

US Rates Watch

Follow the money: FHLBs, MMF, & Fed July 24 update

Money map: FHLBs, MMF, & Fed

Key takeaway: banking system stress has moderated as shown through the ongoing pay down in FHLB funding. MMF inflows continue but have slowed in recent weeks. Fed H41 data shows 94% of the growth in TGA and decline in Fed assets from QT has come out of domestic and foreign RRP since the week prior to the debt limit resolution.

FHLB activity: According to our estimates, FHLB net issuance is only \$14bn higher as of Friday, Jul 21 since March 1, before bank stress began (Exhibit 1). That includes \$45b in paydowns over the past two weeks 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).

Money market funds: According to Crane data, MMF AUM increased \$4b on the week ending Thursday, Jul 20 (Exhibit 8). Inflows were primarily into prime funds, while tax exempt and gov't institutional funds saw outflows. MMF AUM is \$604b higher since before bank stress began on March 9 and \$44b higher since the debt limit resolution on June 3. MMFs continue to attract inflows but flows have slowed in recent weeks, likely due to some gov't fund investors withdrawing funds to invest directly into Treasury bills (Exhibit 6, see [MMF portfolio update: gov't funds shift from ON RRP to T-bills](#)).

ON RRP: take-up has declined \$371b since the debt limit resolution but has increased \$30b in the last week, likely driven by the GSE float period (Exhibit 10). This implies ~82% of the \$515b in TGA refill has come out of ON RRP since June 2 (Exhibit 9). Going forward, we continue to expect 90% of the TGA refill and Fed QT to drain from ON RRP.

Fed data: Fed H.8 data for the week ending Jun 18, showed a decline in domestic bank assets and an increase for foreign banks (Exhibit 12). The decline was driven by large domestic banks who saw deposit outflows, which was partially offset by borrowings from foreign offices & largely driven by a reduction in cash holdings.

The Fed's H.4.1 data for the week ending Jul 19, shows 94% 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).

24 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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Timestamp: 24 July 2023 08:00AM EDT

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

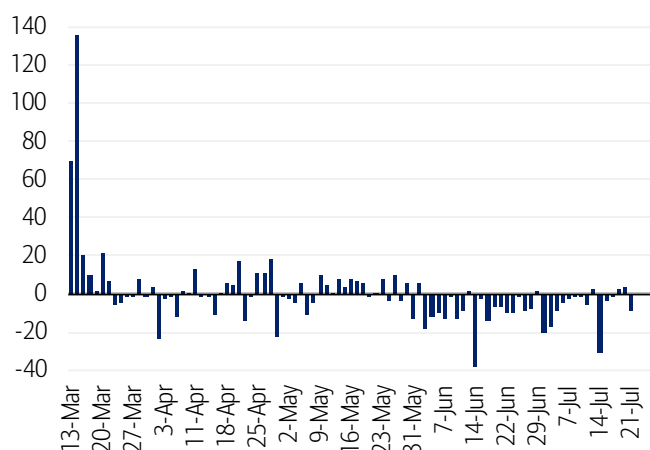
FHLBs	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul
Total	-0.72	-1.15	-5.51	2.19	-31.26	-3.89	-1.16	2.20	3.20	-8.76
DN outstanding	21.79	20.58	19.34	25.08	23.58	24.48	22.91	26.47	28.05	25.74
Money Markets	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul
ON RRP Total	1,811.98	1,775.80	1,820.15	1,767.43	1,740.78	1,728.32	1,716.86	1,732.80	1,721.00	1,770.75
ON RRP Change (d/d)	-10.32	-36.18	44.35	-52.71	-26.66	-12.46	-11.46	15.94	-11.80	49.75
MMF Flows	4.05	16.58	-4.81	22.96	-38.68	13.00	22.42	-10.02	17.14	
MMF Inflow - RRP Change	14.37	52.76	-49.16	75.67	-12.02	25.46	33.88	-25.97	28.95	

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

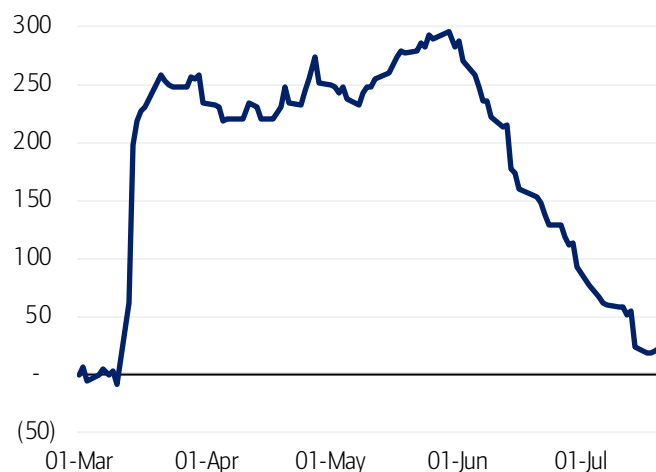
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Exhibit 2: Daily net FHLB debt issuance (\$bn)

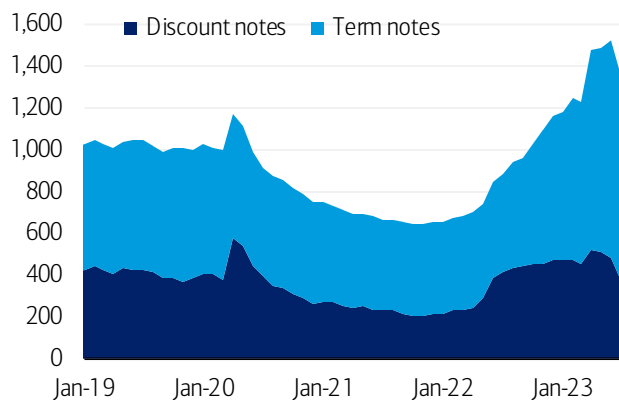
FHLB has largely been paying down debt in recent weeks

Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance
BofA GLOBAL RESEARCH**Exhibit 3: Cumulative growth in FHLB debt since March 1 (\$bn)**

Daily FHLB cumulative debt is roughly \$14bn higher since March 1

Source: Bloomberg, FHLB Office of Finance. Note: we use estimates of daily net issuance
BofA GLOBAL RESEARCH**Exhibit 4: FHLB debt issuance (\$bn)**

FHLB debt declined in June

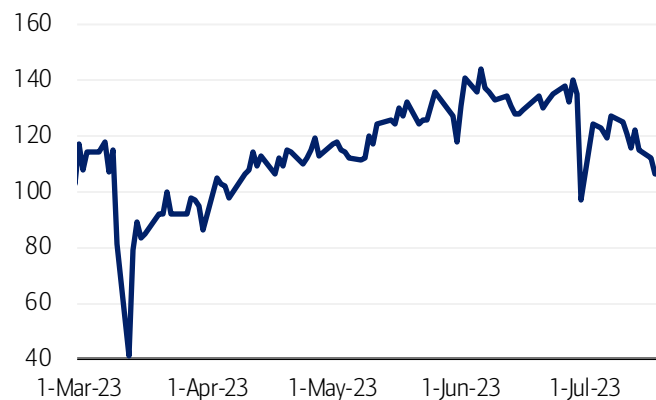


Source: BofA Global Research, FHLB Office of Finance

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Exhibit 5: Fed funds volumes (\$bn)

Fed funds volumes have been declining in recent weeks

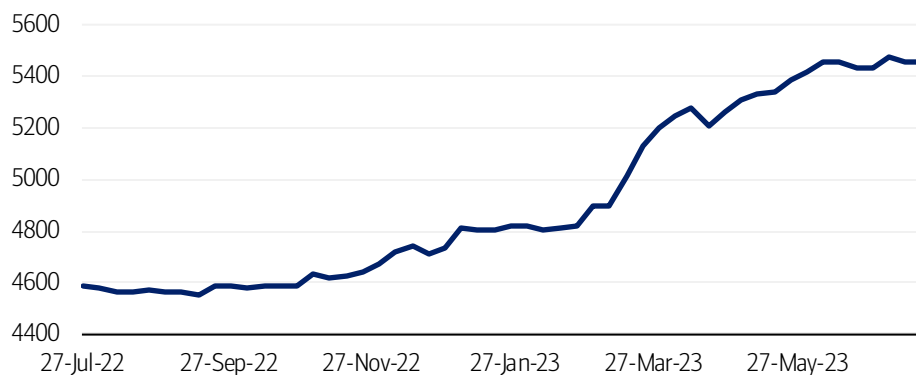


Source: FRBNY

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Exhibit 6: MMF AUM (\$bn)

MMFs saw \$4.22bn in flows from prior week



Source: ICI, Bloomberg

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

MMF aum rose \$4bn from prior week

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
7/12/2023	5,454	842	4,494	118	2,022	3,432	274	3,147	11	569	1,347	106
7/19/2023	5,458	850	4,495	113	2,029	3,429	276	3,142	11	574	1,353	102
WoW Change	4	8	1	-4	7	-3	2	-5	-1	5	6	-4
Change since 3/8	565	56	512	-3	203	362	7	357	-2	49	155	-1

Source: ICI, Bloomberg

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

MMF AUM increased \$4b WoW, with outflows from gov't and tax exempt funds

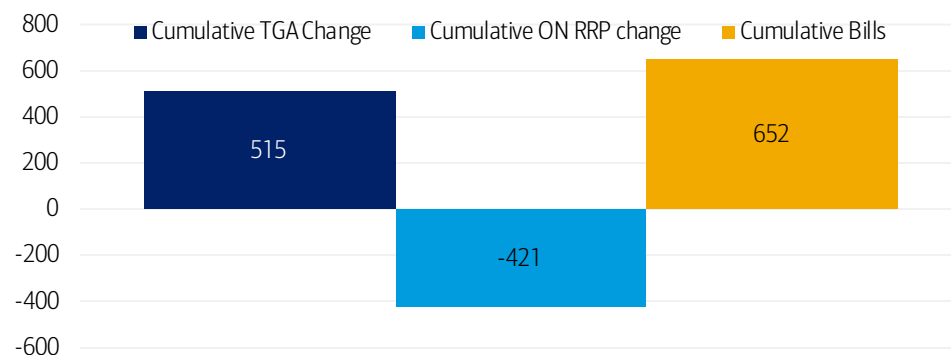
Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Prime Retail	Gov't Retail
7/13/2023	5,880	1,216	4,540	124	1,958	3,797	644	3,154	572	1,386
7/14/2023	5,841	1,215	4,502	123	1,959	3,759	642	3,116	573	1,386
7/17/2023	5,854	1,219	4,512	123	1,962	3,769	645	3,124	574	1,388
7/18/2023	5,876	1,225	4,530	122	1,966	3,789	649	3,140	576	1,390
7/19/2023	5,866	1,227	4,518	121	1,965	3,780	651	3,130	576	1,389
7/20/2023	5,883	1,229	4,535	120	1,967	3,796	651	3,145	577	1,390
DoD Change	17	2	16	-1	2	16	1	15	1	1
WoW change	4	13	-5	-4	10	-1	8	-9	6	4

Source: Crane Data

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

\$652b in bill issuance has in part rebuilt \$515b into the TGA, which has drained \$421b 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 increased \$42.43bn from prior day due to GSE float

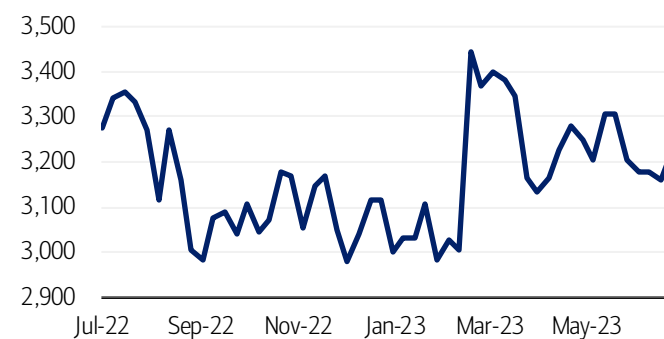


Source: FRBNY

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

Change in reserve balance from prior week was \$58.47bn



Source: Federal Reserve

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

Domestic banks saw deposit outflows but foreign banks saw inflows

		Total	Assets						Liabilities			
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Borrowings	Net due to related foreign offices	Other
All Banks	7/12/2023	22802	3260	1510	2571	595	12089	2777	17260	2284	258	3000
	1w Chg	-58	-27	4	-13	-13	-27	18	-90	0	28	4
	1m Chg	-137	-97	-13	-16	-39	-9	38	0	-119	0	-17
	YTD Chg	-173	164	-144	-202	-5	-16	29	-685	430	-13	94
Domestic Banks	7/12/2023	19754	1961	1394	2545	243	11071	2540	15976	1286	-339	2832
	1w Chg	-92	-54	4	-12	-19	-22	10	-111	-2	20	1
	1m Chg	-139	-100	-14	-16	-42	-6	39	-19	-98	0	-22
	YTD Chg	-247	92	-153	-191	-70	23	52	-655	302	0	107
Large Banks	7/12/2023	13265	1508	1102	1936	211	6726	1781	10779	812	-373	2048
	1w Chg	-74	-46	2	-11	-19	-14	15	-104	7	19	4
	1m Chg	-134	-98	-11	-9	-37	-14	36	-32	-73	-2	-27
	YTD Chg	-80	68	-127	-28	-57	-17	81	-399	217	3	100
Small Banks	7/12/2023	6489	453	292	609	33	4344	759	5197	474	34	785
	1w Chg	-18	-8	2	-1	0	-8	-5	-7	-9	1	-4
	1m Chg	-5	-2	-3	-6	-5	8	3	13	-25	1	5
	YTD Chg	-167	24	-27	-164	-13	40	-29	-256	85	-3	7
Foreign Banks	7/12/2023	3048	1299	116	26	352	1019	237	1285	999	597	168
	1w Chg	34	27	0	-2	6	-6	9	21	2	8	3
	1m Chg	2	3	1	-1	3	-3	-1	19	-21	0	4
	YTD Chg	74	72	10	-10	65	-39	-23	-30	128	-12	-12

Source: Federal Reserve H8

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

H41 data shows 92% 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	BTFF	FDIC bank credit extension	CB Liquidity Swaps	Currency	Foreign RRP	ON RRP	TGA	Reserves	Total
3/8/2023	7,948	0		5	0	0	2,308	367	2,193	312	3,004	8,392
5/31/2023	7,725	0		4	94	188	2,344	361	2,255	49	3,206	8,436
7/19/2023	7,623	0		3	103	160	2,335	326	1,733	537	3,221	8,325
Change from 3/8-7/19	-325	0		-2	103	160	28	-41	-460	226	217	-67
Change from 5/31-7/19	-101	0		-1	9	-28	-9	-35	-522	489	15	-111

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	1,052	(1,650)	-	(720)
7/11/2023	18,266	843	995	(21,480)	-	55	417	(250)	-	(1,155)
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)

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

BofA GLOBAL RESEARCH



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