Liquid Insight

Bills on parade

31 May 2023

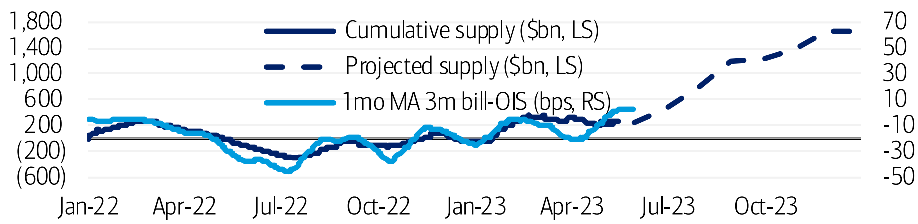
Rates and Currencies Research
Global

Key takeaways

- Post debt limit deal we expect $1tn+ net bill supply from now till end Aug & a total of $1.4tn+ net new bills through end '23
- The bill supply surge will likely be absorbed by MMFs but the broader increase in coupon supply will need to find a buyer
- Supply surge will see bills cheapen, higher rates on CP & CD, increased competition for bank deposits, tighter XCCY basis

By Mark Cabana & Katie Craig

Exhibit 1: Cumulative bill supply and 1mo moving avg of 3m bills vs OIS
Bills typically cheapen vs OIS with more bill supply



Source: BofA Global Research, Bloomberg, Treasury

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Bills on parade

We expect a wave of Treasury bill supply after the US debt limit agreement is passed by the Congress. We expect $1tn+ net bill supply from now till end August & a total of $1.4tn+ net new bills from now till end '23. For reference, the average annual bill supply from 2015-2019 was +200b; the summer surge will be 5x the pre-COVID average, the total surge in '23 will be 7x.

The Treasury bill supply surge is due to: (1) rebuild of Treasury cash balance (2) funding of existing US gov't deficits. We project Treasury's cash balance to grow from near zero to levels at end Sept & Dec of $600b & $700b, respectively. The cash balance supply surge should result in a drain of liquidity on the liability side of the Fed's balance sheet. We expect this liquidity drain to be 90% / 10% of ON RRP / reserves.

Market impact: in relation to Q1 '22 - Q1 '23, the bill supply surge should see money market levels rise between 25-40bps. The market is already factoring in some of this move but not likely all of it. The bill supply surge will see bills cheapen vs FFOIS, higher CP & CD levels, increased competition for bank funding, tighter USD funding in XCCY basis, & increased dealer balance sheet constraints. These dynamics will be exacerbated by a healthy increase in net UST coupon supply of $650b between now & end '23.

For more detail on bill supply impact, see Bill supply surge FAQ

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Why is there a surge in bill supply? Why not coupons?

We expect a surge in bill supply after the debt limit (DL) is increased. Using our base case of a DL resolution by June 1, we expect over $1tn of bill supply from Jun through Aug and $1.4tn from Jun to end Dec '23 (Exhibit 2, Exhibit 3). For reference, the average annual net bill supply in the 5Y that preceded COVID (2015-2019) was $200b/y. The expected vs historic supply is 5x during the summer and 7x from today until end '23.

Exhibit 2: 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
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	-305	316	138	-167	-41	-126	60	0	19	-126
May-23	299	70	-246	53	43	10	60	0	103	10
Jun-23	118	350	280	398	77	321	48	12	125	333
Jul-23	230	400	50	280	-56	335	50	10	-6	346
Aug-23	305	500	100	405	25	380	60	0	85	380
Sep-23	-96	600	100	4	91	-87	39	21	130	-67
Oct-23	196	600	0	196	26	170	52	8	78	178
Nov-23	252	650	50	302	35	267	60	0	95	267
Dec-23	32	700	50	82	108	-26	46	14	154	-12

Source: BofA Global Research, US Treasury, Federal Reserve

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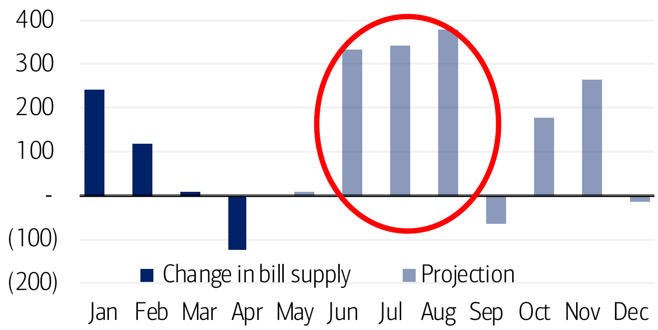
Exhibit 3: Monthly change in bill supply in 2023 ($bn)
We project $1,058b in bill supply between June and end of August



Source: BofA Global Research, Bloomberg

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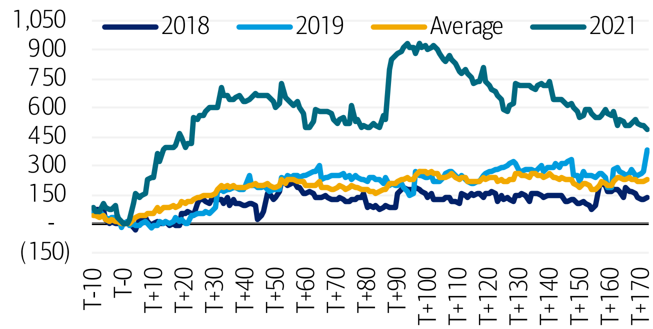
Exhibit 4: TGA surrounding DL resolution periods ($bn chg)
TGA refill happened quickly in '21



Source: BofA Global Research, Haver Analytics

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Treasury is raising the supply for 2 reasons: (1) TGA rebuild (2) deficit financing. TGA will be rebuilt from the most recent level of $77b or lower to $600b by end Sept (May refunding suggested Treasury sees TGA at $600b by end Sept; we assume an extra $100b build from Sept to Dec (Exhibit 2). Deficits are also elevated and require additional bill financing even after factoring in coupon supply increases in August.

The Treasury will likely want to return its TGA to a comfortable level as quickly as possible. Treasury Borrowing Advisory Council (TBAC) has recommended the TGA should remain above 5 days of expected outflows, which has averaged roughly $500b YTD. Given their float has been depressed and Treasury is a prudent liquidity manager, we expect them to want to raise cash quickly and add an additional $200b cash buffer by year-end. Following the debt limit resolution in 2021, the Treasury quickly brought the TGA up from near $0 to almost $700b in less than 2 months (Exhibit 4).

We are confident in our bill supply estimates due to our understanding of Treasury financing needs. Our forecasts are also supported by estimates from the Treasury Borrowing Advisory Committee (TBAC). The TBAC financing estimates at the May refunding suggested $1,028b of bill supply over Q2 & Q3. TBAC may have been assuming an earlier debt limit resolution, which explains their higher estimate. Our bill supply numbers appear conservative in relation to TBAC, which makes us think bill supply risks are skewed to the high side.

The Treasury likely will choose to raise short-tenor bills over longer-tenor coupons for 2 reasons: (1) bills act as the "shock absorber" (2) coupons take longer to ramp up. Treasury has traditionally used bills as an unexpected financing need "shock absorber"; bills have less duration risk and typically have a deeper buyer base vs coupons. Treasury has been less willing to make sudden changes in coupon supply because they have more price risk and not as deep of a buyer base.

Our bill supply estimates include an assumption of coupon auction size increases starting in August '23. These coupon increases are likely to be much smaller and slower in relation to the bill supply increases (for detail on coupon size increases see May refunding). We expect that coupon size increases will raise an additional $495b between Aug '23 & Aug '24; however, this net increase in cash will take place slowly.

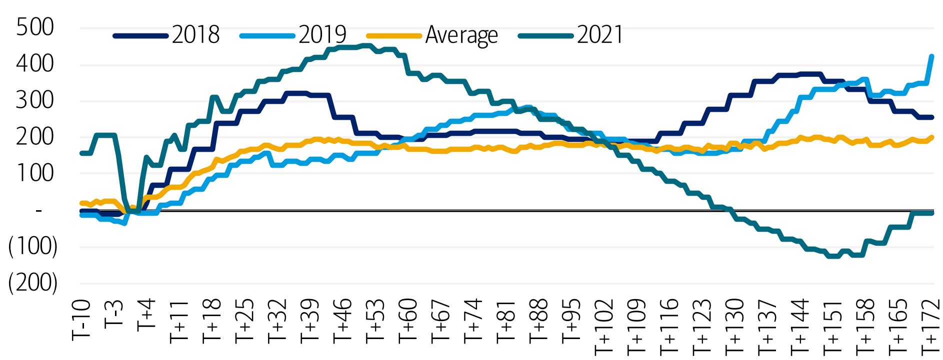
Treasury will slowly grow coupons over time but the initial Treasury cash balance rebuild will be largely funded by higher bill supply.

When will bill supply hit the market?

We expect bill supply will hit the market very quickly after a debt limit agreement is in place. Specifically, we expect Treasury to start announcing and auctioning increased bill supply very shortly after any bill is passed by both the House & Senate. Treasury does not need to wait for the President to sign the bill since the offering size increases and auctions can occur before settlement (the President would be required to sign a bill before the new bill supply can settle).

Historically, Treasury bill supply increases have averaged $65b in the 2 weeks after debt limit increased (Exhibit 5; including years '11, '13, '15, '17 '18, '19, '21). This average supply increase then rises to $194b 4-weeks after a debt limit resolution. The largest supply surge was in 2021 when net new bill supply reached $450b 5 weeks after the debt limit was increased.

Exhibit 5: Cumulative change in bill supply surrounding DL periods ($bn chg)
Treasury issued $450b in net new bills within 5 weeks after the 2021 DL resolution



Source: BofA Global Research, Haver Analytics

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We expect the 2023 supply surge to be the largest in debt limit history. The '23 supply surge is likely to be the largest due to a very low Treasury cash balance and large deficits.

Where will the drain come from?

The increase in the Treasury cash balance (TGA) represents a drain of liquidity from the financial system. Recall, the TGA is a liability on the Fed balance sheet. Assuming a stable Fed balance sheet, a TGA increase must drain liquidity from elsewhere. The most likely places for this drain are from reserves or ON RRP.

We strongly suspect the TGA rebuild will draw heavily from ON RRP. In our Fed balance sheet projections, we assume a 90/10 TGA drain distribution from ON RRP / reserves (Exhibit 6). Specifically, we think that 90% of the TGA drain will come from ON RRP. We acknowledge the 90/10 distribution implies a false sense of precision. However, we would be surprised if the TGA drain does not come 80-100% from ON RRP.

Exhibit 6: Fed balance sheet projections ($bn)

We forecast ON RRP falling over $1tn from current levels to just above $1tn by year-end.

		Asset								Liabilities						
		UST	MBS	CMBS	Repo	Discount Window & PDCF	Fed Facilities	FX Swap Lines	Other	Currency	TGA	Foreign RRP	ON RRP	Other	Reserves	Total
	Apr-23	5266	2576	8	0	74	253	0	436	2324	296	359	2325	176	3132	8613
25% Reserves / 75% ON RRP from TGA & QT	May-23	5206	2551	8	0	5	301	0	437	2336	70	360	2405	177	3159	8508
10% reserve / 90% ON RRP drain from QT	Jun-23	5146	2525	8	0	5	291	0	438	2349	350	362	2055	178	3120	8413
	Jul-23	5086	2501	8	0	5	281	0	439	2362	400	363	1913	179	3104	8320
	Aug-23	5026	2474	8	0	5	271	0	440	2375	500	364	1723	180	3083	8224
	Sep-23	4966	2453	8	0	5	261	0	441	2387	600	365	1538	181	3062	8134
	Oct-23	4906	2431	8	0	5	251	0	442	2400	600	366	1442	182	3052	8043
	Nov-23	4846	2411	8	0	5	241	0	443	2413	650	368	1304	183	3036	7955
	Dec-23	4786	2392	8	0	5	231	0	444	2426	700	369	1166	184	3021	7866

Source: BofA Global Research, Bloomberg

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We also assume that ongoing quantitative tightening (QT) drain will come from ON RRP instead of reserves. We believe that MMF will continue to extend out the curve once the above-mentioned conditions for moving out of ON RRP are satisfied. We expect that front end Treasury paper will be cheap enough to justify this extension, which would mean that incremental QT will likely be mostly drawn from ON RRP vs reserves.

Our Fed balance sheet forecasts project an ON RRP decline this year of >$1tn (Exhibit 10). The decline assumes a $1.1tn decline from current levels with $1+tn still held at the facility by end '23. ON RRP will drop substantially with all the TGA rebuild but there will still be a very large amount left in ON RRP by end '23.

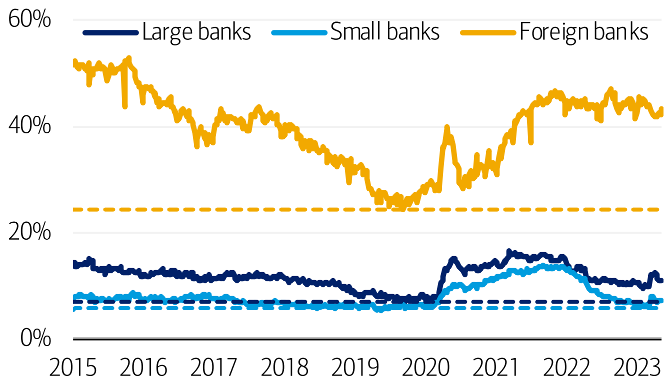
Clients have frequently asked why we are so confident in the TGA drain draw from ON RRP. Clients ask: why not from reserves? Our answer: (1) recent history (2) sensitivity of MMF behavior to bill rates around ON RRP.

Recent history: in Jan '23 the US Treasury sharply increased their cash balance via bill supply after they employed a "debt issuance suspension period". In Jan, TGA increased $121b which included $241b of bill supply. The TGA increase of $121b was fully paid for by a $184b decline in ON RRP as reserves stayed flat. Our takeaway: TGA increase financed by bill supply and bill cheapening is likely to draw funds out of ON RRP.

Sensitivity of bill rates around ON RRP: the upcoming bill supply surge will likely see a material cheapening of bills vs ON RRP. From Mar '22 to Mar '23, 3m bills vs OIS traded 20bps rich. We expect they will likely trade 10 to 20bps cheap after the supply surge. We believe money market mutual funds will be more sensitive to this bill cheapening vs retail depositors. Retail depositors typically re-allocate out of bank deposits if the interest rate spread between deposits and money markets is several hundred basis points. Money funds are likely to cap the bill cheapening before retail materially shifts behavior.

We acknowledge there is uncertainty around this. We are confident in our view but recognize we could be wrong. If we are wrong and more cash comes out of reserves this would place additional strain on the banking system and it may drive reserve / liquidity scarcity at mid to large sized banks. We can see from Fed H8 data that small banks are already very close to their cash to asset ratio trough seen around the 2019 repo spike when the banking system faced reserve scarcity (Exhibit 7).

Exhibit 7: Bank cash to asset ratios vs 2019 trough
Small banks are very close to the 2019 trough around large repo spike



Source: BofA Global Research, Federal Reserve H.8. Note: dashed line represents the cash / asset ratio across banks in Sept '19 when the banking system reached reserve scarcity

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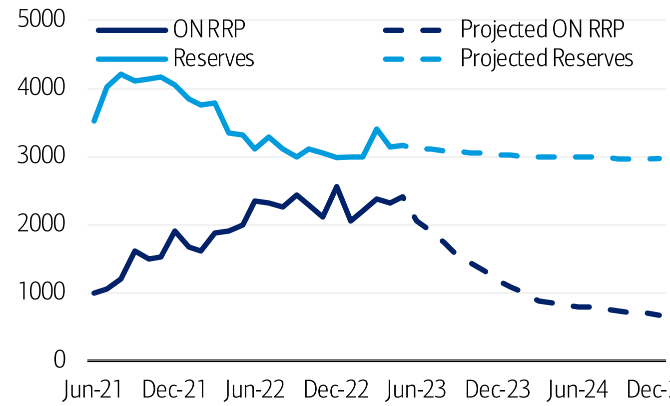
Exhibit 8: Projected ON RRP and Reserve balances ($bn)
We project ON RRP to absorb most of the TGA refill and QT drain



Source: BofA Global Research, Bloomberg

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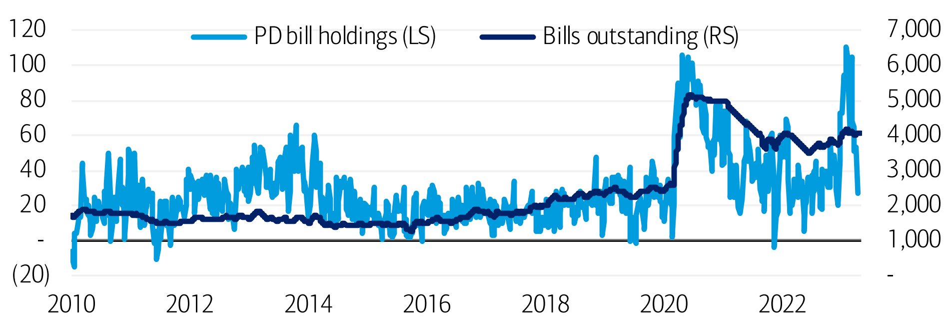
While TGA refill will draw from ON RRP and deposits, it will not reduce the financial assets held by the private sector, and so should not impact spending or drag growth. Whether the household sector holds money fund assets in RRP, money fund assets in UST, or deposit assets on bank balance sheets, the household sector's total wealth holdings will not decline, and the amount of actual spendable money will not change, only the form that the money is held in will change.

What is the market impact?

Essentially, the US government issuance surge will be crowding out other private funders at the US front end. Private funders can still get done but will need to raise their offering levels given the cheaper US government paper.

Dealer balance sheets will also be crowded out by the surge in Treasury supply. One of the core functions of US primary dealers is to underwrite US Treasury debt offerings. We suspect the dealer community will perform this responsibility admirably, but the dealer community is also likely to end up warehousing this supply until it can be moved to end investors. There has traditionally been a strong relationship between bill issuance and dealer bill holdings (Exhibit 9).

Exhibit 9: Primary dealer bill holdings and total UST bills outstanding ($bn)
PD bill holdings tracks bills outstanding closely



Source: BofA Global Research, Bloomberg

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As dealer balance sheets hold more UST supply, they will have less capacity to hold other securities. This should be clear in 2H '23 when dealers prepare their balance sheets for year-end. Increased UST holdings will likely make dealers less willing to hold other paper, which will lead to a modest deterioration in market functioning and higher overall "risk premium". This will especially be true in balance sheet intensive activities like cross currency basis. Market participants should anticipate a decline in market functioning from the UST supply surge and associated crowding out of dealer balance sheets.

Bill surge likely will be the seminal UST funding event in 2H '23. It would see: (1) material bill vs OIS cheapening, (2) higher dealer UST holdings => upward pressure on bi-lateral repo, (3) cheapening of money market rates, including CP / CD, (4) sharp drop in ON RRP use. We also expect increased USD funding pressure in XCCY basis due to higher CP / CD rates.

A similar bill supply surge was seen after the debt limit resolution in late '17 & early '18. During this period, bill supply increased $500b, 3m bills cheapened vs OIS by 20bps, SOFR + Fed funds shifted higher in the Fed's target range, and ON RRP use fell to near zero. The late '17 & early '18 period is a playbook for the large shift a debt limit supply surge can have on funding markets.

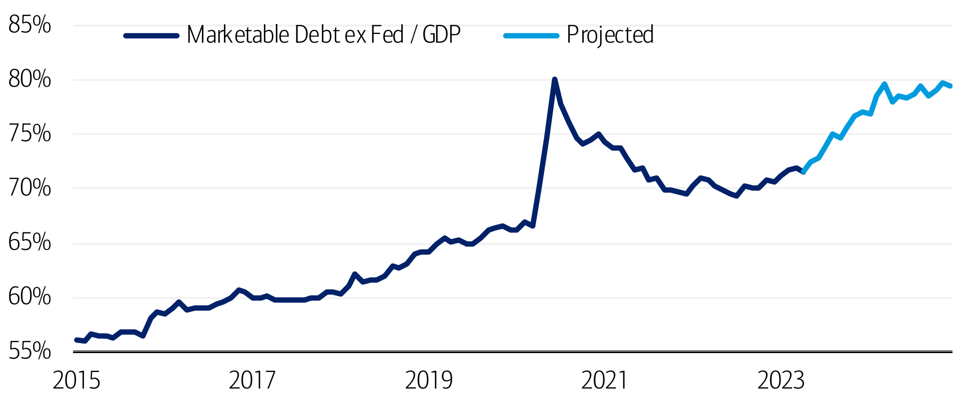
The large surge in bill supply may feel like an extra 25bp money market rate hike (or two). For most of '22, 3m bills-OIS was 20bps rich. Post DL bill supply, we expect 3m bills-OIS to trade 5-20bps cheap (this is the level required to encourage MMF investors to extend out of ON RRP). On net, this could be a 25-40bp money market increase. Some of this is likely already in the price of bills, but we doubt it is fully priced. Cheaper bill rates mean banks and other funders would have to pay up to retain funds.

Our analysis confirms the above-mentioned rule of thumb. We find that for every $100b of bill supply, 3m bills-OIS cheapens by ~5bps. A simple regression suggestion then suggests that the $1.4tn of bill supply by end '23 should see 3m bills-OIS near +70bps. We think this is extreme and will not be realized. MMF currently invested in Fed ON RRP will cap the extent of ON RRP cheapening. However, this regression speaks to the extent of cheapening pressure we anticipate on 3m bills-OIS.

Bottom line: The bills supply surge will occur with a general shift towards more marketable Treasury debt (ex Fed) that needs to be held by the public. The bill supply surge will likely be absorbed by money funds but the broader increase in coupon supply will need to find a buyer. Our measure of marketable debt (ex Fed) to GDP suggests additional cheapening of USTs in coming months (Exhibit 10). Cheaper USTs are on the horizon.

Exhibit 10: Marketable Debt ex Fed to GDP ratio (%)

We project marketable debt ex Fed could grow to nearly 80% of GDP by year-end '24



Source: BofA Global Research, Bloomberg, FRBNY, CBO

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Notable Rates and FX Research

- **Global Rates, FX & EM Year Ahead 2023 – Year Ahead 2023: Pivot ≠ Peak**, 20 Nov 2022
- Before the X-Date, **Global FX Weekly**, 26 May 2023
- X-marks the spot **Global Rates Weekly**, 26 May 2023
- China pessimism & US debt limit hopes and fears, **Liquid Cross Border Flows**, 22 May 2023

Rates, FX & EM trades for 2023

For a complete list of our open trade recommendations, as well as our trade recommendations closed over the past 12 months, see the reports below:

Global FX weekly: Before the X-Date 26 May 2023

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