US Rates

US Treasury auction primer

Primer

08 March 2024

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Treasury auctions: keystone of government financing

Treasury auctions are the keystone to US government financing. Auctions are an important part of Treasury's debt management process and can have implications on Treasury's borrowing costs and financial markets. This primer will dig into the structure of the current Treasury auction process, how to read the results of an auction, the typical market impact around Treasury auctions, Fed rollovers, and Treasury buybacks.

Treasury issuance process: refunding to auction

The issuance process is kicked off at the Treasury's quarterly refunding meetings which announce the government's forecasted financing needs, upcoming coupon auction sizes, and sets the auction schedule. We dig into the different types of marketable securities, the frequency of issuance, and the process leading up to and during a Treasury auction. We also discuss how the process is administered using a "Dutch auction" style.

Treasury auction results: good, bad, and just ok

Treasury auction results provide useful information about demand for Treasuries. We focus on the most effective 3 ways in determining the success of a Treasury auction: (1) high yield vs when-issued (2) bidder allocation and (3) bid-to-cover ratio.

Auction events: market moves into & out of auctions

Treasury auctions are market liquidity events. These market events see reasonably consistent market behaviors & relationships. We show recent market dynamics around 10Y auctions over the last 12 months (i.e., the last 12 auctions = 8 reopening auctions and 4 new issue auctions). We look at the performance of 10yT between the 10 days prior and following the auction to show some recent themes.

Fed rollovers: auction add-ons to public issuance sizes

The Fed rolls over some of its maturing Treasuries into new issued Treasuries as an "add-on" above the offering amount at auction. The Fed's bids are non-competitive and should have no impact on the strength of an auction. We discuss the process of Fed rollovers and how they impact marketable debt held by the public.

Treasury buybacks: slated to start in 2024

The Treasury will likely begin UST buyback operations in 2024. We discuss some of the key components of these buybacks and the intended impact of these operations.

Timestamp: 08 March 2024 05:50AM EST

Treasury issuance process

The Treasury issuance process starts with (1) quarterly refunding process (2) auction size announcement (3) issuance calendar. A bit of background on each:

Quarterly refunding process: the quarterly refunding announcement (QRA) allows Treasury to update the market on its financing needs, auction sizes & schedule, and any potential policy or issuance changes it is considering[1]. Treasury is advised on its issuance decisions in the refunding process by a group of private sector market participants called the Treasury Borrowing Advisory Committee (TBAC). TBAC makes recommendations on issuance strategy but Treasury has ultimate ownership for its supply decisions. Treasury solicits feedback from primary dealers via surveys and in-person meetings to determine expectations for Treasury issuance, demand for Treasuries, liquidity in the market, and potential challenges around these themes.

Treasury refundings occur 4 times per year typically during the first week of February, May, August, & November. Refundings are comprised of 2 key market communications: (1) updated financing estimates, released Monday afternoon at 3PM ET before the refunding announcement (2) refunding announcement & issuance decisions at 8:30AM ET, released Wednesday morning of the refunding day.

The important takeaway for market participants is Treasury's projected financing needs and issuance plans. Treasury's financing needs may be driven higher due to more deficit spending or lower tax revenues than expected and vice versa. Treasury may also issue more than their financing need requires if they are growing their cash balance (Treasury General Account, TGA) or vice versa if depleting their cash balance. Treasury includes their TGA forecast for the next two quarter ends in their financing estimates.

Auction size announcement: in the refunding announcement Treasury typically provides the auction sizes for Treasury notes and bonds by tenor and the 2y FRN. Treasury also announces expected auction sizes for the upcoming 5-, 10-, and 30-year TIPS auctions over the quarter. Treasury does not typically provide bill auction sizes by tenor but rather an aggregate amount of net bill issuance over the quarter.

Exhibit 1: Quarterly refunding auction size announcement table ($bn)
Treasury typically publishes expected auction sizes over the coming quarter at each QRA

	2-Year	3-Year	5-Year	7-Year	10-Year	20-Year	30-Year	FRN
Nov-23	54	48	55	39	40	16	24	26
Dec-23	57	50	58	40	37	13	21	26
Jan-24	60	52	61	41	37	13	21	28
Feb-24	**63**	**54**	**64**	**42**	**42**	**16**	**25**	**28**
Mar-24	**66**	**56**	**67**	**43**	**39**	**13**	**22**	**28**
Apr-24	**69**	**58**	**70**	**44**	**39**	**13**	**22**	**30**

Source: US Treasury

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Issuance calendar: the QRA also provides the market with an update on the tentative auction calendar for the quarter. Treasury can deviate from the tentative auction calendar if there are material market events, but these deviations are infrequent. A sample of the tentative auction schedule is below:

[1] Most Recent Quarterly Refunding Documents | U.S. Department of the Treasury

Exhibit 2: Sample of the tentative auction schedule from the Feb 2024 refunding meeting
The tentative auction schedule includes timing of all Treasury issuance, including T-bills

Tentative Auction Schedule of U.S. Treasury Securities					
Security Type			**Announcement Date**	**Auction Date**	**Settlement Date**
3-Year NOTE			**Wednesday, January 31, 2024**	**Tuesday, February 06, 2024**	**Thursday, February 15, 2024**
10-Year NOTE			**Wednesday, January 31, 2024**	**Wednesday, February 07, 2024**	**Thursday, February 15, 2024**
30-Year BOND			**Wednesday, January 31, 2024**	**Thursday, February 08, 2024**	**Thursday, February 15, 2024**
13-Week BILL			Thursday, February 01, 2024	Monday, February 05, 2024	Thursday, February 08, 2024
26-Week BILL			Thursday, February 01, 2024	Monday, February 05, 2024	Thursday, February 08, 2024
17-Week BILL			Tuesday, February 06, 2024	Wednesday, February 07, 2024	Tuesday, February 13, 2024
4-Week BILL			Tuesday, February 06, 2024	Thursday, February 08, 2024	Tuesday, February 13, 2024
8-Week BILL			Tuesday, February 06, 2024	Thursday, February 08, 2024	Tuesday, February 13, 2024
13-Week BILL			Thursday, February 08, 2024	Monday, February 12, 2024	Thursday, February 15, 2024
26-Week BILL			Thursday, February 08, 2024	Monday, February 12, 2024	Thursday, February 15, 2024
17-Week BILL			Tuesday, February 13, 2024	Wednesday, February 14, 2024	Tuesday, February 20, 2024
4-Week BILL			Tuesday, February 13, 2024	Thursday, February 15, 2024	Tuesday, February 20, 2024
8-Week BILL			Tuesday, February 13, 2024	Thursday, February 15, 2024	Tuesday, February 20, 2024
13-Week BILL			Thursday, February 15, 2024	Tuesday, February 20, 2024	Thursday, February 22, 2024
26-Week BILL			Thursday, February 15, 2024	Tuesday, February 20, 2024	Thursday, February 22, 2024
52-Week BILL			Thursday, February 15, 2024	Tuesday, February 20, 2024	Thursday, February 22, 2024
2-Year FRN	**R**		**Thursday, February 15, 2024**	**Wednesday, February 21, 2024**	**Friday, February 23, 2024**
20-Year BOND			**Thursday, February 15, 2024**	**Wednesday, February 21, 2024**	**Thursday, February 29, 2024**
30-Year TIPS		**T**	**Thursday, February 15, 2024**	**Thursday, February 22, 2024**	**Thursday, February 29, 2024**
Holiday - Monday, February 19, 2024 - Washington's Birthday					
17-Week BILL			Tuesday, February 20, 2024	Wednesday, February 21, 2024	Tuesday, February 27, 2024
4-Week BILL			Tuesday, February 20, 2024	Thursday, February 22, 2024	Tuesday, February 27, 2024
8-Week BILL			Tuesday, February 20, 2024	Thursday, February 22, 2024	Tuesday, February 27, 2024
13-Week BILL			Thursday, February 22, 2024	Monday, February 26, 2024	Thursday, February 29, 2024
26-Week BILL			Thursday, February 22, 2024	Monday, February 26, 2024	Thursday, February 29, 2024
2-Year NOTE			**Thursday, February 22, 2024**	**Monday, February 26, 2024**	**Thursday, February 29, 2024**
5-Year NOTE			**Thursday, February 22, 2024**	**Monday, February 26, 2024**	**Thursday, February 29, 2024**
7-Year NOTE			**Thursday, February 22, 2024**	**Tuesday, February 27, 2024**	**Thursday, February 29, 2024**

Source: US Treasury

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How Treasury auctions work

Auction announcement in detail

Treasury auction announcements typically go out several days before the auction. For coupon (notes, bonds, FRNs, TIPS) offering sizes, the market usually knows what will be announced based on the quarterly refunding policy statement that is published at Quarterly Refunding meetings. Conversely, bill auction sizes tend to be announced on Tuesdays & Thursdays for settlement the following week.

Within auction announcements, Treasury provides the (1) security, (2) offering amount, (3) auction date, (4) issue/settlement date, (5) maturity date, (6) interest payment dates, (7) max award and minimum bid amounts, (8) how much is maturing from the Fed's System Open Market Account (SOMA), and (9) closing times for the non-competitive and competitive auctions (Exhibit 3).

Exhibit 3: Treasury offering announcement example (7-year note announced 22 Feb 2024)
Announcements include important details around the offering ahead of the respective auction

TREASURY OFFERING ANNOUNCEMENT [1]

Term and Type of Security	1	7-Year Note
Offering Amount	2	$42,000,000,000
Currently Outstanding		$0
CUSIP Number		91282CKC4
Auction Date	3	February 27, 2024
Original Issue Date		February 29, 2024
Issue Date	4	February 29, 2024
Maturity Date	5	February 28, 2031
Dated Date		February 29, 2024
Series		H-2031
Yield		Determined at Auction
Interest Rate		Determined at Auction
Interest Payment Dates	6	Last calendar day of August and February
Accrued Interest from 02/29/2024 to 02/29/2024		None
Premium or Discount		Determined at Auction
Minimum Amount Required for STRIPS		$100
Corpus CUSIP Number		912821PG4
Additional TINT(s) Due Date(s) and CUSIP Number(s)		February 28, 2031 912834XJ2
Maximum Award	7	$14,700,000,000
Maximum Recognized Bid at a Single Yield		$14,700,000,000
NLP Reporting Threshold		$14,700,000,000
NLP Exclusion Amount		$0
Minimum Bid Amount and Multiples		$100
Competitive Bid Yield Increments [2]		0.001%
Maximum Noncompetitive Award		$10,000,000
Eligible for Holding by Treasury Retail		Yes
Estimated Amount of Maturing Coupon Securities Held by the Public		$98,329,000,000
Maturing Date		February 29, 2024
SOMA Holdings Maturing	8	$37,432,000,000
SOMA Amounts Included in Offering Amount		No
FIMA Amounts Included in Offering Amount [3]		Yes
Noncompetitive Closing Time	9	12:00 Noon ET
Competitive Closing Time		1:00 p.m. ET

Source: US Treasury

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Eligible bidders and bidding process

All auctions are open to the public. Eligible bidders include individuals, corporations, government-related entities, Foreign and International Monetary Authorities (FIMA), etc. When a bank or primary dealer bids for its customers, each customer is considered a separate bidder and the bidding and award limits apply separately to each.

Bids can be non-competitive or competitive. Non-competitive bidding is done ahead of the competitive bidding auction. Institutional investors who have Treasury Automated Auction Processing System (TAAPS) accounts can bid directly. TAAPS is a system that allows institutional investors to buy Treasury securities directly from the Treasury. Other investors can either bid directly through a TreasuryDirect account or indirectly through a bank, broker, dealer, or in some cases, the Fed. One exception, cash management bills (CMBs) cannot be bid on through TreasuryDirect.

Noncompetitive

Investors can bid up to $10mn per auction. At bidding you only specify the quantity of securities you want to buy, while at the same time you're agreeing to accept the rate, yield, or discount margin (depends on if the auction is for a coupon, FRN, TIPS, or bill) determined at the competitive auction. Noncompetitive bids are filled from smallest to largest, up to the $10mn limit. You may not bid in a noncompetitive auction if you are bidding competitively. Those who hold a position on the security in when-issued trading, in futures or in forwards prior to the auction cannot participate in noncompetitive bidding.

Foreign and International Monetary Authority Accounts

The New York Fed submits noncompetitive bids for Foreign and International Monetary Authority (FIMA) accounts. FIMA account holders include various central banks and international monetary authorities.

FIMA accounts have a max noncompetitive bid and award limit of $500mn per account and the aggregate amount cannot exceed $2bn. Unlike Fed reinvestments from their SOMA portfolio, purchases by FIMA accounts are not an add-on at auction.

FIMA account holders can exchange these Treasuries for US dollars at the NY Fed's FIMA repo facility and make those dollars available in their local jurisdictions without having to outright sell those securities.

SOMA

The SOMA, or System Open Market Account is the Fed's securities portfolio and is primarily comprised of US Treasuries and Agency MBS.

The Treasury is aware of how much of the SOMA holdings are maturing and how much the SOMA will be reinvesting, often referred to as a rollover. The amount the Fed is rolling over is considered an "add-on" at auction and is not included in the offering amount. Since these are non-competitive bids, the Fed's add-ons should have no impact on the success of an auction

SOMA reinvestments do not have an impact on gross coupon auction sizes but does impact how much the public needs to hold. The more the Fed is rolling off of their maturing securities, the more USTs the public will need to hold over time. The public having to take down more USTs will likely cheapen rates over time.

The Fed is unable to buy new Treasuries directly at an auction unless reinvesting a maturing UST. Therefore, when the Fed does quantitative easing (QE), they buy Treasuries in the secondary market.

We discuss SOMA rollovers in more detail later in the piece (here).

Competitive

Competitive bids are accepted based on their yield, discount rate, or discount margin (depends on if the auction is for a note, bond, FRN, TIPS, or bills) from lowest bid to highest bid until the entire offering amount minus noncompetitive bids has been awarded. Auction participants can submit one or more bids specifying the minimum yield for a specified quantity of securities. All successful bidders receive the same yield or discount rate as the highest accepted bid regardless of the rate or yield they bid, this is known as a "Dutch" or single-price auction.

The max bid is 35% of the offering amount. To bid competitively you must use a bank, broker, or dealer or have a TAAPS account. You must report your net long position (NLP) as of 30min prior to the auction close when the total of your bids + NLP >= 35%. The term ''net long'' refers to the extent to which an investor has bought (or agreed to buy) more than it has sold (or agreed to sell) of a particular security.

For example, if an investor has bought $10m of a UST in the when issued market, and it has sold $4m of the same security in the when-issued market, it has a net long position of $6m in that security. In a reopening, you may subtract the "NLP exclusion amount" stated in the auction announcement when calculating your NLP.

If your competitive bid is less than the high yield (or discount rate for bills / discount margin for FRNs), your entire bid will be accepted, if it is equal, you will get at least some of what you bid, but if it is more than, you will receive none of what you bid.

The highest accepted bid yield is called the "stop." If several accounts submitted bids at the stop and the aggregate amount of security bids exceeds the offering amount, then the bids are prorated.

Treasury issuance and delivery

The last leg of the auction process is the delivery of the securities to the bidders and Treasury's receival of the payment on the issue/settlement date, typically several days after the auction.

On the issue date, a depository institution (DI)'s fund account is credited at 9:15am ET while the Fed simultaneously debits the DI's reserve account and transfers the payments to Treasury's account at the Fed. Institutional investors who are not DIs typically use an "autocharge" agreement via a DI's custodial business. The securities are credited to the custodian's book entry account and the payment is collected from the custodian's reserve account. The bidder reimburses the custodian for the cost of the securities and the custodian credits the securities to the bidder's account.

The Fixed Income Clearing Corporation (FICC) also offers an auction takedown service. Customers of this service include primary dealers and other netting members of FICC's Government Securities Division. Most auction deliveries to dealers are done indirectly through FICC, which is intended to improve efficiency of UST delivery.

Post issuance and interest payments

The most key distinction between Treasury instruments are coupons and bills. Coupons (notes, bonds, FRNs, TIPS) pay interest every 6 months. If an investor owns the coupon when it matures, they will receive the face value of the security. For bills, there is no interest or coupon payment, an investor buys the bill at a discount and receive par, or the face value, at maturity, the difference between the discount and par is considered "interest."

Treasury Security Types

Treasury currently auctions five different types of marketable debt: bills, notes, bonds, TIPS, and FRNs. Details on each below.

Bills

Bills are short-term Treasury securities that mature in one year or less. Bills do not pay a coupon. Instead, bills are typically sold at a discount and when they mature the investor receives the face value. The difference between the face value and the discounted price is "interest."

> Price = Fair Value (1-(discount rate x time)/360)

Treasury currently auctions bills of 4-, 8-, 13-, 17-, 26-, and 52-week tenors in addition to what are called "cash management bills" or CMBs. As of this writing, Treasury is still considering changing the 6-week CMB to benchmark status. CMBs are typically not sold on a regular basis and terms can range from a few days to several months. CMBs are issued to meet Treasury's short-term & unexpected financing needs.

Notes

Notes are Treasuries that when issued, mature in 2-10 years. Currently, Treasury issues a 2-year, 3-year, 5-year, 7-year and 10-year Treasury note. Notes pay interest, which is set at the auction, every six months including at maturity when the holder also receives the principal.

Bonds

Bonds are long-term Treasuries that when issued are more than 10 years from maturity. Currently Treasury issues 20-year and 30-year bonds. Like, notes, Treasury bonds pay interest every six months and at maturity.

TIPS

Treasury Inflation Protected Securities are currently issued at 5-, 10-, and 30-year tenors. The price and interest rate on TIPS are also determined at auction, however, the principal on TIPS goes up and down with inflation and deflation. Although the interest rate is fixed at auction, the interest payment may vary every 6 months due to the change in the inflation-adjusted principal. TIPS are indexed to headline CPI. For more detail, please see our global inflation-linked primer.

FRNs

Floating rate notes are short-term investments that are currently only issued at 2-year tenors. The price of an FRN is determined at auction, which can be different from the par amount. The interest rate of an FRN changes over the life of the FRN, hence the "float."

The interest rate on FRNs is the sum of two parts: an index rate and a spread. The index rate is tied to the highest accepted discount rate of the most recent 13-week bill and is reset weekly after each 13-week bill auction. The spread stays the same for the life of an FRN. The spread is determined at the auction when the FRN is first offered. The spread is the highest accepted discount margin in that auction. The interest rate is applied daily on an FRN's par amount and accumulates daily.

Auction frequency

Auction frequency is dependent on the security type and tenor. Treasury bills are issued more frequently than Treasury coupon auctions. Details on auction frequency for each security type and tenor are below. See Exhibit 2 for an example coupon auction schedule.

Treasury bills

4-, 8-, 13-, 17-, and 26- week bills are offered once a week. 52-week bills are offered ever four weeks.

For 4-& 8-week bills, the offering is announced on Tuesday, auctioned on Thursday, and issued the following Tuesday.

For 13- & 26-week bills, the offering is announced on Thursday, bills are auctioned the following Monday and they are issued on the following Thursday.

For 17-week bills, the offering is announced on Tuesday, auctioned on Wednesday, and issued the following Tuesday.

52-week bills are announced on Thursday, auctioned the following Tuesday, and issued the following Thursday.

Cash management bills are offered from time to time depending on borrowing needs. The time between announcement, auction, and issue is usually between 1-7 days.

Exhibit 4: Treasury bill auction frequency

Bill auctions occur weekly for all tenors ex 52-week. Schedule may change due to holidays

Tenor	Frequency	Announcement Date	Auction Date	Issue Date
4-week	Weekly	Tuesday	Thursday	Tuesday
8-week	Weekly	Tuesday	Thursday	Tuesday
13-week	Weekly	Thursday	Monday	Thursday
17-week	Weekly	Tuesday	Wednesday	Tuesday
26-week	Weekly	Thursday	Monday	Thursday
52-week	Monthly	Thursday	Tuesday	Thursday

Source: US Treasury

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Treasury notes & bonds

2-, 5-, and 7-year note auctions are announced in the second half of each month and auctioned a few business days later. They are issued on the last day of each month.

3-year note auctions are announced in the first half of each month and generally auctioned a few business days later. They are issued on the 15th of each month.

New issue 10-year note auctions are announced in the first half of February, May, August, and November (through the quarterly refunding process, referenced above). The reopenings of a 10-year note are in January, March, April, June, July, September, October, and December. All 10-year notes are auctioned during the second week of each month and are issued on the 15th of the same month.

New issue & re-opening 30-year bond auctions are usually announced in the first half of February, May, August, and November. New issue & re-opening 20-year bonds are typically announced around mid-month. The reopenings of a 20- or 30-year bond are in January, March, April, June, July, September, October, and December.

20-year bonds are auctioned on the next to last Wednesday of each month and are issued on the last day of each month. 30-year bonds are auctioned during the second week of each month and are issued on the 15th of the same month.

If the last calendar day of the month or the 15th of the month falls on a weekend, the impacted Treasuries will be issued the following business day.

Exhibit 5: Treasury note and bond auction frequency

Treasury issues "re-openings" for 10-, 20-, and 30-year tenors

Tenor	Issue Date	Frequency	Reopening months
2-year	Last day of month	Monthly	
3-year	15th of the month	Monthly	
5-year	Last day of month	Monthly	
7-year	Last day of month	Monthly	
10-year	15th of the month	Feb, May, Aug, Nov	Jan, Mar, Apr, Jun, Jul, Sep, Oct, Dec
20-year	Last day of month	Feb, May, Aug, Nov	Jan, Mar, Apr, Jun, Jul, Sep, Oct, Dec
30-year	15th of the month	Feb, May, Aug, Nov	Jan, Mar, Apr, Jun, Jul, Sep, Oct, Dec

Source: US Treasury

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TIPS

Original issue 5-year TIPS are issued in April and October. Reopenings are in June and December. All 5-year TIPS are generally auctioned on the next to last Thursday of the above-mentioned months and are issued on the last business day of the month.

Original issue 10-year TIPS are issued in January and July. Reopenings are in March, May, September, and November. All 10-year TIPS are auctioned on the next to last Thursday of the above-mentioned months and are issued on the last business day of the month.

Original issue 30-year TIPS are issued in February. Reopenings are in August. All 30-year TIPS are generally auctioned the next to last Thursday of February and August and are issued on the last business day of the month.

While TIPS are issued on the last day of their respective issuance month, they mature mid-month. TIPS accrue interest between the 15th and the issue date. Investors who purchase these securities at auction will be required to pay the interest accrued between the 15th of the month and the issue date.

Exhibit 6: Treasury inflation-protected securities auction frequency
TIPS are issued at the end of each month, always one tenor at a time

Tenor	Issue Date	Frequency	Reopening months
5-year	Last day of month	Apr, Oct	Jun, Dec
10-year	Last day of month	Jan, Jul	Mar, May, Sep, Nov
30-year	Last day of month	Feb	Aug

Source: US Treasury

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FRNs

Original issue 2-year FRNs are issued in January, April, July, and October. The reopenings are issued in February, March, May, June, August, September, November and December. All 2-year FRNs are auctioned during the last week of each month. Original issue FRNs are issued on the last day of the month. The reopenings are issued on the last Friday of the month.

Exhibit 7: Treasury floating rate note auction frequency
FRN reopenings are issued on the last Friday of the month instead of month-end

Tenor	Issue Date	Frequency	Reopening months
2-year	Original issue FRNs are issued last day of month. Reopenings are issued on last Fri of the month	Jan, Apr, Jul, Oct	Feb, Mar, May, Jun, Aug, Sep, Nov, Dec

Source: US Treasury

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Reopenings

A Treasury reopening is when the Treasury issues additional amounts of a previously issued security. Therefore, it has the same CUSIP as the previously issued security, same maturity date, and same interest payment dates. What changes is the issue date and price. Treasury reopens 10-year notes, FRNs, TIPS, and 20- & 30-year bonds regularly.

Treasury occasionally has unscheduled reopenings of USTs when a new issue at auction has the same interest rate as an existing Treasury with the same maturity and interest payment dates. As a result, that new issue is recategorized as an additional issue of the outstanding Treasury.

For example, if a 7-year note, with an interest rate of 4% rolls down 2 years and a new issue 5-year note auction also results in a 4% interest rate, Treasury will announce that the auction results have prompted an unscheduled reopening of the 7-year note.

An unscheduled reopening is relatively rare but it will typically mean (1) modest richening of off the run that may be re-opened, due to improved liquidity premium (i.e. prior old 7Y note trading with more liquidity premium since it will become the new on-the-run 5Y note) (2) reduced risk of an issue trading special, given the larger outstanding CUSIP size. The reduced specialness risk is particularly important when the Fed is doing QT and their SOMA portfolio will have fewer on the run issues available for securities lending.

Exhibit 8: Treasury Auction Issuance Calendar example (Mar 2024)
March is a reopening month so you'll see a 2y FRN, 10y TIPS, 10y note, 20 & 30y bond reopening

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26	27 4-, 8-, 17- week bill	28	29 13-, 26w bill 2-, 5-, 7y note 20y bond 30y TIPS	1	2
3	4	5 4-, 8-, 17w bill	6	7 13-, 26w bill	8	9
10	11	12 4-, 8-, 17w bill	13	14 13-, 26w bill	15 3-year note 10y note & 30y bond reopening	16
17	18	19	20	21	22	23

Exhibit 8: Treasury Auction Issuance Calendar example (Mar 2024)
March is a reopening month so you'll see a 2y FRN, 10y TIPS, 10y note, 20 & 30y bond reopening

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		4-, 8-, 17w bill		13-, 26-, 52w bill		
24	25	26 4-, 8-, 17w bill	27	28 13-, 26w bill 10y TIPS reopening	29	30
31	1 2-, 5-, 7y note 2y FRN reopening 20y bond reopening	2 4-, 8-, 17w bill	3	4 13-, 26w bill	5	6

Source: US Treasury

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Treasury coupon overview

Treasury notes and bonds, including TIPS and FRNs pay a coupon every six months. The coupon rate, also known as the nominal yield, is the annual interest paid on a Treasury.

Coupon rate = annual payment ÷ face value

Holding a Treasury to maturity means day to day fluctuations in the price of the security has no bearing on the rate of return for the investor, which is the coupon rate. The coupon rate is fixed for the life of the security.

For example, if an investor buys a UST with a face value of $1000 that pays a 5% interest rate annually, the investor will earn a $25 coupon twice a year.

Though the coupon payment does not change, for investors acquiring the UST in the secondary market, fluctuations in prices can impact the return or current yield on the UST.

Current yield = annual payment ÷ market value

For example, if the price of the bond went from $1000 to $900, the investor still earns that $50 annual coupon, but now the current yield is $50/$900 or 5.5%. Hence the inverse relationship between the price of a UST and the yield.

The coupon is determined initially based on time to maturity and current market rates, Securities with longer time to maturity, typically have a higher coupon (lower price) because the coupon must compensate for the interest rate risk of holding a longer-dated Treasury.

The coupon rate of a reopened security is the same as the original issue.

In futures contracts, the coupon and time to maturity can also be important factors in determining what bond is cheapest-to-deliver.

How to analyze auction results

US Treasury auction results can indicate whether it was a strong or weak auction. Auction results can drive Treasury yields and Treasury futures lower or higher depending on how strong or weak the auction was. To determine how strong an auction was, we look at 3 key data points in addition to comparing the results of previous auctions for the same term: (1) high yield relative to the when issued rate (2) the bidder allocations and (3) the bid to cover ratio (Exhibit 9).

Exhibit 9: Treasury Auction Results example (10y auction Aug 2023)
Pay attention to the high yield, bidder allocation, and bid to cover ratios

TREASURY AUCTION RESULTS

Term and Type of Security	10-Year Note
CUSIP Number	91282CHT1
Series	E-2033
Interest Rate	3-7/8%
High Yield [1]	High Yield → 3.999%
Allotted at High	9.47%
Price	98.986162
Accrued Interest per $1,000	None
Median Yield [2]	3.922%
Low Yield [3]	3.880%
Issue Date	August 15, 2023
Maturity Date	August 15, 2033
Original Issue Date	August 15, 2023
Dated Date	August 15, 2023

	Tendered	Accepted
Competitive	$97,031,036,400	$37,866,146,900
Noncompetitive	$133,873,900	$133,873,900
FIMA (Noncompetitive)	$0	$0
Subtotal [4]	**$97,164,910,300**	**$38,000,020,800[5]**
SOMA	$14,216,289,500	$14,216,289,500
Total	**$111,381,199,800**	**$52,216,310,300**

	Tendered	Bidder Allocation → Accepted
Primary Dealer [6]	$51,197,000,000	$3,599,155,500
Direct Bidder [7]	$13,559,000,000	$6,928,750,000
Indirect Bidder [8]	$32,275,036,400	$27,338,241,400
Total Competitive	**$97,031,036,400**	**$37,866,146,900**

[1]All tenders at lower yields were accepted in full.
[2]50% of the amount of accepted competitive tenders was tendered at or below that yield.
[3]5% of the amount of accepted competitive tenders was tendered at or below that yield.
[4]Bid-to-Cover Ratio: $97,164,910,300/$38,000,020,800 = 2.56 ← Bid to Cover
[5]Awards to Treasury Retail = $81,548,900.
[6]Primary dealers as submitters bidding for their own house accounts.
[7]Non-Primary dealer submitters bidding for their own house accounts.
[8]Customers placing competitive bids through a direct submitter, including Foreign and International Monetary Authorities placing bids through the Federal Reserve Bank of New York.

Source: US Treasury

BofA GLOBAL RESEARCH

High Yield

The high yield is published in the auction results. Recall, Treasury auction bids are accepted in order of lowest yield to highest, until the full offering amount is accepted, When the full offering amount is accepted, the highest accepted yield (or discount rate for bills / discount margin for FRNs) is paid to all bidders who offered a rate below that accepted amount.

For example, if there were 4 bidders in an auction with an offering amount of $100, bidder 1 offered 3% on $30, bidder 2 offered 3.5% on $50, bidder 3 offered 4% on $20, and bidder 4 offered 4.5% on $10, the high yield would be 4%. This is the highest yield bid the Treasury needed to accept to fill the full offering amount ($30+$50+$20=$100). The first 3 bidders would each receive the rate of 4% while bidder 4 would not receive the Treasury.

The importance of the high yield figure is to compare it to the "when-issued" rate to determine if the auction (1) "traded through" (2) "tailed" or (3) printed "on the screws". We dig into detail on each of these terms below.

When Issued

Immediately following the announcement of a Treasury auction, the security will begin to be traded on what is called a "when-issued" basis. The "when issued" rate is the market rate on the Treasury security after its announcement but before issuance. When-issued transactions settle on the issue date of the new security. The trading of a security before its auction allows for price discovery, reduces uncertainty, and can commit an investor to early ownership of a security after auction.

Trade through

When the high yield is lower than the "when issued" rate heading into the auction, it is said that the auction "traded through" the "when issued." This is seen as a positive, implying the demand for the issue was strong enough that the government paid a lower rate on the prevailing market rate to sell the security.

Tailed

When the high yield is higher than the prevailing "when issued" yield (or the snap price) it means the auction tailed. This is seen as a negative because the Treasury had to pay a higher interest rate to sell the security, suggesting weak demand.

On the screws

When an auction stops "on the screws" it implies that the high yield was equal to the when issued yield. This is neither a positive or negative signal.

Bidder Allocation

The Treasury publishes bidder allocation data in the auction results, which they split into three categories for competitive bids. We can determine from this data whether the demand for the security was end investor demand or dealer demand. Primary dealers are required to participate in all Treasury auctions and take-down any of the excess issue that is not bid by other investors at a reasonable price. Additionally, it is helpful to convert accepted bidders to a percentage of total competitive bids accepted.

Primary dealer

The primary dealer allocation in the auction results represents primary dealers bidding for their own account, not clients. Primary dealers are required to bid at Treasury auctions to act as a backstop. Dealers are required to bid their "pro-rata" share to support an auction. Specifically, if there are 20 primary dealers, any single dealer is required to bid 1/20 or 5% of the total offering size. A higher percentage of PD takedown can be seen as a negative because it indicates less real money demand.

What's a direct bidder?

A direct bidder is any non-primary dealer that uses TAAPS to bid directly on an auction for their own house / "proprietary" accounts. This includes pension funds, hedge funds, mutual funds, insurers, banks, governments, and individuals. A higher percentage of take-down from direct bidders is seen as a positive as it indicates real money demand.

What's an indirect bidder?

An indirect bidder is any bidder that bids via an intermediary. This includes foreign and international monetary authorities placing bids through the NY Fed as well as domestic asset managers buying through a primary dealer. Indirect bidding is often seen as a proxy for demand from foreign accounts but this is not accurate for Treasury bills. Treasury bill auctions are driven more by investment funds (which include some money market mutual funds) that do not have direct access to TAAPS.

Separately, the Treasury also publishes auction allotment data by investor class in a more detailed report, typically on the seventh business day of each month for coupons and bills, and then again in the second to last week of the month for coupons[2]. The investor classes are broken down by SOMA (Federal Reserve banks), depository institutions, individuals, dealers & brokers, pension & retirement funds and insurance companies, investment funds, foreign and international investors, and “other” investors[3].

Bid to cover

The bid-to-cover ratio is the number of bids in the auction vs the amount of securities sold. At face value, the higher the cover the better the auction. However, this is not always a perfect indicator of the strength of an auction as it includes dealer bids which may not be reflective of real money demand. Dealer bids, including those well above the expected high yield of an auction, would make the bid-to-cover look like there is higher demand for the security than there actually is. Typically, a bid-to-cover ratio that is higher than the average for prior auctions of the same tenor would imply it is a stronger auction while lower would indicate a weaker auction.

Market dynamics around supply

It is difficult to find a historical relationship between issuance levels (or US deficits) and the broader yield dynamic (presumably higher yields on higher issuance levels), mostly because the bias is for deficits (and issuance) to increase over slowdown periods (on lower tax receipts and higher spending) while US duration generally sees a risk-off bid over these periods.

Locally around auctions, however, there are better chances to find a relationship, although also in these cases the expected dynamic (cheapening around supply) is often overwhelmed by the macro context. Below we monitor the curve dynamic around 10yT auctions over the last 12 months (i.e., the last 12 auctions = 8 reopening auctions and 4 new issue auctions). We look at the underperformance of 10yT through the positions in Exhibit 1, between the 10 days prior and following the auction.

Exhibit 10: Monitoring underperformance of 10y around supply

Positions used to monitor performance of 10yT around supply

bmk1	bmk2	bmk3	Position
2Y	10Y		steepener
3Y	10Y		steepener
5Y	10Y		steepener
7Y	10Y		steepener
10Y	30Y		flattener
2Y	3Y	10Y	long belly
2Y	5Y	10Y	long belly
2Y	7Y	10Y	long belly
2Y	10Y	30Y	short belly
3Y	5Y	10Y	long belly
3Y	7Y	10Y	long belly
3Y	10Y	30Y	short belly
5Y	7Y	10Y	long belly
5Y	10Y	30Y	short belly
7Y	10Y	30Y	short belly

Source: BofA Global research

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Exhibit 11: Average performance for 2s10s steepeners around 10yT auctions over the last year

Entry lag vs auction in rows, exit lag vs auction in columns. Recent bias for 2s10s to steepen into 10yT auctions and flatten out of 10yT auctions

	-7	-5	-3	-1	1	3	5	7	9
-9	1.0	3.1	3.5	0.6	0.5	-0.4	-2.3	-2.0	-2.0
-7		2.1	2.5	-0.5	-0.6	-1.5	-3.4	-3.0	-3.0
-5			0.4	-2.6	-2.7	-3.6	-5.5	-5.1	-5.1
-3				-2.9	-3.0	-3.9	-5.8	-5.5	-5.5
-1					-0.1	-1.0	-2.9	-2.5	-2.5
1						-0.9	-2.8	-2.4	-2.5
3							-1.9	-1.5	-1.5
5								0.4	0.4
7									0.0

Source: BofA Global Research

BofA GLOBAL RESEARCH

We monitor the performance of these positions over the last 12 auctions though: (1) Average performance; (2) Standard Deviation; (3) Hit Ratio, i.e., % of positive performance; (3) Sharpe Ratio, i.e., average performance cautioned by the standard deviation; and (4) a broader Score = product of the Hit Ratio by the Sharpe Ratio.

[2] Investor Class Auction Allotments | U.S. Department of the Treasury
[3] Investor Class Descriptions_ver2.doc (treasury.gov)

In Exhibit 11 – Exhibit 14 we show these grids for 2s10s steepeners. Fundamentally we are looking here for patterns. In recent auctions the bias has been for outperformance of steepeners into the auction (entry 7-9 days ahead of the auction and exit 3-5 days ahead – see Exhibit 11), but with relatively low Hit Ratios (55-58% – see Exhibit 12) & Sharpe Ratios (21-39% – Exhibit 13). Scores for steepeners are therefore relatively low in this context (see Exhibit 14). In fact, the best Score seems to be for 2s20s flatteners entered 3 days before the auction and exited 1 day before (52% = 69% Sharpe * 75% Hit Ratio) with 2.9bp average performance.

Exhibit 12: 2s10s steepener Hit Ratios

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-2	-1	1	3	5	7	9
-9	58%	58%	58%	50%	50%	50%	50%	33%	33%	42%
-7		50%	50%	50%	50%	50%	50%	42%	42%	50%
-5			50%	33%	33%	33%	33%	25%	42%	42%
-3				42%	25%	33%	33%	25%	42%	58%
-1						50%	25%	33%	50%	50%
1							42%	50%	42%	50%
3								33%	33%	42%
5									58%	33%
7										58%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 13: 2s10s steepener Sharpe Ratios

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	21%	39%	29%	4%	3%	-3%	-13%	-9%	-10%
-7		29%	21%	-4%	-4%	-10%	-19%	-14%	-16%
-5			5%	-30%	-25%	-29%	-40%	-31%	-33%
-3				-69%	-54%	-41%	-52%	-39%	-37%
-1					-2%	-13%	-33%	-22%	-20%
1						-15%	-33%	-20%	-19%
3							-26%	-13%	-14%
5								5%	5%
7									0%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 14: 2s10s steepener Scores

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	12%	23%	17%	2%	2%	-1%	-4%	-3%	-4%
-7		15%	11%	-2%	-2%	-5%	-8%	-6%	-8%
-5			3%	-10%	-8%	-10%	-10%	-13%	-14%
-3				-17%	-18%	-14%	-13%	-16%	-22%
-1					-1%	-3%	-11%	-11%	-10%
1						-6%	-16%	-8%	-10%
3							-9%	-4%	-6%
5								3%	2%
7									0%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 15: 2s10s flatteners Scores

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	-9%	-16%	-12%	-2%	-2%	1%	8%	6%	6%
-7		-15%	-11%	2%	2%	5%	11%	8%	8%
-5			-3%	20%	17%	19%	30%	18%	19%
-3				52%	36%	27%	39%	22%	16%
-1					1%	10%	22%	11%	10%
1						9%	16%	12%	10%
3							17%	9%	8%
5								-2%	-3%
7									0%

Source: BofA Global Research

BofA GLOBAL RESEARCH

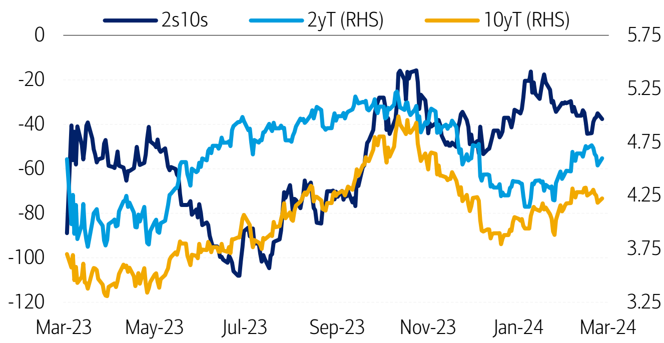
The broader bias out of the auctions has been for flatteners, as the underperformance of steepeners with low hit ratios = outperformance of flattener, with high Hit Ratios. Notice the average performance of flatteners for entry 3-5 days ahead of the auction and exit 5-9 days after, with decent Hit Ratios (48-75%) but still relatively low Sharpe Ratios (31-52%). Scores are slightly higher (16-39%) but still hardly impressive (see Exhibit 15).

Of course, to a large extent the 2s10s curve performance around supply is impacted by significant regime changes over the last 12 months (see Exhibit 16), from a bear flattening dynamic in 2Q23, to a relatively un-orthodox bear steepening dynamic this late in the cycle over 3Q23, to a more tactical range over the last 6 months. It is important to be aware of the broader macro backdrop to put the dynamic of rates/curve around supply into context. In this case it makes sense contrast these results to those over the last 6m alone (isolating the recent range bound regime for the curve).

In Exhibit 17 – Exhibit 21 we show similar grids for the performance of 2s5s10s flies around the last 12 10yT auctions. We see a bias for outperformance of 5y vs the wings (entry 9 days before the auction & exit 5-9 days after), with decent Hit Ratios of up to 67% but still relatively low Sharpe Ratios (29-52%), resulting again in Scores that are hardly impressive (see Exhibit 20).

Exhibit 16: 2s10s curve dynamic over the last year

Bear flattening in 2Q23 was follower by bear steepening in 3Q23 and a range bound context more recently



Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 17: Average performance for long belly in 2s5s10s fly

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	1.9	3.7	2.7	4.8	4.1	3.8	2.9	2.6	3.5
-7		1.8	0.7	2.9	2.1	1.9	0.9	0.7	1.6
-5			-1.0	1.1	0.4	0.1	-0.8	-1.1	-0.2
-3				2.1	1.4	1.1	0.2	-0.1	0.9
-1					-0.7	-1.0	-1.9	-2.2	-1.3
1						-0.3	-1.2	-1.5	-0.6
3							-0.9	-1.2	-0.3
5								-0.3	0.6
7									0.9

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 18: Hit Ratios for long belly in 2s5s10s fly

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-2	-1	1	3	5	7	9
-9	67%	75%	58%	58%	67%	58%	67%	50%	50%	50%
-7		75%	50%	42%	50%	58%	42%	42%	58%	50%
-5			50%	42%	50%	58%	33%	33%	42%	33%
-3				50%	75%	58%	50%	50%	33%	50%
-1						33%	33%	33%	33%	42%
1							50%	33%	33%	42%
3								33%	33%	42%
5									58%	67%
7										67%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 19: Sharpe Ratios for long belly in 2s5s10s fly

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	47%	46%	25%	50%	52%	51%	34%	29%	38%
-7		31%	9%	41%	31%	29%	11%	8%	19%
-5			-28%	34%	7%	2%	-12%	-18%	-3%
-3				65%	19%	15%	3%	-1%	11%
-1					-15%	-18%	-27%	-37%	-19%
1						-10%	-26%	-28%	-9%
3							-24%	-22%	-6%
5								-8%	16%
7									23%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 20: Score for long belly in 2s5s10s fly

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	31%	35%	15%	34%	30%	34%	17%	14%	19%
-7		24%	4%	21%	18%	12%	5%	5%	10%
-5			-14%	17%	4%	1%	-4%	-8%	-1%
-3				49%	11%	7%	1%	0%	5%
-1					-5%	-6%	-9%	-12%	-8%
1						-5%	-9%	-9%	-4%
3							-8%	-7%	-2%
5								-5%	10%
7									16%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 21: Score for short belly in 2s5s10s fly

Entry lag vs auction in rows, exit lag vs auction in columns

	-7	-5	-3	-1	1	3	5	7	9
-9	-16%	-12%	-11%	-17%	-22%	-17%	-17%	-14%	-19%
-7		-8%	-4%	-21%	-13%	-17%	-6%	-3%	-10%
-5			14%	-17%	-3%	-1%	8%	11%	2%
-3				-16%	-8%	-7%	-1%	1%	-5%
-1					10%	12%	18%	25%	11%
1						5%	18%	19%	6%
3							16%	15%	3%
5								3%	-5%
7									-8%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Fed rollovers

The Fed currently holds over 15% of the marketable UST debt outstanding. Therefore, what the Fed chooses to do with those securities can have implications on the market for UST, including liquidity, yields, and volatility. The Fed's operations include buying UST (quantitative easing, QE), holding and reinvesting USTs (rollovers), and redeeming or selling USTs (quantitative tightening, QT).

The Federal Reserve Act requires the Fed buy and sell Treasuries only in the "open market." During quantitative easing the Fed buys Treasury securities in the secondary market, meaning not directly at an auction. As a result, rather than crediting the Treasury's cash balance, the Fed is crediting the reserve account of the bank who sold the Treasury or to the reserve account of the Treasury seller's custodian. The more the

Fed holds of USTs, the less the public will need to hold, putting downward pressure on rates.

Conversely, when the Fed is rolling over maturing Treasuries, they are an “add-on” at auction. This means that on top of the “offering amount,” the Fed will be buying an additional amount of Treasuries, just to replace what they have maturing. On net, the Fed’s UST holdings should be unchanged as long as they are rolling over all maturing securities. The more the Fed is rolling over the less the public will need to hold.

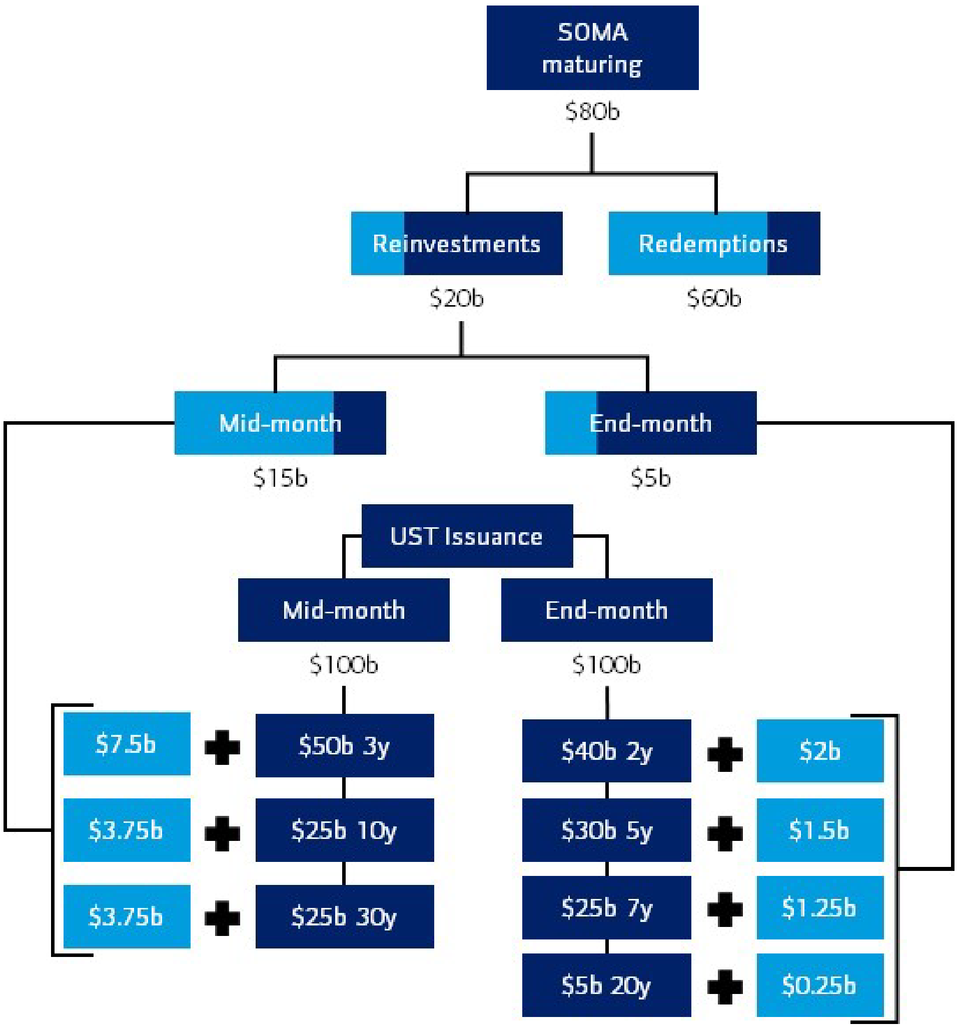
During QT, the Fed redeems or rolls off all maturing UST securities up to a particular redemption cap. Anything above that cap, the Fed reinvests into new UST auctions, as an add-on, in proportion to how much is maturing at mid-month and end-month, then in proportion to offering size for each tenor on each date.

As displayed in the hypothetical scenario in Exhibit 22 where the Fed has $80b maturing and the QT redemption cap is $60b, that means they’ll need to reinvest $20b into new issues over the month. If 75% of that $80b maturing is maturing at mid-month, then 75% of the $20b being reinvested will get reinvested at mid-month. Among the mid-month tenors being issued (3y, 10y, 30y) that $15b (75% of $20b) will get allocated in proportion to their offering sizes as an add-on. So, if there is $100b being offered at mid-month, of which $50b (50%) is the 3y offering, than 50% of that $15b will be reinvested into the 3y as an add-on.

The Fed rolls over all Treasury bills unless maturing Treasury coupons falls below the QT redemption cap. For example, if there are $40b coupons and $30b bills maturing in a given month, then all $40b in coupons will roll off without reinvestment, $20b of bills will also roll off, but $10b in bills will be reinvested into new issue bills being issued on the respective bill maturity dates in proportion to their offering amounts in a similar manner to coupon auction allocation.

Exhibit 22: Hypothetical Fed QT scenario

With $80b maturing, the Fed reinvests $20b, $15b into mid-month settlements and $5b into end-month



Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 23: Projected SOMA add-ons at auction by tenor based on BofA QT expectations ($bn)

We expect QT redemptions to slow in May and end in December

	2y FRN	3y	10y	30y	2y	5y	7y	20y	5y II	10y II	30y II
Feb-24	1.1	4.2	3.0	1.7	2.3	2.3	1.6	0.5	0.0	0.7	0.0
Mar-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr-24	0.0	0.9	0.6	0.3	0.4	0.4	0.2	0.1	0.0	0.1	0.0
May-24	3.5	15.3	10.3	5.8	8.0	8.1	5.1	1.5	2.7	0.0	0.0
Jun-24	0.0	0.9	0.7	0.4	1.2	1.2	0.7	0.3	0.0	0.3	0.0
Jul-24	0.0	7.9	5.3	3.0	3.6	3.7	2.3	0.7	1.1	0.0	0.0
Aug-24	1.7	10.1	6.8	3.8	3.9	4.0	2.5	0.7	0.0	1.0	0.0
Sep-24	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Oct-24	0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
Nov-24	1.4	13.1	8.8	5.0	3.3	3.4	2.1	0.6	1.1	0.0	0.0
Dec-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: BofA Global Research, Federal Reserve

BofA GLOBAL RESEARCH

Treasury buybacks

Treasury is expected to restart buybacks in 2024, which were last active in the early 2000s when then Treasury Secretary Summers used them to enhance Treasury liquidity and reduce total debt costs in a period of federal government budget surpluses.

Buyback operations allow the Treasury to retire outstanding debt through purchases in the secondary market. The New York Fed, acting as agent for the Treasury department conducts buyback operations via FedTrade in a similar manner as quantitative easing purchases. The key distinction is that these purchases are funded by Treasury cash balances or other Treasury debt issuance and not by the Fed creation of reserves.

A Treasury buyback transaction removes an outstanding debt instrument from Treasury's balance sheet and either replaces it with other debt or draws down the cash Treasury balance. Buybacks are currently conducted only as test operations.

In the current environment buybacks can help: (1) enhance liquidity of Treasury securities, (2) help Treasury manage the composition of outstanding debt alongside sharp declines in financing needs.

Treasury has provided key details on expected buybacks starting in 2024, key takeaways:

Buckets: UST will use 9 buckets across nominal and TIPS tenors. UST plans to buy in maturities >2Y 1-2x per quarter for liquidity support. Cash management buying in <2Y tenors will be more ad hoc. Note: UST is unlikely to match their purchase bucket with equivalent supply increases in that tenor; UST WAM will not be changed by buybacks.

Purchase amounts: UST plans to announce a maximum purchase amount per quarter, with the max size set at $30b/quarter. There will be no minimum set for liquidity supporting programs and it is possible Treasury will likely not purchase any securities in a given tenor.

Security exclusions: Treasury will exclude similar securities to Fed outright purchases. These include: CTDs, specials, very rich securities, and on the runs / near off the runs.

Purchase limits per CUSIP: Treasury will take into consideration several factors including STRIPS & Fed holdings. No specific thresholds have been given.

Exhibit 24: UST anticipated buyback purchase allocations
Max amounts per month and quarter based on UST guidance at the August 2023 refunding meeting

	Maturity (year)	Max amount/ quarter	Approx/ month
Cash management & Liquidity	0-2	34	11.3
Liquidity: nominal coupons	2-3	4	1.3
	3-5	4	1.3
	5-7	4	1.3
	7-10	4	1.3
	10-20	4	1.3
	20-30	4	1.3
Liquidity: TIPS	0-7.5	1	0.3
	7.5-30	1	0.3

Source: BofA Global Research, US Treasury

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