Entry and Exit in Treasury Auctions

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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.

Motivation: How concerned should we be about the rise of customer participation in auctions?

Substantial increase in customer participation in Canadian (and likely U.S.) Treasury auctions.

- Simultaneous drop in primary dealer participation.

What effect does this have on prices in the auction?

Key idea: Competition vs. variance.

- Develop a detailed model of the Treasury auction process, with a focus on entry and exit.
- Features primary dealers (must bid at every auction) and customers (decide each auction).
- Non-trivial strategic interaction between dealers and customers.

Estimate this model on the Canadian Treasury auction data. Examine counterfactuals with:

- Additional dealers (designed to explain change in customer participation).
- Additional customers (illuminates competition/variance trade-off).
- Reshuffling of auction supply (how to improve prices *and* decrease variance).

Alternative motivation: Why do we need designated primary dealers?

Can think of a few plausible answers...

- (relationships) Know customers and *known by* customers in the secondary market.
- (inventories) Can hold newly issued Treasuries while they find buyers.
- (specialization) Font of information for central bank and customers.

But these are only tangentially related to primary dealers' responsibilities.

This paper:

- (participation requirement) Presence at every auction helps decrease price volatility.

What I'm going to do today:

- Bumble through the model.
- Discuss the role of the secondary market.
- Look at driver of customer demand.
- Discuss counterfactual debt management policy in historical context.

Intuition of the model

CAUTION: I am ***not*** an auction theorist.

Dealers and customers bid on Treasuries for which they have **private valuations.**

- Drawn from two separate IID distributions which vary over auctions.

Two key elements:

1. Dealers and customers both have fixed costs to participate in the auction.
   - Dealers pay up front for the full year, customers pay as they go.
   - Dealers are overrepresented in auctions with bad "fundamentals."
     - Dealer demand supports price because their fixed costs are sunk.
2. Within the auction, dealers have access to customer bids.
   - This leads to bid shading by the dealers, offering to increase their odds of winning.
   - Commensurate strategic response from customers.

Two effects:

- As customers enter the auction, dealers bid shading decreases, decreasing borrowing cost.
- But when customers pull back, prices fall non-linearally so expected cost of borrowing is higher.

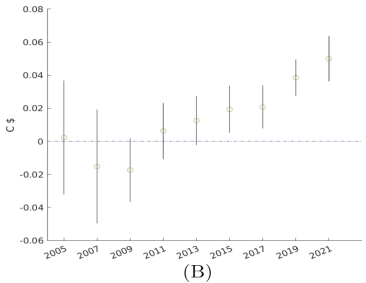
What about the secondary market?

CAUTION: I am ***not*** an auction theorist.

Tough for me to think about the primary market without the secondary market.

- Dealers are holding Treasuries to sell to customers later on.
- Customers valuation may also be disciplined (in part) by the secondary market.

One reason this might be hard: dealers' inference from customer bids.



Part way: What happens if dealers and customers have to draw from the same distributions?

- Would dealers be better off as customers?
  - Tradeoff between participation and shading?

The role of customer demand

Motivation begins with rise of HFs in Treasury markets.

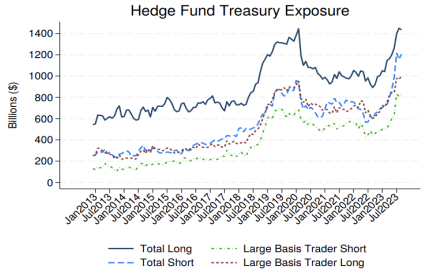
- In U.S. much of this rise is due to cash-futures basis trade (Barth and Kahn, 2021; Banegas et al., 2021).
- Much smaller but growing trade in Canada (Uthemann and Vala, 2024).

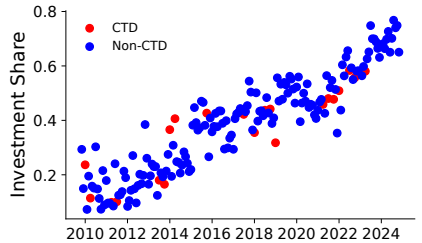
Is this also driving the increase in hedge fund participation in Treasury auctions?

- Basis trade volumes should be concentrated in one Treasury, the cheapest-to-deliver.
- Look at 2-year Treasuries that are the CTD at issuance.
  - No clear pattern.

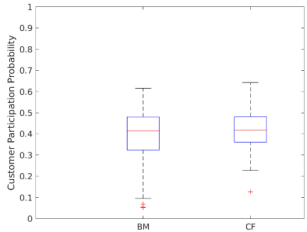
Expansion of investment fund participation similar across maturities in U.S.

- However, from 2010 to 2024, went from 18 PDs to 24.

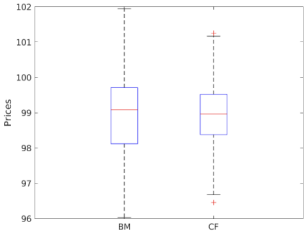




Counterfactual debt management policy: More issuance in auctions customers like *less.*



(A) Customer participation



(B) Expected price

Current policy on debt management: Regular and predictable (don't tailor to cutomer demand).

- Garbade (2007) covers how this emerged from uncertainty about future auction schedules.
  - Dealers could not get liquidity lined up in advance.

Previous strategy had been ***tactical***: offering securities that customers wanted.

- This sometimes led to sudden dry ups in demand (Garbade (2021), Kahn and Nguyen (2022)).
- Allocating to auctions where there is not customer demand tilts against these pressures.
  - However, still leaves the future auction schedule uncertain.

Conclusion

This is an exceptional paper with a lot going on.

- Fantastic data, interesting questions, important policy implications.
- Additional counterfactuals helpful to understand what's driving the results in a complex model.
  - However, I'm largely nitpicking around the edges here.
- Looking forward to seeing more of this project in the future!