

US Rates Watch

Follow the money: FHLBs, MMF, & Fed July 31 update

Money map: FHLBs, MMF, & Fed

Banking system stress has moderated as shown through the ongoing pay down in FHLB funding. FHLB debt outstanding is nearly flat from prior to bank stress began in March. Still, bank reserve balances on the Fed balance sheet declined \$54b last week due to Fed QT and TGA refill. At the same time, bank borrowing from the BTFP continues to pick up.

FHLB debt outstanding is nearly flat to pre bank stress

According to our estimates, FHLB net issuance is only \$2.8bn higher since before bank stress began (Exhibit 3). That includes \$12b of paydowns over the past week and down from a peak of nearly \$300b in net new issuance post bank stress. Bank paydowns of precautionary funding have likely driven FHLB debt paydowns in recent weeks. We have also seen this reflected in a decline in Fed funds volumes over the same period (Exhibit 5). We recently discussed the decline in Fed funds volumes in greater detail here: [Fed funds: lower volume, higher tail 28 July 2023](#).

MMFs continue to attract inflows, primarily into retail

According to Crane data, MMF AUM increased \$7b on the week ending Thursday, Jul 27 (Exhibit 8). Inflows were into prime and gov't funds, primarily retail. MMFs continue to attract inflows but have slowed in recent weeks, especially into institutional funds, which saw a wave of inflows post bank stress events in March.

Fed RRP continues to decline post debt limit resolution

ON RRP take-up has declined \$406b since the debt limit resolution, including \$41b in the last week (Exhibit 10). This implies ~81% of the \$501b in TGA refill and \$347b in Fed security redemptions from QT has come out of ON RRP since May 31 (Exhibit 13). Including Foreign RRP, this implies 88% has come out of Fed RRP. Going forward, we continue to expect 90% of the TGA refill and Fed QT to drain from RRP.

Reserve balances declined due to QT and TGA refill

Bank balance sheet data, from the Fed's H.8 report for the week ending Jul 18, showed a decline in domestic bank deposits but a pickup in borrowing and net due to foreign offices, which left domestic bank balance sheets \$6b higher from prior week (Exhibit 12). On the asset side, domestic bank cash and securities holdings picked up but loans and repo & FF lending declined.

The Fed's balance sheet data, from the Fed's H.4.1 report for the week ending Jul 26, shows 88% of the growth in TGA and decline in Fed assets from QT have come out of domestic and foreign RRP since prior to the debt limit resolution (Exhibit 13). Last week, however, most of the drain from TGA refill and securities redemptions came out of reserves. Over recent weeks, reserves balances have generally been range bound between \$3.1-\$3.3tn.

31 July 2023

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Abbreviations:

BTFP: bank term funding program
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

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

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Refer to important disclosures on page 7 to 9.

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Exhibit 1: Data on FHLB issuance + ON RRP / MMF flows (\$bn)

FHLB net issuance is offset by ON RRP decline & MMF inflows; funding markets are working

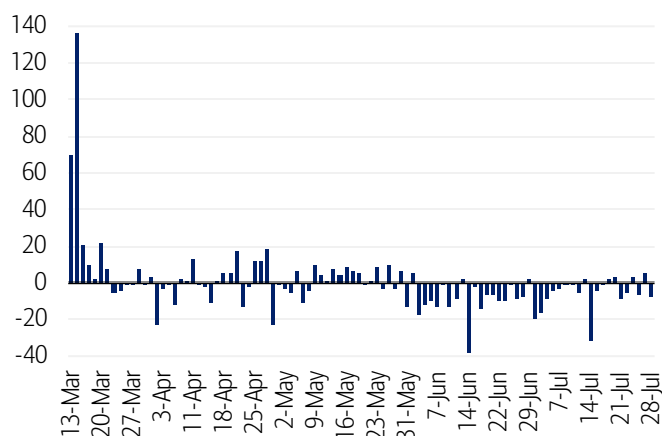
FHLBs	20-Jul	21-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul
Total	3.20	-8.76	-5.49	3.33	-6.76	5.37	-8.11
DN outstanding	28.05	25.74	25.45	35.02	28.19	37.29	24.39
Money Markets	20-Jul	21-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul
ON RRP Total	1,721.00	1,770.75	1,770.87	1,720.72	1,749.73	1,735.78	1,730.23
ON RRP Change (d/d)	-11.80	49.75	0.12	-50.15	29.02	-13.95	-5.56
MMF Flows	17.14	-7.05	9.11	24.04	-12.23	-6.49	
MMF Inflow - RRP Change	28.95	-56.80	8.99	74.20	-41.25	7.46	

Source: BofA Global Research, Bloomberg, FHLB Office of Finance, Crane Data

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Exhibit 2: Daily net FHLB debt issuance (\$bn)

FHLB has primarily been paying down debt in recent weeks



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

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Exhibit 3: Cumulative growth in FHLB debt since March 1 (\$bn)

Daily FHLB cumulative debt is now only \$2.8bn higher since March 1

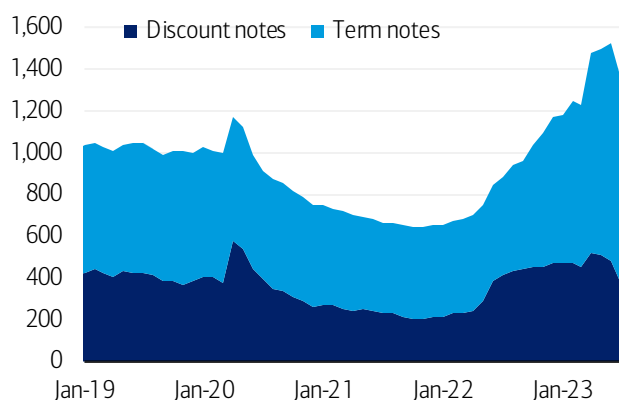


Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance

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Exhibit 4: FHLB debt issuance (\$bn)

FHLB debt declined in June



Source: BofA Global Research, FHLB Office of Finance

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Exhibit 5: Fed funds volumes (\$bn)

Fed funds volumes are generally trending downward.

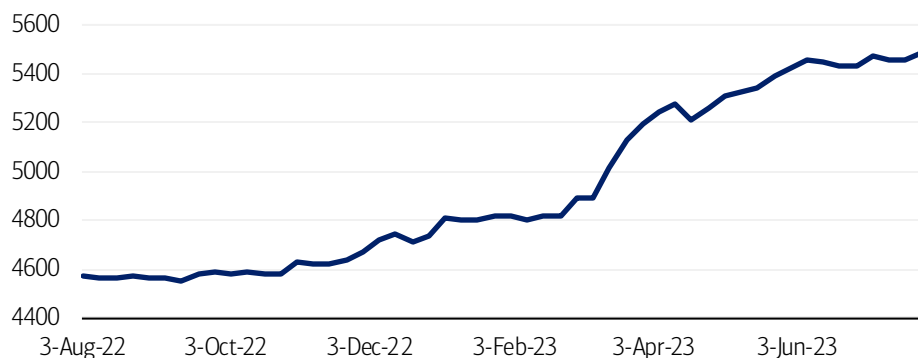


Source: FRBNY

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Exhibit 6: MMF AUM (\$bn)

MMFs saw \$28.35bn in flows from prior week



Source: ICI, Bloomberg

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Exhibit 7: ICI Money Market Fund AUM (\$bn)

MMF AUM rose \$28bn from prior week as of Wednesday, primarily into gov't funds

Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Tax-exempt Institutional	Prime Retail	Gov't Retail	Tax-exempt Retail
7/19/2023	5,458	850	4,495	113	2,029	3,429	276	3,142	11	574	1,353	102
7/26/2023	5,487	854	4,522	111	2,033	3,453	275	3,168	11	579	1,354	101
WoW Change	28	3	27	-2	4	24	-1	26	0	5	1	-2
Change since 3/8	593	59	539	-5	207	386	6	383	-2	53	156	-3

Source: ICI, Bloomberg

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Exhibit 8: Daily Crane MMF AUM (\$bn)

MMF AUM increased \$7b WoW, with inflows into prime and gov't funds, primarily retail

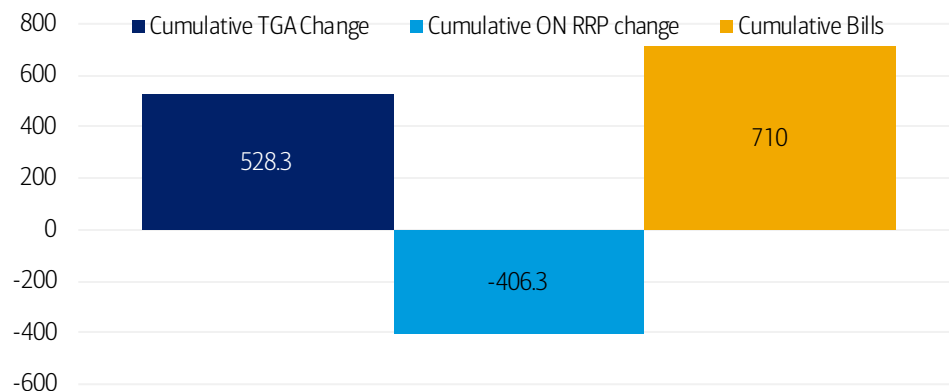
Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Prime Retail	Gov't Retail
7/20/2023	5,883	1,229	4,535	120	1,967	3,796	651	3,145	577	1,390
7/21/2023	5,876	1,229	4,528	119	1,970	3,787	650	3,137	579	1,391
7/24/2023	5,885	1,230	4,537	118	1,970	3,797	651	3,146	580	1,390
7/25/2023	5,909	1,234	4,557	119	1,974	3,817	654	3,164	581	1,393
7/26/2023	5,897	1,236	4,542	118	1,974	3,805	655	3,150	581	1,392
7/27/2023	5,891	1,234	4,538	118	1,975	3,798	653	3,145	582	1,393
DoD Change	-6	-2	-4	0	1	-8	-3	-5	0	1
WoW change	7	5	4	-2	8	1	1	0	4	3

Source: Crane Data

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Exhibit 9: Cumulative change in bills and TGA vs ON RRP

\$710b in bill issuance has in part rebuilt \$528b into the TGA, which has drained \$406b from ON RRP



Source: BofA Global Research, Bloomberg, Haver Analytics

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Exhibit 10: ON RRP take-up (\$bn)

ON RRP take-up decreased -\$40.52bn from prior week



Source: FRBNY

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Exhibit 11: Fed reserve balances outstanding (\$bn)

Change in reserve balance from prior week was -\$53.82bn



Source: Federal Reserve

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Exhibit 12: US Commercial Bank balance sheets, selected assets & liabilities (\$bn)

Domestic banks saw deposit outflows again but an increase in borrowing and net due to foreign offices

		Total	Assets						Liabilities			
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Borrowings	Net due to related foreign offices	Other
All	7/19/2023	22824	3307	1507	2584	591	12090	2745	17235	2302	302	2985
Banks	1w Chg	27	53	-3	12	-4	0	-31	-24	21	45	-15
	1m Chg	-24	43	-8	-12	-30	-23	6	38	-96	66	-33
	YTD Chg	-152	212	-146	-189	-10	-15	-4	-710	447	32	79
Domestic	7/19/2023	19761	1981	1396	2558	238	11069	2518	15950	1296	-314	2829
Banks	1w Chg	6	20	2	13	-5	-1	-22	-26	9	25	-3
	1m Chg	-58	-2	-7	-10	-29	-21	12	20	-75	21	-25
	YTD Chg	-241	112	-151	-178	-75	22	30	-681	312	25	104
Large	7/19/2023	13273	1530	1105	1951	207	6722	1758	10754	823	-347	2044
Banks	1w Chg	8	22	3	15	-3	-4	-23	-24	11	26	-4
	1m Chg	-53	0	-6	-4	-24	-27	8	-5	-50	28	-27
	YTD Chg	-72	90	-124	-13	-61	-21	57	-423	227	28	96
Small	7/19/2023	6487	451	291	607	30	4347	760	5195	473	33	785
Banks	1w Chg	-2	-2	0	-2	-2	3	1	-1	-1	-1	1
	1m Chg	-5	-2	-1	-7	-5	6	4	25	-24	-7	2
	YTD Chg	-169	23	-27	-165	-15	44	-28	-257	85	-3	7
Foreign	7/19/2023	3063	1326	111	25	353	1021	227	1285	1006	616	156
Banks	1w Chg	21	33	-5	-1	1	1	-9	1	11	20	-12
	1m Chg	34	45	-1	-2	-1	-2	-6	18	-21	45	-8
	YTD Chg	89	100	5	-11	65	-37	-33	-29	135	7	-24

Source: Federal Reserve H8

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Exhibit 13: Fed balance sheet, selected assets & liabilities (\$bn, Wednesday comparison data)

H41 data shows 88% of the increase in TGA and decline in assets from QT has drained from foreign and domestic Fed RRP

Dates	Assets							Liabilities					
	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	8,436
7/19/2023	7,623	0		3	103		160	0	2,335	326	1,733	537	8,325
7/26/2023	7,601	0		2	105		152	0	2,333	317	1,750	550	8,293
Change from 5/31-7/26	-124	0		-2	11		-36	0	-11	-44	-505	501	-142
Change from 7/19-7/26	-23	0		0	2		-7	0	-2	-9	17	12	-31

Source: BofA Global Research, Federal Reserve

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Appendix

Exhibit 14: 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
3/1/2023	14,450	6,550	-	(21,685)	1,500	1,317	603	(2,794)	-	(59)
3/2/2023	17,964	4,656	5,650	(17,127)	530	114	789	(6,685)	(15)	5,876
3/3/2023	14,476	3,414	-	(30,161)	1,000	120	2,035	(1,949)	-	(11,065)
3/6/2023	14,930	4,704	-	(18,998)	3,790	754	1,023	(2,335)	-	3,868
3/7/2023	14,439	3,751	4,915	(17,260)	-	170	284	(1,000)	-	5,298
3/8/2023	13,485	7,293	-	(31,073)	-	5,095	212	-	-	(4,989)
3/9/2023	15,250	3,552	3,360	(16,869)	-	585	1,135	(3,980)	-	3,032
3/10/2023	16,799	3,740	-	(28,651)	2,000	547	58	(5,206)	-	(10,714)
3/13/2023	67,500	23,039	-	(22,798)	2,810	2,035	347	(2,750)	-	70,183
3/14/2023	50,200	61,770	6,445	(71,183)	91,819	495	-	(3,450)	-	136,096
3/15/2023	24,100	40,529	-	(65,448)	21,052	1,685	677	(1,889)	-	20,705
3/16/2023	14,600	9,988	3,500	(29,369)	10,850	636	132	(830)	-	9,507
3/17/2023	11,585	7,880	-	(24,676)	11,500	175	39	(4,583)	-	1,920
3/20/2023	12,400	7,341	-	(16,852)	21,712	413	31	(3,650)	-	21,395
3/21/2023	9,604	5,301	3,675	(15,224)	7,312	227	31	(3,545)	-	7,381
3/22/2023	11,250	5,916	-	(24,402)	2,500	237	32	(1,000)	-	(5,468)
3/23/2023	9,780	3,456	5,115	(16,546)	-	105	81	(6,400)	-	(4,409)
3/24/2023	18,355	1,650	-	(23,633)	4,900	30	74	(1,580)	-	(204)
3/27/2023	24,070	1,464	-	(33,130)	9,150	4,188	295	(6,323)	-	(285)
3/28/2023	19,223	4,277	280	(23,576)	2,200	8,744	75	(3,247)	(60)	7,917
3/29/2023	17,095	1,957	-	(29,865)	1,000	9,924	162	(1,881)	(30)	(1,639)
3/30/2023	15,250	4,213	4,700	(20,936)	-	3,498	129	(3,202)	(210)	3,442
3/31/2023	8,000	964	-	(32,122)	-	-	-	-	-	(23,158)
4/3/2023	9,620	2,421	-	(16,456)	-	7,642	96	(6,175)	(110)	(2,962)
4/4/2023	11,440	1,453	4,120	(12,553)	-	15	20	(5,681)	-	(1,186)
4/5/2023	9,800	2,712	-	(23,492)	-	492	144	(2,172)	-	(12,516)
4/6/2023	9,300	3,140	4,275	(12,694)	-	1,030	44	(3,011)	(10)	2,073
4/10/2023	9,600	6,010	-	(19,286)	-	5,213	520	(1,485)	-	572
4/11/2023	9,600	7,455	5,255	(11,553)	-	2,350	258	(200)	-	13,166
4/12/2023	16,155	5,059	-	(23,974)	50	1,723	149	(330)	-	(1,168)
4/13/2023	2,750	3,625	2,935	(10,918)	-	751	126	(1,100)	(190)	(2,021)
4/14/2023	11,041	3,882	-	(24,032)	378	1,040	55	(3,690)	-	(11,327)
4/17/2023	11,896	5,142	-	(19,320)	-	3,605	428	(1,400)	(120)	231
4/18/2023	13,127	4,043	3,935	(16,850)	500	2,502	151	(1,722)	-	5,686
4/19/2023	16,014	8,047	-	(25,694)	1,000	5,460	187	-	-	5,014
4/20/2023	18,737	6,788	7,240	(22,421)	1,000	6,882	460	(1,317)	-	17,368
4/21/2023	15,984	2,654	-	(30,101)	2,000	3,137	84	(7,225)	(170)	(13,637)
4/24/2023	17,600	5,499	-	(23,041)	-	4,645	30	(6,005)	(434)	(1,706)
4/25/2023	15,850	6,807	11,335	(19,746)	2,550	1,253	130	(6,713)	-	11,466
4/26/2023	26,838	6,482	-	(27,442)	-	5,780	224	-	(335)	11,548
4/27/2023	19,800	6,206	7,000	(21,528)	6,480	4,140	80	(3,600)	(620)	17,958
4/28/2023	15,512	3,584	-	(44,794)	911	3,430	80	(1,424)	(130)	(22,831)
5/1/2023	18,904	2,879	-	(27,040)	11,497	1,047	148	(7,853)	-	(419)
5/2/2023	19,801	4,857	3,185	(24,907)	-	57	165	(6,105)	-	(2,946)
5/3/2023	23,273	4,378	-	(38,071)	5,913	5,208	261	(6,020)	-	(5,059)
5/4/2023	23,721	5,373	6,930	(31,128)	5,950	1,955	255	(6,989)	-	6,067
5/5/2023	18,400	2,790	-	(31,772)	1,677	55	124	(2,072)	-	(10,798)
5/8/2023	18,857	6,822	-	(31,657)	3,655	832	210	(3,275)	(15)	(4,572)
5/9/2023	20,018	4,320	7,200	(23,834)	4,505	110	370	(2,650)	(40)	9,999
5/10/2023	21,769	2,506	-	(29,880)	9,708	1,521	239	(1,417)	(80)	4,367
5/11/2023	19,532	2,132	5,050	(26,533)	1,400	80	115	(1,540)	(15)	221
5/12/2023	18,555	5,628	-	(30,524)	7,825	6,165	20	(130)	-	7,539
5/15/2023	18,014	7,593	-	(24,965)	3,000	411	138	(100)	-	4,091
5/16/2023	16,384	10,516	7,595	(29,449)	2,905	315	115	(100)	(45)	8,236
5/17/2023	15,800	6,278	-	(24,935)	10,720	143	60	(1,545)	-	6,521
5/18/2023	13,206	4,494	6,110	(19,859)	2,054	1,105	186	(1,938)	-	5,357
5/19/2023	11,776	2,766	-	(26,366)	9,824	1,380	145	(850)	(25)	(1,350)
5/22/2023	11,935	6,178	-	(16,931)	1,400	3,405	20	(5,570)	(20)	417
5/23/2023	13,825	7,034	7,085	(16,926)	2,845	298	220	(6,100)	(85)	8,195

Exhibit 14: 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
5/24/2023	16,049	9,590	-	(24,231)	-	287	33	(4,780)	(238)	(3,291)
5/25/2023	15,050	8,877	8,605	(26,328)	6,257	135	88	(2,478)	(3)	10,203
5/26/2023	14,857	2,792	-	(26,090)	12,890	155	70	(8,010)	(420)	(3,757)
5/30/2023	17,144	9,610	2,020	(24,663)	397	2,039	258	(811)	-	5,995
5/31/2023	11,178	5,373	-	(29,638)	-	-	-	-	-	(13,087)
6/1/2023	14,922	6,811	2,260	(24,577)	5,396	915	1,189	(1,475)	(15)	5,426
6/2/2023	17,653	1,818	-	(28,221)	-	305	-	(9,579)	(15)	(18,038)
6/5/2023	19,670	462	-	(28,507)	921	31	251	(4,640)	-	(11,811)
6/6/2023	16,983	770	1,725	(27,463)	-	120	50	(1,562)	(29)	(9,406)
6/7/2023	15,315	2,005	-	(28,488)	-	245	45	(2,265)	(45)	(13,188)
6/8/2023	17,823	3,135	1,300	(23,002)	-	20	260	(32)	-	(496)
6/9/2023	17,431	2,386	-	(25,225)	-	20	135	(7,942)	-	(13,196)
6/12/2023	21,127	1,240	-	(32,701)	800	270	1,145	(415)	-	(8,535)
6/13/2023	18,671	1,951	2,235	(24,361)	-	5,260	50	(1,880)	-	1,927
6/14/2023	19,374	4,696	-	(24,379)	250	428	105	(39,009)	-	(38,535)
6/15/2023	18,833	3,083	650	(25,585)	-	1,349	70	(946)	-	(2,545)
6/16/2023	19,002	743	-	(29,802)	-	50	25	(3,742)	(70)	(13,794)
6/20/2023	19,087	2,952	960	(28,032)	-	1,210	31	(2,650)	-	(6,443)
6/21/2023	18,100	4,070	-	(29,290)	-	1,251	785	(1,185)	-	(6,270)
6/22/2023	16,145	3,101	655	(22,357)	270	300	33	(7,577)	(50)	(9,479)
6/23/2023	16,909	1,108	-	(26,673)	-	1,533	62	(2,410)	-	(9,470)
6/26/2023	18,864	2,297	-	(22,675)	520	797	12	(345)	-	(530)
6/27/2023	18,578	1,838	1,555	(22,839)	-	338	197	(8,130)	(280)	(8,743)
6/28/2023	17,274	2,759	-	(24,193)	-	555	61	(3,780)	(615)	(7,939)
6/29/2023	18,550	2,202	700	(19,653)	500	310	200	(1,014)	(90)	1,705
6/30/2023	11,934	3,046	-	(30,171)	-	500	73	(5,237)	(110)	(19,966)
7/3/2023	14,953	346	900	(20,349)	1,050	1,314	102	(15,020)	(50)	(16,755)
7/5/2023	17,558	1,166	-	(22,919)	500	15	125	(5,484)	-	(9,039)
7/6/2023	15,330	1,115	925	(19,984)	500	-	105	(2,870)	-	(4,879)
7/7/2023	17,447	2,627	-	(22,943)	-	30	222	(450)	-	(3,068)
7/10/2023	18,791	868	-	(20,859)	1,000	80	1,054	(1,650)	-	(717)
7/11/2023	18,266	843	995	(21,480)	-	55	518	(250)	-	(1,054)
7/12/2023	18,116	922	-	(23,397)	-	191	115	(1,455)	-	(5,507)
7/13/2023	21,184	955	1,840	(20,796)	-	1,085	15	(2,090)	-	2,193
7/14/2023	19,334	2,022	-	(28,033)	1,000	58	1,170	(26,469)	(343)	(31,260)
7/17/2023	18,691	2,095	-	(22,972)	-	3,698	-	(5,400)	-	(3,888)
7/18/2023	18,350	2,090	2,350	(20,711)	-	33	86	(3,359)	-	(1,161)
7/19/2023	18,804	7,592	-	(24,094)	-	61	16	(176)	-	2,204
7/20/2023	20,837	3,280	1,655	(20,851)	610	1,593	75	(3,995)	-	3,203
7/21/2023	20,550	2,956	-	(30,909)	2,101	30	100	(3,586)	-	(8,758)
7/24/2023	21,129	2,225	-	(26,277)	1,441	540	114	(4,660)	-	(5,489)
7/25/2023	22,254	2,647	6,065	(31,151)	3,850	205	-	(535)	-	3,335
7/26/2023	22,467	1,292	-	(31,339)	3,750	532	145	(3,604)	-	(6,757)
7/27/2023	21,962	4,784	3,195	(28,375)	2,070	5,035	240	(3,543)	-	5,368
7/28/2023	20,385	1,982	-	(31,150)	1,050	595	383	(1,357)	-	(8,112)

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

BoFA GLOBAL RESEARCH



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