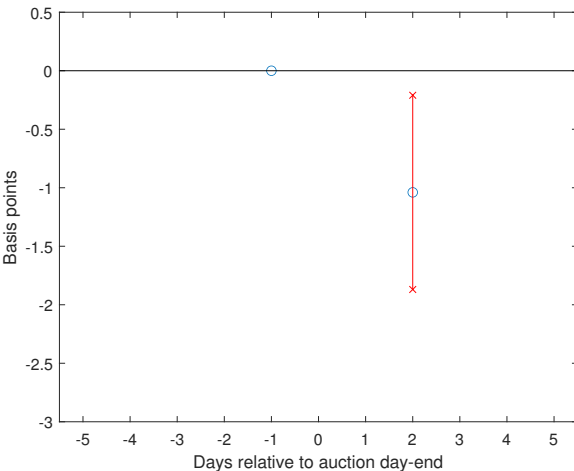# Treasury Auctions and Long-Term Bond Yields

Somogyi, Wallen, and Xu

Discussion by Greg Duffee, Johns Hopkins

Fixed Income Conference, FRB-SF/BofC/FRB-C, May 2025

The headline result

- Most auctions of US Treasury notes/bonds 5+ years maturity, 1994-2021
- Average change in 10-year US Treasury yield from end of day $t - 1$ to end of day $t + 2$
- Implied cumulative decline over sample of 5.4%
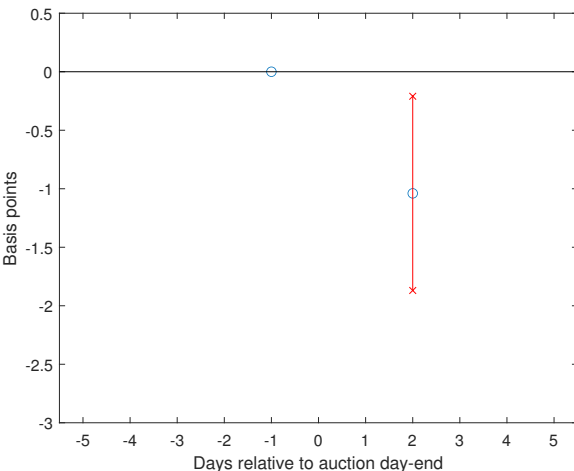- Big result: spills over to other G10 yields

Augmenting the headline with demand shocks

- Previous literature: innovations in bid-to-cover ratio (demand shocks) are negatively correlated with yields changes at auction

- Here: innovations are negatively correlated with G10 3-day yield changes at UST auctions

- Paper interpretation of two results: consistent positive innovations in global demand at US Treasury auctions drive down G10 yields

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- Paper interpretation of two results: consistent positive innovations in global demand at US Treasury auctions drive down G10 yields

- My interpretation: First result is a consequence of limited risk-bearing capacity of intermediaries (still very interesting), second is about mean-zero demand innovations

Returning to the headline result

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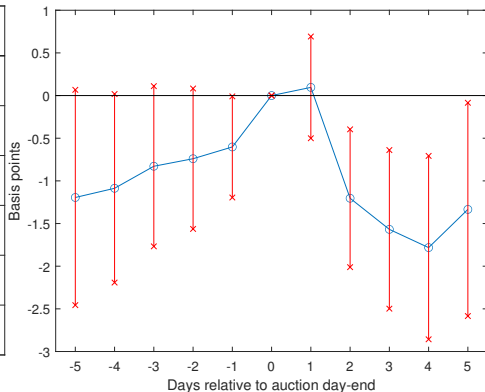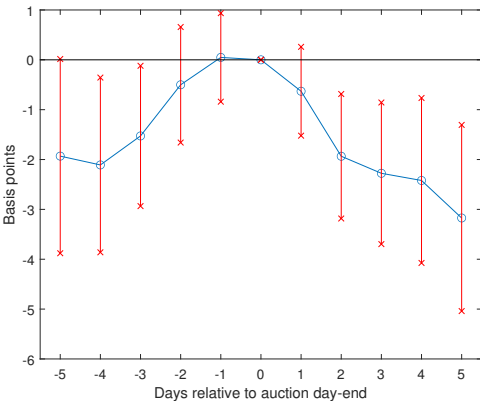
Filling in the figure
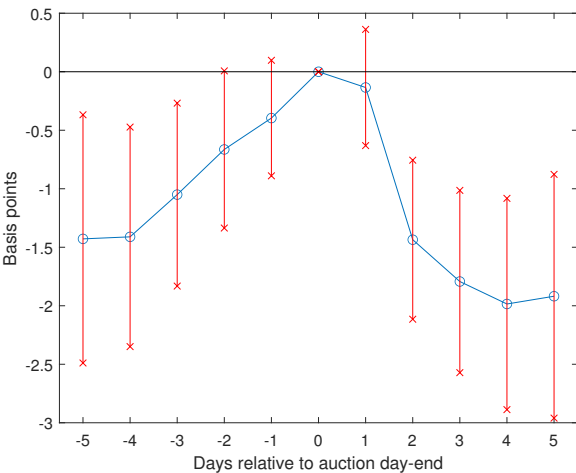
- Baseline now end-of-day on auction days

- Plus/minus 2 SE bounds relative to zero (the baseline)

The paper's result in the context of the full diagram
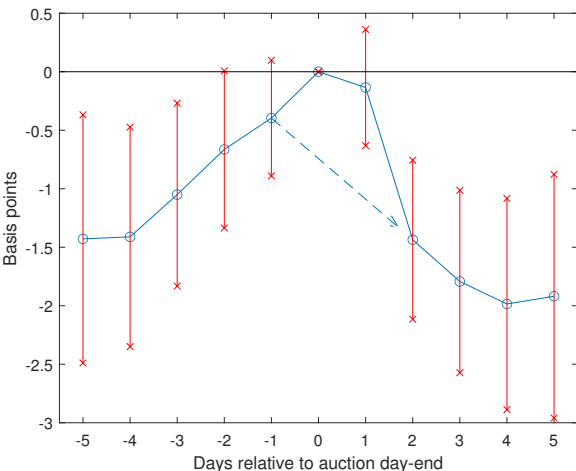
- Mean change of -1 b.p. from day $t-1$ to $t+2$

- Mean change of -0.5 b.p. from day $t-5$ to day $t+5$

  - In line with mean daily change of -0.06 b.p. from 1994 through 2021

Split sample figures: 1994–2007, 2008-2021
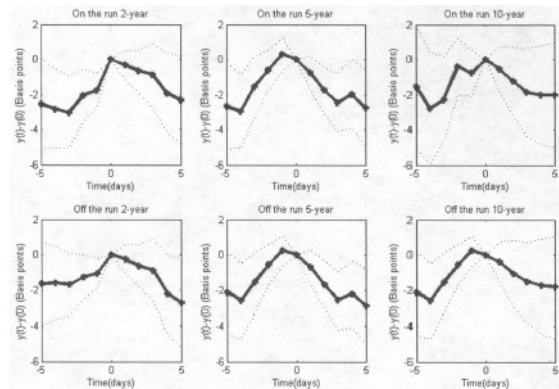
Limited risk-bearing capacity of intermediaries

Figure 1

Treasury yields around auctions

Solid lines correspond to the time series average of $Y(t) - Y(0)$, where $Y(t)$ is the yield of an n-year Treasury note ($n = 2, 5, 10$) on day t, with t ranging from -5 to 5 (including $t = 0$) and $t = 0$ being the day when an n-year note auction is conducted. We track the same note before and after auctions. For the three figures in the first row, the note is on-the-run before the auction and becomes off-the-run after the auction. For the three figures in the second row, the note is first off-the-run before the auction and becomes second off-the-run after the auction. The dotted lines are the 95% confidence interval. The sample period is from January 1980 to June 2008. All yields are expressed in basis points.

- Lou, Yan, Zhang *RFS* 2013
- Yield on *m*-maturity bond around auction of *m*-maturity bonds
- Spillovers: they also show that yield on 10-year bond varies similarly around auction of 5-year bond

Pursuing a risk-bearing interpretation

- Can measure intermediation-based price pressure with (say)

$$\frac{1}{2}\left[\left(Y(\text{auction} - 5 \text{ days}) - Y(\text{auction})\right) + \left(Y(\text{auction} + 5 \text{ days}) - Y(\text{auction})\right)\right]$$

- Can study measure using non-US Y's (average price pressure on non-US yields at US auctions)

- Project measure using non-US Y's on the US measure (covariance of non-US price pressure with US price pressure)

- Link variations in the measure with issuance at auction, types of investors

Demand shocks

- Relation between yields and bid-to-cover is probably not closely related to temporary price pressure associated with intermediaries

- Good question explored here – does surprisingly strong (or weak) demand for US auctions spill over to G10 yields?

- I recommend refining the empirical approach

Narrowing down the role of the bid-to-cover innovation

$$Y_{t+i}^{10yr} - Y_{t+i-1}^{10yr} = b_0 + b_1 \widetilde{B2C_t} + e_{t+i}$$

i (days)	-1	0	1	2	3
Coef	-1.82	-5.79^{***}	-0.38	-0.95	-1.60
	(1.13)	(1.27)	(1.22)	(1.27)	(1.47)

- In US data, the bid-to-cover innovation has explanatory power only for change from the close before the auction to the close on auction day
- Can implement for non-US data, adjusting for one day of non-synchronous trading

Wrapping up

- Spillover from US auctions to G10 bond yields (and not the reverse) is a significant result
- Questions that I think should be separated, for clarity
    1. How much temporary price pressure crosses into G10 bonds, and why?
    2. To what extent to demand shocks cross into G10 bonds, and why?