

# US Rates Watch

## Follow the money: FHLBs, MMF, & Fed July 10 update

### Money map: FHLBs, MMF, & Fed

**Key takeaway:** banking system stress has moderated as shown through the ongoing pay down in FHLB funding and some growth in bank deposits. FHLB paydowns now total \$210b since the debt limit resolution. At the same time, ON RRP has declined \$320b and MMFs have seen \$22b in inflows. Gov't MMFs are likely shifting holdings out of ON RRP and FHLB debt and into the \$542b in net Treasury bill issuance since the debt limit resolution.

**FHLB activity:** According to our estimates, FHLB net issuance has declined \$210b since the debt limit resolution on June 3, including -\$34b over last week (Exhibit 1). 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 \$33b on the week ending Thursday, Jul 6 (Exhibit 8). Inflows were split \$12b into prime and \$17b into gov't funds. Flows were also split between retail (\$18b) and institutional (\$13b) funds. MMF AUM is \$22b higher since the debt limit resolution as MMFs continue to attract inflows.

**ON RRP:** take-up declined \$212bn on the week ending Friday, Jul 7 (Exhibit 10) totaling a decline of \$320b since the debt limit resolution. This implies ~70% of the \$442b in TGA refill has come out of ON RRP since June 2, with 85% of the TGA refill in the last two weeks coming out of ON RRP (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 despite an increase in deposits, largely due to a reduction in borrowing.

The Fed's H.4.1 data for the week ending Jul 5, shows all of the growth in TGA and decline in Fed assets from QT have come out of ON RRP in the last week (Exhibit 13). The data also showed the first decline in the BTFP since the program was launched on March 10 in response to bank failures, implying continued moderation of banking system stress.

10 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 8 to 10.**

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Timestamp: 10 July 2023 07:00AM EDT

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

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

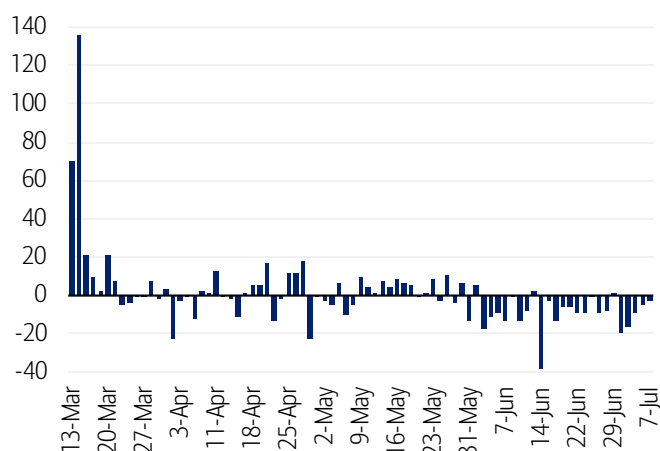
FHLBs	23-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	3-Jul	5-Jul	6-Jul	7-Jul
Total	-9.47	-0.53	-8.74	-7.94	1.70	-19.97	-16.75	-9.04	-4.88	-3.07
DN outstanding	19.61	22.49	22.51	20.65	22.46	15.55	18.66	19.36	17.98	20.33
Money Markets	23-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	3-Jul	5-Jul	6-Jul	7-Jul
ON RRP Total	1,969.38	1,961.03	1,951.10	1,945.21	1,934.68	2,034.32	1,909.64	1,867.06	1,854.26	1,822.30
ON RRP Change (d/d)	-25.33	-8.35	-9.93	-5.89	-10.53	99.64	-124.68	-42.58	-12.80	-31.95
MMF Flows	-26.63	19.83	2.41	-9.33	2.57	13.53	1.15	28.67	-10.01	
MMF Inflow - RRP Change	-1.29	28.18	12.34	-3.45	13.10	-86.11	125.83	71.25	2.79	

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

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

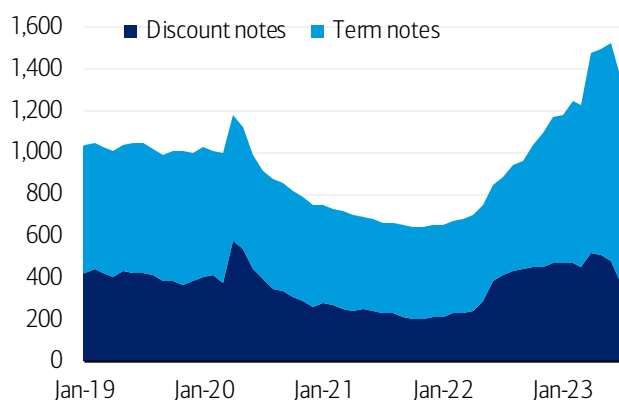
FHLB daily debt issuance has slowed

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 \$59bn 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

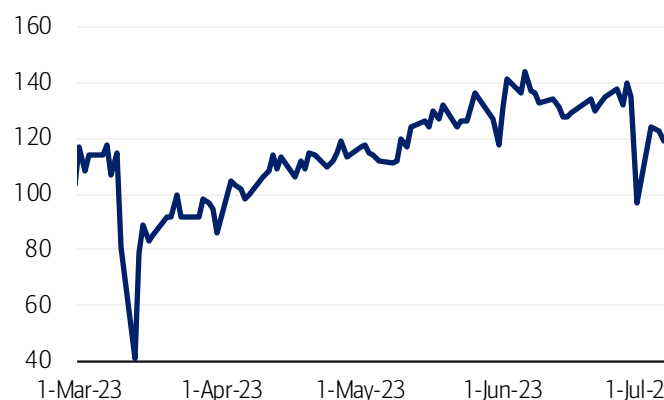


Source: BofA Global Research, FHLB Office of Finance

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**Exhibit 5: Fed funds volumes (\$bn)**

Fed funds volumes have declined along with FHLB debt paydowns



Source: FRBNY

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**Exhibit 6: MMF AUM (\$bn)**

MMFs saw \$43.7bn in flows from prior week



Source: ICI, Bloomberg

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

MMF aum rose \$44bn from prior week, mostly 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
6/28/2023	5,431	822	4,495	114	2,000	3,431	263	3,158	10	558	1,337	104
7/5/2023	5,475	832	4,524	118	2,017	3,458	269	3,176	12	563	1,348	106
WoW Change	44	11	29	4	17	26	6	19	2	5	10	2
Change since 3/8	581	38	541	2	190	390	0	391	-1	38	150	3

Source: ICI, Bloomberg

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

MMF AUM increased \$36b WoW, with \$21b into institutional funds

Dates	Total	Prime	Gov't	Tax exempt	Retail	Institutional	Prime Institutional	Gov't Institutional	Prime Retail	Gov't Retail
6/28/2023	5,830	1,192	4,518	120	1,934	3,776	631	3,144	561	1,373
6/29/2023	5,833	1,189	4,522	121	1,936	3,776	628	3,148	561	1,374
7/3/2023	5,847	1,200	4,523	124	1,945	3,779	635	3,143	565	1,380
7/5/2023	5,876	1,202	4,549	125	1,949	3,802	636	3,166	566	1,383
7/6/2023	5,866	1,202	4,539	125	1,952	3,789	635	3,153	566	1,386
DoD Change	-10	0	-10	0	3	-13	-1	-13	1	3
WoW change	36	10	21	5	18	13	4	9	6	12

Source: Crane Data

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**Exhibit 9: Realized TGA & ON RRP change and implied change in reserves (\$bn)**

TGA has increased \$490b since Jun 2, while ON RRP is down \$288b

	TGA Level	TGA Change	Cumulative TGA Change	ON RRP Level	ON RRP Change	Cumulative ON RRP change	Implied Reserve Change	Cumulative reserve change	Net bills	Cumulative Bills
6/5/2023	71.2	47.9	47.9	2131.4	-10.7	-10.7	-37.2	-37.2	40	40
6/6/2023	71.6	0.4	48.2	2134.6	3.2	-7.5	-3.6	-40.7	28	68
6/7/2023	77.5	5.9	54.1	2161.6	26.9	19.5	-32.8	-73.6	0	68
6/8/2023	88.0	10.5	64.6	2141.8	-19.8	-0.3	9.3	-64.3	21	89
6/9/2023	86.0	-2.0	62.6	2127.7	-14.1	-14.4	16.1	-48.2	0	89
6/12/2023	100.9	14.9	77.6	2126.9	-0.8	-15.2	-14.2	-62.3	0	89
6/13/2023	133.1	32.1	109.7	2074.5	-52.3	-67.6	20.2	-42.1	35	124



**Exhibit 9: Realized TGA & ON RRP change and implied change in reserves (\$bn)**

TGA has increased \$490b since Jun 2, while ON RRP is down \$288b

	TGA Level	TGA Change	Cumulative TGA Change	ON RRP Level	ON RRP Change	Cumulative ON RRP change	Implied Reserve Change	Cumulative reserve change	Net bills	Cumulative Bills
6/14/2023	134.9	1.8	111.5	2109.1	34.6	-33.0	-36.4	-78.5	0	124
6/15/2023	250.4	115.6	227.0	1992.1	-117.0	-150.0	1.4	-77.1	35	159
6/16/2023	266.9	16.5	243.5	2011.6	19.4	-130.5	-35.9	-113.0	0	159
6/20/2023	327.9	61.1	304.6	1989.5	-22.1	-152.6	-39.0	-151.9	50	209
6/21/2023	292.1	-35.8	268.7	2037.1	47.6	-105.0	-11.8	-163.7	0	209
6/22/2023	366.5	74.4	343.1	1994.7	-42.4	-147.4	-32.0	-195.7	71	280
6/23/2023	377.4	10.9	354.0	1969.4	-25.3	-172.7	14.5	-181.3	0	280
6/26/2023	388.8	11.4	365.4	1961.0	-8.4	-181.1	-3.0	-184.3	0	280
6/27/2023	438.0	49.2	414.6	1951.1	-9.9	-191.0	-39.3	-223.6	60	340
6/28/2023	408.6	-29.4	385.2	1945.2	-5.9	-196.9	35.3	-188.3	0	340
6/29/2023	465.1	56.6	441.8	1934.7	-10.5	-207.4	-46.0	-234.3	71	411
6/30/2023	402.4	-62.7	379.0	2034.3	99.6	-107.8	-36.9	-271.2	0	411
7/3/2023	394.5	-7.9	371.1	1909.6	-124.7	-232.5	132.6	-138.6	0	411
7/5/2023	446.9	52.4	423.5	1867.1	-42.6	-275.0	-9.8	-148.5	60	471
7/6/2023	513.4	66.5	490.0	1854.3	-12.8	-287.8	-53.7	-202.2	71	542

Source: BofA Global Research, Haver Analytics, Bloomberg

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

ON RRP take-up decreased -\$212b from prior week

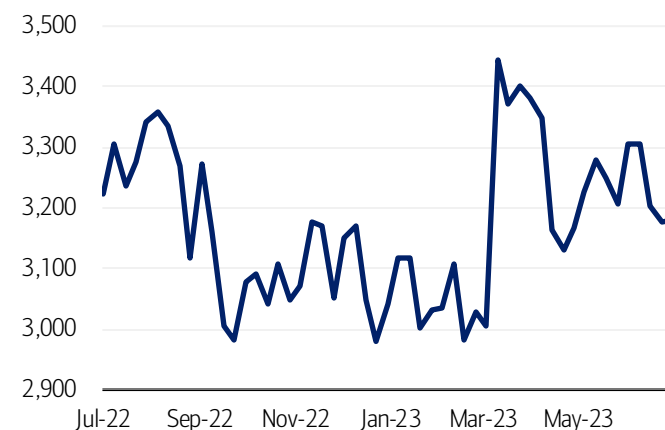


Source: FRBNY

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

Change in reserve balance from prior week was +\$3.62bn



Source: Federal Reserve

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

Domestic banks saw deposits increase but borrowings declined

		Total	Assets						Liabilities			
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Borrowings	Net due to related foreign offices	Other
All Banks	6/28/2023	22852	3277	1519	2595	617	12125	2720	17260	2330	265	2998
	1w Chg	5	13	4	-1	-4	11	-19	63	-68	30	-20
	1m Chg	-132	-44	-2	-11	-61	-11	-2	-43	-82	43	-49
	YTD Chg	-123	182	-134	-178	16	20	-28	-686	475	-5	92
Domestic Banks	6/28/2023	19766	1957	1402	2567	263	11102	2476	15982	1327	-362	2819
	1w Chg	-52	-26	-1	-2	-4	12	-31	53	-44	-26	-35
	1m Chg	-253	-181	-5	-13	-34	-5	-15	-67	-142	11	-55
	YTD Chg	-235	88	-146	-170	-50	55	-13	-649	343	-23	94
Large Banks	6/28/2023	13275	1513	1110	1955	228	6751	1717	10804	833	-395	2033
	1w Chg	-52	-18	1	-3	2	-33	45	-40	-19	-38	-38
	1m Chg	-234	-153	-3	-6	-34	-26	-11	-74	-108	11	-63
	YTD Chg	-71	72	-119	-9	-40	8	17	-374	238	-20	85
Small Banks	6/28/2023	6492	445	292	611	35	4351	758	5178	494	34	786
	1w Chg	0	-9	0	-2	0	9	2	8	-4	-7	2
	1m Chg	-19	-28	-2	-7	0	21	-4	8	-34	0	8
	YTD Chg	-164	16	-27	-161	-10	47	-29	-275	106	-3	8
Foreign Banks	6/28/2023	3086	1320	117	28	354	1022	244	1278	1003	627	179
	1w Chg	57	39	5	1	0	0	12	11	-24	56	15
	1m Chg	122	137	2	3	-27	-6	12	24	60	32	6
	YTD Chg	112	93	12	-8	66	-36	-16	-37	132	18	-2

Source: Federal Reserve H8

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

H41 data shows all of last week's increase in TGA and decline in assets from QT has drained from ON RRP

Dates	Assets						Liabilities					
	Securities	Repo	Discount Window	BTFP	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
6/28/2023	7,686	0		3	103	168	2,344	327	1,945	409	3,176	8,391
7/5/2023	7,647	0		3	102	165	2,347	324	1,867	447	3,180	8,348
Change from 6/29-7/5	-39	0		0	-1	-4	4	-2	-78	38	4	-43
Change from 3/8-7/5	-263	0		-1	103	168	36	-40	-248	97	172	-1

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	1,169	(1,475)	(15)	5,406
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)

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

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