
  - Large pullback in March 2020.
  - Data available in FR2004 covers gross borrowing and lending by collateral and term.
  - Provides another link to He et al. (2022).



Huang, O'Neill, Ranaldo and Yu: What is the alternative to relying on dealers?

Focus on the inter-dealer FX market.

- Use novel dataset with identified participants.

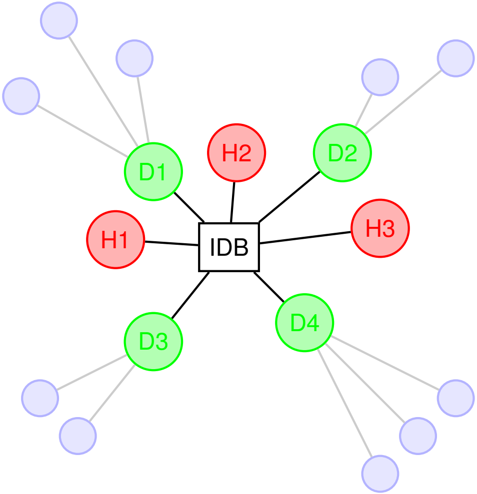
Two participants of interest:

1. **Dealers:** Slow moving, info from customers.
2. **HFTs:** Fast moving, no private info.

Key results:

1. VIX increases, dealers pull back more than HFTs.
2. Macro news, HFTs pull back more than dealers.
3. Dealers "lean into wind", HFTs "lean away."
4. Price discovery from dealer trades / HFT quotes.

Interpretation: Dealers specialize in private info, HFTs in public info.



Most important result is response to shocks

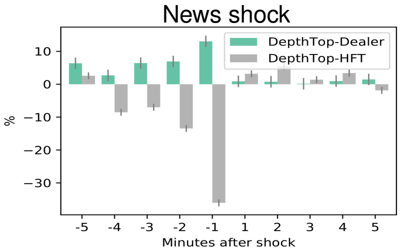
Estimate VAR with exogenous dummies for news, large VIX increases.

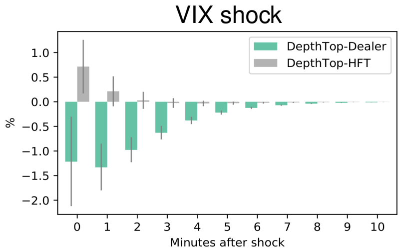
HFTs pull back prior to news release.

- Consistent with evidence from other markets.
  - Harkrader and Weitz (2020): PTF Treasury volumes decrease 60% in minute prior to FOMC.
- *Get out of the way of the steamroller.*

What makes VIX different?

- Information story is not clear to me.
  - Can't customers have private info about VIX increases?
- Alternative stories also possible, e.g.:
  - VIX not predictable, so can't get out of way.
  - Volatility produces more trading opportunities.





More generally, how well do equity market methodologies generalize to these markets?

Many of the tests in this paper are borrowed from the equity market HFT literature.

For instance, state-space model identification seems to come from:

$$\Delta p_t = \sum_i \lambda_i^j \Delta \tilde{x}_{i,t}^j + \sum_i \psi_i^j x_{i,t}^j - (1-\phi) \sum_i \psi_i^j x_{i,t-1}^j - (1-\phi) s_{t-2} + e_t$$

Leaning into the wind: liquidity now associated with reversals later.

- In an equity market, this is likely to be noise.
- In an OTC market, dealers have customer trades they need to offload or inventories to manage.
  - Could introduce more complicated dynamics from customer flows rather than information.

How can we distinguish between information and flows?

- Events with no info but that induce flows: UST auction announcements (An and Huber, 2024).

Minor comments

- **Identification of HFTs:** HFTs are hedge funds or proprietary trading firms that trade quickly.
  - What about dealers that employ HFT strategies?
- **Aggregation of news shocks:** Are all news shocks the same?
  - Separate out different types of announcements (e.g. statistical releases, policy announcements).
  - Simple averages rather than VAR to reduce dimensionality.

Conclusion

Very lucky to have these two papers to discuss.

Both papers:

- Use novel data to advance our understanding of the changing role of dealers.
- Have important and policy-relevant insights.
- Point to important changes in market functioning in response to regulation.

This work will be very useful for understanding the continued evolution of these markets.

- I look forward to seeing more!