

Considerations for changing the issuance schedule for 2-, 3-, 5- and/or 7-year Treasuries

Treasury Borrowing Advisory Committee

May 2, 2023

TBAC Charge

At the February refunding, Treasury provided a summary of primary dealers' views on potential changes to the auctions schedule to reduce the number of CUSIPS for Treasury securities issued each year.

Please discuss the Committee's views on the potential benefits and risks of changing the monthly new issue schedule for the 2-, 3-, 5-, and/or 7-year nominal coupon benchmarks to one new issue and two benchmarks per quarter. Would these changes meaningfully improve Treasury market liquidity?

Agenda

- Executive Summary
- Issuance Calendar
- Impacts to Liquidity
- Conclusions

Executive Summary

Executive Summary

- Initial analysis indicates that changing the new issue schedule for 2-, 3-, 5- and 7- year notes could lead to a **marginal improvement in Treasury market liquidity**, notably in off-the-runs, and may have de minimis impacts to Treasury funding costs.
- This proposed change would **significantly reduce the number of CUSIPs** in the market, consolidating liquidity in fewer issues, and over the course of the quarter, **creating larger sizes of on-the-runs**.
 - This would support ample repo capacity, may **increase repo specialness** upon new issue, **reduce the likelihood of fails**, and possibly provide greater buyback flexibility.
 - Fewer issues would also allow for more **efficient settlement and balance sheet netting**, for both primary dealers and other market participants. Further, this may create easier implementation of any central clearing initiative.
 - One drawback is that meaningful market moves between new issue and reopenings could lead to reopenings at premiums or discounts which could negatively impact investor appetite at auction.
- Treasury futures will have fewer eligible CUSIPs for delivery, at larger sizes. This may reduce the size of the delivery baskets but could lead to **improved liquidity of both the futures contract and the underlying deliverables**, as futures-related trading activity will be in much larger cheapest-to-deliver (CTD) issues. The impact to delivery basket sizes may be most exaggerated in TU futures (2-year), with fewer eligible CUSIPs but all substantially larger in size. Given futures price off of the CTD, we expect a larger more liquid CTD would enhance futures pricing

Issuance Calendar

Current & Historical Issuance Calendars

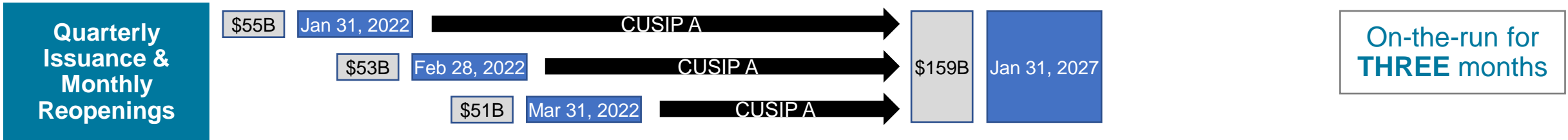
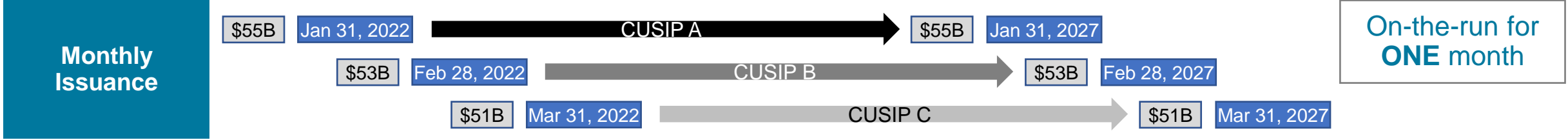
- While Treasury is a regular and predictable issuer, Treasury has changed issuance calendars for Treasury securities several times through history when issuance needs grow or shrink e.g., introducing new tenors, pausing issuance on tenors and changing the frequency of issues.
- With well-articulated advance notice and deliberate implementation, such changes generally have been well-received by the market.

	85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	2023 Q1 Issuance
2-year	Monthly	\$126bn
3-year	Quarterly → None (May-98) → Quarterly (May-03) → None (May-07) → Monthly (Nov-08)	\$120bn
5-year	Quarterly → Monthly (Jan-91) → Quarterly (Aug-98) → Monthly (Aug-03)	\$129bn
7-year	Quarterly → None (Apr-93) → Monthly (Feb-09)	\$105bn

Source: treasurydirect.gov

Hypothetical 5-Year Notes Case Study: Issue Size Grows & On-The-Run for Longer

- Under a new quarterly issuance cadence, there would be one new issue and two reopenings per quarter as opposed to three new issues per quarter under a monthly cadence.
- While transitioning from the second reopening to the next new issue, the size of on-the-runs would likely significantly reduce, by as much as ~70%. In order to manage volatility in issue sizes, Treasury could employ an issuance strategy of larger new issues followed by subsequent smaller reopenings.
- The new cadence if implemented for 2-, 3-, 5- and 7-year notes would likely introduce the single largest issues to the market (prior largest issue = \$117b¹).



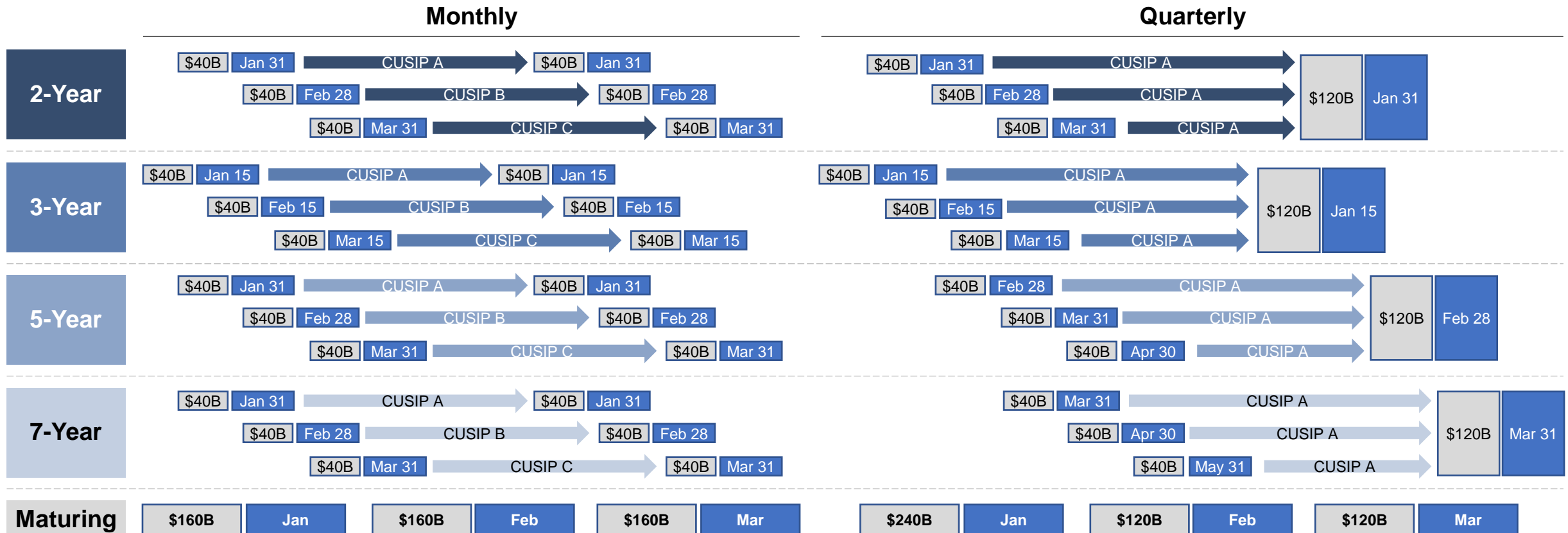
Issue / Reopen Size	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
	Issue	Reopen	Reopen	Issue	Reopen	Reopen	Issue	Reopen	Reopen	Issue	Reopen	Reopen
OTR Size	\$55b	\$53b	\$51b	\$49b	\$48b	\$47b	\$46b	\$45b	\$44b	\$43b	\$43b	\$43b
Maturity Date	Jan-27	Feb-27	Mar-27	Apr-27	May-27	Jun-27	Jul-27	Aug-27	Sep-27	Oct-27	Nov-27	Dec-27

Sources: Presenting Member analysis; treasurydirect.gov

¹ Previously largest issue CUSIPs: 91282CCS8, 91282CBL4, 91282CAV3, 91282CCB5

Hypothetical Monthly vs Quarterly Issuance Cadence Case Study

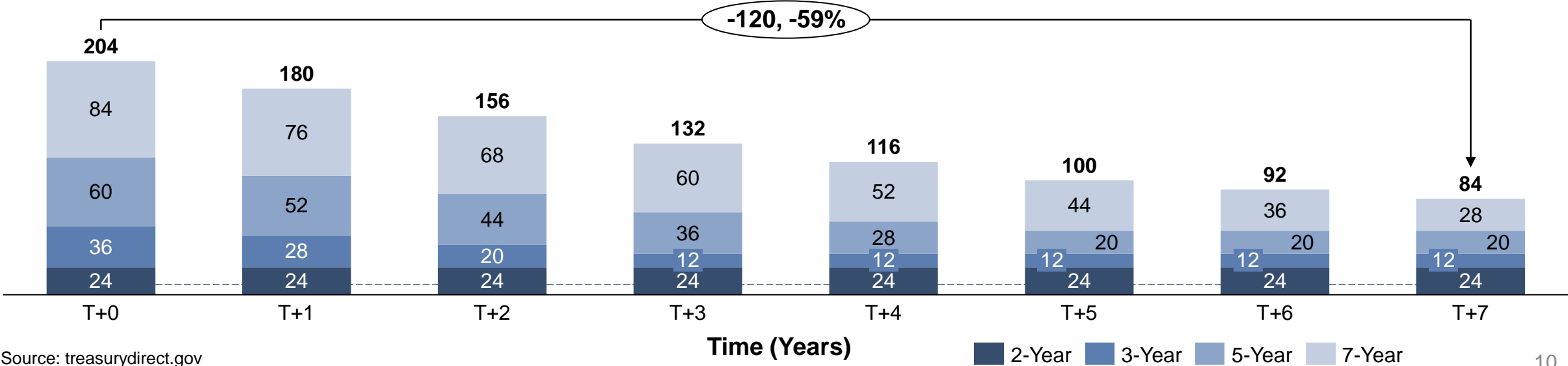
- If all four 2-, 3-, 5- and 7-year notes are migrated to a quarterly cadence, in order to maintain maturity points continuously along the curve, we would recommend staggering issues across the first, second and third months of each quarter.
- Aligning issuance cadences on quarterly cycles could introduce interdependencies, thus possibly reducing future flexibility should issuance needs meaningfully change e.g., growing or shrinking issuance needs.



Impact on the Amount of CUSIPs Outstanding for 2-, 3-, 5- and 7-Year Notes

- Moving issuance from monthly to quarterly for 2-, 3-, 5- and 7-year notes would result in eight reopenings, per year, per tenor. This would reduce the amount of CUSIPs outstanding by 136, or 67%, if fully implemented.
- Keeping one of these four issues on a monthly cadence allows for Treasury to maintain more flexibility in funding choices, this could be helpful if issuance needs change in the future. 2- and 3-year notes each have merits for remaining a monthly issue:
 - In short tenors, off-the-run securities would be subject to the most curve sensitivity and therefore maintaining presence at all points on the curve is valuable. To maintain the most liquid front part of the curve, we would propose that 2-year notes remain on the current monthly schedule – this would have the least impact on CUSIP reduction.
 - One item to note is that 3-year notes are currently issued on a mid-month schedule, whereas 2-, 5- and 7-year notes are on a month-end schedule. Full implementation of an issuance cycle change might require additional cash management as a result. Therefore, another possible choice would be to maintain 3-year notes on a monthly schedule and migrate 2-year notes to a quarterly schedule. However, this would result in a smaller CUSIP reduction of 112, or 55%.

CUSIP Reduction Due to Moving 3-, 5-, and 7-Year Notes From Monthly to Quarterly

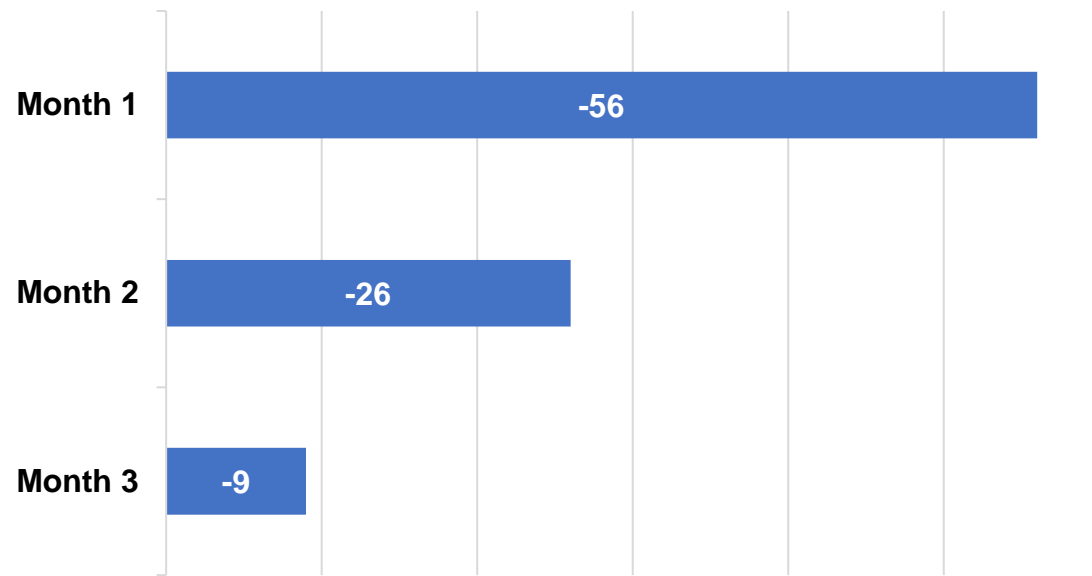


Impacts to Liquidity

Repo Market Dynamics

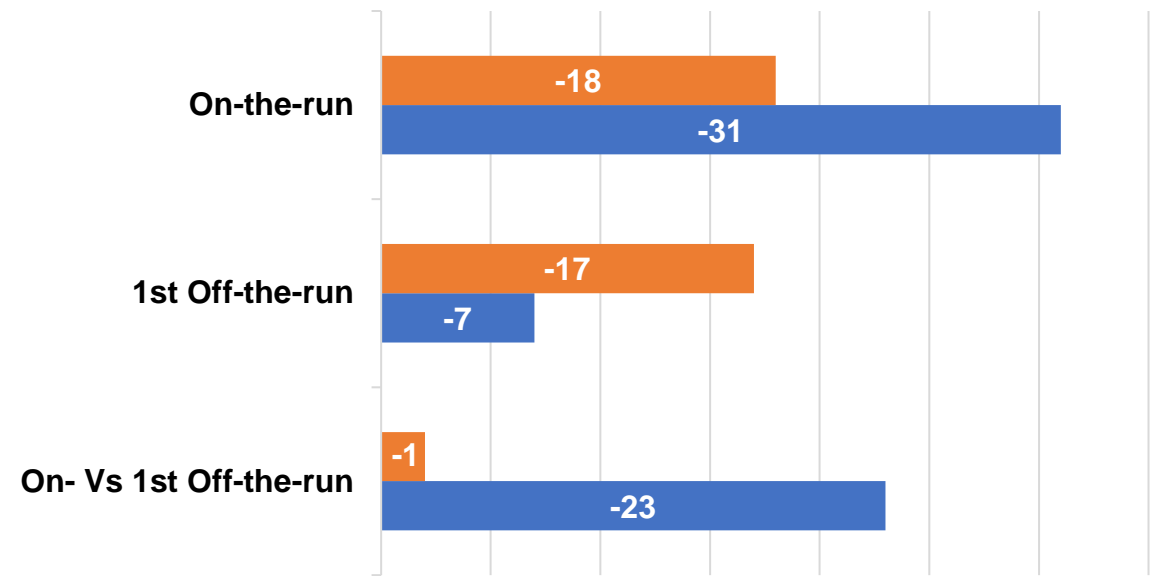
- Unsurprisingly, when analyzing 10-year notes (new issue followed by two reopenings), we find the repo specialness generally peaks in month one and moderates over subsequent months.
- If other issues are converted to this cadence, it is possible they would experience the same phenomenon.
- It is notable that repo specialness is greater for 10-year notes vs 5-year notes, and the repo spread between on-the-run and off-the-run 10-year notes is significantly greater than the repo spread between on-the-run and off-the-run 5-year notes.
- Therefore, rolling from a prior, large on-the-run issue to a new, smaller on-the-run issue could benefit Treasury issuing at tighter levels / lower yields.

On-The-Run 10-Year Note Average Repo Spread, 2010-2023



Repo Spread to General Collateral (bps)

5-Year vs 10-Year Note Repo Spreads, 2010-2023



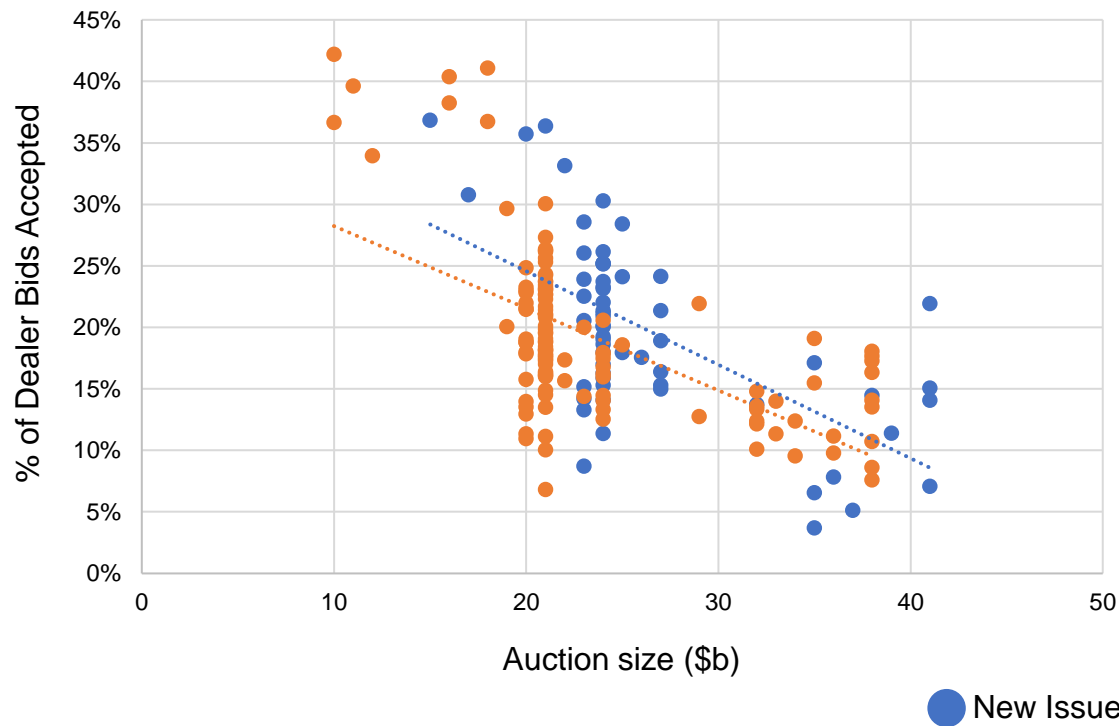
Repo Spread to General Collateral (bps)

5-Year 10-Year

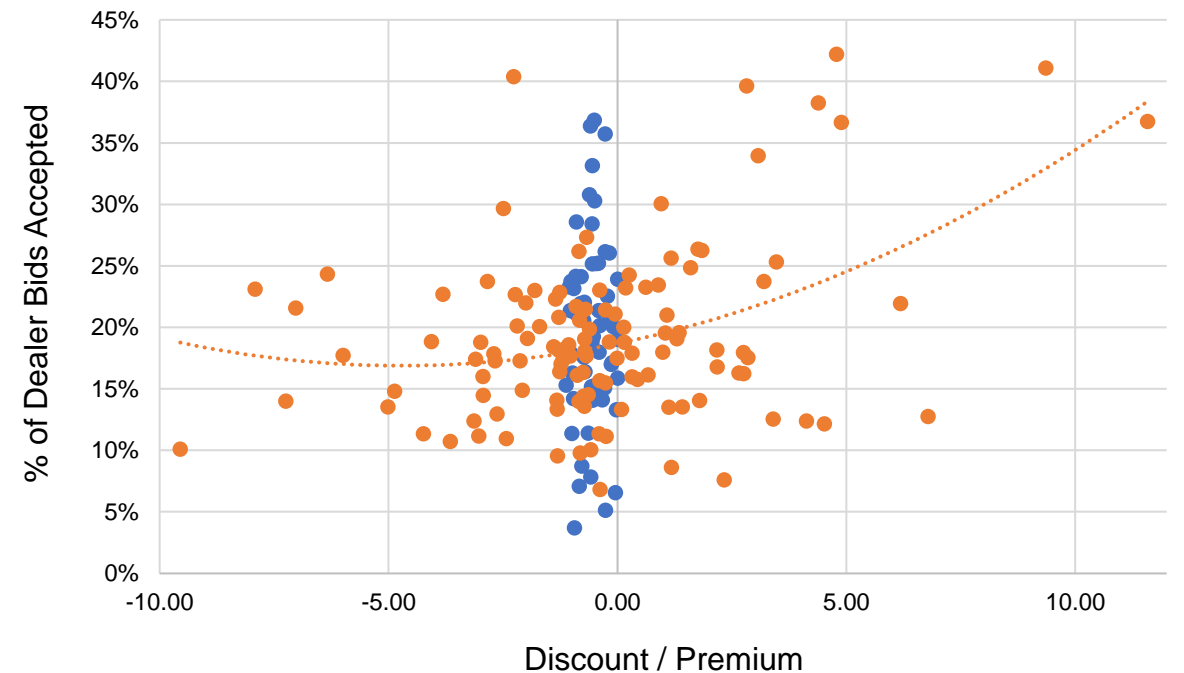
Auction Performance of Reopenings: Increased Balance Sheet Efficiency and Dealer Participation

- Historically, dealer participation and acceptance rates tend to decline as auction sizes grow.
- Reducing the number of outstanding CUSIPs should allow for increased balance sheet netting, as there will be greater concentration in fewer issues, possibly leading to greater balance sheet efficiency.
- A new issue followed by two reopenings is more likely to have auctions with prices further from par, which may lead to reduced investor appetite. However, greater balance sheet efficiency from fewer outstanding CUSIPs may allow for increased dealer participation.

% of Dealer Bids Accepted vs Auction Size (10-Year Note), 2008-2023



% of Dealer Bids Accepted vs Discount/Premium (10-Year Note), 2008-2023



Hypothetical Futures Eligibility: Possible Change in Delivery Baskets

- Treasury futures will have fewer eligible CUSIPs for delivery, at larger sizes, possibly leading to smaller delivery baskets. This may be most exaggerated in TU futures (2-year), which would likely experience the greatest delivery basket impacts. However, importantly the size of the cheapest-to-deliver (CTD) issue would be larger, reducing squeeze risk and enhancing liquidity for the contract and in turn, the CTD.
- For example, if the 5-year note is on a Jan/Apr/Jul/Oct schedule, there would be less deliverable supply than the Feb/May/Aug/Nov schedule. The specific quarterly schedule chosen for each Treasury security will have impacts on futures eligibility.
- Similar to futures, index constituents may be impacted as larger issues roll in and out of index buckets. This may lead to larger index rebalancing when these bigger issues flow through the index eligibility criteria. This could potentially increase investor appetite for seasoned issues and help support general market liquidity.

Futures Contract	Eligibility Criteria	Eligible Securities: Today	5-Year: Jan/Apr/Jul/Oct Schedule ¹	5-Year: Feb/May/Aug/Nov Schedule ²							
FVH3 Futures (UST 5-Year Mar23 Contract)	<ul style="list-style-type: none"> Treasury notes Original term to maturity: Not more than 5 years 3 months Remaining term to maturity: At least 4 year 2 months 	5-Year	3/31/2028	\$43bn							
		5-Year	2/29/2028	\$43bn							
		5-Year	1/31/2028	\$43bn	5-Year	1/31/2028	\$129bn				
		5-Year	12/31/2027	\$43bn							
		5-Year	11/30/2027	\$43bn							
		5-Year	10/31/2027	\$43bn	5-Year	10/31/2027	\$129bn		5-Year	11/30/2027	\$129bn
		5-Year	9/30/2027	\$44bn							
		5-Year	8/31/2027	\$45bn					5-Year	8/31/2027	\$132bn
		5-Year	7/31/2027	\$46bn	5-Year	7/31/2027	\$135bn				
		5-Year	6/30/2027	\$47bn							
		5-Year	5/31/2027	\$48bn				5-Year	5/31/2027	\$141bn	
		TOTAL		\$488bn	TOTAL		\$393bn	TOTAL		\$488bn	
TUH3 Futures (UST 2-Year Mar23 Contract)	<ul style="list-style-type: none"> Treasury notes Original term to maturity: Not more than 5 years 3 months Remaining term to maturity: At least 1 year 9 months and not more than 2 years 	2-Year	3/31/2025	\$42bn	2-Year	3/31/2025	\$42bn	2-Year	3/31/2025	\$42bn	
		5-Year	3/31/2025	\$41bn							
		3-Year	3/15/2025	\$48bn							
		2-Year	2/28/2025	\$42bn	2-Year	2/28/2025	\$42bn		2-Year	2/28/2025	\$42bn
		5-Year	2/28/2025	\$41bn					5-Year	2/28/2025	\$83bn
		3-Year	2/15/2025	\$50bn	3-Year	2/15/2025	\$98bn				
		2-Year	1/31/2025	\$42bn	2-Year	1/31/2025	\$42bn		2-Year	1/31/2025	\$42bn
		5-Year	1/31/2025	\$41bn	5-Year	1/31/2025	\$41bn				
		3-Year	1/15/2025	\$52bn					3-Year	1/15/2025	\$150bn
		2-Year	12/31/2024	\$42bn	2-Year	12/31/2024	\$42bn		2-Year	12/31/2024	\$42bn
5-Year	12/31/2024	\$41bn									
3-Year	12/15/2024	\$54bn									
		TOTAL		\$536bn	TOTAL		\$307bn	TOTAL		\$401bn	

Source: Presenting Member analysis; CME; Bloomberg

¹ Assumptions include 2-Year on a monthly schedule, 3-Year on Feb/May/Aug/Nov schedule

² Assumptions include 2-Year on a monthly schedule, 3-Year on Jan/Apr/Jul/Oct schedule

Conclusions

Conclusions

- Fewer and larger CUSIPs could potentially lead to **greater liquidity throughout the life of an issue, concentrating trading volumes and increasing off-the-run liquidity**.
 - This may increase repo specialness upon new issue, reduce the likelihood of fails, and support smoother market functioning.
 - Reduced CUSIPs could further result in a more efficient settlement process and potential balance sheet netting, for both primary dealers and other market participants.
 - However, meaningful market moves between a new issue and reopenings could lead to larger premiums/discounts, thus impacting investor appetite.
- Similar to futures, index constituents may be impacted as larger issues roll in and out of index buckets. This may result in larger index rebalancing when these bigger issues flow through the index eligibility criteria. This could potentially **increase investor appetite for seasoned issues and help support general market liquidity**.
- We expect market impacts could be more meaningful for the shorter end of the curve, as larger gaps between issues may be subject to greater volatility surrounding market events e.g., data, policy etc. and **market participants might prefer the granularity of having each point on the curve available**. As such, there may be more value maintaining the issuance schedule for 2-year notes as monthly.
- The process to migrate would involve a lengthy transition period during which there is risk of potentially introducing different liquidity, and risk profiles, of issues. Further analysis of the transition period would be required as the market's functioning during the transition is likely to be distinct from when fully phased in.

Appendix

Current & Historical Issuance Calendars

	85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	2023 Q1 Issuance
2-year	Monthly	\$126b
3-year	Quarterly (May-98) → None (May-03) → Quarterly (May-07) → Monthly (Nov-08)	\$120b
4-year	Quarterly → None (Dec-90)	n/a
5-year	Quarterly → Monthly (Jan-91) → Quarterly (Aug-98) → Monthly (Aug-03)	\$129b
7-year	Quarterly → None (Apr-93) → Monthly (Feb-09)	\$105b
10-year	Quarterly → 6x/yr (Jul-96) → Quarterly (Aug-97)	\$99b
20-year	Quarterly → None (Jan-86) → Quarterly (May-20)	\$39b
30-year	Quarterly → 2x/yr (Aug-93) → 3x/yr (Aug-96) → 2x/yr (Feb-99) → None (Aug-01) → Annually (Feb-06) → Quarterly (Feb-09)	\$57b

Source: treasurydirect.gov