Liquid Insight

US liquidity drain: RRP drop defers scarcity

19 July 2023

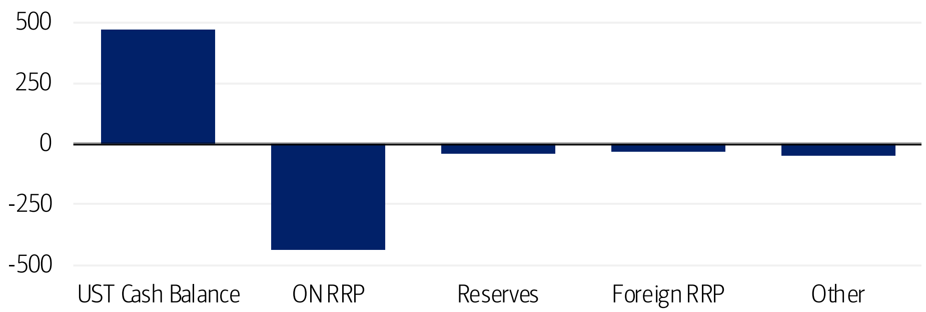
Rates and Currencies Research
Global

Key takeaways

- The US liquidity drain composition post-DL has largely evolved as we expected: Fed ON RRP has done the heavy lifting
- Future US liquidity drain via QT likely to be similar; we expect drain to be 90% from Fed RRPs & 10% from reserves
- Drain composition could allow Fed QT to run until 2H '25; recession & rate cuts or mkt functioning could stop QT sooner

By Mark Cabana & Katie Craig

Exhibit 1: Fed liability composition change since early June '23 debt limit resolution ($bn)
Fed liquidity drain has largely come from ON RRP since debt limit passage



Source: Federal Reserve

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Majority of US liquidity drain post debt limit from ON RRP

USD financial system liquidity has drained substantially since debt limit (DL) passage. The liquidity drain composition was generally as we expected, drawn almost exclusively from Fed O/N RRP (Exhibit 1). We expect more of the same going forward, which should defer aggregate banking system reserve scarcity until at least 2H '25.

In this note we: (1) review lessons learned from the post-DL liquidity drain (2) remind of our future liquidity drain forecasts. Key takeaways on each:

Lessons learned: we are not surprised by Fed liquidity drain composition; we long held an out-of-consensus view that the post DL liquidity drain would draw 90% from Fed ON RRP & 10% from reserves. We have been surprised by only modest bill cheapening.

Future liquidity drain: we expect ongoing 90/10 liquidity drain from ON RRP/reserves. This drain composition should allow for Fed QT to continue until: (1) macro or market conditions warrant cessation (2) low banking system reserves in 2H '25.

Bottom line: Fed liquidity drain will continue until: (1) recession (2) market functioning issue (3) reserve scarcity. Fed likely won't need to adjust QT for reserve scarcity till '25.

Global Rates & Currencies Research
MLI (UK)

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

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

Adarsh Sinha
FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 7155
adarsh.sinha@bofa.com

Janice Xue
Rates Strategist
Merrill Lynch (Hong Kong)
+852 3508 8587
janice.xue@bofa.com

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Fed liability reduction has primarily come from ON RRP post debt limit

Since DL resolution, Fed balance sheet liquidity has drained $557b. This liquidity drain is composed of a Treasury cash balance (TGA) increase of $469b and Fed balance sheet reduction of $88b (Exhibit 2). Recall, when TGA rises or the Fed balance sheet declines there is typically an offsetting reduction in Fed reverse repos or reserves. The TGA rebuild has largely been funded with a bill supply surge of $634bn since June 3.

The vast majority of the post-DL Fed liquidity drain has come from Fed reverse repos (RRPs) as opposed to reserves. Specifically, the Fed ON RRP has fallen $435b and Fed foreign RRP has declined $33b. In total $468b or 84% of the drain has been from Fed RRPs. Reserves have accounted for only $43b or 8% of the drain.

Exhibit 2: Fed balance sheet composition ($bn)
Since DL passage, Fed balance sheet is down $88b & UST cash balance is up $469b

		Assets			Liabilities					
	Total	USTs	Agy MBS	Other	Reserves	UST Cash Balance	ON RRP	Foreign RRP	Currency	Other
5/31/2023	8436	5164	2558	713	3206	49	2255	361	2344	222
7/12/2023	8347	5104	2538	705	3162	517	1820	328	2342	178
Post DL Δ	-88	-60	-20	-9	-43	469	-435	-33	-2	-44

Source: Federal Reserve

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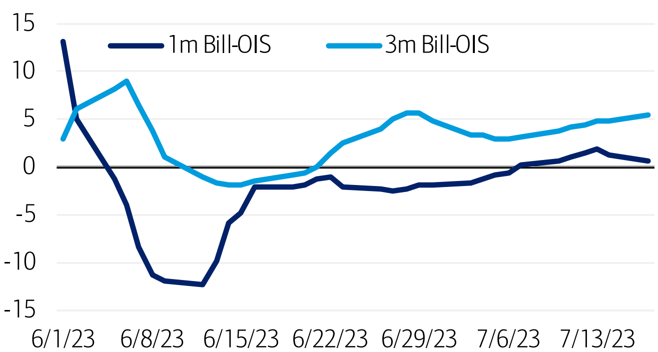
We are not surprised by the liquidity drain composition. We have long held an out-of-consensus view that the post-DL liquidity drain would come 90% from ON RRP & 10% from reserves (for detail see: Bill supply surge FAQ, Debt limit FAQ). We expected more of the drain from ON RRP vs bank deposits because of higher sensitivity from money market funds (MMF) and other Fed RRP users to bill supply & cheaper bill rates.

Although the liquidity drain composition was as expected, the limited cheapening of money market and bill rates has surprised us. Since DL resolution 1m & 3m bill rates vs OIS have only cheapened to trade 1 & 5bps over comparable fed funds OIS (Exhibit 3). The limited cheapening largely reflects MMF willingness to extend out the front-end curve and capture a modest yield pick-up vs the expected ON RRP path (Exhibit 4). We had thought MMF might be more price discipled to capture even cheaper bill rates.

Exhibit 3: 1 & 3m bill rates vs fed funds OIS (5D moving average, bps)
Bill rates have only modestly cheapened despite elevated supply



Source: Bloomberg, BofA Global Research

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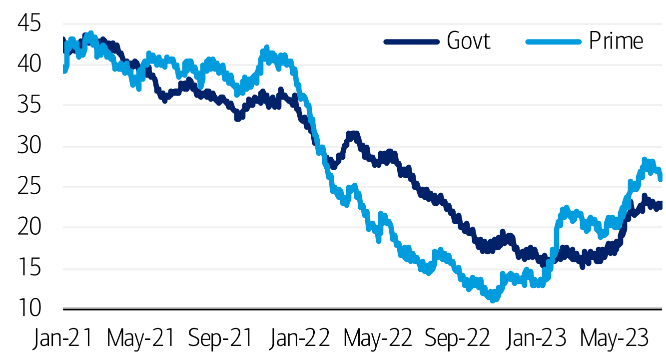
Exhibit 4: MMF WAM (Days)
MMF WAM has extended since the DL resolution



Source: BofA Global Research, iMoneyNet

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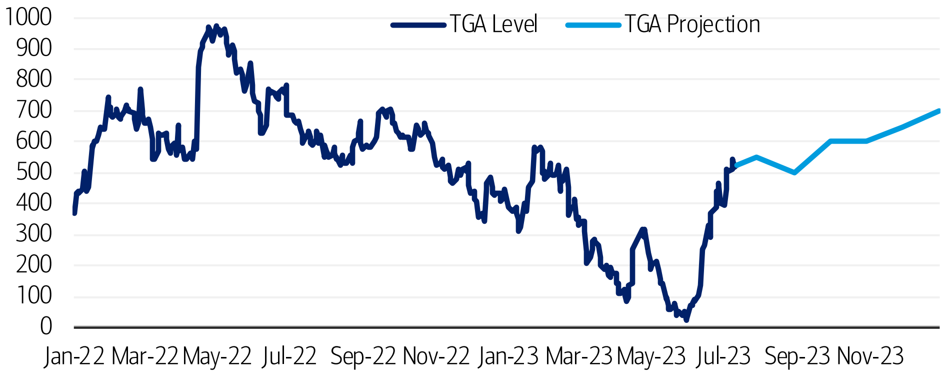
We expect MMF will continue to extend out of ON RRP at existing to modestly cheaper bill to OIS spreads. We have long argued MMF would extend out of ON RRP once 2 conditions were satisfied: (1) MMF were sufficiently confident the Fed would not "out hawk" the market, i.e. signal 25bps hike but surprisingly deliver 50bps (2) bills offered a sufficient yield pickup vs the expected ON RRP path. We expect these conditions to hold.

Future Fed liquidity drain likely to sustain 90/10 ON RRP vs reserve ratio

We expect the future Fed liability drain to continue at the pace of 90% from ON RRP and 10% from reserves (after adjusting for other Fed liability growth). This holds even as the liquidity drain shifts from TGA rebuild to QT. The TGA rebuild is largely done: we project TGA to be $600b at end Sep & $700b at end Dec '23 (Exhibit 5). The future liquidity drain will mostly come from Fed QT but we expect the 90/10 composition to hold. The drain composition will hold if MMF conditions to extend out of ON RRP are sustained.

Exhibit 5: Treasury cash balance and projected level ($bn)
We forecast the TGA to rise to $700b by year-end '23



Source: BofA Global Research, US Treasury, Bloomberg

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We continue to forecast a decline of the Fed's SOMA portfolio of roughly $80b per month, $60b UST and roughly $20b in MBS. Additionally, we forecast an additional $10b decline per month in other Fed assets that grew in response to bank stress in March.

Fed ON RRP liquidity drain can allow for a longer QT process

We have long argued Fed QT would end for 1 of 3 reasons: (1) Fed rates cuts to offset recession (2) market functioning problem that forces Fed to buy securities (3) aggregate banking system reserve scarcity. The BofA base case is for Fed QT to stop in May '24, in line with our economist's expectation for a mild recession & first Fed cut. At this point, we forecast reserves at $3tn, ON RRP at $1.2tn and the Fed B/S at $7.4tn (Exhibit 6).

However, the Fed may be able to continue QT for longer. Recent Fed official comments have supported continuing QT even if cutting rates. If QT is sustained and our expected 90/10 ON RRP / reserve drain distribution holds, we project QT could last until 2H '25. At this point we project ON RRP would be zero and reserves be near aggregate scarcity. In this scenario ON RRP falls to zero in Feb '25 (Exhibit 7).

To estimate the level of aggregate reserve scarcity, we use 2 approaches: (1) Sept '19 reserve levels * expected nominal GDP growth + $250-500b buffer (2) Fed reserve / GDP projections. Both results imply aggregate reserve scarcity around $2.25-2.5tn. We see skewed to the upside on these projections due to more stringent bank liquidity rules. Recall, the US banking system currently has $3.162tn in reserves.

The Fed has not provided detailed guidance on their balance sheet plans but we can take signal from the NY Fed annual report on open market operations. The NY Fed report hypothetical balance sheet projection includes the following assumptions:

(1) Reserves = **10% / GDP**: monthly UST & MBS redemption caps cut in half

(2) Reserves = **9% / GDP**: end QT & MBS prepays are reinvested into USTs

(3) Reserves = **8% / GDP**: reach reserve scarcity & grow Fed B/S with GDP

Exhibit 6: Fed balance sheet forecast ($bn)

We forecast that Fed QT will drain 90% from ON RRP and 10% from reserves

		Asset								Liabilities						
		UST	MBS	CMBS	Repo	Discount Window & PDCF	Fed Facilities	FX Swap Lines	Other	Currency	TGA	Foreign RRP	ON RRP	Other	Reserves	Total
	Jun-23	5145	2538	8	0	3	272	0	424	2344	409	327	2034	102	3176	8391
10% reserve / 90% ON RRP drain from QT	Jul-23	5085	2514	8	0	3	262	0	425	2356	550	328	1810	103	3151	8298
	Aug-23	5025	2487	8	0	3	252	0	426	2369	500	329	1755	104	3145	8201
	Sep-23	4965	2466	8	0	3	242	0	427	2382	600	330	1570	105	3124	8111
	Oct-23	4905	2444	8	0	3	232	0	428	2395	600	331	1475	106	3114	8020
	Nov-23	4845	2425	8	0	3	222	0	429	2408	650	332	1337	107	3099	7932
	Dec-23	4785	2405	8	0	3	212	0	430	2421	700	333	1198	108	3083	7843
	Jan-24	4725	2389	8	0	3	202	0	431	2434	700	334	1108	109	3073	7758
	Feb-24	4665	2373	8	0	3	192	0	432	2447	700	335	1018	110	3063	7673
	Mar-24	4605	2352	8	0	3	182	0	433	2460	700	337	923	111	3053	7583
	Apr-24	4545	2329	8	0	3	172	0	434	2474	700	338	826	112	3042	7491
	May-24	4509	2305	8	0	3	162	0	435	2487	700	339	750	113	3033	7422

Source: BofA Global Research

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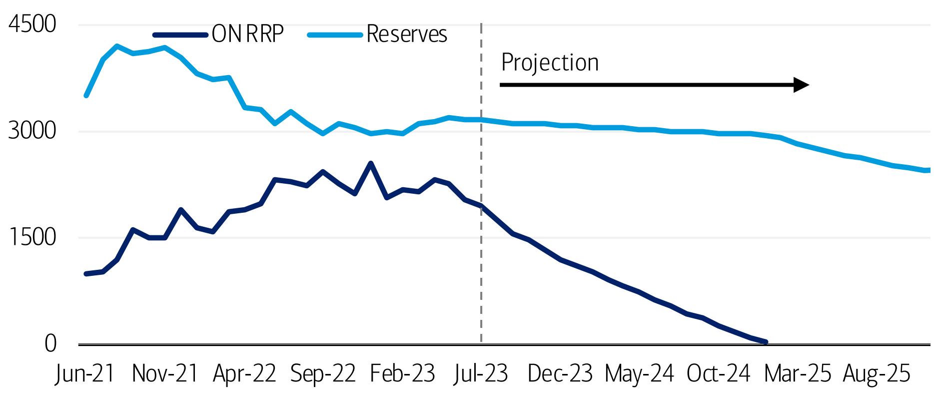
We forecast reserves to reach 10% of GDP in April '25 when reserves are $2.77tn, ON RRP take-up is $0, and the total Fed balance sheet is $6.6tn. At this point we expect the Fed to cut redemption caps in half, in line with the pace of the increase in caps at the start of QT and continue at that new redemption cap until reserves are at 9% of GDP.

We forecast the Fed will reach 9% of GDP in Sept '25 when reserves are $2.53tn, ON RRP is still $0, and the total Fed balance sheet is down to $6.4tn. At this point we expect the Fed to restart full reinvestments of maturing Treasuries but allow MBS paydowns to continue and reinvest principal back into Treasuries. This will represent the end of QT. Non-reserve Fed liability growth will reduce reserves / GDP fall to 8% over time.

We forecast reserves to reach 8% of GDP in Q2 '26, which would represent aggregate reserve scarcity. At this point in time the Fed would re-start balance sheet growth to ensure the banking system has adequate reserves in the system. We expect increased use of the Fed standing repo facility to hint at early signs of reserve scarcity & for SOFR + fed funds to trade at or above IORB. At this point Fed balance sheet to GDP would total 22%, near pre-pandemic levels (Exhibit 8).

Exhibit 7: ON RRP take-up & Reserve levels ($bn)

We project ON RRP to drain to $0 by Feb '25



Source: BofA Global Research, Federal Reserve, Bloomberg

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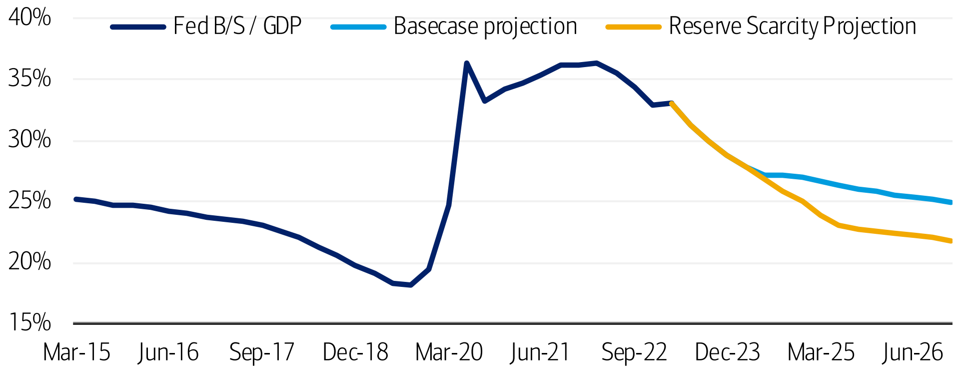
We see several risks to the outlook for a QT process into '25, including: (1) recession / rate cuts to support growth & QT cessation (2) market functioning issue that requires Fed intervention (3) banking system stress that could see several banks reach local reserve scarcity. Each of these conditions could see an earlier QT end.

Exhibit 8: Fed balance sheet to GDP with projections under 2 scenarios (%)
Our base case assumes QT ends in May '24 vs Sept '25 if QT continues until reserves are 9% of GDP



Source: BofA Global Research, Bloomberg, Federal Reserve, CBO

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Bottom line: post-DL the liquidity drain composition has largely evolved as we expected: Fed RRPs have done the heavy lifting. We have been surprised by the limited bill to OIS spreads widening but MMF are clearly willing to extend out the curve.

Going forward, we expect the liquidity drain will draw 90 / 10 from ON RRP / reserves. This will allow for a longer Fed QT runway until (1) recession / rate cuts (2) market functioning problem (3) aggregate reserve scarcity. If no recession or market functioning issue, our projections assume QT can continue until 2H '25.

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Research Analysts

US

Ralph Axel
Rates Strategist
BofAS
+1 646 855 6226
ralph.axel@bofa.com

Paul Ciana, CMT
Technical Strategist
BofAS
+1 646 855 6007
paul.ciana@bofa.com

John Shin
FX Strategist
BofAS
+1 646 855 9342
joong.s.shin@bofa.com

Vadim Iaralov
FX Strategist
BofAS
+1 646 855 8732
vadim.iaralov@bofa.com

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

Bruno Braizinha, CFA
Rates Strategist
BofAS
+1 646 855 8949
bruno.braizinha@bofa.com

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

Europe

Ralf Preusser, CFA
Rates Strategist
MLI (UK)
+44 20 7995 7331
ralf.preusser@bofa.com

Ruben Segura-Cayuela
Europe Economist
BofA Europe (Madrid)
+34 91 514 3053
ruben.segura-cayuela@bofa.com

Mark Capleton
Rates Strategist
MLI (UK)
+44 20 7995 6118
mark.capleton@bofa.com

Athanasios Vamvakidis
FX Strategist
MLI (UK)
+44 020 7995 0279
athanasios.vamvakidis@bofa.com

Sphia Salim
Rates Strategist
MLI (UK)
+44 20 7996 2227
sphia.salim@bofa.com

Kamal Sharma
FX Strategist
MLI (UK)
+44 20 7996 4855
ksharma32@bofa.com

Ronald Man
Rates Strategist
MLI (UK)
+44 20 7995 1143
ronald.man@bofa.com

Michalis Rousakis
FX Strategist
MLI (UK)
+44 20 7995 0336
michalis.rousakis@bofa.com

Pac Rim

Adarsh Sinha
FX Strategist
Merrill Lynch (Hong Kong)
+852 3508 7155
adarsh.sinha@bofa.com

Janice Xue
Rates Strategist
Merrill Lynch (Hong Kong)
+852 3508 8587
janice.xue@bofa.com

Shusuke Yamada, CFA
FX/Rates Strategist
BofAS Japan
+81 3 6225 8515
shusuke.yamada@bofa.com