US Rates Watch

ON RRP dropping, bills not cheapening

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TGA: Treasury cash balance

ON RRP: overnight reverse repo

MMF: money market mutual funds

DL: debt limit

Liquidity drain source as expected, bill levels surprising

Clients are watching the current liquidity drain with keen interest, so are we. From debt limit passage on June 3 to most recent data the Treasury cash balance (TGA) has increased from $23b to $267b & ON RRP has dropped from $2.142tn to $1.989tn; this implies that 54% of the TGA rebuild has thus far come from ON RRP (Exhibit 1). Data in the past week suggest nearly 65% of the TGA build has been from ON RRP.

We have not been surprised by the source of the TGA rebuild but have been surprised by the lack of bill market cheapening to drive the ON RRP shift. In this note we: (1) review liquidity drain data (2) discuss why bills have not cheapened (3) offer views on outlook. **Bottom line**: FHLB supply cuts likely support rich bills, we still expect cheapening.

Liquidity drain detail: reverse repo falling, reserves stable

We have been watching the liquidity drain data from 2 vantage points: (1) daily TGA & ON RRP data (2) weekly Fed H.4.1 data. Daily data is more timely, weekly data is more robust. They tell a similar story but have some important nuances.

Daily TGA & ON RRP: daily TGA & ON RRP allow us to narrow in on the liquidity drain since debt limit passage on June 3. We assume that any increase in TGA that is not explained by an ON RRP drop can be explained by a decline in reserves (this is an over-simplification given shifts in other Fed balance sheet liabilities). This data shows that post debt limit 54% of the TGA rebuild has come from ON RRP; data in the past week shows that near 65% of the drain has been from ON RRP.

Fed H.4.1 data: Fed data is more robust but does not allow for as granular examination of the dates after debt limit passage on June 3. Fed data provides a data snapshot as of each Wednesday close of business. This data makes the liquidity drain appear even more concentrated in ON RRP (Exhibit 2). The reason for the higher absorption is the May 31 snapshot, which results in an artificially high use of ON RRP due to month-end (ON RRP use spikes on month end as some dealers cut back repo for balance sheet reporting).

Fed data also shows a pronounced drop in foreign repo (Exhibit 3). Foreign repo is likely falling for similar reasons to ON RRP: users want to extend out the curve to purchase the increase in bill supply. Recall, foreign RRP users earn the same rate as ON RRP + have similar liquidity & return objectives to MMF when not intervention constrained.

The drop in ON RRP & foreign RRP has allowed commercial bank reserves to remain roughly stable since May 31 (Exhibit 4). This should give temporary comfort to clients who worried the TGA rebuild might drive the banking system to reserve scarcity. We have long argued against this view (See Bill supply surge FAQ 25 May 2023).

… Views on bill rates & the outlook on next page …

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Bills rich due to Fed fade & FHLB supply falling

We have not been surprised by the liquidity drain composition but have been surprised by how little bill market cheapening has been required to pull cash from Fed RRP. Since June 3 UST has issued $209b in net new bills, which has been met with strong auction statistics, a reduction in dealer bill positions, & limited bill cheapening vs other bill supply surges (Exhibit 5, Exhibit 6).

Since debt limit passage 1m bills have cheapened modestly vs OIS while 3m bills have richened. This stands in contrast to other recent periods of heavy bill supply in early '18 & '23; in these periods 3m bills cheapened vs OIS by 2-9bps as the first $200b of bill supply hit. MMF have been willing to extend after debt limit passage with gov't & prime WAMs & WALs longer by 2-3 & 0.5-2 days since June 3 (Exhibit 7, Exhibit 8, Exhibit 9).

Part of the limited bill cheapening can be explained by DL passage but other factors are also likely at play including (1) Fed fade (2) FHLB supply falling (3) yield enhancement.

<u>Fed fade</u>: the market is currently pricing 21 & 24bps of Fed hikes by the July & September FOMC meetings. The market is not fully convinced of an additional Fed rate hike in July & seemingly neither are MMF. Some MMF may be viewing bills that extend beyond the July meeting as fairly priced given the possibility of a July hike but attractive if the Fed remains on hold. We urge caution on fading the Fed.

We encourage clients not to see a June skip as a pause. The Fed June dot plot signaled 2 more hikes & BofA economists agree, expecting hikes in July & September. The distribution of Fed dots suggest only 2 out of 18 expect the Fed to remain on hold for the rest of '23. The Fed has also been successfully out-hawking the market since mid-'22 with end '23 Fed median dot on average exceeding the market by 37bps (Exhibit 10).

Front end investors willing to extend out of Fed RRP to fade rate hike should be careful. The surge of front end supply will likely provide investors better entry points in light of July & September Fed hike risk.

<u>FHLB supply</u>: FHLB supply has also fallen sharply over recent weeks. According to our estimates, FHLB net issuance declined $114b since June 3, including a large FRN maturity on June 14 (Exhibit 11). Bank paydowns of precautionary funding likely drove FHLB debt paydowns last week. The drop in excess liquidity is also reflected in lower Fed funds volumes, though volumes remain elevated.

On net, FHLB & bill supply has only increased $101b since debt limit passage (Exhibit 12). The FHLB paydowns likely factor heavily into the limited bill cheapening & strong auction support.

<u>Yield enhancement</u>: we also suspect some front-end investors are willing to extend out the curve to show improved yield levels. This dynamic is especially true for institutional MMF, who can see key investors move cash between multiple MMF chasing the highest yield. DL passage + upward sloping 1-3m curve might be pushing investors out the curve to show higher yields today in hopes of capturing more client AUM tomorrow.

Outlook: bills still biased cheaper, investors too eager

We continue to believe bills are still biased cheaper in the weeks ahead. Our historical analysis has found that 3m bills vs OIS should cheapen roughly 5bps for every $100b of net new supply (Exhibit 13). This trend has recently been blunted due to investor eagerness to extend out the curve + reduced FHLB supply. We trust history will hold.

Money funds & ON RRP cash are likely to be the marginal bill buyer / primary liquidity source for TGA rebuild. We can think of 2 other potential bill demand sources: (1) state & local governments (2) non-financial corporates. Using Fed Flow of Funds data, we looked at these entity deposits to total financial asset + UST to total financial asset ratios (Exhibit 14). We see that state & local gov'ts have decreased their deposits & increased their UST holdings, implying limited excess capacity to absorb bill supply. Non-financial corporates have more excess deposit capacity & could potentially add $600b+ of bills. MMF & ON RRP cash will therefore compete with non-financial corporations to take down the bill supply; we suspect MMF will be more sensitive to bill rates & end up serving as the marginal source of bill demand.

Bottom line: Ongoing hawkish Fed rhetoric & June month end dynamics should drive bills cheaper. Our core message to front end investors: be patient in the face of elevated supply. Bills should cheapen with hawkish Fed, ongoing UST bill settlements, & eventual stabilization in FHLB supply. Be patient in the face of supply to allow for cheaper bills.

Exhibit 1: Implied change in reserves and ON RRP since debt limit resolution ($bn)

TGA and ON RRP data since June 2 implies 54% of TGA refill has come out of ON RRP since June 2

	TGA Level	TGA Change	Cumulative TGA Change	ON RRP Level	ON RRP Change	Cumulative ON RRP change	Implied Reserve Change	Cumulative reserve change	Net bills	Cumulative Bills
6/5/2023	71.2	47.9	47.9	2131.4	-10.7	-10.7	-37.2	-37.2	40	40
6/6/2023	71.6	0.4	48.2	2134.6	3.2	-7.5	-3.6	-40.7	28	68
6/7/2023	77.5	5.9	54.1	2161.6	26.9	19.5	-32.8	-73.6	0	68
6/8/2023	88.0	10.5	64.6	2141.8	-19.8	-0.3	9.3	-64.3	21	89
6/9/2023	86.0	-2.0	62.6	2127.7	-14.1	-14.4	16.1	-48.2	0	89
6/12/2023	100.9	14.9	77.6	2126.9	-0.8	-15.2	-14.2	-62.3	0	89
6/13/2023	133.1	32.1	109.7	2074.5	-52.3	-67.6	20.2	-42.1	35	124
6/14/2023	134.9	1.8	111.5	2109.1	34.6	-33.0	-36.4	-78.5	0	124
6/15/2023	250.4	115.6	227.0	1992.1	-117.0	-150.0	1.4	-77.1	35	159
6/16/2023	266.9	16.5	243.5	2011.6	19.4	-130.5	-35.9	-113.0	0	159

Source: BofA Global Research, Federal Reserve, Treasury

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Exhibit 2: Fed balance sheet, selected assets & liabilities ($bn, Wednesday comparison data)

Cash in banking system exceeded Fed balance sheet growth due to lower ON RRP

	Assets						Liabilities					
Dates	Securities	Repo	Discount Window	BTFP	FDIC bank credit extension	CB Liquidity Swaps	Currency	Foreign RRP	ON RRP	TGA	Reserves	Total
5/31/2023	7,725	0	4	94	188	0	2,344	361	2,255	49	3,206	8,436
6/7/2023	7,722	0	3	100	185	0	2,344	347	2,162	78	3,306	8,439
6/14/2023	7,721	0	4	102	180	0	2,342	328	2,109	135	3,306	8,438
Change from 5/31-6/14	-4	0	0	8	-8	0	-2	-33	-146	86	101	3
Change from 6/7-6/14	-2	0	0	2	-5	0	-1	-19	-52	57	0	-1

Source: BofA Global Research, Federal Reserve

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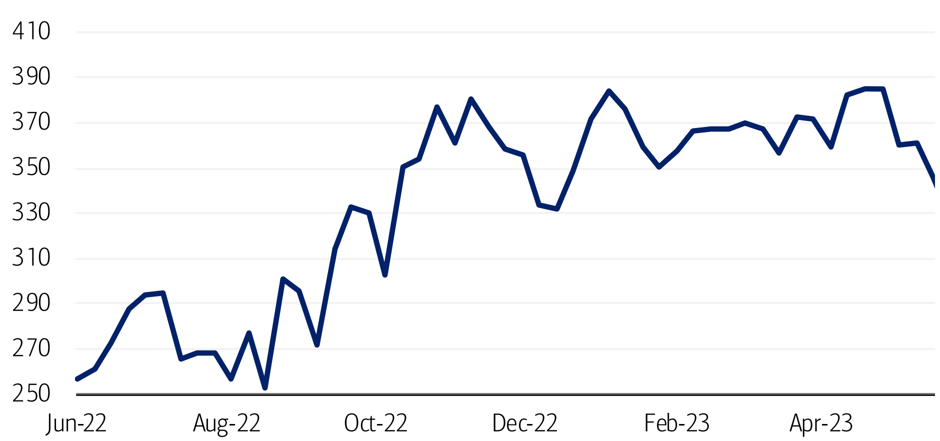
Exhibit 3: Foreign RRP take-up ($bn)

Foreign RRP take-up has declined $33b since May 31



Source: FRBNY

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Exhibit 4: Bank Balance Sheet Statistics ($bn)
Fed H8 data shows bank reserves up $34b on the week after the debt limit resolution

		Total	Assets						Liabilities			
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Borrowings	Net due to related foreign offices	Other
All	6/7/2023	22891	3336	1527	2586	646	12091	2704	17203	2431	254	3002
Banks	1w Chg	-88	34	1	-15	-32	-52	-23	-87	25	31	-57
Domestic	6/7/2023	19830	2013	1412	2561	286	11082	2475	15958	1408	-380	2844
Banks	1w Chg	-191	-104	2	-15	-11	-42	-22	-87	-57	-7	-40
Large	6/7/2023	13264	1548	1123	1934	247	6719	1694	10747	883	-410	2045
Banks	1w Chg	-169	-87	3	-14	-15	-40	-15	-92	-32	-5	-40
Small	6/7/2023	6565	466	289	627	39	4363	781	5211	525	31	798
Banks	1w Chg	-22	-16	-1	-1	4	-1	-7	5	-25	-3	0
Foreign	6/7/2023	3061	1323	115	25	360	1010	229	1245	1024	634	158
Banks	1w Chg	104	137	-1	0	-21	-11	-1	0	82	38	-16

Source: BofA Global Research, Fed H8

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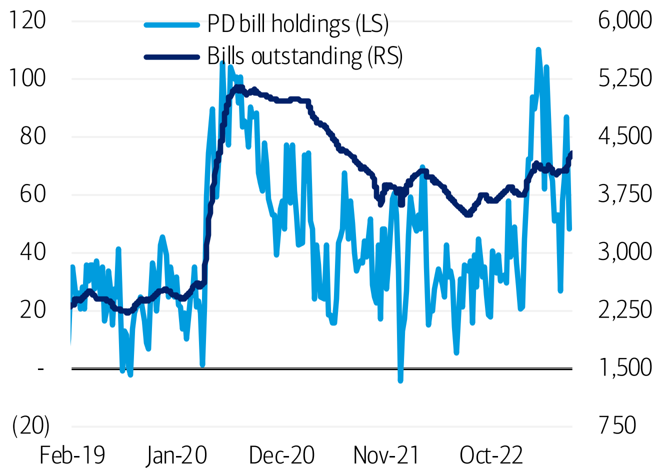
Exhibit 5: Primary dealer bill holdings vs bills outstanding
Primary dealer holdings of bills have declined since the debt limit resolution



Source: BofA Global Research, Bloomberg

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Exhibit 6: 1m- & 3m- bill- OIS in first $200b of bill supply surges
3m bills typically cheapen 2-9bps in $200b bill wave

		1m bill - OIS	3m bill - OIS
2018	Start	(11.5)	(0.3)
	End	8.6	8.2
	Change	20.1	8.5
Early 2023	Start	(5.5)	(6.8)
	End	(5.9)	(5.2)
	Change	(0.4)	1.7
Current	Start	(8.8)	11.0
	End	(0.2)	(1.8)
	Change	8.6	(12.8)

Source: BofA Global Research, Bloomberg

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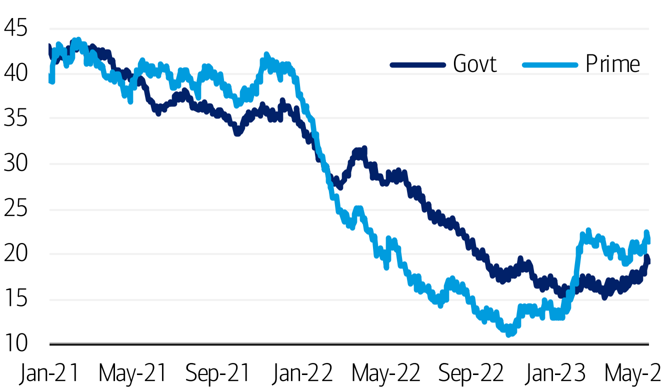
Exhibit 7: MMF WAM (Days)
Prime MMF WAMs have extended 3 days since the DL resolution



Source: BofA Global Research, iMoneyNet

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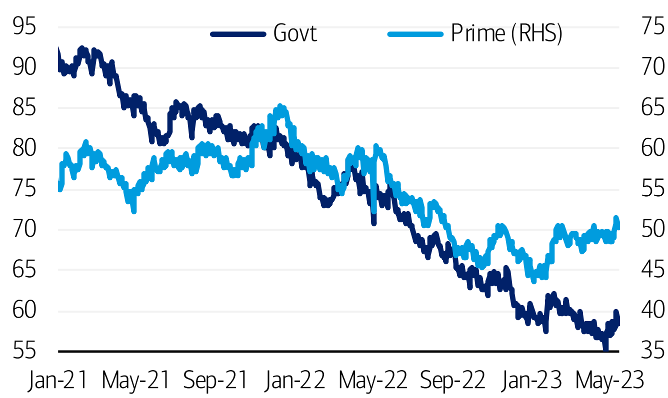
Exhibit 8: MMF WAL (Days)
MMF WALs have extended almost 1 day since the DL resolution



Source: BofA Global Research, iMoneyNet

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Exhibit 9: MMF statistics since debt limit resolution
MMFs have extended WAMs and WALs since the debt limit resolution

	Prime				Government			
	AUM ($b)	WAM (days)	WAL (days)	Simple Yield (%)	AUM ($b)	WAM (days)	WAL (days)	Simple Yield (%)
6/2/2023	1,195	25.4	53.8	4.88	4,524	22.1	62.7	4.72
6/16/2023	1,201	28.4	55.9	4.90	4,495	23.9	63.1	4.74
Change	6	3.0	2.1	0.02	(29)	1.8	0.4	0.01

Source: BofA Global Research, iMoneyNet, Crane Data

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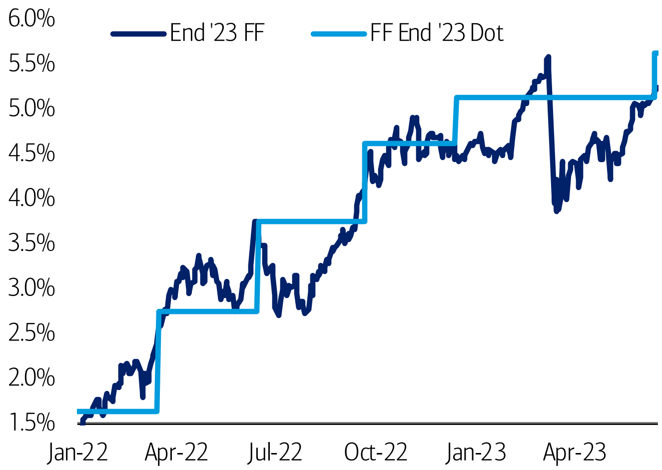
Exhibit 10: Market implies FF rate vs Fed median dot
The Fed has also been out-hawking the market since mid-'22 with end '23 Fed median dot on average exceeding the market by 37bps



Source: Bloomberg

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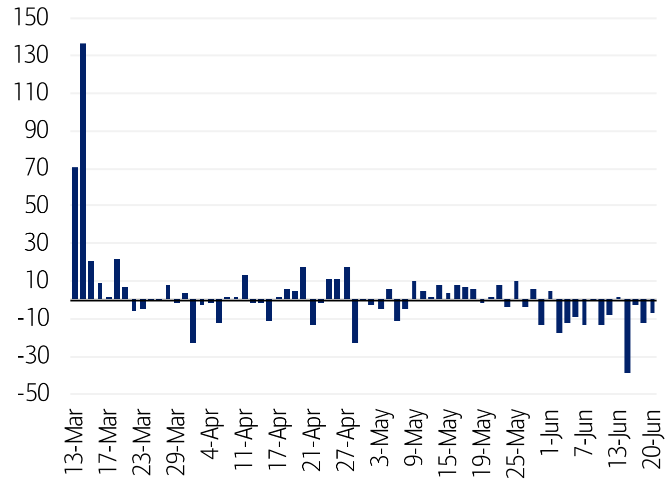
Exhibit 11: Daily net FHLB debt issuance ($bn)
FHLB has paid down $114b in debt since June 3



Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance

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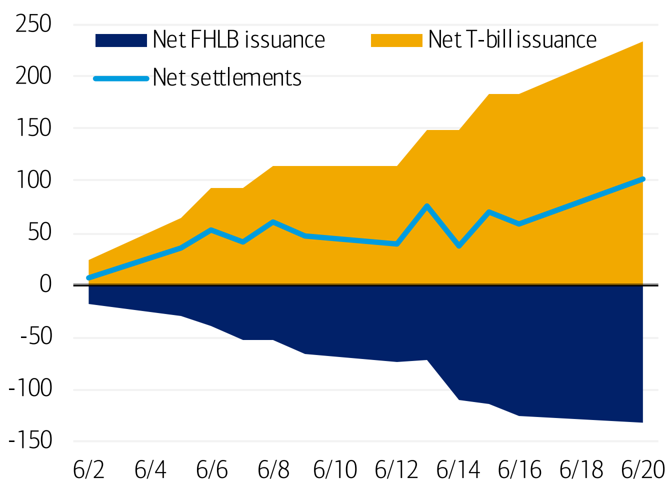
Exhibit 12: Net FHLB and T-bill issuance since DL resolution
Net new issuance has totaled $101b since the DL resolution



Source: BofA Global Research, Bloomberg, Treasury, FHLB OF

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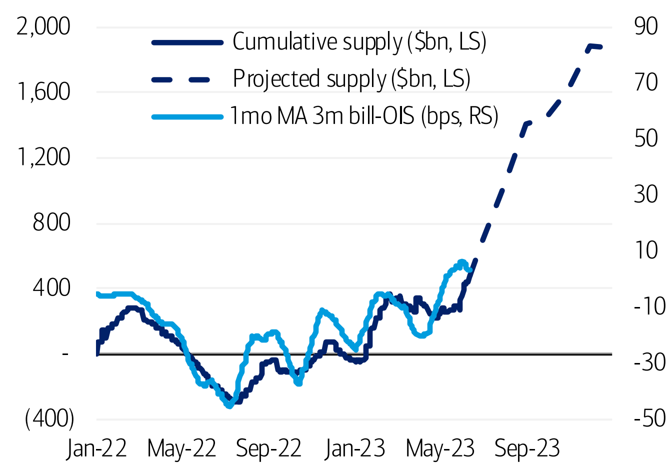
Exhibit 13: Cumulative bill supply vs 1mo moving avg of 3m bill-OIS
Our $1.4tn of bill supply projections implies 3m bills 76bps cheap to OIS by year-end



Source: BofA Global Research, Bloomberg, Treasury

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Exhibit 14: Nonfinancial Corporates and State & Local Gov't balance sheet data ($bn)

Non-financial corporates have more excess deposit capacity & could potentially add $600b+ of bills

Nonfinancial Corporate Business (L.103)

	Total Deposits	Total Treasuries	Total Assets	Deposits / Assets	Treasuries / Assets
Q4 2019	1640.8	63.6	23869.6	6.87%	0.27%
Q1 2023	2427.9	90.7	26571.2	9.14%	0.34%
Change	787.1	27.1	2701.6	2.26%	0.07%
Excess Deposits for USTs (Deposit / Asset Change * Total Assets)				601.4	

State and Local Governments (L.107)

	Total Deposits	Total Treasuries	Total Assets	Deposits / Assets	Treasuries / Assets
Q4 2019	562.3	793.1	3426.5	16.41%	23.15%
Q1 2023	721.4	1648.9	4623.9	15.60%	35.66%
Change	159.1	855.8	1197.4	-0.81%	12.51%
Excess Deposits for USTs (Deposit / Asset Change * Total Assets)				-37.4	

Source: BofA Global Research, Fed Z1

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