Liquid Insight

Fed ON RRP drop: hikes done + bank buffer

29 November 2023

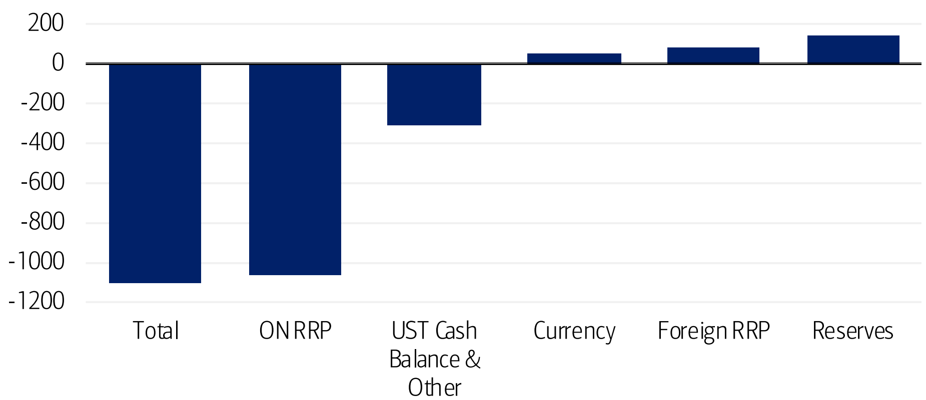
Rates and Currencies Research
Global

Key takeaways

- Fed ON RRP keeps dropping like a rock due to MMF WAM extension with rate hike end & bank cash buffer demand
- Fed says reserves "ample" but bank funding shows competition for cash; bank reserve demand can mean earlier QT end
- We update Fed B/S forecasts with fast ON RRP drop & bank deposit competition; QT end likely by 2H '24, risk to earlier end

By Mark Cabana & Katie Craig

Exhibit 1: Fed QT liquidity drain by liability type ($bn)
Fed QT drain has been almost fully absorbed by ON RRP while bank have been building reserevs



Source: Federal Reserve

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Fed ON RRP drop: MMF WAM & bank reserve demand

Fed QT has been almost fully absorbed by lower ON RRP amidst higher bill supply & MMF WAM extension. Fed QT drain has not drawn any funds from bank reserves, which are higher by $140b since QT (Exhibit 1). Higher reserves = bank liquidiy preference.

Fed believes lower ON RRP "released" reserves in system; we think higher reserves due to bank liquidity preference & cash buffer against underwater securities portfolios. Fed thinks reserves "ample"; we think banks paying up for funds implies higher cash need.

Higher bank cash need means earlier QT end. If macro economy strength avoids rate cuts (not base case), Fed may not be able to continue QT much beyond ON RRP reaching zero. We update Fed balance sheet forecasts with fast declining ON RRP & bank competition to hold reserves; QT end likely by 2H '24, risks skew earlier.

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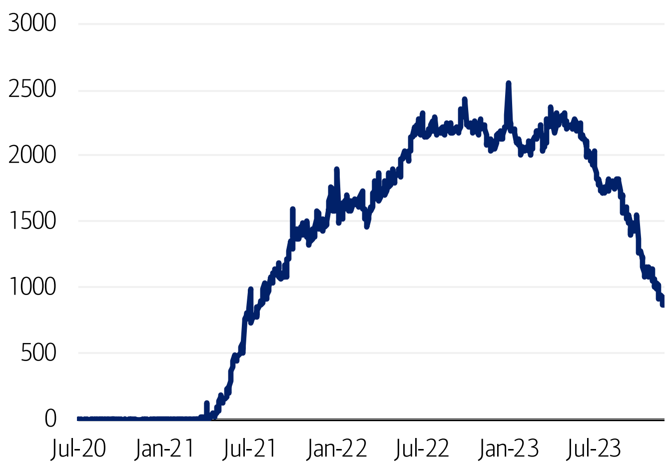
Fed ON RRP keeps dropping sharply

Fed ON RRP use keeps dropping rapidly (Exhibit 2, see ON RRP drop: like a rock). We always expected a rapid ON RRP decline post debt limit resolution (due to higher bill supply & TGA rebuild) but even we have been surprised by the pace of recent reduction.

The sharp drop in ON RRP is due to 2 factors: (1) MMF WAM extension (2) banks paying up for cash. MMF have recently extended WAM rapidly out of ON RRP & into term paper, convinced the Fed has delivered the last hike & wanting to lock in high rates before rate cuts in '24 (Exhibit 3). Banks have also been paying up to increase their cash holdings, which has helped drain cash out of ON RRP or limit inflows into institutional MMF (Exhibit 4, Exhibit 5). Both factors have led to a sharp drop in ON RRP.

Exhibit 2: ON RRP take-up ($bn)
ON RRP take-up has dropped quickly since June '23



Source: Bloomberg

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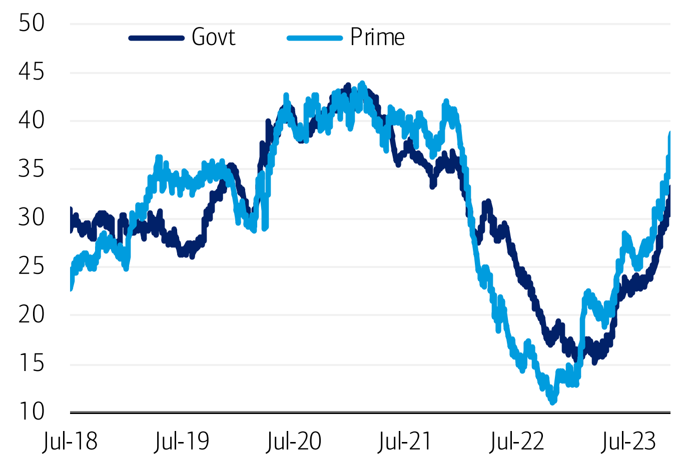
Exhibit 3: MMF WAM for Gov't and Prime MMFs (days)
MMF WAMs are nearing their '20-'21 avg levels



Source: iMoneyNet

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Exhibit 4: Domestic bank large time deposits ($bn)
Large time deposits are $480b higher since QT start

Source: Federal Reserve, Bloomberg

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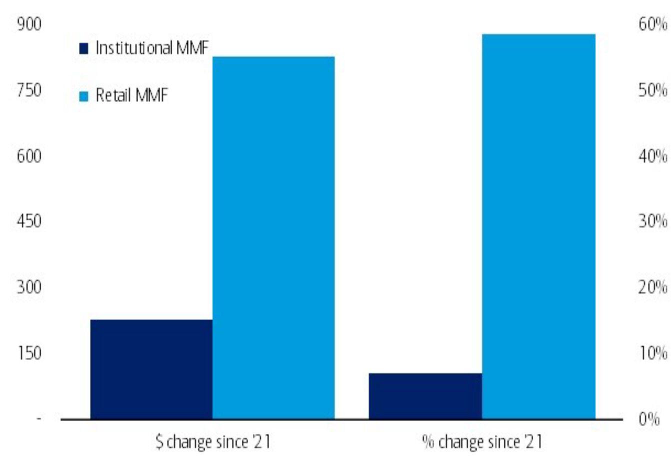
Exhibit 5: Change in MMF AUM since YE '21
Most of the increase in inst'l MMF AUM came post March bank failures



Source: Bloomberg, ICI

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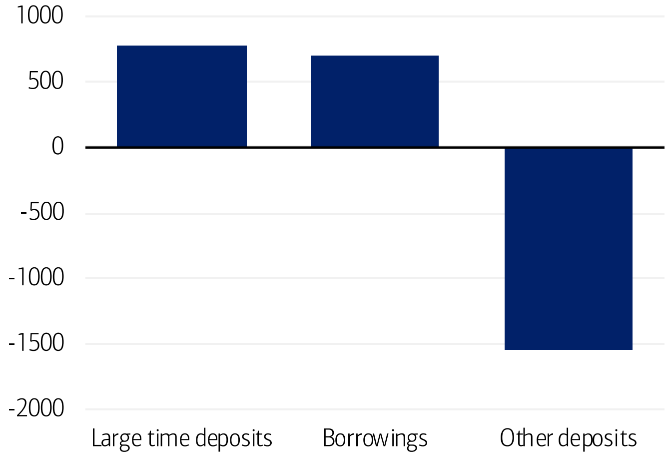
Bank cash buffer higher because of regional bank stress & securities losses

Commerical banks are choosing to hold a higher cash buffer for 2 key reasons: (1) impact of regional bank stress (2) protect unrealized securities losses.

Regional bank stress: Commerical banks live with the recent memory of regional bank failures earlier in the year. Banks know the best way to guard against a similar fate is to hold a large cash buffer. The cash buffers have likely also increased with recent regulatory guidance that Federal Home Loan Bank advances should not be relied upon during times of market stress, which reduces bank traditional funding sources (see: FHFA's bark on FHLBs louder than its bite). Recent bank stress & fewer readily available funding sources lead to higher cash buffers.

Protect securities portfolios: Commerical banks still hold sizeable unrealized losses on their securities portfolios. Banks know that any securities sales to raise liquidity will deplete capital & be viewed very negatively by the market. We believe banks are choosing to hold a large cash buffer to guard against the risk of any future securities sales to raise liquidity. Banks have likely seen large retail deposit outflows with higher rates and have offset these outflows by increasing large time deposits & other borrowings (Exhibit 6). Banks are willing to bolster liquidity in this manner even if it is a NIM negative trade since it is vastly preferable to selling securities at a loss. Bloomberg data on 3 & 6m CDs suggests that the cost of this wholesale funding is between 5.55-5.65%, which implies a loss making trade vs earning Fed IORB at 5.4% (Exhibit 7). Banks appear willing to make the tradeoff to ensure an ample liquidity buffer.

Exhibit 6: Change in select domestic bank liabilities since YE '21
Large time deposits and borrowings have offset other deposit outflows



Source: Fed H.8., Bloomberg
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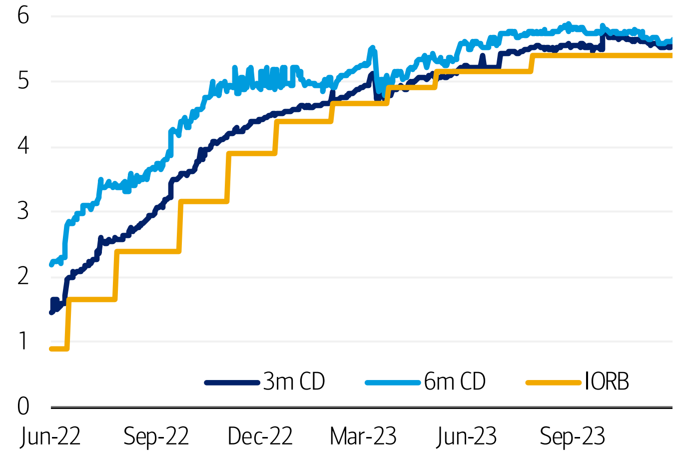
Exhibit 7: Bank CD rates and interest on reserve balances
3m CD rate is currently 15bp above 5.4% IORB



Source: Bloomberg
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Our interpretation of commercial bank behavior and their desire to hold cash is at odds with the Fed's interepration. The November FOMC meetings suggest "the reduced usage of the ON RRP facility released more reserves than the reduction in Federal Reserve assets and the increase in the Treasury General Account absorbed." Lower ON RRP balances in excess of QT or TGA growth of course result in a mechanical increase in commercial bank resreves balances, but the Fed appears to believe this is occurring without banks needing to compete for the associated deposits. To us, commerical bank activity implies that banks are competing to retain these deposits as means to maintain their desired liquidity buffer due to changing funding sources & securities losses.

We expect commercial banks to continue with their recent behavior until the Fed meaningfully cuts rates or until QT ends. Banks will likely need to continue competing for deposits until retail outflows slow or until their securities portfolios can be marked closer to par value, both of which will be helped by lower rates. An early end to QT would also likely reduce the need for such aggressive deposit competition.

ON RRP to keep dropping with continued Fed QT, though likely at slower pace

Going forward we expect ON RRP will continue to absorb all of Fed QT until it reaches zero, though the pace of decline should be slower. We expect that ON RRP will absorb the QT liquidiy drain because of the bank cash buffer dynamics discussed above. We expect that Fed ON RRP will decline to levels substantially near zero, assuming QT continues well into '24. We disagree with other market participants who argue there is a minimum ON RRP balance well above zero; we believe there will be adequate money market supply for MMF investments (sponsored repo, bills, old coupons, ageny debt, etc) and believe MMF will be willing to shift out of ON RRP for 1bp+ of incremental compensation (assuming a similar WAM of available investments). ON RRP use was near zero pre-COVID; we see no reason to believe it won't go back to those levels.

We expect the pace of ON RRP decline will moderate to ~$90b/m as MMF WAM extension slows, but cannot rule out a faster pace of ON RRP reduction. We expect that ON RRP decline will moderate to ~$90b/m to be in-line with the Fed QT monthly pace + growth in other Fed liabailities (i.e. currency in circulation). Given recent ON RRP levels our expectation implies the facility will reach zero in Q3 '24, but risks skew earlier. ON RRP can reach zero earlier if banks continue competing aggressively for reserves.

For the remainder of this piece we detail our updated Fed balance sheet expectations.

Fed balance sheet in '24: QT at $75-80b/m, ON RRP to zero

We offer updated thoughts on the Fed balance sheet asset & liability outlook in '24 (Exhibit 8). We also discuss risks around the timing of QT end & funding market implications.

Exhibit 8: Fed balance sheet forecast if QT stops with first rate cut ($bn)

Our forecast assumes QT ends in Jun '24 but MBS continues to be wound down and reinvested into UST

		Asset								Liabilities						Total
		UST	MBS	CMBS	Repo	DW	Fed Facilities	BTFP	Other	Currency	TGA	Foreign RRP	ON RRP	Other	Reserves	
0% reserve / 100% ON RRP drain from QT	Dec-23	4783	2447	8	0	3	28	114	416	2344	750	341	788	122	3455	7800
	Mar-24	4603	2411	8	0	3	0	114	419	2382	750	345	503	125	3455	7559
	Jun-24	4423	2362	8	0	3	0	104	422	2421	750	348	221	128	3455	7323
Post QT period	Sep-24	4473	2313	8	0	3	0	74	425	2460	750	352	148	131	3455	7296
	Dec-24	4514	2272	8	0	3	0	44	428	2501	550	355	275	134	3455	7269
	Mar-25	4548	2237	8	0	3	0	14	431	2541	115	359	635	137	3455	7242
	Jun-25	4596	2189	8	0	3	0	0	434	2583	83	362	608	140	3455	7231
	Sep-25	4644	2142	8	0	3	0	0	437	2625	500	366	145	143	3455	7234
	Dec-25	4683	2102	8	0	3	0	0	440	2667	800	369	0	146	3110	7237

Source: BofA Global Research, Bloomberg. Note: We assume a lower TGA due to debt limit dynamics starting in late '24

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Our US economists base case is that Fed balance sheet reduction stops with the first Fed cut in June 2024. Text in the last 3 FOMC statements also implies fewer FOMC participants expect to continue QT drain after the first cut (Exhibit 9).

Exhibit 9: FOMC minutes discussion of balance sheet outlook

Over the last 3 FOMC meetings, Fed text implies that fewer FOMC participants are in favor of continuing QT after the first Fed cut

FOMC meeting	Number of participants	Balance sheet outlook
July	"A number of participants..."	"...noted that balance sheet runoff need not end when the Committee eventually begins to reduce the target range for the federal funds rate."
Sept	"Several participants..."	"...noted that the process of balance sheet runoff could continue for some time, even after the Committee begins to reduce the target range for the federal funds rate."
Oct / Nov	"A few participants..."	

Source: Federal Reserve

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However, we see risks of the Fed continuing QT until closer to reserve scarcity, especially in a soft-landing scenario. We forecast that in this scenario, the Fed could end QT a lot sooner than implied by the level of 9% reserves to GDP that they've previously estimated due to a higher liquidity buffer demanded by banks. We see risks that commercial banks might reach reserve scarcity shortly after RRP reaches $0, though debt limit dynamcis and a lower TGA balance could defer ultimate reserve scarcity until 2025. For simplicity sake, in this scenario we pencil in that the Fed would end QT by end of '24 but have low confidence in this estimate. To see our forecasts in this alternative scenario, please refer to the appendix.

Another possible but less likely scenario is that the Fed stops QT before seeing ON RRP reach zero, potentially around ON RRP at $200b. This ideas has been floated by some clients as a way to minimize money market volatility which would result in a larger Fed balance sheet. We think this scenario is unlikely but see risks the Fed discusses this publicly in coming months. For detail see: Fed $200b ON RRP target = stable funding, larger sheet, & wider SOFR/FF.

Fed assets: QT to drain securities portfolio but lending facilities likely steady

Going forward, most of the decline in the Fed's balance sheet will likely continue to come from a reduction in their securities portfolio. We expect Fed lending facilities to likely remain elevated until the BTFP is wound down in March '25 but see risks the Fed extends the program due to depletion of excess commercial bank liquidity. We forecast an average decline of $78b per month in Fed assets between now and QT end in Jun '24.

Beyond the end of QT, however, we expect the Fed will want to continue to reduce its footprint in the MBS market by continuing to redeem MBS and reinvest back into UST to keep its securities portfolio stable.

Fed liabilities: TGA likely relatively steady, ON RRP to absorb 100% of QT drain

TGA: to have less of an impact on Fed liquidity going forward until Q4 of '24. In late Q4 TGA will again need to decline due to the expiration of the debt limit suspension on Jan 1 '25. We expect the TGA will remain low in the 1st half of '25 until the debt limit is resolved. The decline in the TGA will likely be a temporary reprieve to the Fed's liquidity drain.

ON RRP: to face 100% of the drain in the Fed's balance sheet after accounting for growth in other Fed liabilities ex reserves (currency in circulation). Using our economists' base case, our forecast sees ON RRP as positive at the end of QT but declines over time due to growth in other Fed liabilities and a continuation of the reduction in Fed lending facilities. An alternative scenario where QT continues for longer, we see ON RRP falling to $0 in Sept '24. Risks to our ON RRP forecasts are for an earlier depletion given the pace of recent declines.

Reserves: to be roughly flat until ON RRP has been depleted. In our economists' case case, at QT end we estimate reserves at roughly 12% of GDP, in line with current levels.

Funding implications

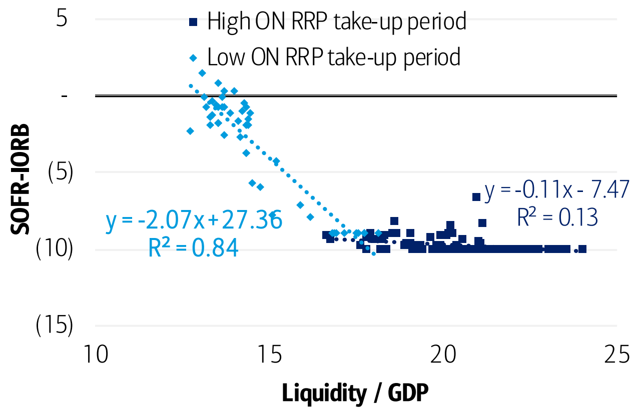
We forecast that SOFR will continue to move up in the range and for SOFR/FF basis (FF-SOFR) tightening through most of 2024 (Exhibit 10, Exhibit 11). A higher ON RRP balance and earlier end to QT could widen the SOFR/FF basis across the curve, as discussed in Fed $200b ON RRP target = stable funding, larger sheet, & wider SOFR/FF.

The expected TGA drain in Q4 '24 and potentially into the 1H of '25 could provide some reprieve to the liquidity drain which also poses risks for SOFR/FF widening.

Bottom line: The Fed's balance sheet has primarily drained from ON RRP, which we expect will continue until ON RRP has been depleted. Reserve balances have grown since the start of QT due to bank competition for liquidity buffers. Given bank demand for funding, we see risks that banks are closer to reserve scarcity than the Fed currently estimates. Banks risk reaching reserve scarcity shortly after ON RRP depletion if this dynamic continues.

Exhibit 10: SOFR spread to IORB (bps) vs liquidity to GDP (%)

SOFR spread to IORB likely to narrow much faster when ON RRP is lower



Source: BofA Global Research, Bloomberg, Haver Analytics. Note: Low take-up period is defined as the post COVID period when ON RRP was <$200b. High take-up is >$200b

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Exhibit 11: Base case FF-SOFR forecast (bps)

QT end in June '24 poses risk of wider SOFR FF basis than reserve scarcity scenario would imply

Date	SOFR-IORB	EFFR-IORB	FF-SOFR
Dec-2023	-9	-7	2
Mar-2024	-9	-7	2
Jun-2024	-8	-6	2
Sep-2024	-6	-5	2
Dec-2024	-6	-5	2
Mar-2025	-7	-6	1
Jun-2025	-7	-6	1
Sep-2025	-6	-5	0

Source: BofA Global Research

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Appendix

Exhibit 12: Fed balance sheet forecast in a reserve scarcity scenario ($bn)
We forecast the Fed could end QT 1Q after ON RRP falls to $0

		Asset								Liabilities						Total
		UST	MBS	CMBS	Repo	Discount Window	Fed Facilities	BTFP	Other	Currency	TGA	Foreign RRP	ON RRP	Other	Reserves	
0% reserve / 100% ON RRP drain from QT	Dec-23	4783	2447	8	0	3	28	114	416	2344	750	341	789	122	3455	7800
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	Mar-25	4171	2237	8	0	3	0	14	431	2541	115	359	466	137	3154	6865
	Jun-25	4219	2189	8	0	3	0	0	434	2583	75	362	447	140	3154	6854
	Sep-25	4267	2142	8	0	3	0	0	437	2625	500	366	0	143	2889	6857
	Dec-25	4306	2102	8	0	3	0	0	440	2668	800	369	0	146	2542	6860

Source: BofA Global Research, Bloomberg. Note: We assume a lower TGA due to debt limit dynamics that start in late '24

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Exhibit 13: FF-SOFR forecast in reserve scarcity scenario (bps)
TGA drain could pose risks of FF-SOFR spread widening in Q4'24 – 1H '25

Date	SOFR-IORB	EFFR-IORB	FF-SOFR
Dec-2023	-9	-7	2
Mar-2024	-9	-7	2
Jun-2024	-8	-6	2
Sep-2024	-6	-4	1
Dec-2024	-5	-4	0
Mar-2025	-5	-5	-1
Jun-2025	-5	-5	-1
Sep-2025	-4	-4	-1

Source: BofA Global Research

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Accronyms

QT: quantitative tightening

ON RRP: overnight reverse repo facility

TGA: Treasury General Account

MMF: money market fund

WAM: weighted average maturity

CD: certificate of deposit

FOMC: Federal Open Market Committee

BTFP: bank term funding program

SOFR: secured overnight financing rate

FF: fed funds

IORB: interest on reserve balances

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