BofA SECURITIES

US Rates Watch

May refunding: bills now, coupons later

Stable coupons in FY '23 allow bill supply to grow

We expect TSY to hold coupon auction sizes stable across the curve at the May refunding. We anticipate that Treasury can keep auction sizes stable for the remainder of the fiscal year which will allow bills as a share of marketable debt to increase. Exhibit 1 shows our forecasts for coupon auction sizes.

Supply figures in Exhibit 2 incorporate our US Economics team's recently revised higher forecasts for a $1.35tn deficit per fiscal year for '23 and $1.45tn for FY'24 (see: US Economic Weekly: A wider Federal deficit). We also incorporate expectations for Fed QT to end in April 2024, after the Fed delivers its first rate cut in March 2024. Should Fed continue with QT until reserve scarcity, then bills will remain higher in the range through '25 or Treasury will need to deliver larger coupon supply increases than we forecast. An earlier end to Fed QT would reduce Treasury financing needs.

In the next 2 quarters we project net marketable borrowing will total $17b in Q2 & $616b in Q3 (Exhibit 3). These borrowing estimates incorporate the cash balance declining to $200b by the end of Q2 and growing to $500b at the end of Q3. We assume it falls close to 0 before an early August debt limit resolution.

Bills: Our estimates show that bills will increase as a share of marketable debt but remain well within TBAC's recommended 15-20% range through FY '23 (Exhibit 5). Net bill supply will increase about $1tn in FY '23 (Exhibit 2) and grow by over $1.5tn over CY '23. The difference between FY & CY '23 dynamics is due to the large bill supply surge we anticipate in Sep - Nov '23. We expect bills to rise substantially these months to rebuild Treasury's cash balance & to fund seasonally large deficit months in the fall.

Coupons: We expect Treasury will increase coupon sizes in FY '24 once the debt limit is resolved and bill supply grows beyond 20% of marketable debt (Exhibit 7, Exhibit 8). Specifically, we believe Treasury will start to increase coupon auction sizes in Q4'23 and continue in Q1'24 but risks are skewed to larger and continued increases in coupons to keep bills within the range. Changes to coupon sizes are detailed on the next page.

Despite the coupon auction size increases we forecast, bills still peak above 20% especially if QT ends after our base case of April '24. If Treasury does not increase coupon auction sizes we estimate bills peak at a slightly higher % of outstanding debt by FY'24 and FY'25 end (Exhibit 6).

Though Secretary Yellen announced an estimated X-date of early June, we forecast a debt limit X-date in early August with risk skewed to late July. An earlier June X-date and resolution of the debt limit would likely mean $200b higher TGA by FY end '23, resulting in $200b more bill supply in FY'23 and $200b less in FY '24 (Exhibit 10, we discuss our X-date forecast in more detail in: X-date shift & bill supply update.)

27 April 2023

Rates Research
United States

Katie Craig
Rates Strategist
BofAS
+1 646 855 6625
katie.craig@bofa.com

Meghan Swiber, CFA
Rates Strategist
BofAS
+1 646 855 9877
meghan.swiber@bofa.com

Mark Cabana, CFA
Rates Strategist
BofAS
+1 646 855 9591
mark.cabana@bofa.com

US Rates Research
BofAS
+1 646 855 8846

See Team Page for List of Analysts

UST = Treasury

QT= quantitative tightening

TBAC= Treasury Borrowing Advisory Committee

FY= fiscal year

WAM= weighted average maturity

Timestamp: 27 April 2023 06:00AM EDT

Despite the increase in bill supply, the WAM of Treasury debt outstanding will remain at some of the highest levels observed historically (Exhibit 11). This is supported by the WAM of nominal issuance for FY '23 extending slightly vs FY '22 with more supply in 10s and 30s vs. 7s and 20s. The relatively long WAM adds to the case for UST to increase bills and auction sizes of shorter dated tenors.

Projected growth in coupon auction sizes in FY '24

In our projections we incorporate larger coupon auction sizes in FY '24 alongside our US Econ team's revised expectations for higher deficits. In our base case, we assume a $290bn increase in gross coupon supply in FY '24 beginning in November '23 once the debt limit is likely to be resolved.

At the November and February refundings we pencil in gradual increases in auction sizes that reach totals shown in Exhibit 7 & Exhibit 8: 2y-7y +$6bn, 10y +$4bn, 20y and 30y +$1bn,TIPS starting with the new issue +$1bn, 2y FRN starting with new issue +$2bn.

Bills breach 20% of marketable debt in FY'24 despite these adjustments. However, we do not currently believe Treasury will continue to increase coupon auction sizes beyond these amounts given: 1) we project bills fall back into the range in FY '25, 2) higher bill supply vs TBAC's guidance does not pose the same risks to market functioning as lower bill supply. Higher bill supply will likely be met by a larger ON RRP drain. If Treasury wanted to increase coupon auction sizes to get bills to <20%, we forecast they would need an additional $250b in gross coupon issuance in FY'24 (Exhibit 12)

There is a high degree of uncertainty around the two key parameters that guide our issuance assumptions: deficit level and QT timing. In Exhibit 13 we show how different expectations for the end of QT alongside deficit shocks impact UST coupon supply vs our baseline should UST manage to a 20% limit on bills by end of FY '24. We show a $200bn error band around deficit forecasts which reflects downside risk if discretionary spending holds at FY '22 levels and upside risk if spending is closer to CBO forecasts. In general, we see risks skewed towards UST delivering a larger increase in coupon supply into FY '24 or sooner depending on the time of debt limit resolution.

Treasury buybacks

Another focus at refunding regarding Treasury buyback operations. Treasury is unlikely to make any announcement in May; we believe Treasury is soliciting feedback on how implementation could improve market functioning. Treasury recently asked dealer's questions on buybacks in the most recent refunding survey; these questions combined with TBAC communication at the February refunding continues to suggest that the rollout of a buyback program at both the 0-1Y & 1Y+ tenors is more likely than not.

We believe buybacks are important as backstop to market functioning & outlet for dealers as a buyer of last resort. Treasury should ensure buybacks operate as a tool that is small enough to allow for orderly market functioning but large enough that it can prevent material UST dislocations. We think $5-10b per month in both the 0-1Y & 1Y+ tenors is a good place to start. Treasury should retain flexibility to increase or decrease buyback sizes based on market conditions.

At present UST market functioning is operating well which means buybacks could be slated to start on the smaller size. Appropriate sizes may change depending on market conditions at the time buybacks are introduced. We believe that relatively small buyback sizes will not challenge Treasury's commitment to regular & predictable issuance.

We believe the minimum size Treasury needs to purchase to improve liquidity is anything above zero. The most important attribute of the buyback program is that Treasury will stand ready to purchase dislocated UST securities as needed. The presence of Treasury as a backstop UST buyer will be sufficient to limit the extent of dislocations on the curve & "cut the tails" on UST cheapening. It will also be important for Treasury to state it is willing to increase or decrease buyback sizes depending on market conditions.

We expect Treasury to err on the side of more maturity buckets & smaller sizes per maturity bucket (vs fewer maturity buckets & larger sizes per maturity bucket). The logic of more maturity buckets is that it provides dealers greater assurance there will be a price by which a security can be moved within a bucket (vs a larger maturity bucket that many identify one part of a maturity bucket as cheap & limit the ability of dealers to reduce holdings in another part of that maturity bucket).

The timing of any buyback program at 0-1Y or 1Y+ tenors will likely be after debt limit resolution. Debt limit resolution will be required because: (1) higher float in the Treasury cash balance for effective implementation of buybacks (2) UST debt managers not wanting to provide any additional scrutiny on their behavior when constrained by the debt limit. Our best guess is that the 0-1Y buyback program will be launched 6m after the debt limit is increased & the 1Y+ buyback program launched 6-12m after that.

Exhibit 1: Expected auction sizes through Oct '23
Expect auction sizes to hold steady at May refunding

	2y	3y	5y	7y	10y	20y	30y	5y II	10y II	30y II	2y FRN
5/31/2023	42	40	43	35	35	15	21		15		22
6/30/2023	42	40	43	35	32	12	18	19			22
7/31/2023	42	40	43	35	32	12	18		17		24
8/31/2023	42	40	43	35	35	15	21		0	8	22
9/29/2023	42	40	43	35	32	12	18		15		22
10/31/2023	42	40	43	35	32	12	18	21	0	0	24

Source: BofA Global Research, US Treasury

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Exhibit 2: Financing estimates by fiscal year ($bn)
Bills as a share of marketable debt will be 18.4% by end of FY '23

		2023	2024		2025	
			QT ends in May '25	QT ends Apr '24	QT ends in May '25	QT ends Apr '24
1	Baseline deficit	1,350	1,450	1,450	1,600	1,600
2	Other adjustment	87	-	-	-	-
3	Financing need (1 + 2)	1,437	1,450	1,450	1,600	1,600
4	Change in cash balance	(136)	200	200	-	-
5	Note: cash balance end period assumption	500	700	700	700	700
6	**Marketable borrowing need (3 +4)**	**1,301**	**1,650**	**1,650**	**1,600**	**1,600**
7	Gross coupon auctioned	3,163	3,453	3,453	3,561	3,561
8	Total coupon maturing	3,057	3,081	3,081	2,254	2,254
9	Fed coupon rollover	249	45	329	202	464
10	Public coupon maturing (8 - 9)	2,809	3,036	2,752	2,052	1,790
11	**Net coupon supply (7 - 10)**	**354**	**417**	**701**	**1,509**	**1,771**
12	Coupon runoff from Fed bal sheet	*649*	*600*	*316*	*262*	-
13	*Net coupon supply to public (11 + 12)*	*1,003*	*1,017*	*1,017*	*1,771*	*1,771*
14	**Net bill supply (6 - 11)**	**947**	**1,233**	**949**	**91**	**(171)**
15	Bill runoff from Fed bal sheet	71	120	44	51	-
16	*Net bill supply to public (14 +15)*	*1,018*	*1,353*	*993*	*142*	*(171)*
17	**Net supply issued (11 + 14)**	**1,301**	**1,650**	**1,650**	**1,600**	**1,600**
18	*Net supply to public (13 + 16)*	*2,021*	*2,370*	*2,010*	*1,913*	*1,600*
19	Starting assumed coupons	20,050	20,404	20,404	20,821	21,105
20	Starting assumed bills	3,645	4,592	4,592	5,825	5,541
21	End assumed coupons (11 + 19)	20,404	20,821	21,105	22,330	22,876
22	End assumed bills (14 + 20)	4,592	5,825	5,541	5,916	5,370
23	**Bills as % of coupons + bills (22 / (22 + 21))**	**18.4%**	**21.9%**	**20.8%**	**20.9%**	**19.0%**

Source: BofA Global Research, Treasury, NY Fed

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Exhibit 3: Bill and coupon issuance estimates by month
We expect bills to the public to increase over the quarter

	Financing Need	TGA EOP	TGA Change	Marketable Borrowing	Net Coupon	Net Bills	Fed Coupon maturities	Fed Bill maturities	Net Coupons to the Public	Net Bills to the Public
	1		2	3 = 1 +2	4	5	6	7	4+6	5+7
Oct-22	90	596	-40	50	28	22	46	14	74	36
Nov-22	269	533	-63	206	60	146	60	0	120	146
Dec-22	62	447	-86	-24	91	-115	53	7	144	-108
Jan-23	71	568	121	192	-49	241	55	5	6	246
Feb-23	313	415	-153	160	41	119	60	0	101	119
Mar-23	322	178	-237	85	74	11	56	4	130	15
Apr-23	-276	350	172	-104	-41	-63	60	0	19	-63
May-23	226	175	-175	51	43	8	60	0	103	8
Jun-23	45	200	25	70	77	-7	48	12	125	5
Jul-23	189	50	-150	39	-56	95	50	10	-6	105
Aug-23	264	300	250	514	13	501	60	0	73	501
Sep-23	-137	500	200	63	72	-9	39	21	111	12
Oct-23	196	600	100	296	-3	299	52	8	49	307
Nov-23	252	700	100	352	7	345	60	0	67	345
Dec-23	32	700	0	32	79	-47	46	14	125	-33

BofA Global Research, US Treasury, Federal Reserve

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Exhibit 4: Sources and uses reconciliation table: BofA forecast vs prior guidance from Treasury
The reason for the difference in our forecasts is largely due to the exclusion of debt limit assumptions from Treasury's estimates

		Financing Need	Marketable Borrowing	All Other Sources	Total	Change in Cash Balance	End of Quarter Cash Balance	SOMA Redemptions
		1	2	3	4 = 2 + 3	5 = 4 - 1	6	7
	Treasury forecast 8/1/22	-5	278	-233	45	50	550	-180
Apr - Jun '23	BofA forecast	-5	17	0	17	22	200	-180
Jul - Oct '23	BofA forecast	316	616	0	616	300	500	-180

Source: BofA Global Research, US Treasury

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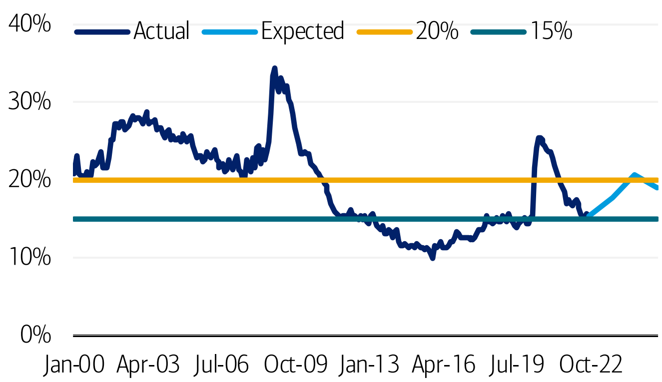
Exhibit 5: Bills as a % of marketable debt
Given our expectations for deficit and QT ending in Apr '24, bills as a share of marketable debt should increase through FY '24



Source: BofA Global Research, US Treasury

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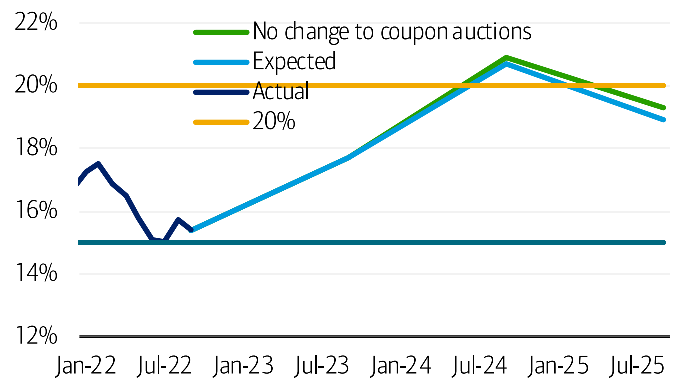
Exhibit 6: Projected bills as % of marketable debt
There is a risk UST increases coupon auction sizes in FY'24 to avoid exceeding the 15-20% range



Source: BofA Global Research, US Treasury

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Exhibit 7: Expected auction sizes through February '24 refunding
Expect auction sizes to grow in November '23 and February '24 refundings

	2y	3y	5y	7y	10y	20y	30y	5y II	10y II	30y II	2y FRN
5/31/2023	42	40	43	35	35	15	21		15		22
6/30/2023	42	40	43	35	32	12	18	19			22
7/31/2023	42	40	43	35	32	12	18		17		24
8/31/2023	42	40	43	35	35	15	21			8	22
9/29/2023	42	40	43	35	32	12	18		15		22
10/31/2023	42	40	43	35	32	12	18	21			24
11/30/2023	43	41	44	36	36	16	22		15		22
12/29/2023	44	42	45	37	33	13	19	19			22
1/31/2024	45	43	46	38	33	13	19		18		26
2/29/2024	46	44	47	39	37	17	23			11	24
3/29/2024	47	45	48	40	34	14	20		16		24
4/30/2024	48	46	49	41	34	14	20	22			26

Source: BofA Global Research

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Exhibit 8: Expected changes in auction sizes from August '23 refunding
Expect auction sizes to grow in November '23 and February '24 refundings

	2y	3y	5y	7y	10y	20y	30y	5y II	10y II	30y II	2y FRN
11/30/2023	1	1	1	1	1	1	1		0		0
12/29/2023	2	2	2	2	1	1	1	0			0
1/31/2024	3	3	3	3	1	1	1		1		2
2/29/2024	4	4	4	4	2	2	2			1	2
3/29/2024	5	5	5	5	2	2	2		1		2
4/30/2024	6	6	6	6	2	2	2	1			2

Source: BofA Global Research

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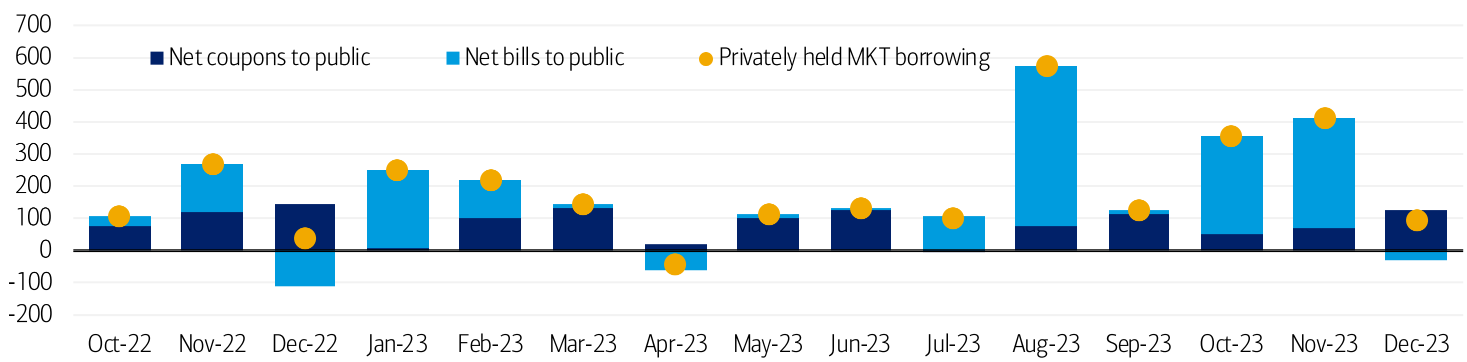
Exhibit 9: Monthly change in coups, bills, marketable debt to public ($bn)
Bill supply expected to be negative in April and flat through end of June, large positive supply in August, October, and November



Source: BofA Global Research, US Treasury

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Exhibit 10: Projections for change in TGA and bill supply under June and Aug debt limit resolutions
A June resolution would imply 200b higher TGA and bill supply in FY'23 vs an August resolution

	June resolution		August resolution		Difference (Aug – Jun)	
	Change in TGA	Change in bill supply	Change in TGA	Change in bill supply	Change in TGA	Change in bill supply
FY '23	64	1,149	(136)	949	(200)	(200)
FY '24	-	749	200	949	200	200

Source: BofA Global Research, US Treasury

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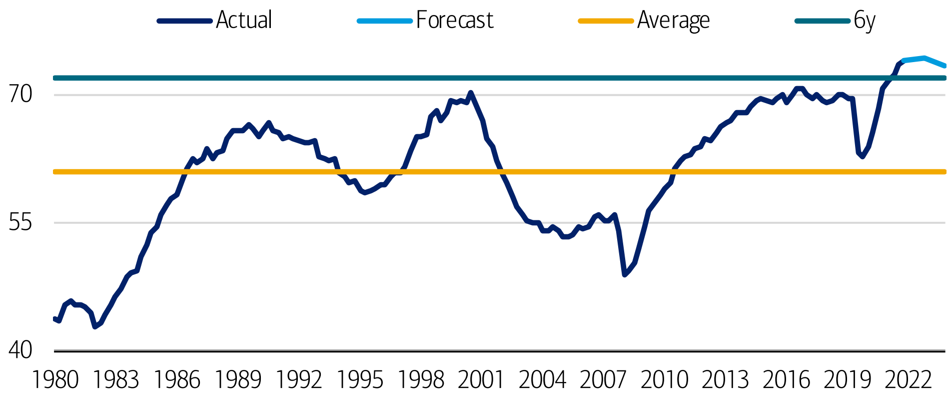
Exhibit 11: Actual and expected weighted average maturity (WAM) through FY '24 (months)
WAM expected to stay elevated



Source: BofA Global Research, US Treasury

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Exhibit 12: Gross coupon issuance levels in FY '24 and FY '25 under various assumptions
UST would need to increase coupons by roughly $250bn assuming our base case for QT and deficit levels to keep bills below 20% by end of FY '24

	No change	Base case	Bills <20%
Gross coupon issuance FY '24	3,163	3,453	3,700
Gross coupon issuance FY '25	3,163	3,561	3,350

Source: BofA Global Research

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Exhibit 13: Adjustment to gross issuance vs our baseline required to keep bills below 20% of marketable debt by end of FY '24 under various scenarios
In our base case for issuance, deficit would need to be about $250bn lower & QT end in April for bills to not meaningfully breach 20% by end of FY '24

		End of QT	
		May '25	April '24
	1,250	+337	+47
	1,450	+497	+247
Deficit	1,650	+672	+397

Source: BofA Global Research

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Research Analysts

US Rates Research

Ralph Axel
Rates Strategist
BofAS
ralph.axel@bofa.com

Bruno Braizinha, CFA
Rates Strategist
BofAS
bruno.braizinha@bofa.com

Mark Cabana, CFA
Rates Strategist
BofAS
mark.cabana@bofa.com

Katie Craig
Rates Strategist
BofAS
katie.craig@bofa.com

Meghan Swiber, CFA
Rates Strategist
BofAS
meghan.swiber@bofa.com

Anna (Caiyi) Zhang
Rates Strategist
BofAS
caiyi.zhang@bofa.com