

US Rates Watch

Follow the money: cash & collateral trends Jan 23 update

Money map: banks still drawing cash from ON RRP

Bank reserve balances continue to grow as cash leaves the ON RRP. Banks also continue to borrow, including from the Fed's BTFP, likely because of recent shifts in regulatory guidance and front-loading of activity ahead of the BTFP's expiration. Separately, mid-month UST settlements drove modest upward repo pressure that since subsided. Banks likely took advantage of the higher rates in repo leading into year-end and during the year-end overhang but appear to be stepping back now that repo rates have normalized. We see bank cash lending in repo decline when SOFR trades well below IORB.

Cash: borrowing from BTFP continues ahead of expiry

Fed balance sheet data (Exhibit 1) for the week ending Jan 17, showed a \$28b decline in security holdings from QT but a \$14b increase in bank borrowing from the BTFP, which now totals \$162b. Borrowing from the facility has continued to trend higher but is not a clear signal of broader bank liquidity stress. We believe higher BTFP use represents banks increasing their liquidity buffer due to recent shifts in regulatory guidance (lower FHLB reliance) & front loading of activity ahead of BTFP new loan expiration in March '24. On the Fed's liability side, the ON RRP has come down quickly since year-end and is now \$229b lower since year-end (Exhibit 3). Some RRP outflows ended up in reserves, which are \$55b higher WoW (Exhibit 2) and TGA which is \$46b higher.

Cash: inflows into prime offset gov't fund outflows

Over the week ending Jan 19 MMF AUM increased \$8b according to Crane Data (Exhibit 4), with inflows into prime funds but outflows out of government and municipal funds. Prime fund inflows of \$21b were primarily into institutional funds but gov't fund outflows were primarily out of institutional funds, leaving institutional funds only \$2b higher. We expect ongoing but slowing MMF inflows with an inverted yield curve.

Cash: banks reduced lending in repo as rates normalized

Bank balance sheet data, which is lagged an additional week compared to Fed balance sheet data, shows banking system assets declined \$1b on the week ending Jan 10, with domestic bank assets down \$88b but foreign bank assets up \$86b (Exhibit 8). On the asset side, domestic bank reduced repo & FF holdings by \$57b, in line with lower SOFR fixings post year-end. On the liability side, domestic banks saw \$108 in deposit outflows from primarily retail deposits but partially offset with higher large time deposits and increased borrowing. At the same time, foreign banks increased lending in repo and raised their cash holdings following deposit inflows and higher borrowing. Overall, banks appear to be investing in repo when repo rates are elevated.

23 January 2024

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Abbreviations:

BTFP: bank term funding program
ME: month-end
CB: Central bank
DW: discount window
FHLB: Federal Home Loan Banks
FIMA: Foreign and international monetary authorities
Gov't: government
GSE: Government sponsored enterprises
Inst'l: institutional
MMF: Money market funds
ON RRP: Overnight reverse repo facility
P&I: principal & interest
TGA: Treasury General Account
w/w: week on week
DL: debt limit
WTD: week to date
DN: Discount Note
PD: Primary Dealer
UST: US Treasury
FRN: Floating rate note
FF: Fed funds
YE: Year-end
AGY: Agency debt
SOFR: Secured Overnight Financing Rate
IORB: Interest Rate on Reserve balances

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Timestamp: 23 January 2024 08:18AM EST

Cash bottom line: Reserve balances are \$158b higher YTD despite QT as banks draw cash out of ON RRP & BTFP lending rises. MMF flows diverged with prime funds seeing inflows but gov't fund outflow. Gov't institutional fund outflows may have gone into prime institutional funds. Banks pulled back lending in repo on the week ending Jan 10, likely due to lower repo rates as demand for cash subsided following year-end.

Collateral: FHLB supply surprising higher

UST issuance is \$51b higher MTD, \$33b from bills which have surprised to the upside. Jan debt issuance implies a higher deficit than in prior Januarys which typically see cuts to bill supply from a budget surplus.

FHLB debt is \$43b higher YTD, primarily from a large wave of issuance at the start of the year. Since the bank stress events in March however, FHLB debt is still roughly \$50b lower according to our estimates (Exhibit 10). The trend in FHLB paydowns is likely to continue as bank demand for borrowing from FHLB declines due to regulatory guidance and Fed cuts getting priced in.

CP issuance: Data from the Federal Reserve shows that on the week ending Jan 17 CP outstanding increased \$22.2b, almost entirely in non-financial CP with financial CP flat (Exhibit 12). This is in line with our expectations for CP issuance to normalize following year-end.

Collateral bottom line: FHLB debt has risen considerably following year-end but is still well below pre-bank stress levels. We expect FHLB supply to remain limited given bank guidance to reduce borrowing from FHLBs. CP issuance has picked up for non-financial paper but remains flat for financial CP. UST bill issuance is likely to surprise to the upside given current auction schedule and projected deficits.

Funding: repo activity increased around UST settlement

Dealer holdings, which are 1-week lagged, show a \$1.6b increase in Treasury holdings on the week ending Jan 10 (Exhibit 13), with a \$4b increase in coupon holdings but \$2.3b decline in FRNs. Dealer holdings likely increased following January mid-month settlements which led to the upward pressure we saw in SOFR on Jan 16 & 17.

Repo volumes: SOFR volumes spiked alongside mid-month settlements on Jan 16 and remain \$40b higher on the week as of Jan 19 (Exhibit 16). Conversely, sponsored repo volumes are \$18b lower, with \$11b coming out of GC repo that had previously risen to a new high on Jan 4 (Exhibit 17). The decline in sponsored GC comes alongside declines in repo rates as well as institutional MMF outflows, which are likely the primary lender in sponsored GC.

Funding bottom line: repo volumes and rate increased around mid-month settlements, a trend we expect to continue and be exacerbated on larger settlement dates, especially those that coincide with tax dates. Dealer holdings of UST likely grew following mid-month settlements, which drove the higher repo rates and volumes as dealers needed to finance the collateral. Repo volumes are still elevated while rates have normalized.

Key takeaway: Bank reserve balances continue to grow as banks continue to draw cash out of the ON RRP. Banks also continue to borrow, including from the Fed's BTFP, likely because of recent shifts in regulatory guidance and front-loading of activity ahead of the BTFP's expiration. Mid-month UST settlements drove upward pressure in repo which has since subsided. Banks likely took advantage of the higher rates in repo leading into year-end and during the year-end overhang but appear to be stepping back now that repo rates have normalized. We see bank repo activity decline on weeks where SOFR is trading well below IORB.

Exhibit 1: Fed balance sheet, selected assets & liabilities (\$bn, Wednesday comparison data)

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

Dates	Assets							Liabilities						
	Securities	Repo	Discount Window	BTFF	FX Swaps	Other		Currency	Foreign RRP	ON RRP	TGA	Reserves	Other	Total
12/27/2023	7,225	0		2	136	1	399	2,345	347	819	713	3,434	106	7,764
1/10/2024	7,186	0		2	147	0	402	2,341	361	680	728	3,537	91	7,738
1/17/2024	7,158	0		2	162	0	403	2,336	346	590	774	3,592	86	7,725
WoW Change	-28	0		0	14	0	0	-5	-15	-90	46	55	-4	-13
YTD Change	-67	0		0	26	-1	3	-9	-1	-229	60	158	-20	-39

Source: BofA Global Research, Federal Reserve

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Exhibit 2: Fed reserve balances outstanding (\$bn)

Change in reserve balance from prior week was \$54.94b as of Jan 17



Source: Federal Reserve

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Exhibit 3: ON RRP take-up (\$bn)

ON RRP take-up increased \$43.99bn from prior week as of Jan 19



Source: Federal Reserve

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Exhibit 4: Daily Crane MMF AUM (\$bn)

MMF AUM grew \$8b WoW as of Jan 19, with inflows primarily retail MMFs

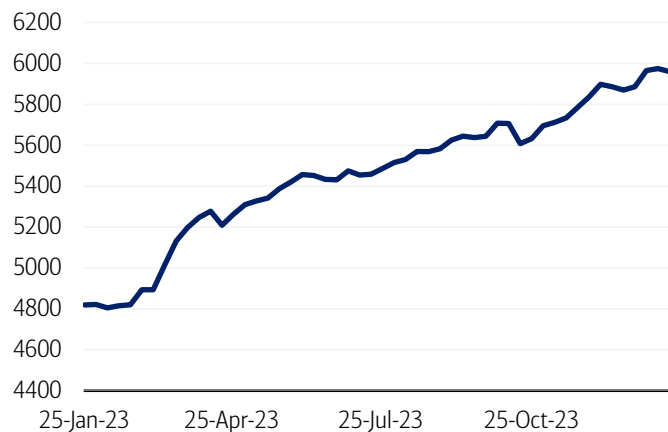
Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Prime Retail	Gov't Retail
12/29/2023	6,300	1,308	4,862	131	2,232	3,937	616	3,322	692	1,540
1/12/2024	6,333	1,326	4,876	131	2,262	3,940	620	3,320	707	1,556
1/19/2024	6,341	1,347	4,867	127	2,273	3,942	635	3,306	712	1,561
WoW change	8	21	-9	-4	11	2	16	-14	5	6
YTD change	41	40	6	-4	41	4	20	-16	20	21

Source: Crane Data

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Exhibit 5: MMF AUM (\$bn)

MMFs saw -\$14.12bn in flows from prior week as of Jan 17

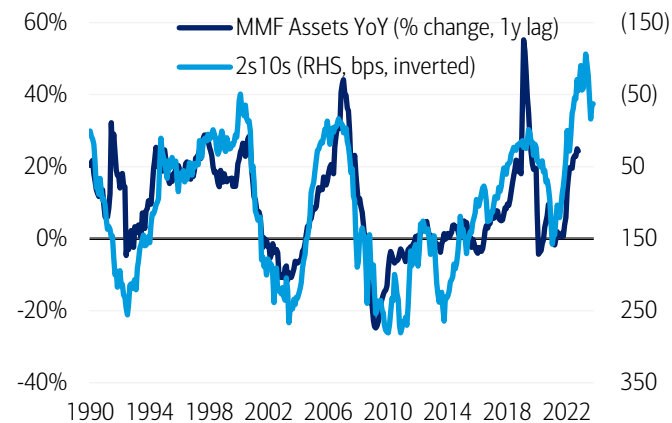


Source: ICI, Bloomberg

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Exhibit 6: MMF assets and 2s10s curve

MMF assets are typically negatively correlated to the yield curve with a lag

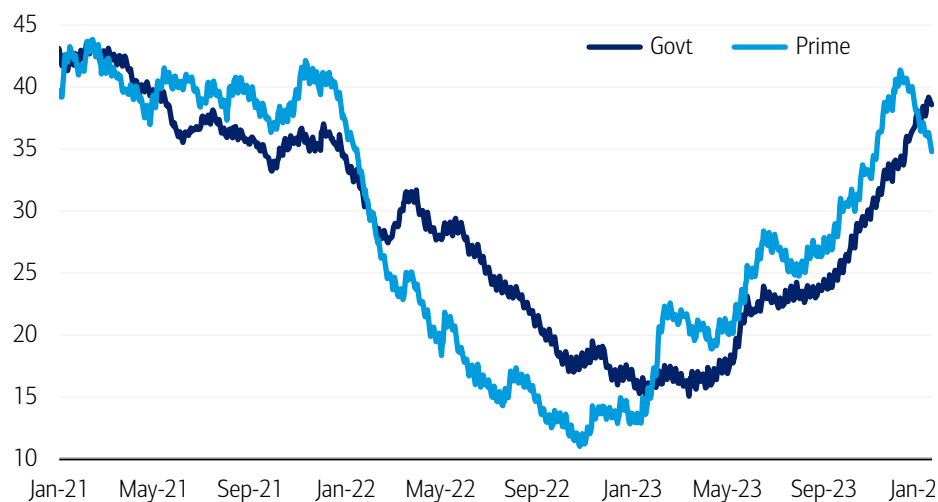


Source: BofA Global Research, Federal Reserve, Haver

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Exhibit 7: MMF WAM (Days)

Prime fund WAM shortened from peak of 41.24 days to 37.09 while gov't MMF WAMs continue to extend



Source: BofA Global Research, iMoneyNet

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Exhibit 8: US Commercial Bank balance sheets, selected assets & liabilities (\$bn)

Domestic bank assets increased due to deposit inflows which went into UST & Agy securities, repo & FF, and loans & leases

		Total	Assets						Liabilities					
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Large	Small	Borrowings	Net due to related foreign offices	Other
All Banks	1/10/2024	23259	3545	1569	2526	644	12308	2667	17500	2312	15188	2420	311	3029
	1w Chg	-1	47	-7	2	-47	-35	39	-78	27	-105	67	-38	48
	1m Chg	-66	-66	6	14	15	-8	-28	-30	45	-74	94	-79	17478
	1y Chg	284	448	-85	-210	43	208	-121	-444	660	-1104	566	41	18065
Domestic Banks	1/10/2024	20108	2234	1452	2497	263	11224	2437	16199	1496	14703	1374	-322	2858
	1w Chg	-88	-21	-18	4	-57	-23	27	-108	13	-121	26	-35	29
	1m Chg	-74	-53	1	19	8	-18	-31	-46	31	-77	42	-20	16196
	1y Chg	106	363	-96	-202	-50	181	-91	-432	680	-1112	390	16	16762
Large Banks	1/10/2024	13507	1767	1155	1912	234	6757	1682	10873	822	10051	952	-354	2036
	1w Chg	-65	2	-19	3	-58	-18	25	-87	8	-95	27	-30	25
	1m Chg	-94	-56	-2	8	10	-28	-26	-46	16	-61	38	-26	10858
	1y Chg	82	295	-66	-48	-34	-11	-55	-357	435	-792	359	22	11288
Small Banks	1/10/2024	6601	467	297	586	29	4467	755	5327	674	4652	421	31	822
	1w Chg	-23	-23	1	1	1	-4	2	-20	5	-25	-1	-5	4
	1m Chg	20	3	3	10	-2	10	-5	-1	15	-16	4	6	5338
	1y Chg	24	68	-30	-153	-16	191	-36	-74	246	-320	32	-6	5473
Foreign Banks	1/10/2024	3151	1311	117	28	381	1084	230	1301	816	485	1046	633	171
	1w Chg	86	68	10	-1	10	-13	12	29	14	15	41	-3	19
	1m Chg	8	-13	5	-4	7	10	3	17	14	3	52	-59	1282
	1y Chg	178	85	11	-8	93	27	-30	-13	-20	8	176	25	1304

Source: Federal Reserve H8

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Exhibit 9: Treasury bill and coupon issuance (\$000s)

Treasury issuance has increased \$51b MTD in January, due to \$33B in bill issuance, \$18b in coupon issuance

	Net total	Net bills	Net coupons	Gross new issue	Gross bill issue	Gross coupon issue	Gross maturing	Gross bill maturing	Gross coupon maturing
MTD	51,158	33,068	18,090	1,181,000	1,071,000	110,000	1,129,842	1,037,932	91,910
YTD	51,158	33,068	18,090	1,181,000	1,071,000	110,000	1,129,842	1,037,932	91,910
FYTD	856,787	471,499	385,288	8,234,000	7,182,000	1,052,000	7,377,213	6,710,501	666,712

Source: BofA Global Research, Haver Analytics

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Exhibit 10: Cumulative growth in FHLB debt since March 1 (\$bn)

Daily FHLB cumulative debt is roughly \$47bn lower since March 1 2023

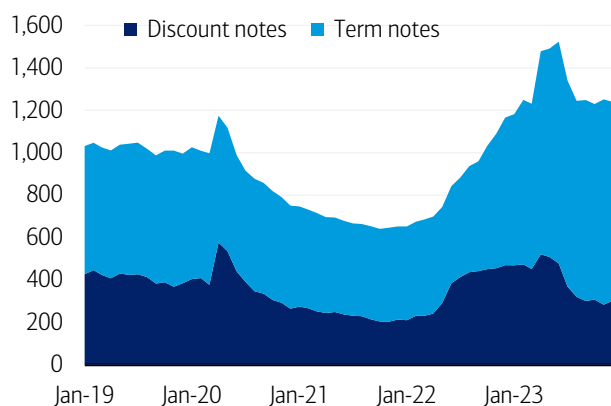


Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance

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Exhibit 11: FHLB debt issuance (\$bn)

FHLB supply has been flat to lower

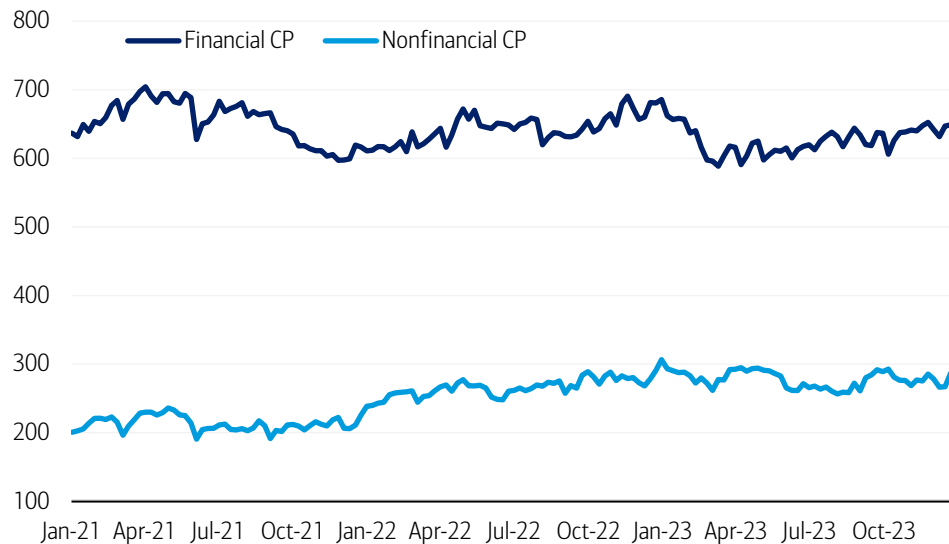


Source: BofA Global Research, FHLB Office of Finance

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Exhibit 12: Commercial paper (\$bn)

Financial CP is \$10b lower WoW, nonfin is \$7b lower WoW as of Jan 3



Source: Bloomberg

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Exhibit 13: Primary dealer holdings (\$mn)

PD holdings of UST is \$32b higher WoW driven by increases across all asset types. Data as of Dec 27

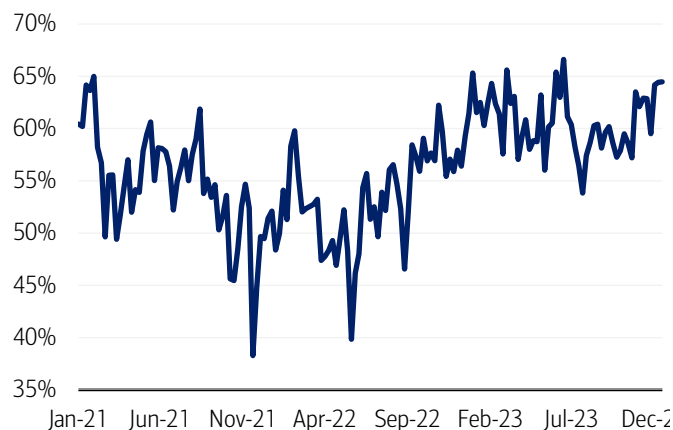
	Total	US Treasuries					Agency ex MBS	MBS	Corporates	Commercial Paper	State & Munis	ABS	Variable Rate Notes
		Bills	Coupons	FRNs	TIPS								
1/10/2024	393,712	253,849	62,025	164,906	10,344	16,574	10,169	96,480	14,227	5,715	9,463	7,602	1,922
Chg WoW	2,230	1,611	32	4,195	-2,298	-318	-777	-1,496	560	-584	679	342	1,311
Chg MoM	-7,764	1,481	-22,190	16,877	4,987	1,807	-3,082	7,588	-3,965	-2,080	-5,955	-992	-2,839
Chg since DL	9,001	10,661	-25,228	36,147	4,949	-5,207	-6,358	15,635	-3,915	-3,855	-5,414	483	-2,091

Source: BofA Global Research, Bloomberg

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Exhibit 14: PD UST holdings as a % of total holdings

Latest level 64% as of Jan 10



Source: BofA Global Research, Bloomberg

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Exhibit 15: PD UST holdings by security type (\$mn)

PD holdings of bills are still higher than avg but declining

	Bills	Coupons	FRNs	TIPS	Total
12/13/2023	84,215	148,029	5,357	14,767	252,368
1/10/2024	62,025	164,906	10,344	16,574	253,849
MoM Change	(22,190)	16,877	4,987	1,807	1,481
Level Z-score	0.79	0.89	0.63	1.08	1.22

BofA Global Research, Bloomberg

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Exhibit 16: SOFR volumes (\$bn)

SOFR volumes increased \$40bn from prior week as of Jan 19

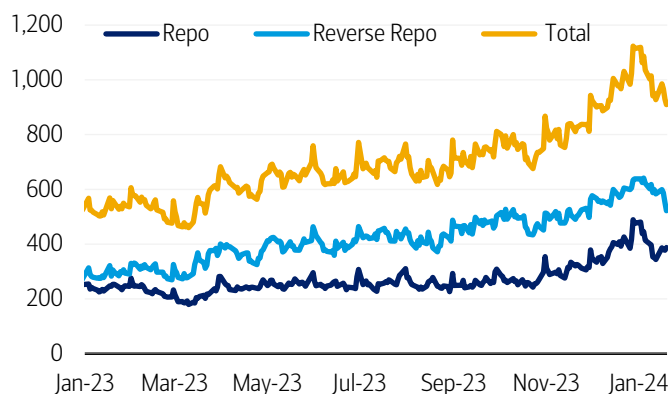


Source: FRBNY

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Exhibit 17: Sponsored Repo Volumes (\$bn)

Sponsored repo volumes have declined \$18b WoW as of Jan 19

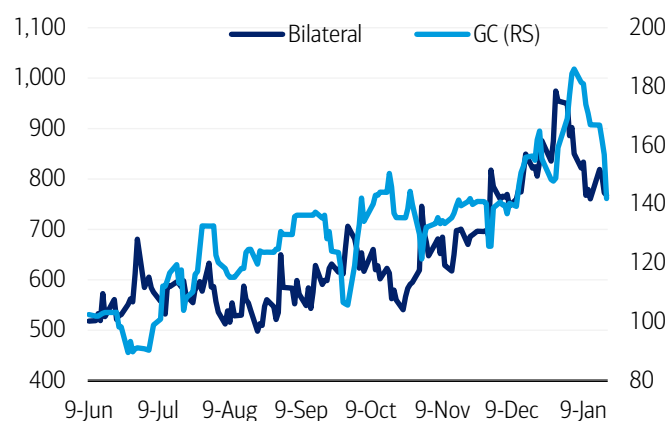


Source: OFR

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Exhibit 18: Sponsored repo volumes by transaction type (\$bn)

Sponsored GC repo volumes have fallen quickly alongside lower rates



Source: OFR

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Appendix

Exhibit 19: Daily FHLB debt issuance estimates (\$mn)

We estimate daily issuance from Bloomberg and FHLB Office of Finance website. Data is subject to revisions

	O/N	Term DN	Auction	Maturing DN	FRNs	Callable	Bullets	Maturing	Called	Total
12/1/2023	18,944	1,433	-	(18,581)	1,000	25	9	(4,330)	-	(1,500)
12/4/2023	18,659	1,203	-	(21,129)	-	55	100	(5,500)	-	(6,612)
12/5/2023	19,986	1,753	4,345	(21,121)	305	85	50	(2,284)	(223)	2,896
12/6/2023	15,677	989	-	(23,941)	-	2,830	70	(1,223)	-	(5,598)
12/7/2023	16,366	1,490	2,455	(17,114)	700	35	102	(548)	(55)	3,431
12/8/2023	13,541	3,173	-	(22,424)	3,000	5,170	340	(9,723)	(3,010)	(9,933)
12/11/2023	13,448	1,710	-	(16,958)	1,500	5,830	430	(4,640)	(15)	1,304
12/12/2023	14,605	2,955	2,680	(16,479)	-	4,518	171	(152)	(355)	7,943
12/13/2023	14,977	2,253	-	(19,730)	1,000	1,018	69	(2,175)	(1,755)	(4,343)
12/14/2023	18,215	3,485	3,055	(17,743)	1,625	1,348	20	(5,217)	(630)	4,159
12/15/2023	14,387	2,395	-	(27,064)	520	3,220	90	(2,772)	(220)	(9,444)
12/18/2023	13,556	1,911	-	(16,935)	50	1,755	455	(1,470)	(750)	(1,429)
12/19/2023	15,121	3,579	2,130	(17,409)	-	395	1,560	(513)	(300)	4,562
12/20/2023	15,050	2,861	-	(22,056)	740	517	530	(436)	(360)	(3,154)
12/21/2023	15,684	3,250	1,755	(17,256)	980	319	-	(2,527)	(45)	2,160
12/22/2023	15,312	2,441	-	(23,796)	1,075	644	57	(4,482)	(365)	(9,113)
12/26/2023	19,548	2,919	2,300	(16,919)	3,222	195	60	(3,025)	(2,345)	5,955
12/27/2023	22,690	10,971	-	(28,030)	-	491	147	(2,201)	(2,582)	1,486
12/28/2023	11,450	3,838	2,055	(24,273)	423	250	392	(1,581)	(869)	(8,315)
12/29/2023	11,575	2,228	-	(27,983)	1,900	180	30	(3,165)	(720)	(15,955)
1/2/2024	24,679	4,493	1,875	(14,254)	1,250	82	45	(115)	(35)	18,020
1/3/2024	24,353	2,899	-	(29,469)	3,478	1,065	23	(1,435)	(1,204)	(290)
1/4/2024	21,288	2,972	3,100	(26,103)	800	1,080	13	(250)	(50)	2,850
1/5/2024	17,280	1,749	-	(28,925)	3,175	170	180	(4,065)	(540)	(10,976)
1/8/2024	18,069	1,999	-	(20,944)	2,600	345	2,623	(650)	(130)	3,913
1/9/2024	21,850	2,759	4,375	(19,553)	2,265	180	370	(1,760)	-	10,486
1/10/2024	24,567	1,954	-	(26,616)	2,250	1,630	799	(1,408)	(320)	2,857
1/11/2024	14,950	1,621	2,800	(21,683)	2,125	1,925	255	-	(100)	1,893
1/12/2024	15,917	3,124	-	(27,572)	6,780	435	105	(2,810)	(1,360)	(5,381)
1/16/2024	18,920	1,939	3,340	(18,564)	7,425	257	250	(802)	(615)	12,151
1/17/2024	22,522	4,928	-	(26,733)	500	1,230	313	(4,125)	(70)	(1,435)
1/18/2024	19,668	4,011	5,355	(24,179)	750	1,558	808	(1,670)	(150)	6,151
1/19/2024	16,765	5,439	-	(25,882)	9,450	472	90	(3,092)	(115)	3,127

Source: Bloomberg, FHLB Office of Finance. Note: We use estimates of daily FHLB debt issuance

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