

# US Rates Watch

## Follow the money: cash & collateral trends Nov 7 update

### Cash / collateral shift suggests higher funding over time

As collateral continues to come into the system and cash is drained via QT, upward pressure in funding is likely to become more persistent. October month end saw increased funding pressure even as TGA declined, which added liquidity to the system.

### Money map: October month-end relatively smooth

October month-end was largely uneventful despite Canadian bank's fiscal year-end. SOFR rose to a peak of 5.35% but has been trending lower as funding pressures come off. Repo volumes are still elevated but trending downward. CP and FHLB debt both declined on the week, likely driven by banks reducing borrowing on month-end, but we expect this trend to reverse and for funding demand to continue to rise. The TGA decline offset some of the effects of QT and likely contributed to reserves moving higher. We expect TGA to continue to trend towards Treasury's forecast of \$750b at year-end but going forward most of the drain from QT will likely continue to come from Fed ON RRP.

### Cash: TGA decline offsets liquidity decline from QT

Fed balance sheet data for the week ending Nov 1, showed a \$40b decline in securities holdings from QT in addition to a \$1b decline in FDIC bank loans (Exhibit 1). On the liability side, reserve balances grew \$51b and are now flat to the level at the start of QT (Exhibit 2) while foreign RRP grew \$15b. Offsetting the increase in liabilities and taking the brunt of the decline in assets from QT was ON RRP (Exhibit 3) and TGA. ON RRP declined \$21b on the week while the TGA declined \$95b. A decline in the TGA is typical for the start of the month, which often sees large outflows, but we expect volumes to continue to decline towards Treasury's forecast of \$750b at year-end. Recall, a decline in TGA has the opposite and therefore offsetting impact on excess liquidity as QT.

### Cash: MMFs continue to see inflows, esp gov't inst'l MMFs

Over the week ending Nov 3, MMF AUM increased \$67b according to Crane Data (Exhibit 4). The inflows were broad across MMF types but primarily into gov't institutional funds. We expect MMF inflows to continue but slow and potentially reverse as the curve steepens (Exhibit 6).

### Cash: Domestic bank cash flat despite deposit outflow

Bank balance sheet data, which is lagged an additional week compared to Fed balance sheet data, shows banking system assets grew \$9b on the week ending Oct 25, driven by foreign banks (Exhibit 7). Domestic bank cash was flat on the week despite deposit outflows. Conversely, foreign banks saw cash increase \$21b, including \$11b from deposit inflows.

...More detail on cash & collateral dynamics on page 2...

07 November 2023

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#### Abbreviations:

BTFF: 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  
CP: Commercial paper  
AUM: Assets under management  
QT: Quantitative tightening

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Timestamp: 07 November 2023 07:00AM EST

**Cash bottom line:** The decline in the TGA offset some of the effects of QT and likely helped raise reserve balances. Fed RRP take-up continues to decline at a record pace with reserves proving resilient. MMFs saw broad inflows across MMF types, but gov't ins't funds continue to see most of the inflows.

## Collateral: Issuance likely to pick back up

**UST issuance** is likely to continue at a robust pace this fiscal year, which we recently discussed in (see report) [November refunding](#). We forecast \$109b in net coupons to the public in November alongside net bill issuance of \$249b to help meet a typically large deficit month. Net issuance MTD for coupons is flat but already \$85b higher for bills (Exhibit 8).

**FHLB debt** increased \$22b in October, driven by a pickup in issuance in the week ahead of month-end (Exhibit 10). According to our estimates, FHLB issuance declined \$15b last week (Exhibit 9), likely driven by the FOMC meeting and month-end but we expect issuance to pick up from here as bank demand for FHLB advances increases.

**CP issuance:** Data from the Federal Reserve shows that on the week ending Nov 1 CP outstanding declined \$31b for financial CP but increased \$4b for non-fin CP (Exhibit 11). The decline in financial CP was likely driven by Canadian banks paying down borrowing around their fiscal year-end.

**Collateral bottom line:** UST issuance will continue higher, especially as coupon auction sizes ramp up further following the November refunding announcement. At the same time, while CP and FHLB debt declined around month-end, we expect this trend to be temporary and for bank demand for borrowing to continue to increase.

## Funding: less cash & more collateral=higher funding levels

To translate cash / collateral dynamics into funding markets we examine dealer holdings, repo volumes, & realized funding levels.

**Dealer holdings**, which are lagged, show a \$6b increase in Treasury holdings on the week ending Oct 25 (Exhibit 12, Exhibit 13), but UST holdings are still \$21b lower MoM and \$44b lower since the debt limit resolution. As UST auction sizes grow, dealers will likely need to take down more and more of each auction and as a result USTs are likely to cheapen and repo rates and volumes could move higher.

**Repo volumes:** SOFR volumes increased \$83b on the week ending Nov 3n (Exhibit 15). Volumes jumped on month-end and continued to rise until last Friday. At the same time, the rate on SOFR peaked at 5.35% on month-end, driven by the bilateral component, and since then has declined to 5.32% as of Nov 3. The increase in the rate and volume on month-end was likely exacerbated by large Treasury settlements that dealers needed to finance and the overhang has continued to keep repo elevated. We expect SOFR to eventually settle closer to the ON RRP rate but continue to jump around large UST settlement dates. Sponsored repo volumes increased \$45b on the week ending Nov 3, with bilateral increasing \$53b (Exhibit 16).

**Funding bottom line:** month-end settlements likely contributed to upward pressure in repo rates and higher volumes. We expect repo to normalize in the coming days as GSE cash comes back into the system. Dealer holdings are lagged but showed a small increase in UST holdings in the week ahead of month-end.

**Key takeaway:** Decline in TGA partially offset some of the decline from QT with ON RRP continuing to take the brunt of the liquidity draw while reserves continue to rise. FHLB debt and CP declined around month-end but we expect this trend to reverse going forward. UST issuance will continue to ramp up. Overall, as collateral continues to come into the system and cash is drained via QT, upward pressure in funding is likely to become more persistent.

**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

Assets								Liabilities						
Dates	Securities	Repo	Discount Window	BTFP	FDIC bank credit extension	FX Swaps	Other	Currency	Foreign RRP	ON RRP	TGA	Reserves	Other	Total
12/28/2022	8,145	0	5	0	0	0	451	2,307	334	2,293	410	2,980	277	8,601
10/25/2023	7,377	0	3	109	48	0	420	2,323	302	1,101	848	3,264	121	7,959
11/1/2023	7,338	0	3	109	47	0	420	2,325	317	1,079	753	3,315	128	7,917
WoW Change	-40	0	0	0	-1	0	0	2	15	-21	-95	51	7	-41
YTD Change	-807	0	-2	109	47	0	-31	18	-17	-1,214	343	335	-149	-683

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 \$50.66bn as of Nov 1



Source: Federal Reserve

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

ON RRP take-up declined -\$20.72bn from prior week as of Nov 1



Source: FRBNY

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

MMF AUM increased \$31b WoW as of Oct 27, with inflows primarily into gov't institutional funds

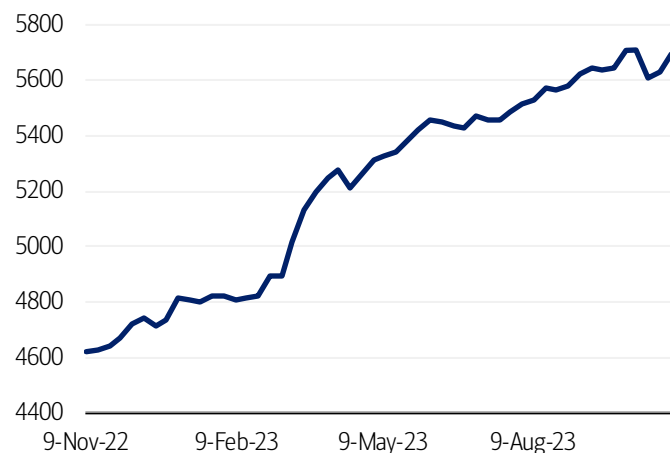
Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Prime Retail	Gov't Retail
12/30/2022	5,073	1,077	3,996	0	1,584	3,489	655	2,834	421	1,163
10/27/2023	6,011	1,271	4,611	128	2,126	3,756	616	3,141	656	1,471
11/3/2023	6,078	1,289	4,655	133	2,147	3,797	626	3,171	663	1,484
WoW change	67	18	44	5	21	41	10	30	8	13
YTD Change	1,005	213	659	133	564	308	-30	337	242	321

Source: Crane Data

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**Exhibit 5: MMF AUM (\$bn)**

MMFs saw \$62.69bn in flows from prior week as of Nov 1

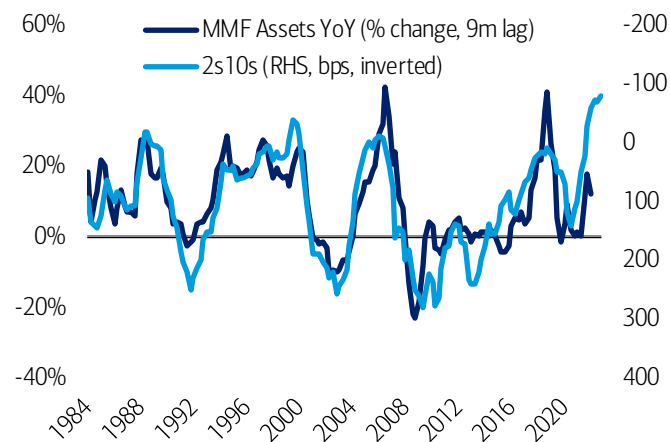


Source: ICI, Bloomberg

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

Domestic banks saw cash flat on the week despite deposit outflows

		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	10/25/2023	22874	3354	1517	2513	588	12232	2670	17206	2226	14980	2352	299	3017
	1w Chg	9	21	2	5	0	25	-44	-22	8	-30	-7	4	35
	1m Chg	47	83	-16	-23	-26	25	4	-85	58	-143	49	56	17316
	YTD Chg	-102	258	-136	-262	-13	128	-77	-739	574	-1313	499	29	18053
Domestic Banks	10/25/2023	19799	2029	1414	2486	249	11198	2422	15933	1419	14514	1354	-340	2852
	1w Chg	-8	0	6	5	2	27	-48	-33	4	-37	2	-7	31
	1m Chg	-34	-18	-11	-22	-8	30	-5	-79	55	-135	22	3	16033
	YTD Chg	-204	159	-133	-252	-64	151	-65	-698	603	-1301	370	-1	16756
Large Banks	10/25/2023	13276	1595	1117	1913	213	6770	1669	10662	776	9886	921	-368	2060
	1w Chg	-5	4	4	7	3	22	-44	-29	3	-33	2	-6	29
	1m Chg	-31	-23	-10	-14	-8	22	3	-91	48	-140	28	3	10782
	YTD Chg	-149	123	-104	-66	-55	2	-49	-568	389	-957	327	8	11313
Small Banks	10/25/2023	6523	435	297	574	37	4428	753	5271	643	4628	432	28	792
	1w Chg	-3	-4	2	-2	0	6	-4	-4	1	-5	0	-1	2
	1m Chg	-3	6	-1	-7	0	8	-7	12	7	5	-6	0	5251
	YTD Chg	-55	36	-29	-186	-9	149	-16	-130	214	-344	42	-10	5443
Foreign Banks	10/25/2023	3075	1325	103	26	338	1034	248	1272	807	465	999	639	165
	1w Chg	17	21	-3	0	-3	-2	4	11	4	7	-8	11	4
	1m Chg	81	101	-5	-2	-18	-4	9	-5	3	-8	27	54	1284
	YTD Chg	102	99	-3	-10	51	-23	-12	-41	-29	-12	129	30	1297

Source: Federal Reserve H8

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**Exhibit 8: Treasury bill and coupon issuance (\$000s)**

Treasury issuance has grown \$85b MTD in November, all from bills

	Net total	Net bills	Net coupons	Gross new issue	Gross bill issue	Gross coupon issue	Gross maturing	Gross bill maturing	Gross coupon maturing
MTD	85,044	85,044	-	498,000	498,000	-	412,956	412,956	-
YTD	2,734,685	1,904,661	830,024	18,004,025	15,161,025	2,843,000	15,269,340	13,256,364	2,012,976
FYTD	377,174	282,256	94,918	3,164,000	2,749,000	415,000	2,786,826	2,466,744	320,082

Source: BofA Global Research, Haver Analytics

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**Exhibit 9: Cumulative growth in FHLB debt since March 1 (\$bn)**

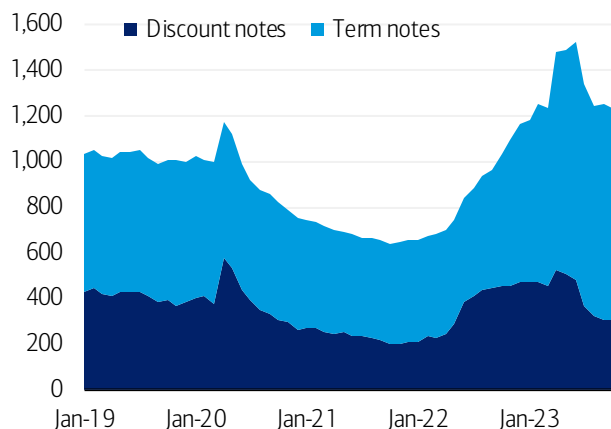
Daily FHLB cumulative debt is roughly \$87.4708bn lower since March 1



Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance  
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**Exhibit 10: FHLB debt issuance (\$bn)**

Higher FHLB debt issuance leading to more MMF investment

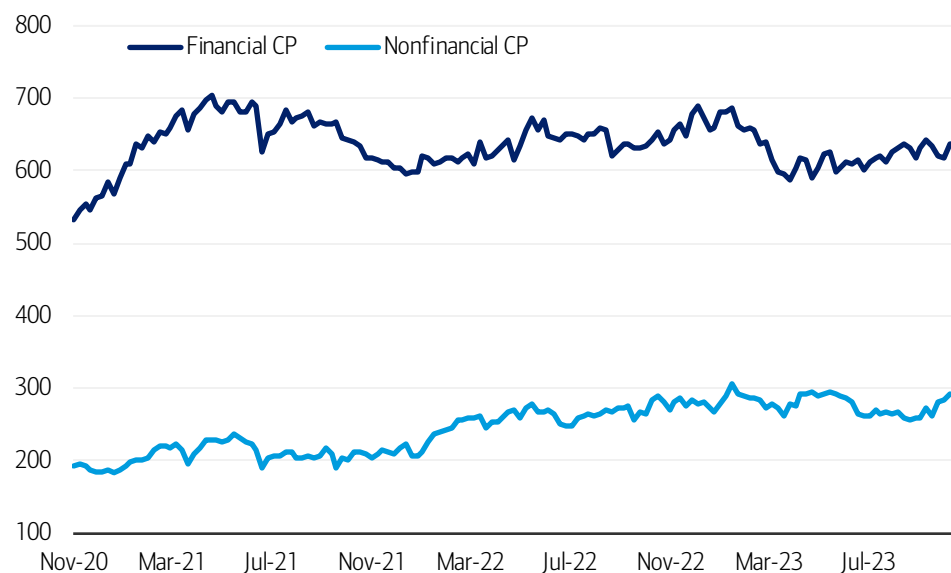


Source: BofA Global Research, FHLB Office of Finance

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**Exhibit 11: Commercial paper (\$bn)**

Financial CP is \$31b lower WoW, nonfin is \$4b higher WoW as of Nov 1



Source: Bloomberg

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**Exhibit 12: Primary dealer holdings (\$mn)**

PD holdings are \$6b higher WoW but still \$22b lower MoM and \$44b lower since the DL resolution

	Total	US Treasuries					Agency ex MBS	MBS	Corporates	Commercial Paper	State & Munis	ABS	Variable Rate Notes
		Bills	Coupons	FRNs	TIPS								
10/25/2023	344,824	199,510	49,527	129,304	8,220	16,060	12,167	90,059	17,542	9,584	14,202	8,437	2,907
Chg WoW	6,300	5,671	-183	4,601	4,503	351	-2,265	5,548	-2,106	-250	-80	18	-486
Chg MoM	-25,344	-21,281	-20,902	1,226	-302	2,298	-2,308	1,749	-3,976	727	879	-238	-169
Chg since DL	-39,887	-43,678	-37,726	545	2,825	-5,721	-4,360	9,214	-600	14	-675	1,318	-1,106

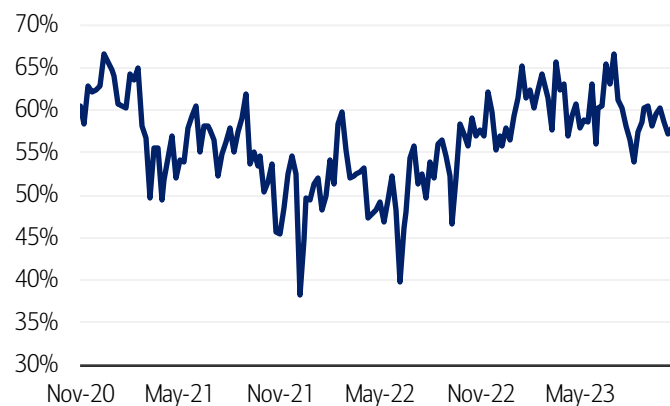
Source: BofA Global Research, Bloomberg

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**Exhibit 13: US Treasuries as a % of overall PD holdings**

USTs as a % of PD holdings has declined slightly vs the prior week of data

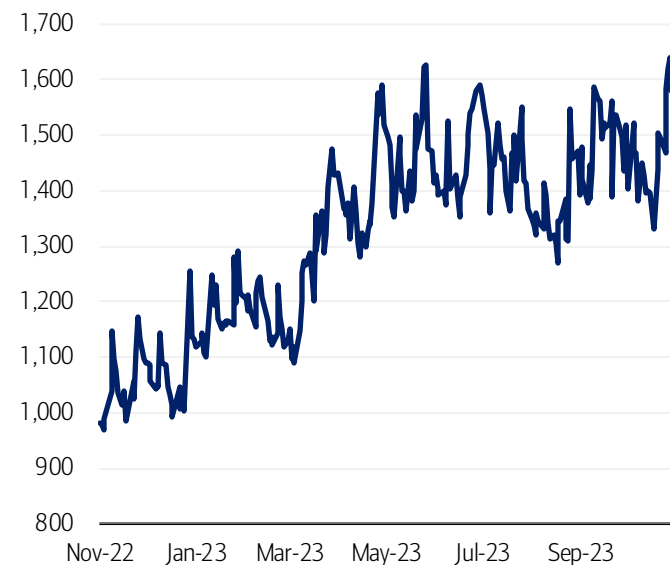


Source: BofA Global Research, Bloomberg

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**Exhibit 15: SOFR volumes (\$bn)**

SOFR volumes increased \$83bn from prior week as of Nov 3



Source: FRBNY

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**Exhibit 14: PD UST holdings by security type (\$mn)**

PD holdings of bills are still higher than avg but declining

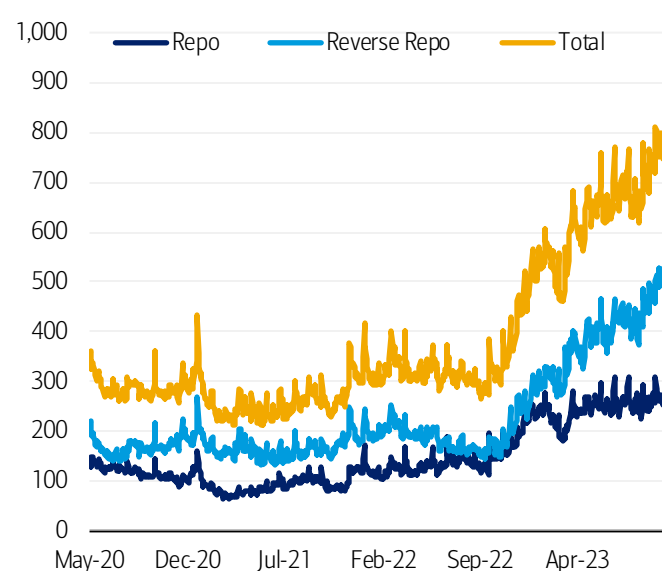
	Bills	Coupons	FRNs	TIPS	Total
9/27/2023	70,429	128,078	8,522	13,762	220,791
10/25/2023	49,527	125,703	8,220	16,060	199,510
MoM Change	(20,902)	(2,375)	(302)	2,298	(21,281)
Level Z-score	0.38	0.06	0.14	1.04	0.31

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**Exhibit 16: Sponsored Repo Volumes (\$bn)**

Sponsored repo volumes have risen \$255 YTD as of Nov 3



Source: OFR

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# Appendix

## Exhibit 17: 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
10/2/2023	17,963	1,035	-	(25,184)	1,601	75	231	(2,427)	-	(6,707)
10/3/2023	22,405	3,235	4,425	(19,218)	1,000	-	355	(8,921)	-	3,281
10/4/2023	21,342	824	-	(27,164)	2,100	1,050	135	(1,769)	-	(3,483)
10/5/2023	23,645	4,989	4,815	(22,834)	2,545	15	-	(185)	-	12,990
10/6/2023	20,731	2,412	-	(27,834)	2,700	15	1,562	(7,512)	(15)	(7,941)
10/10/2023	21,515	3,666	1,725	(24,268)	2,550	1,486	-	(3,530)	(15)	3,129
10/11/2023	32,858	4,103	-	(30,414)	2,350	125	150	(526)	-	8,647
10/12/2023	17,435	1,948	905	(23,903)	3,430	3	215	(1,220)	-	(1,186)
10/13/2023	21,101	2,674	-	(37,889)	3,972	1,525	395	(2,285)	-	(10,508)
10/16/2023	21,800	1,731	-	(25,012)	3,030	95	255	(615)	-	1,284
10/17/2023	20,208	1,333	2,895	(21,690)	500	280	150	(100)	(15)	3,561
10/18/2023	18,100	3,072	-	(30,662)	3,177	2,074	265	(35)	-	(4,010)
10/19/2023	18,347	1,917	4,655	(19,125)	3,652	1,025	670	(1,260)	-	9,880
10/20/2023	19,030	3,958	-	(27,129)	2,600	1,055	75	(1,775)	(610)	(2,796)
10/23/2023	19,582	3,447	-	(20,820)	8,045	83	198	(3,619)	-	6,916
10/24/2023	18,826	3,092	6,415	(20,642)	3,455	87	25	(3,396)	-	7,863
10/25/2023	18,415	4,081	-	(28,573)	4,250	153	-	(105)	(113)	(1,891)
10/26/2023	18,657	5,421	2,795	(20,610)	10,260	194	153	(3,500)	(275)	13,094
10/27/2023	15,659	1,998	-	(26,323)	4,500	203	160	(4,395)	(625)	(8,823)
10/30/2023	15,950	2,182	-	(19,852)	17,186	1,074	429	(4,932)	-	12,037
10/31/2023	8,350	2,665	6,890	(22,199)	-	-	-	-	-	(4,293)
11/1/2023	17,154	2,628	-	(20,411)	2,305	50	80	(5,916)	-	(4,110)
11/2/2023	18,550	1,273	5,995	(21,039)	2,750	15	-	(1,256)	-	6,289
11/3/2023	17,400	2,923	-	(25,877)	733	60	96	(6,661)	-	(11,326)
11/6/2023					160	156	80	(1,880)	-	(1,484)

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

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