Developments Affecting Future Changes in Treasury Auction Sizes

Treasury Borrowing Advisory Committee

February 1, 2022

In November 2021, based on projected borrowing needs and consistent with the TBAC's recommendations, Treasury began reducing auction sizes across all nominal coupon securities. How has the market responded to these auction size changes? Looking ahead, what new developments or additional factors should Treasury consider as it evaluates to what extent auction sizes should be further changed?

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Executive Summary

- In response to declining fiscal requirements, Treasury reduced auction sizes across maturities last quarter, with larger cuts in the 7y and 20y. TBAC's guidance at the time was that cuts to these issue sizes would be required for a few quarters to adjust to the expected lower future financing needs.
- The cuts were broadly anticipated by the market. Despite the larger cuts in the 7y and 20y, these maturities still cheapened, suffering from relatively worse liquidity due to ongoing issuance in excess of real money demand in the market.
- Ongoing fiscal uncertainty creates a broad range of potential financing outcomes that Treasury must remain poised to address. When considering future changes to auction sizes, Treasury should take into account recent changes in expected fiscal requirements, and notably, an increased likelihood that the Fed will initiate runoff of its SOMA portfolio later this year.
- Our expectation is that the SOMA portfolio runoff will have a significant impact on Treasury's financing outlook, creating ~$1.6T in new financing needs over the next 3 years, which raises the question of whether the prior TBAC guidance to keep reducing issue sizes is still appropriate, or whether that guidance should be updated.
- We consider multiple scenarios for how Treasury could move forward with future changes in auction sizes. The scenarios that seem most appealing continue with the pace of cuts in the current quarter only but then either slow or stop the cuts thereafter. The scenario that extends cuts past the May refunding are intended to allow Treasury to reduce the longer end, and particularly 7s and 20s, by more than otherwise.

Market Response to Reduction in Treasury Auction Sizes

Market Response to Reduction in Treasury Auction Sizes

- In its Nov-21 letter to Treasury, TBAC said "It was expected that, based on current fiscal and economic projections, cuts to these issues need to continue for a few quarters in order to maintain T-bill sizes in the recommended range of 15 to 20% of total debt outstanding over time."
- Consistent with that guidance, in the Nov-21 Quarterly Refunding Statement, Treasury announced auction size reductions across all nominal coupons, including the 2y, 3y, and 5y by $2B per month and the 7y by $3B per month. Treasury also announced decreases of $2B to both the new and reopened 10y and 30y, and decreases of $4B to both the new and reopened 20y.
- These reductions were broadly in line with primary dealer and market expectations. To the right is a table summarizing expectations from 23 primary dealers. For 7y and shorter maturities, the dealer consensus was in line with the actual Treasury decision. For 10y and longer maturities, there was more divergence of opinion, but forecasts were still very much aligned with the direction and size of Treasury's actual decision.

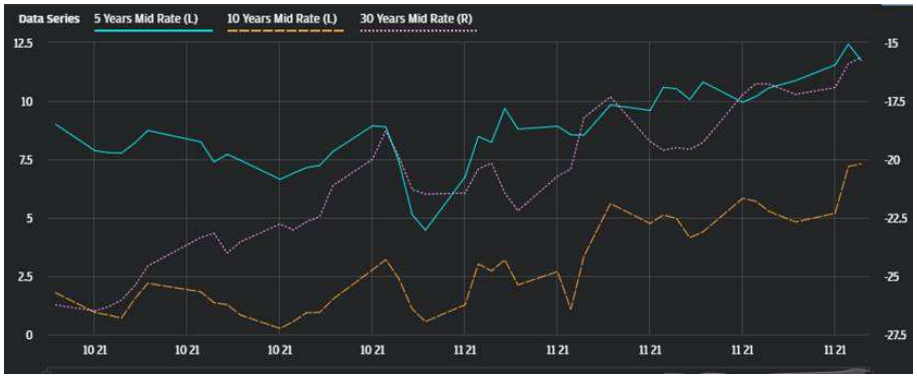
Primary dealer expectations prior to Nov Treasury Refunding announcement

Issue	Primary dealer consensus	% voting with consensus	Actual Nov cut size
2Y	-2	91%	-2
3Y	-2	91%	-2
5Y	-2	91%	-2
7Y	-3	91%	-3
10Y	-3	62%	-2
20Y	-3	43% (T)	-4
20Y	-4	43% (T)	-4
30Y	-2	70%	-2

Source: Bloomberg article 11/2/2021, "Wall Street Calls Diverge on Cuts for 10- to 30-Year Treasuries," by Elizabeth Stanton

Market Response to Reduction in Treasury Auction Sizes

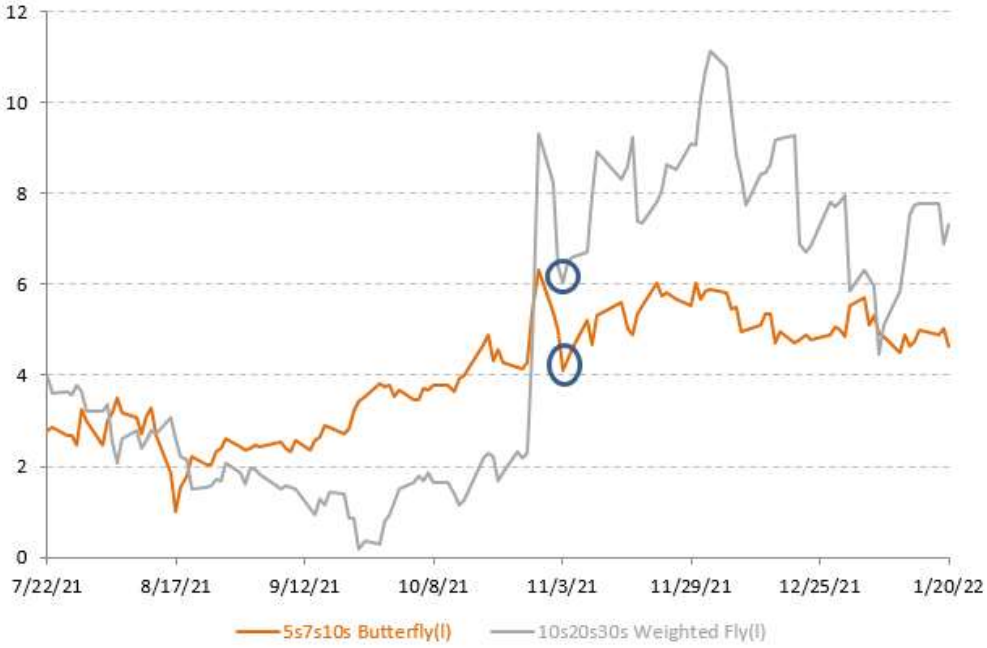
- The weeks leading up to and following the Nov 3rd refunding announcement were marked by greater than normal volatility in US and other DM rates markets, particularly volatility of relative value relationships.
  - A combination of both US and international macro and policy factors were the likely catalysts, with de-risking having the biggest impact on trades with more crowded positioning.
  - Anticipation of Treasury's issuance cuts should have caused the 7y and 20y maturities to outperform, but despite that, volatility remained high and these issues ultimately cheapened further.
- *Ceteris paribus*, a reduction in aggregate Treasury supply should lead to a widening of swap spreads, as Treasury collateral becomes relatively scarcer causing Treasury securities to outperform versus swaps; but investors needed to weigh the relative impact of falling supply versus the Fed's announcement later that same day that it would begin tapering its asset purchases.
- Swap spreads did widen across the curve, both in the month leading up to the Treasury announcement, as well as in the month following. While there are many factors that can impact swap spreads (see Feb-21 TBAC charge), the move wider is consistent with expectations for the market reaction to reduced issuance.



Source: JP Morgan DataQuery

7y and 20y maturities cheapen despite supply reductions

- Relative value Treasury investors were understood to hold substantial long positions in both the 7y and 20y, perhaps in anticipation of the announcement from Treasury that these issue sizes would be cut more than other maturities in the Nov-21 refunding announcement.
- As evidenced in the weighted* FF-OIS ASW butterfly chart to the right, both the 7y and 20y came under sharp pressure just prior to the refunding announcement, snapped back immediately following the announcement, and then cheapened further, particularly in the case of the 20y.
- We emphasize that this cheapening occurred despite the as-expected issue size cuts by Treasury. It's likely that performance would have been significantly worse absent those cuts.



Source: Barclays, and Presenter Calculations

*Butterfly weightings: 5s7s10s 0.5: 1.0: 0.5; 10s20s30s 0.25: 1.0: 0.75

7y and 20y maturities cheapen despite supply reductions

- Simple comparisons are illustrative:

1/26/22	5y	7y	10y	20y	30y
ASW spread	7	2	6	-20	-18

- The 7y ASW spread is 4bps lower than both the 5y and 10y, while the 20y is 8bps lower than the arithmetic average of the 10y and 30y, and is 2bps lower than 30y.
- While the 20y has a higher yield than the 30y, this doesn't prove that the 20y is cheap. For convexity and other reasons, the 20y point trades at a higher absolute yield across the US, GBP, and EUR swaps curves.

Swap Curve 1/26/2022	20y	30y
USD	2.04	1.99
EUR	0.64	0.50
GBP	1.06	0.98

- In the wake of the November refunding announcement, the 7y and even more so the 20y underperformed, trading at the cheapest levels of the past 2 years (see FF-OIS ASW below).
- This is indicative of over-supply of these maturities, which in turn can lead to crowded positioning and further market dislocation.

Source: Barclays, Bloomberg, and Presenter Calculations

7y and 20y maturities cheapen despite supply reductions

- The 7y saw a significant increase in issuance over the past year, $841B in total supply from Jan-21 to Jan-22. SOMA purchases absorbed only 16% of that supply.
- The 20y part of the curve has relied heavily on Fed support, both through purchases of recently issued 20y coupons, and because the Fed's purchases in the 22.5y-30y bucket have been concentrated in shorter maturities, also supporting the 20y part of the curve. In the 18y-25y bucket, there was $330B in new issuance over the past year, and $171B of Fed purchases, effectively absorbing 52% of that issuance.
- **Both 7y and 20y issue sizes should be reduced further relative to other nominal coupons, to better balance supply with end-investor demand and to facilitate better liquidity and more orderly markets.**

Treasury issuance and SOMA purchases, trailing 12m

Bucket	Total Out-standing	SOMA Holdings	SOMA %	Issuance (T12m)	SOMA Purchases	SOMA %
8y-10y	1,074B	267B	24.9%	575B	153B	26.6%
10y-18y	263B	184B	70.0%	0B	0B	n/a
18y-25y	1,746B	785B	45.0%	330B	171B	51.8%
25y-30y	1,282B	280B	21.8%	367B	100B	27.2%

Source: Refinitiv, Presenter Calculations

Factors to Consider for Future Auction Size Changes:
Fiscal Outcomes and SOMA Path

Factors to consider for future auction sizes

- Treasury aims to fund the government at the lowest cost to tax payers overtime.
  - To do so, Treasury seeks to be a regular and predictable issuer, while maintaining flexibility to meet changing fiscal requirements and investor demand dynamics.
  - Bills as a percentage of marketable debt outstanding should remain in the 15%-20% range, consistent with previous TBAC guidance.
  - Treasury should take into consideration the effects of its issuance on weighted average maturity (WAM), weighted average duration (WAD), and other metrics of its outstanding debt. WAD can be measured in two ways:
    1. All Treasury debt is treated the same, regardless of whether it held by the public or by SOMA. By this measure, the WAD as of 12/31/2021 is 5.0.
    2. Treasuries held by the Fed are calculated as having the duration of daily-reset FRNs, regardless of their contractual maturity. This is consistent with the idea that the Treasury and the Fed should be thought of as a consolidated balance sheet. By this measure the WAD as 12/31/2021 is 3.8.
  - Treasury should continue to monitor the Treasury debt market and take actions if needed to support liquid and well-functioning markets.

Factors to consider for future auction sizes: Fiscal

- As always, Treasury's borrowing needs will be strongly influenced by future fiscal deficits.
- To calculate, we take into account three inputs:
  1. CBO baseline budget projections, last updated July-2021, for the period 2022 through 2031.
  2. CBO net changes to deficit estimates due to the Infrastructure Investment and Jobs Act, published Aug. 9, 2021.
  3. Assumption of no net funding needs from BBB:
     - As negotiations continue, there is uncertainty about the size of both gross and net spending that would result from passage. Public statements in recent months suggest that a successful bill would likely be approximately deficit neutral.
- While relying on the CBO baseline projections is helpful for a point-in-time modeling exercise, it should be emphasized that there is considerable uncertainty about the future size of financing needs.
  - In the Aug-2021 presentation, TBAC anticipated $1.5T of additional fiscal financing needs in excess of CBO baseline, 6 months later we estimate only $347B.
- Treasury needs to account for financing future growth of the Treasury General Account (TGA).
  - We assume $650B will be the balance as of YE-2022 as well.
  - We assume that TGA will grow at the same rate as nominal GDP in future years.
- Data table with actual projections for each year from 2022-2031 is in the appendix.

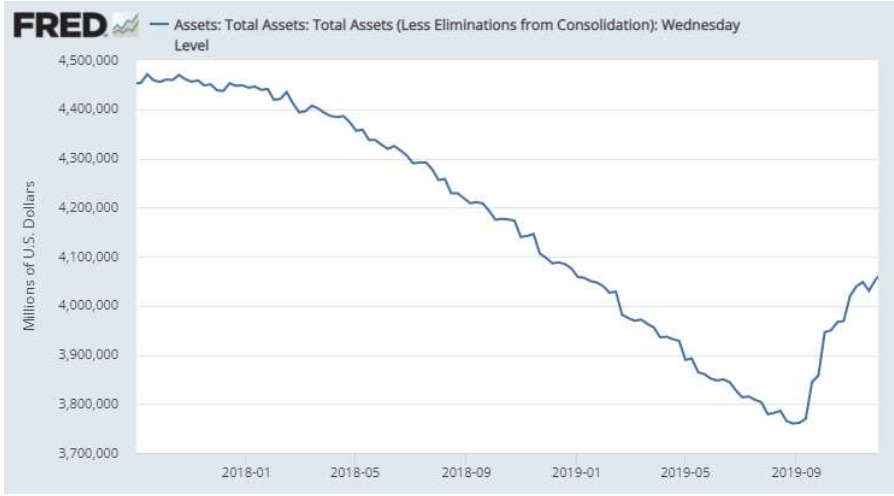
Factors to consider for future auction sizes: SOMA

- Brief review of the SOMA (System Open Market Account) portfolio, referencing the Feb-2020 TBAC charge entitled “Implications of the SOMA Portfolio for Treasury Debt Management.”
  - SOMA is the portfolio of assets held by the Federal Reserve System obtained through open market operations.
  - The Treasury and the Federal Reserve are independent entities operating with different mandates. However, decisions that the Fed makes about the SOMA portfolio could affect the Treasury’s fiscal outcomes and its debt management decisions.
  - A portion of SOMA holdings (that held against currency liabilities) can be thought of as translating Treasury debt into debt financed at a 0% interest cost to the Treasury.
  - Most of the remaining SOMA holdings can be thought of as translating Treasury debt into floating rate notes (FRNs) that are tied to the overnight interest rates set by the Fed, most importantly the interest rate paid on reserves, or the IOER rate.

SOMA: Balance sheet runoff is likely to begin in 2022

- The SOMA portfolio has been a sizable buyer of Treasuries and MBS since the March-2020 liquidity crisis, initially to prevent market dysfunction and subsequently at a monthly rate of $80B Treasuries and $40B MBS to support the economy.
- SOMA currently reinvests all maturing Treasury securities by placing bids at Treasury auctions equal in par amount to the value of holdings maturing on the issue date of the securities being auctioned, allocated proportionately across those securities by announced offering amount.
- In November, the Fed started to reduce the size of its purchases and in December the Fed announced that it would cease new purchases in March, 2022.
- It is now the consensus view among both market and FOMC participants that at some point following the Fed's first rate hike, the Fed will initiate balance sheet runoff.
  - "*Almost all participants agreed that it would likely be appropriate to initiate balance sheet runoff at some point after the first increase in the target range for the federal funds rate*." FOMC minutes, Dec 14-15, 2021 meeting.
  - "*The Committee expects that reducing the size of the Federal Reserve's balance sheet will commence after the process of increasing the target range for the federal funds rate has begun*." Principles for Reducing the Size of the Federal Reserve's Balance Sheet
- Market pricing implies that it is likely the Fed will hike rates in March, meeting the condition to consider initiating balance sheet runoff.
  - "*At some point perhaps later this year we will start to allow the balance sheet to run off, and that's just the road to normalizing policy.*" Chair Powell, Senate confirmation hearings, Jan 11, 2022.
  - "*I think certainly by summer, we can start shrinking the balance sheet*." – FRB Governor Christopher Waller, Bloomberg TV interview, Jan 14, 2022

SOMA: 2017-2019 experience



- In Sep-2017, the Fed announced that it would begin normalization of its balance sheet in Oct-2017, by not reinvesting up to a cap of $6B UST and $4B MBS per month.
- Consistent with the June-2017 addendum to the committee's policy normalization principles and plans, the Fed incremented up those caps by $6B and $4B respectively until reaching steady-state caps of $30B UST and $20B MBS. Maturing or paid-down securities in excess of the caps were reinvested into UST or MBS respectively.
- There was uncertainty about the optimal long term size of the Fed's balance sheet. To reduce the risk of overshooting, the Fed announced in March-2019 that starting in May-2019, it would reduce the cap for UST from $30B to $15B, while maintaining the cap for MBS at $20B.
- In July-2019, the FOMC announced that MBS principal paydowns up to $20B per month would be reinvested into UST, with any excess above that invested into MBS. It also announced that there would be no further net reduction of the aggregate holdings in the SOMA portfolio, two months ahead of schedule.
- The size of the Fed's balance sheet troughed at $3.8T, 18% of GDP in Sep-2019 when dysfunction in the money markets occurred. It became clear that this was too low a level for the "ample reserves" system, and the Fed immediately took action to increase the size of its balance sheet by about 10% over ensuing months.

SOMA: Key Decisions that Will Affect Treasury's Borrowing Needs

SOMA Questions for Treasury to consider

- There is significant uncertainty about the exact parameters the Fed will choose when it initiates balance sheet runoff this time around.
- Our goal is to make the best inferences possible based on Fed statements and commentary to construct the most likely scenarios that Treasury should consider.
- We think the most important aspects for Treasury to focus on will be the size of caps placed on monthly runoff and how long runoff will continue before the Fed determines that normalization of the sizing of its balance sheet is complete.
- We briefly address how the Fed might choose to runoff its bill and MBS portfolios. These are relatively less important from Treasury's perspective, but could still have non-negligible impact on Treasury issuance needs.
- When will balance sheet runoff begin?
  - We assume runoff begins in July-2022. The exact timing is not that critical from Treasury's perspective.
- Will there be a phase-in period to gradually increase runoff and if so, how long will the phase-in last and at what intervals will runoff be adjusted?
  - *"Many participants judged that the appropriate pace of balance sheet runoff would likely be faster than it was during the previous normalization episode."* – Dec-2021 FOMC minutes.
  - We assume there will be a phase-in period, but that it will only be 6 months, not 12 months like in 2017.
  - We assume that the caps will increment higher in even intervals each month until reaching the maximum cap level in the 6th month.
  - The exact details of the phase-in period are not that critical from Treasury's perspective.

SOMA Questions for Treasury to consider: Caps

- Assuming there are runoff caps, what size will those caps be?
  - "*Many participants also judged that monthly caps on the runoff of securities could help ensure that the pace of runoff would be measured and predictable, particularly given the shorter weighted average maturity of the Federal Reserve's Treasury security holdings*." –Dec-2021 Fed minutes.
  - *"…the balance sheet is bigger so the runoff can be faster."* – Chair Powell, Senate confirmation hearings 1/11/22
  - There is uncertainty about what the final size of the caps will be. We evaluate the following three scenarios:
    - Lower bound: $30B UST / $20B MBS – Equal to the caps set in 2017, this is likely too low since the Fed says runoff should proceed at a faster pace this time.
    - Central case: $60B UST / $30B MBS
      - Faster pace than 2017, but significantly slower than the $80B/$40B pace at which the Fed added securities during 2020 and 2021.
      - The 2:1 ratio of UST to MBS better reflects the current ratio of the Fed's portfolio of UST (ex-bills): MBS, which is ~2.1:1. In 2017 the ratio was ~1.4:1, consistent with the 1.5:1 ratio the Fed chose then.
    - Upper bound: No caps – This is the upper bound that the Fed could possibly achieve and also seems unlikely. We demonstrate the impact for Treasury to consider and compare to our central case.

SOMA Questions for Treasury to consider: Caps, central case

- Our central case for runoff caps is that the Fed chooses $60B UST/$30B MBS.
  - The Fed wants to move faster than in 2017, suggesting caps above $30B UST/$20B MBS.
  - The Fed is unlikely to have runoff be as fast as purchases, i.e. $80B UST/$40B MBS or greater is too fast.
  - That leaves a landing zone of $30B for MBS.
  - As mentioned previously, the proportional ratio of UST : MBS is now 2:1, implying a $60B UST cap.
  - A Jan 21 Bloomberg story shared estimates from 6 primary dealers:

Dealer	Start Date	Initial UST Cap	Initial MBS Cap	Peak UST Cap	Peak MBS Cap
BoA	July	$20B	$15B	$60B	$40B
Barclays	July	$10B	$5B	$45B	$30B
CS	July	$20B	$10B	$60B	$30B
DB	August	$20B	$15B	$60B	$45B
MS	August	$25B	$15B	$50B	$30B
TD	September	$10B	$5B	$60B	$30B

Source: Bloomberg News, 1/21/2022, Bond Dealers Are Mapping Out How Fed Will Shrink Balance Sheet, by Elizabeth Stanton

SOMA Questions for Treasury to consider: "Normal"

- The ultimate goal of reducing the Fed's balance sheet is "normalization." Under the ample reserves system, what is a "Normal" level of the Fed's balance sheet, which will correspond to the desired "ample" reserves level?
- The Feb-2017 TBAC charge asked the same question. What is normal?
- 2019 showed that 18% of GDP is too low a level for the Fed's balance sheet relative to GDP; today's level of 37% of GDP is clearly too high.
- We estimate a wide range for normal, 20%-25% of GDP. Given that it will take at least 2-3 years for the Fed's balance sheet to near this range, we don't think it is important for Treasury to try to formulate a more precise view than this.
- Once normalization is complete, the Fed will soon thereafter need to start growing SOMA again, in order to maintain a proportionately appropriate sized balance sheet as nominal GDP grows. In addition, it is likely that the Fed will reinvest MBS principal paydowns into Treasuries, leading to additional SOMA demand.
- Different market conditions could result in different answers for what's normal. For example, it's likely that demand for currency would fall in a higher interest rate environment, which in turn would reduce the size of assets the Fed needs to hold against its currency liability.
- Under the assumptions we have described, the Fed will achieve normalization on the date listed in the left table. Total runoff by the year is shown in the right table.

Cap Structure	UST cap	MBS cap	Normalization Date
Central Case	$60B	$30B	Oct-2024
Lower Bound	$30B	$20B	Sep-2025
Upper Bound	No cap	No cap	Apr-2024

Source: Presenter calculations

Runoff totals by calendar year, Central Case (excludes $326B bills)

	2022	2023	2024	Total
UST	203B	627B	490B	1.32T
MBS	117B	322B	235B	0.67T
Total	320B	949B	725B	1.99T

SOMA Questions for Treasury to consider: Bills & MBS

- It's likely the Fed will runoff its $326B portfolio of bills. There are two options:
    1. Include the bills under the cap for nominal coupon runoff.
    2. Allow bills to runoff separately, with or without separate caps on bill runoff.
    - For simplicity, we assume that the Fed runs bills off separately, rather than including them in the overall nominal coupon cap.
    - Regardless of the Fed's choice, Treasury should offset by issuing additional bills to the public. This is a straightforward way for Treasury to offset SOMA's bill redemptions and there is ample liquidity available in the system to absorb additional bills.
- Whether or not the Fed reinvests MBS principal paydowns in excess of the MBS cap back into MBS or into UST is not that consequential for Treasury.
    - *"Consistent with the previous normalization principles, some participants expressed a preference for the Federal Reserve's asset holdings to consist primarily of Treasury securities in the longer run. To achieve such a composition, some participants favored reinvesting principal from agency MBS into Treasury securities relatively soon or letting agency MBS run off the balance sheet faster than Treasury securities."* – Dec-2021 FOMC minutes
    - We assume that when the Fed ultimately stops running off the SOMA portfolio, it will reinvest MBS paydowns into UST, to move in the direction of holding only UST in the long term.

Total MBS principal paydown reinvestment expected in excess of the MBS cap.

Year	$20B Cap	$30B Cap
2022	124B	90B
2023	100B	6B
2024	62B	0
2025	29B	0
2026	5B	0
Total	320B	96B

2022 is higher due to assumption that caps phase in.

Source: JP Morgan research

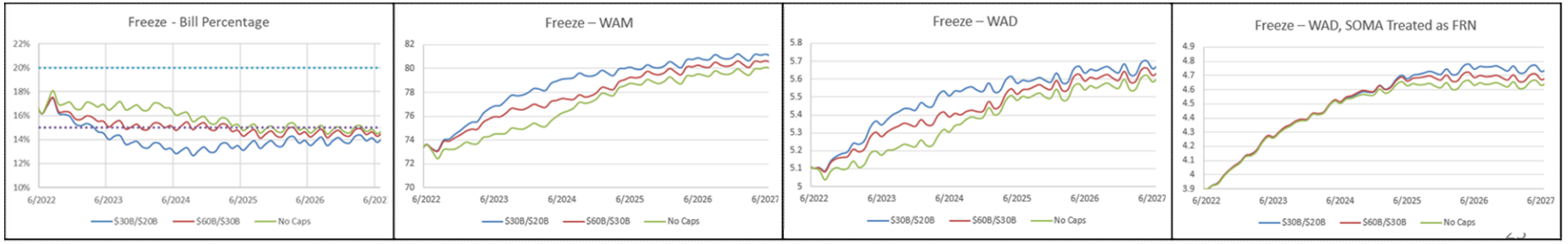
Simulations of Future Treasury Auction Size Changes

Simulations of future Treasury auction size changes

- We incorporate the previously mentioned assumptions for the fiscal requirements, TGA, and the expected runoff of the SOMA portfolio.
- All simulations/scenarios make the following additional common assumptions:
  - CBO fiscal, IIJA, and BBB fiscal deficit assumptions, and TGA assumptions.
  - SOMA assumptions:
    - Balance sheet runoff begins July-2022, is phased in over a 6 month window, and stops when SOMA is equal to 23% of nominal GDP.
    - The Fed resumes purchases one year after stopping runoff, maintaining SOMA at a constant percentage of nominal GDP thereafter.
    - MBS principal paydowns above the cap are reinvested into MBS until the Fed stops runoff, and thereafter are reinvested into UST.
    - Bills are run off separately from nominal coupons and are replaced by issuing additional bills to the public.
  - For each scenario, we evaluate 3 sets of runoff caps:
    - Lower bound: $30B UST / $20B MBS
    - Central case: $60B UST / $30B MBS
    - Upper bound: no caps

Scenario 1: Freeze auction sizes, except for decreases in 7y/20y

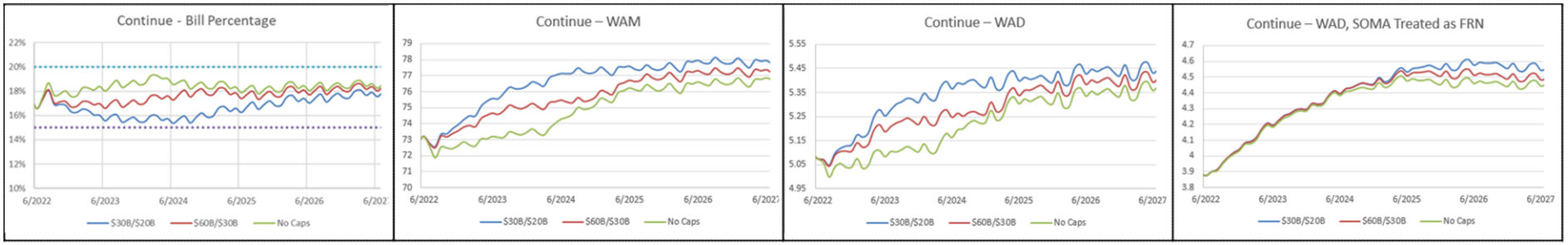
- Plan: Freeze auction sizes at current levels, except for $3B monthly reduction in 7y and $4B quarterly reduction in 20y for the Feb quarter only.
- Rationale: Treasury should stop cutting auction sizes to ensure it is issuing sufficiently to meet the higher issuance needs of financing SOMA runoff net of lower fiscal requirements, while further reducing 7y and 20y auction sizes to better match supply and demand of those maturities.
- Analysis:
  - Regular & predictable in that auction sizes are constant, but a change versus prior guidance, i.e. less predictable.
  - The bill percentage hovers right at the 15% threshold in the central scenario and falls well below in the lower bound scenario.
  - There is a sharp increase in the WAM and WAD of the outstanding debt. This may not be desirable.
  - 7y/20y issuance falls on a relative and absolute basis.
- Expected future adjustments: Treasury would likely need to make future cuts in coupon auction sizes to prevent bill percentage from falling below 15%.



Sources: NY Fed, Treasury, CBO, Haver, Bloomberg, JP Morgan, Presenter Calculations

Scenario 2: Continue auction size decreases for this quarter only

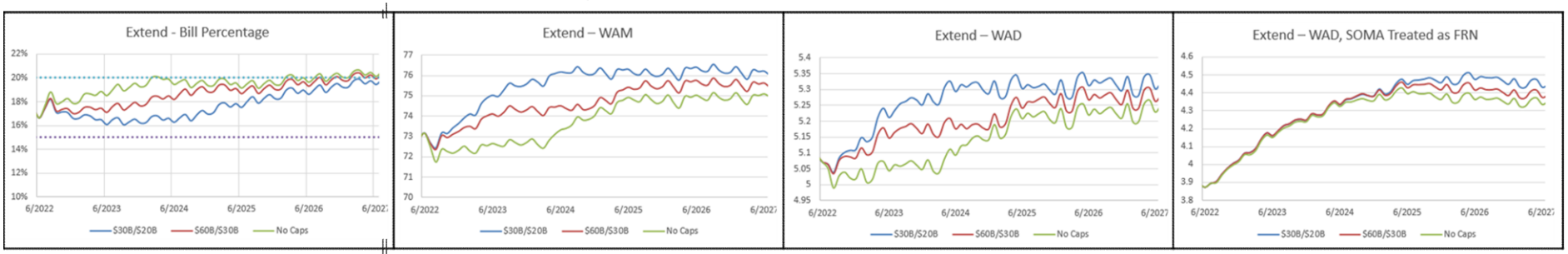
- Plan: Partially follow Nov-21 TBAC guidance for cuts for "the next few quarters" by cutting across the curve in the Feb quarter only. Make monthly cuts in the 2y, 3y, and 5y by $2B, and the 7y by $3B; quarterly cuts in the 10y by $3B, 20y by $4B, 30y by $2B.
- Rationale: Treasury still should reduce issue sizes, but not by as much as previously thought, taking into account both reduced fiscal requirements and the need to finance SOMA runoff.
- Analysis:
  - Regular and predictable, continuing with previous guidance.
  - Bill percentage stays within the 15%-20% range recommended by TBAC.
  - WAM and WAD rise moderately, which may be undesirable.
  - 7y/20y fall on a relative and absolute basis.
- Expected future adjustments: Treasury may choose to shift issuance toward the belly over time to offset the increase in WAM/WAD and the decrease in belly share.



Sources: NY Fed, Treasury, CBO, Haver, Bloomberg, JP Morgan, Presenter Calculations

Scenario 3: Extend long end reductions for an additional quarter

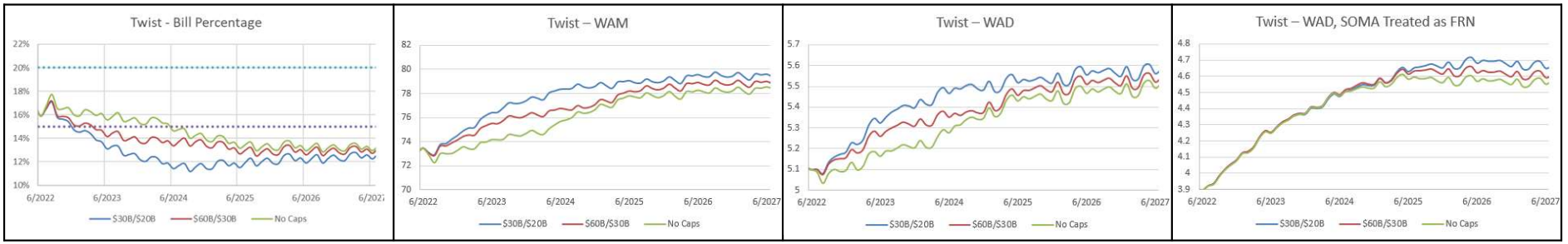
- Plan: Reduce monthly the 2y, 3y, 5y by $2B each, and 7y by $3B in Feb. Make quarterly reductions in the 10y by $3B, 20y by $4B, and 30y by $2B in Feb. Further cut the 7y monthly by $2B, and make quarterly cuts in the 10y by $1B, 20y by $2B, and 30y by $1B in May.
- Rationale: Current issuance levels are slightly higher than necessary to meet revised issuance requirements caused by reduced fiscal expected needs and SOMA runoff. Reduce both the total amount of issuance and the WAM/WAD of future issuance by concentrating cuts in the long end, especially 20y.
- Analysis:
  - Regular and predictable, phases out cuts in short end, continues cuts in long end for 2 quarters.
  - Bill percentage stays in 15%-20% range through 2027.
  - WAM and WAD increase, but by a modest amount. In the 2027-2031 period, WAM and WAD revert lower.
  - 7y/20y issuance falls on a relative and absolute basis.
- Expected future adjustments: Treasury may need to increase issuance starting in 2027, to keep bill percentage within 15%-20% range and reduce the WAM/WAD reduction in outer years.



Sources: NY Fed, Treasury, CBO, Haver, Bloomberg, JP Morgan, Presenter Calculations

Scenario 4: Twist, increase front end, decrease long end issuance, especially 7y/20y

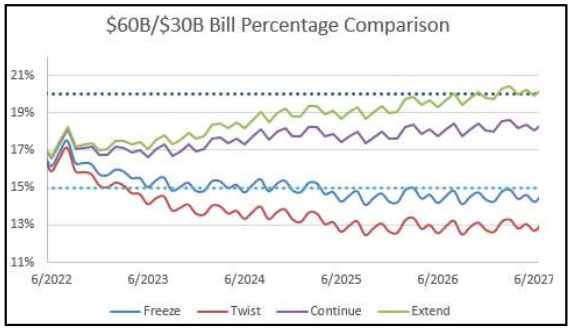
- Plan: In Feb only, make monthly increases in the 2y, 3y, and 5y by $2B, reduce the 7y monthly by $3B, and make quarterly cuts in the 10y by $3B, the 20y by $4B, and the 30y by $2B.
- Rationale: As Treasury replaces debt previously held by SOMA with future issuance to the public, the effective (treating SOMA holdings as daily-reset FRNs) WAD of the Treasury's total issuance will rise. Increasing front end issuance and decreasing long end issuance will help offset. Combines elements of Freeze and Reduce.
- Analysis:
  - To flip from cuts last quarter to increases this quarter is not regular & predictable, only makes sense if a significant change in circumstance justifies it.
  - Bill percentage falls below 15% threshold in central scenario.
  - WAM and WAD rise significantly, although there is a partial reversal in 2027-2031.
  - 7y/20y issuance falls on a relative and absolute basis.
- Expected future adjustments: Treasury may need to make cuts later in 2022 to prevent breach of 15% bill percentage threshold.



Sources: NY Fed, Treasury, CBO, Haver, Bloomberg, JP Morgan, Presenter Calculations

Continue or Extend scenarios seem most favorable

Scenario	Regular & predictable	Bill percentage in 15%-20% range	WAM/WAD changes	Future action	7y/20y
1. Freeze	Mixed	Close to lower bound	Sharp increase	Cut issue sizes	Falls
2. Continue	Yes	Yes	Modest increase	Shift to more belly issuance	Falls
3. Extend	Yes	Yes, until 2027	Small increase	Increase coupons in 2027	Falls
4. Twist	No	No	Increase/reversal	Coupon cuts later in 2022	Falls



- The simulations show that cutting for fewer quarters than suggested by the previous TBAC guidance is now appropriate, given the change in fiscal requirements and expected SOMA runoff.
- There still should be some cuts, as evidenced by the Freeze scenario, which would result in over-funding, leading to bill percentage falling below the 15% lower bound, as well as a sharp increase in WAM/WAD.
- Cuts could continue for one additional quarter at the same pace as last quarter, which works well for managing bill percentage and results in a modest increase in WAM and WAD.
- An alternative is to extend cuts, first by implementing the same cuts as Continue in Feb, and then making additional cuts in long end issuance in the May quarter. This reduces the increase in WAM/WAD, and results in further cuts to the issue sizes of the 7y and 20y.
- Attempting to twist issuance by increasing front end issuance and reducing long end issuance results in over-funding, violating the bill percentage lower bound, necessitating coupon cuts later in 2022 or early in 2023.

Sources: NY Fed, Treasury, CBO, Haver, Bloomberg, JP Morgan, Presenter Calculations

Conclusions

Conclusions

- Treasury's coupon cuts announced in November were widely anticipated by the market, but they were not sufficient to resolve the supply/demand imbalance in the 7y and 20y maturities, which cheapened further despite Treasury's effort to address.
- Treasury seeks to be a regular and predictable issuer, while maintaining flexibility to meet changing fiscal requirements and investor demand dynamics.
- In considering future coupon sizing, Treasury should take into account recent shifts in expected budget deficits resulting from fiscal policy and an increased likelihood of the Fed initiating a balance sheet reduction of its SOMA portfolio.
- As it relates to the SOMA portfolio, the Fed will likely begin reductions this summer, at a faster pace than in 2017-2019, but still using caps to maintain limits on the size of monthly reductions.
- To address the various concerns Treasury faces in making future auction decisions, we advise that the Treasury make further cuts in its issuance in Feb equivalent to the cuts made in the prior quarter, and consider making additional cuts in the longer end of the curve in May.
- Making additional cuts as suggested should keep the bill percentage in the TBAC suggested 15%-20% range, result in only modest increases in the WAM/WAD of total Treasury debt issuance, and further address the supply/demand imbalance in the 7y and 20y issues.

Appendix

Appendix: Fiscal deficit and TGA data tables, 2022-2031

Year	CBO	IIJA	BBB	Total
2022	-1380	-5	0	-1385
2023	-764	-18	0	-782
2024	-803	-38	0	-841
2025	-1008	-47	0	-1055
2026	-1095	-69	0	-1164
2027	-1123	-63	0	-1186
2028	-1548	-48	0	-1596
2029	-1386	-32	0	-1418
2030	-1794	-25	0	-1819
2031	-1914	-2	0	-1916

Year	Fiscal	TGA	Total
2022	-1385	-244	-1629
2023	-782	-28	-810
2024	-841	-22	-863
2025	-1055	-24	-1079
2026	-1164	-26	-1190
2027	-1186	-29	-1215
2028	-1596	-29	-1626
2029	-1416	-30	-1448
2030	-1819	-31	-1850
2031	-1916	-33	-1949