US Rates Watch

Funding pressures small but rising

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Funding markets are evolving to show clearer signs of modest upward funding pressure. Repo ripples are building and signs of cheapening pressure are shifting to other money markets, including bills & bank credit. Money market cheapening is likely to build further and it may present a greater headwind to liquidity strained banks. We detail recent funding shifts & discuss impacts for banks below.

Repo: repo ripples are growing. UST repo markets are showing further signs of modest funding pressure on collateral settlement dates & lasting for longer periods of time. Recent repo increases are being seen in both tri-party and bilateral components taking place with higher sponsored repo volumes (Exhibit 1, Exhibit 2). We expect the tri-party component (i.e MMFs lending to dealers) to be bound by the rate on the ON RRP but bi-lateral component (i.e. cash providers lending to hedge funds) to have more capacity to move up. Dealers & investors are likely increasingly long collateral and need help funding it. This funding pressure will continue to build over time.

Bills: bill rates are also cheapening with higher repo rates & collateral building. In the past 6 weeks 3-6m bill rates have cheapened 5-9bps (Exhibit 3). Bill cheapening has occurred as money market fund WAMs have extended (Exhibit 4). As MMFs approach more neutral WAMs, MMF willingness to extend further is likely to decline without higher compensation. We suspect further bill cheapening in coming months, especially if the Fed retains the option for additional rate hikes.

CP & CDs: recent repo & bill market cheapening will likely spill over into unsecured bank credit as well. There has recently been a similar cheapening of 3m financial CP vs OIS (Exhibit 5).

Banks have been aggressive issuers of large time deposits & other borrowings in recent months (Exhibit 6). Banks are likely aggressively issuing CDs & other borrowings for 3 reasons: (1) offset retail deposit outflows (2) fund loan activity (3) prevent forced sales of securities portfolios. Continuing elevated CD & other borrowing activity will likely cheapen bank funding levels as repo & bill rates drift higher.

Liquidity strained bank risk: commercial banks increasingly appear liquidity constrained as evidenced by their limited reserve drop since QT start & elevated cash holdings (see: Fed QT: banks fighting to keep liquidity, Exhibit 8, Exhibit 9). Bank call reports shows that bank CDs increased $350b in Q2 and $1tn since 2Q'22 (Exhibit 7). Banks have also shifted their maturity distribution more into the 3-12m bucket, which are 55% of CDs outstanding as of Q2 '23. CDs are a relatively expensive form of funding for banks. A further increase in funding pressures will make CDs even more expensive for banks. *... More detail on page 2...*

QT = quantitative tightening

ON RRP = overnight reverse repo

CD = certificate of deposit

LCLOR = lowest comfortable level of reserves

GC = general collateral

FF = fed funds

IORB = interest on reserve balances

OIS = overnight index swap

MMF = money market fund

CP = commercial paper

Timestamp: 06 October 2023 05:55AM EDT

On top of issuing CDs, banks have also borrowed to replace some of their deposit outflows. We have seen an increase in financial CP outstanding, FHLB advances, Fed lending facilities, repo volumes, and Fed funds volumes since the start of QT (Exhibit 10 through Exhibit 13). Bank funding peaked shortly after the bank stress events in March but remains elevated relative to pre-SVB levels.

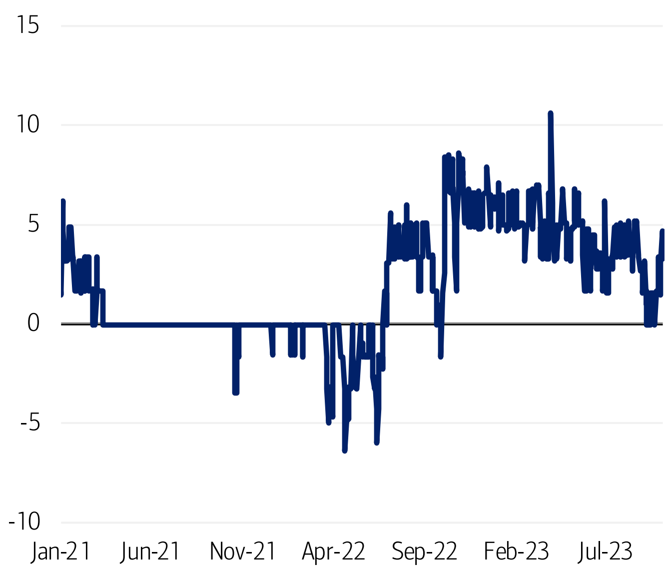
To further analyze where the bank funding demand may be coming from, we bucketed banks into large (>$150b in AUM), mid-size ($20b-$150b in AUM), and small (<$20b in AUM). We found that since Q2 '22, average reserve balances were up 7% for large banks, 27% for mid-size banks, and down 4% for small banks (Exhibit 14). Average bank CDs as a percent of total assets have increased across bank sizes, with mid-size banks seeing the largest increase since Q2 '22 (Exhibit 15). At the same time, bank borrowing as a percent of assets is up for all banks, with mid-sized banks coming down from their Q1, post SVB, peak (Exhibit 16). These findings suggest mid-sized banks are demanding a higher cash liquidity balance, but overall borrowings have risen across banks.

We worry that recent funding & broader rate moves have increased challenges for liquidity strained banks. The recent UST sharp rate rise & bear steepening has likely further depleted bank security holding values while offering banks little hope of having these losses offset by higher Fed IORB payments. The rate market moves reduce the value of bank HQLA books, which hurts LCR ratio via a lower numerator. The small but rising funding pressure increases bank liability costs.

Lower bank LCR & risks of higher liability costs may increase bank liquidity and profitability risks. These concerns may result in increased use of the Fed BTFP, though the most recent usage data suggests take-up has been flat. Higher rates & slowly rising funding pressure may further increase risks for the banking sector, especially those banks that previously did not need to comply with LCR (<$250b AUM banks).

Bottom line: funding pressure is small but rising. This can be seen via slightly higher repo rates, 3-6m bill cheapening, & modest upward pressure on bank wholesale funding. We expect funding pressures to rise which will increase costs for bank liquidity. Higher bank liability costs & lower liquidity ratios may further tighten conditions for banks. The market is likely to be alert for any increased reliance on Fed bank liquidity programs.

Exhibit 1: Bilateral – triparty repo rate spread (bps)
SOFR has printed higher, driven by the bilateral component



Source: BofA Global Research, Haver Analytics. Note: bilateral repo rate backed out from SOFR
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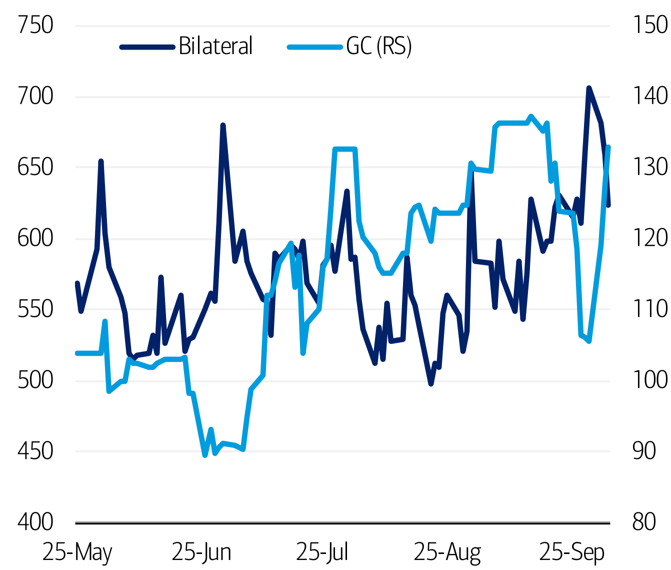
Exhibit 2: Sponsored repo volumes GC vs DVP ($bn)
Sponsored repo volumes are trending higher



Source: FICC DTCC
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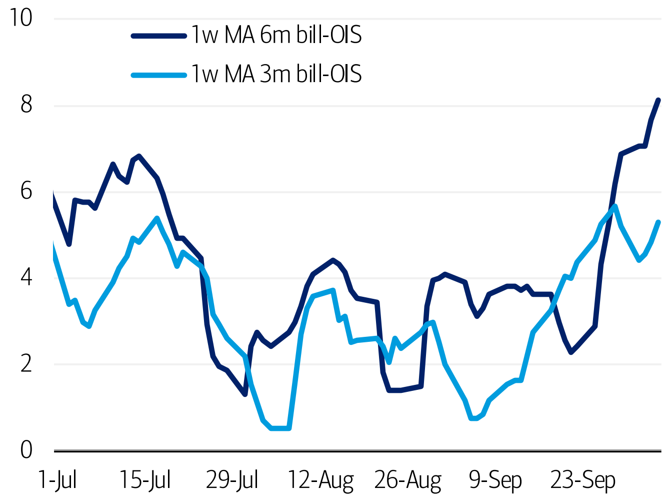
Exhibit 3: 1-week moving average 3m and 6m bills to OIS (bps)
In the past 6 weeks 3-6m bill rates have cheapened 5-7bps



Source: BofA Global Research, Bloomberg

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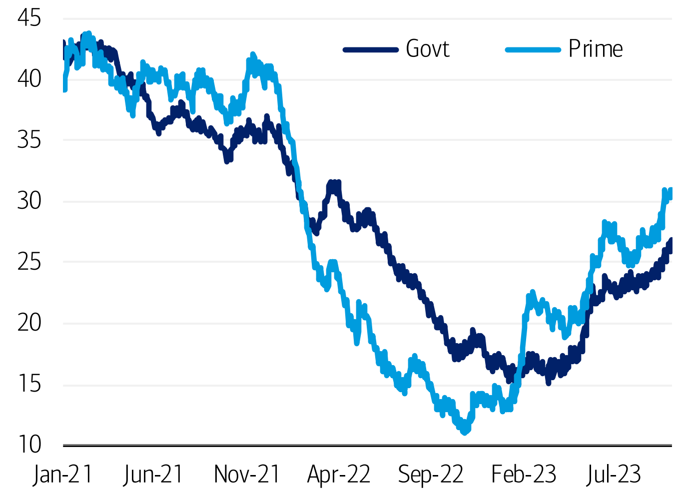
Exhibit 4: MMF WAM (Days)
MMF WAMs may be approaching more neutral levels



Source: BofA Global Research, iMoneyNet

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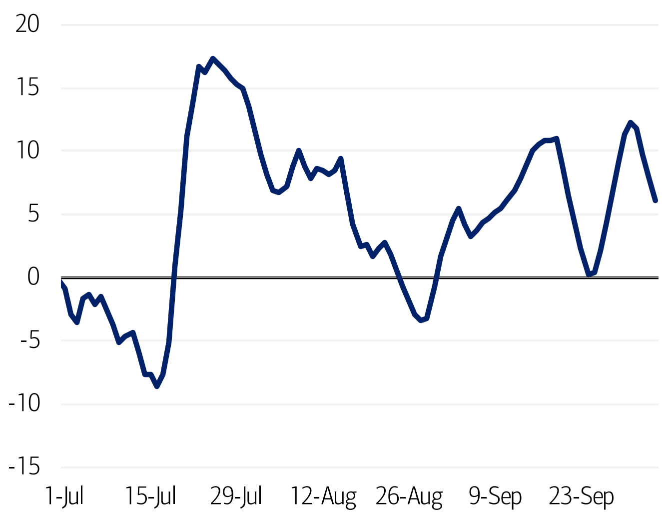
Exhibit 5: 3m AA financial CP spread to OIS (5D MA, bp)
3m financial CP is trending cheaper vs OIS



Source: BofA Global Research, Bloomberg

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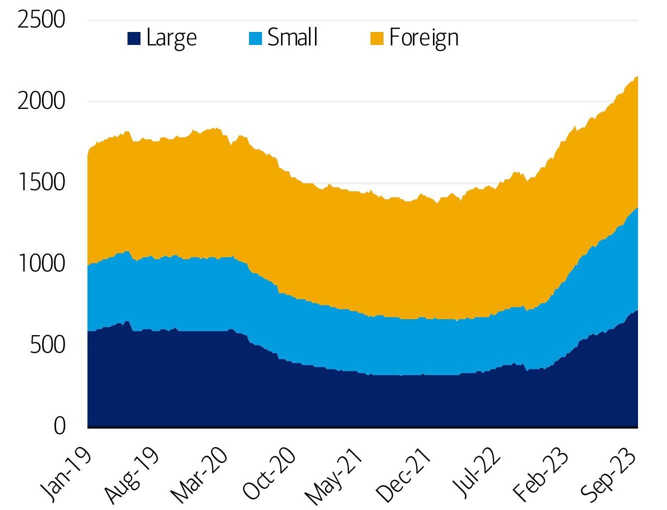
Exhibit 6: Commercial bank large time deposits ($tn)
Large time deposits have increased roughly $690b since the start of QT



Source: Federal Reserve H.8.

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Exhibit 7: Bank CD holdings by size and maturity bucket ($mn)
Banks have increased their holdings of CDs, primarily in the 3-12m maturity bucket

	Maturity bucket	Q2 '23	Q1 '23	Q2 '22	Q1 '23 to Q2 '23 Change	Q2 '22 to Q2 '23 Change
Jumbo	<3m	273,605	234,841	191,192	38,764	82,413
	3-12m	344,447	271,014	131,668	73,432	212,779
	1-3y	50,889	53,471	32,299	(2,582)	18,591
	>3y	9,474	8,697	9,186	776	287
Retail	<3m	316,348	253,568	166,461	62,780	149,887
	3-12m	916,320	731,000	327,423	185,320	588,897
	1-3y	282,424	295,171	176,166	(12,748)	106,257
	>3y	73,366	69,190	56,366	4,175	17,000
	Total	2,267	1,917	1,091	350	1,176

Source: BofA Global Research, S&P Market Intelligence

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Exhibit 8: Commercial bank balance sheet changes since start of Fed QT ($bn)
Fed H.8 data shows small deposit outflows offset by large deposits & borrowings

		Total	Assets						Liabilities					
			Cash	UST & Agy	MBS	Repo & FF	Loans & Leases	Other	Deposits	Large	Small	Borrowings	Net due to related foreign offices	Other
All	9/20/2023	22746	3237	1519	2563	587	12179	2661	17238	2158	15080	2281	252	2976
Banks	Change	139	-83	-225	-347	1	936	-143	-718	690	-1408	616	126	116
Domestic	9/20/2023	19724	1948	1406	2535	249	11152	2435	15949	1356	14593	1310	-353	2818
Banks	Change	2	-107	-232	-341	-25	829	-123	-706	684	-1390	620	-16	104
Large	9/20/2023	13211	1528	1118	1936	213	6739	1677	10694	722	9971	874	-381	2024
Banks	Change	-214	4	-215	-149	-11	292	-135	-649	384	-1034	419	-12	28
Small	9/20/2023	6513	420	288	599	36	4413	758	5256	633	4622	436	28	793
Banks	Change	216	-111	-16	-193	-14	537	13	-56	300	-357	200	-4	76
Foreign	9/20/2023	3022	1289	113	28	338	1028	226	1289	802	487	971	604	158
Banks	Change	137	24	7	-6	25	107	-21	-12	5	-18	-4	142	11

Source: Bloomberg

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Exhibit 9: Federal Reserve select balance sheet items ($bn)
Fed QT liquidity drain has been mostly absorbed by ON RRP & reserves to a lesser extent

	Asset			Liabilities						
	UST	Agy MBS	Other	Reserves	TGA	ON RRP	Foreign RRP	Currency	Other	Total
5/25/2022	5769	2707	487	3315	802	1996	262	2276	313	8964
10/4/2023	4958	2480	615	3169	672	1443	312	2324	133	8053
Change	-811	-228	128	-147	-130	-553	50	48	-180	-911

Source: Bloomberg

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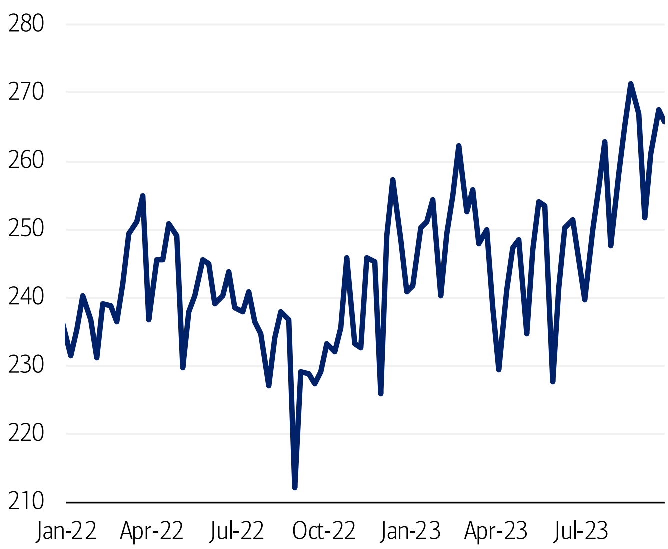
Exhibit 10: Domestic bank financial CP outstanding NSA ($bn)
Domestic bank financial CP outstanding has been trending upward



Source: Bloomberg

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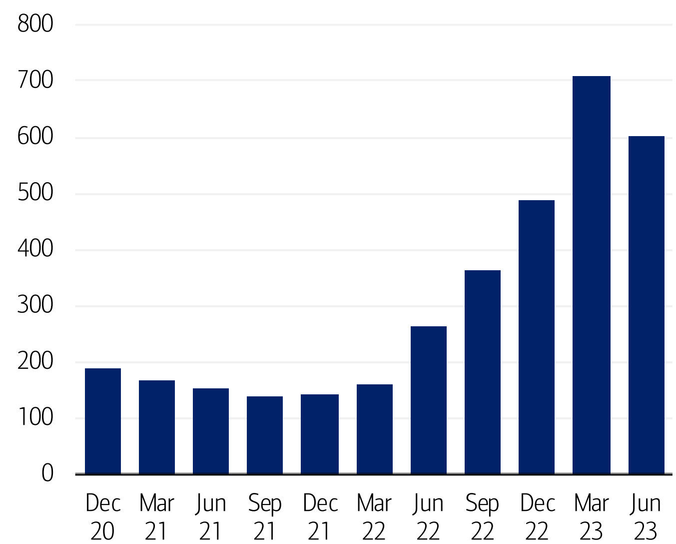
Exhibit 11: FHLB advances ($bn)
Bank borrowing of FHLB advances have come down since SVB



Source: S&P Market Intelligence

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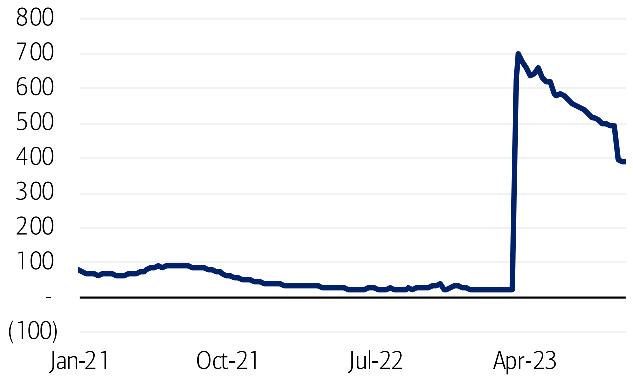
Exhibit 12: Fed lending facilities ($bn)
Borrowing from the Fed peaked post SVB but has been trending downward



Source: Bloomberg

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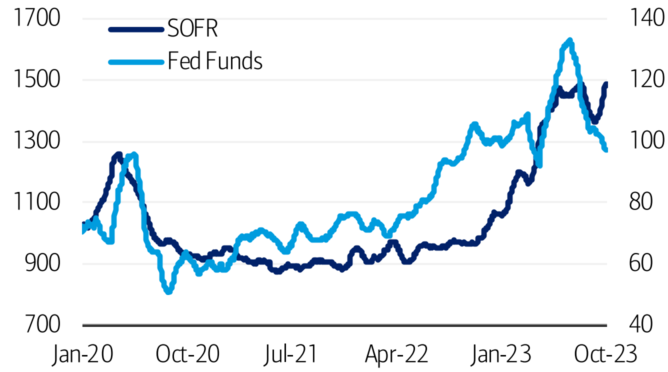
Exhibit 13: 1 month moving avg SOFR and Fed fund volumes
Unsecured and secured volumes have been trending higher



Source: BofA Global Research, Bloomberg

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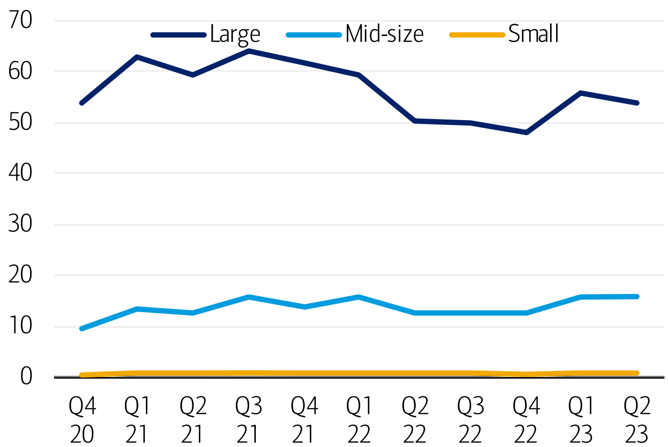
Exhibit 14: Average reserve balance by bank size ($bn)
Since 2Q22, large bank reserves increased 7%, mid-size = 27% small = -4%



Source: BofA Global Research, S&P Market Intelligence. Note: Large banks = >$150b, Mid-size banks = $20b-$150b, small banks = <$20b in AUM

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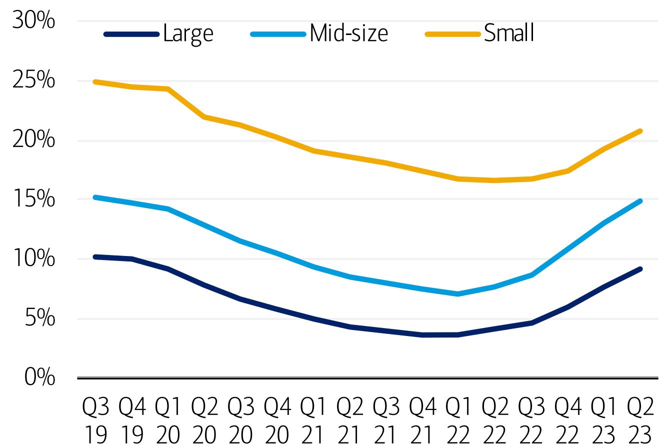
Exhibit 15: Avg CD holdings as a % of total assets by bank size (%)
Since Q2 '22, large bank CD/asset grew 5ppts, mid-size = 7ppts, small = 4ppt



Source: BofA Global Research, S&P Market Intelligence. Note: Large banks = >$150b, Mid-size banks = $20b-$150b, small banks = <$20b in AUM

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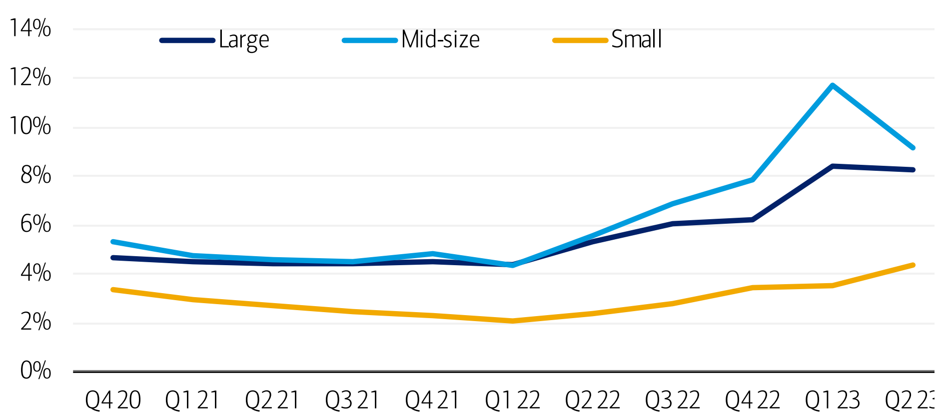
Exhibit 16: Avg borrowing as a % of total assets by bank size (%)
Since Q2 '22, large bank CD/asset have grown 3ppts, mid-size = 4ppts, small = 2ppts



Source: BofA Global Research, S&P Market Intelligence. Note: Borrowing = Fed funds purchased + repo + advances + CP + subordinated debt + mandatory convertible securities + trading liabilities + other borrowings; Large banks = >$150b, Mid-size banks = $20b-$150b, small banks = <$20b in AUM

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