Financial Conditions and the Evolution of Policy Transmission

Financial Advisory Roundtable
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For discussion purposes only

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Questions for the F.A.R

1. How have financial conditions responded to a higher rate environment?

2. How should Central Banks interpret and use financial conditions indicators? What are the implications for forecasting economic activity and deciding monetary policy stance?

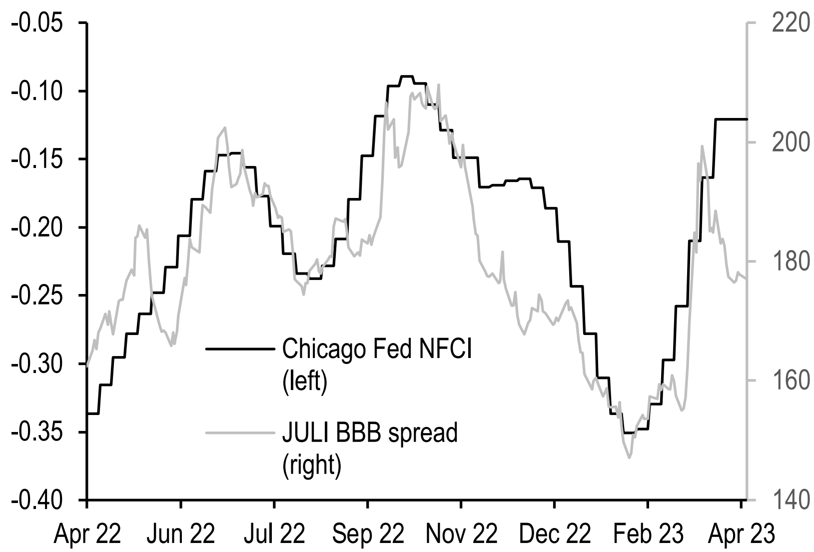
3. Have changes in the financial sector (e.g., growth in nonbank intermediaries) impacted the speed or level of transmission to financial conditions?

4. Are there lessons we can learn thus far about implementation (e.g., IOR, ON RRP) and efficacy of policy rates as it relates to financial markets?

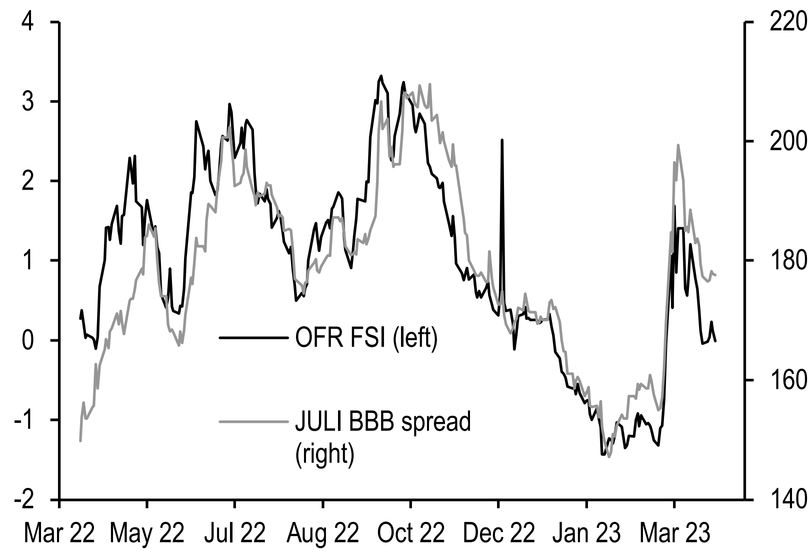
BBB credit spreads have tended to be an effective proxy for broader barometers of financial conditions, making it a useful proxy to focus on

BBB credit spreads have historically tended to track broader measures of financial conditions, such as the Chicago Fed's NFCI or the OFR's Financial Stress Index, and this cycle has been no different

Chicago Fed National Financial Conditions Index (NFCI, left), versus JULI BBB Index average Z-spread to Treasuries (bp, right)



Office of Financial Research's Financial Stress Index (FSI, left), versus JULI BBB Index average Z-spread to Treasuries (bp, right)



- BBB credit spreads have a historical track record of closely tracking swings in financial conditions measured by numerous different barometers, such as the Chicago Fed's NFCI or the OFR's FSI indices
- The past year has been no different – thus, BBB credit spreads can be a useful market proxy to focus on as we consider the effects of policy rate tightening and (more recently) credit tightening

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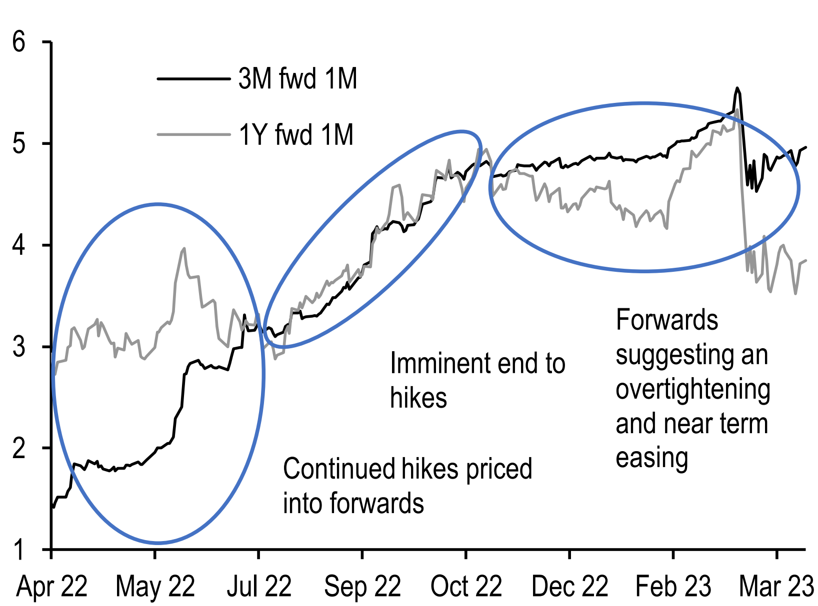
Source: J.P. Morgan, Office of Financial Research, Chicago Fed, Bloomberg Finance L.P

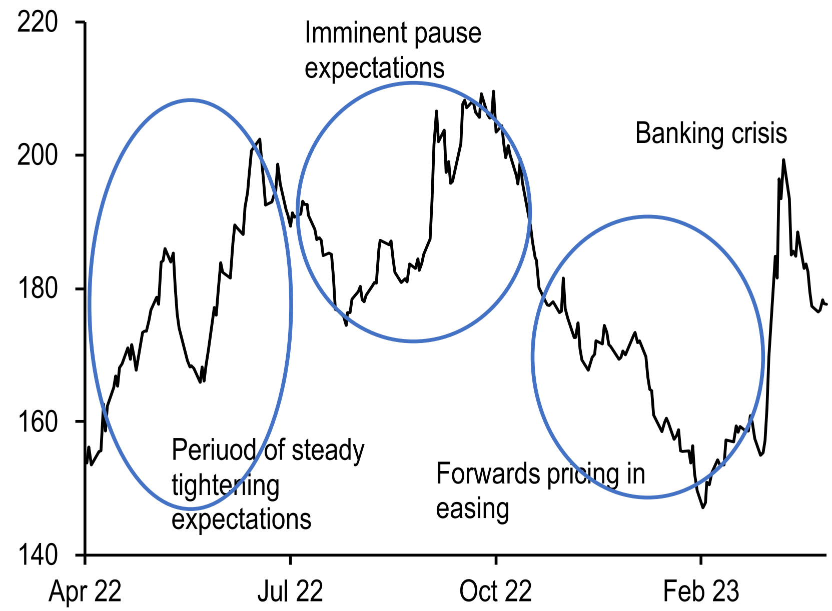
Forward rates have resisted the possibility of terminal rates above the high-4s and have likely dampened the extent of rate-driven tightening to some extent

Three stages of this hiking regime, based on whether the forwards were anticipating continued hikes, an imminent pause or rate cuts

3M forward 1M SOFR swap yield, and 1Y forward 1M SOFR swap yield, %



JULI BBB average Z-spread to Treasuries; bp



- The past year can roughly be divided into three sub-periods, one where continued hiking was anticipated by the forwards, a second where forwards were priced to a near-term pause, and a third (more recent) period where markets have begun to anticipate easing
- The anticipation of easing is not just priced into forward rates but appears to have moderated the extent of policy tightening to some extent
- More recently, financial conditions have de-coupled from forward rates and have begun to tighten due to credit tightening

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Source: J.P. Morgan

Assessing the propagation of tighter policy rates into broader markets

The current state of various market variables, and a measure of their response to policy tightening

	Observable	First (1/3/2022)	Change	Current (4/5/2023)	Min	Max	Tightness Index	Tightness corresponds to
Rates	Fed funds target (UB) (%)	0.25	4.75	5.00	0.25	5.00	0.97	Higher
	3Mx3M fwd SOFR rate (%)	0.31	4.37	4.68	0.31	5.63	0.65	Higher
	3Mx3M/15Mx3M curve (%)	0.76	-2.40	-1.64	-1.64	1.58	0.00	Higher
Inflation	1Y infl swap rate (%)	3.77	-1.01	2.76	1.96	6.00	0.72	Lower
	1Yx1Y infl swap rate (%)	3.07	-0.83	2.25	2.11	3.73	0.98	Lower
	5Yx5Y infl swap rate (%)	2.57	-0.07	2.50	2.29	2.82	0.72	Lower
Risk premia	S&P 500 index (points)	4796.6	-706.2	4090.4	3577.0	4796.6	0.42	Lower
	JULI BBB spread (bp)	118.8	59.5	178.2	116.7	209.6	0.58	Higher
Volatility & Market Liquidity	Market depth, weighted across tenors ($mn)	310.6	-204.9	105.7	57.3	334.0	0.94	Lower
	UST bond yields vs fitted curve RMS error (bp)	3.9	1.9	5.8	3.2	9.6	0.56	Higher
	1Yx1Y implied vol (bp/day)	4.88	5.34	10.22	4.63	12.30	0.91	Higher
Bank Stocks	Regional Bank Stock Index	135.7	-56.1	79.6	78.1	147.6	0.99	Lower
	S&P composite bank stock index	431.1	-153.4	277.7	273.2	461.9	0.99	Lower
Misc	GS US Financial Conditions Index	97.09	2.63	99.72	97.09	100.96	0.58	Higher
	Trade weighted dollar index, points	122.00	5.60	127.60	121.00	136.90	0.38	Higher

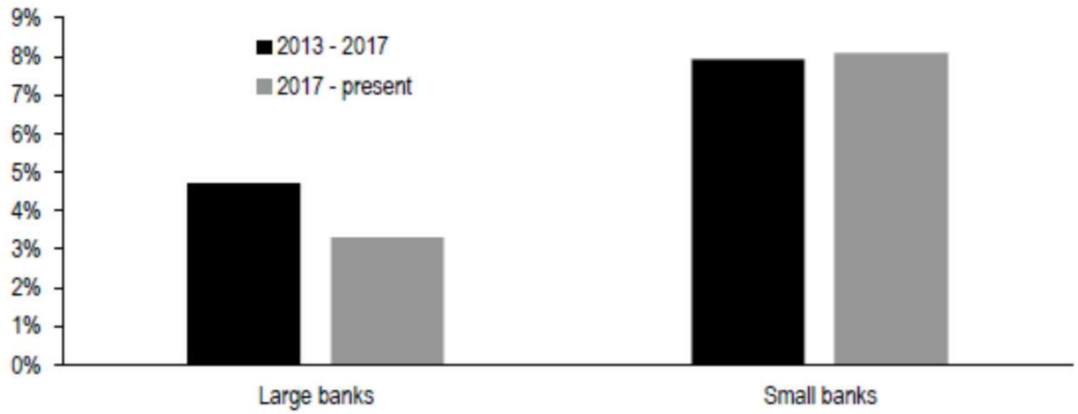
- The spot funds rate is at its highs of the cycle, with the upper end of the target range now at 5% …
- … but within the rates markets, **forward rates have been most resistant to the tightening** as noted in an earlier slide
  - Even before recent events, the front end of the curve had been quite inverted in a reflection of some combination of easing expectations and negative term premium, which has served to moderate the passthrough of policy rate tightening into term rates
  - In the aftermath of recent events, considerable easing is now being priced into markets
- **Propagation into inflation markets** (measured by the extent of decline in spot and forward inflation swaps) has been **reasonably good** – 1Yx1Y inflation swap rates are now near their lows since Jan 2022
- **Propagation into risky assets** has been more **modest** in part because of the easing that is priced into forward rates. More recently, credit tightening is apparent although there has been some retracement
- More recently, banking sector developments have caused bank stocks to decline to their recent lows, which is likely a gauge of emergent credit tightening

Source: J.P. Morgan, Bloomberg Finance L.P. Tightness index defined as percentile rank (or 1 minus percentile rank) for variables positively (negatively) correlated to tightening

Emergency measures have been successful thus far in preventing a worsening crisis which has helped the ***price*** of credit (i.e., spreads) retrace narrower, but the banking sector's emerging behavioral response will likely shrink the ***quantity*** of credit

Loan growth held steady for small banks but fell for large banks post 2017 as large banks managed to higher liquidity ratios

Loan growth (CAGR) for large and small banks over the post-2017 period and over the 2013-17 period; %



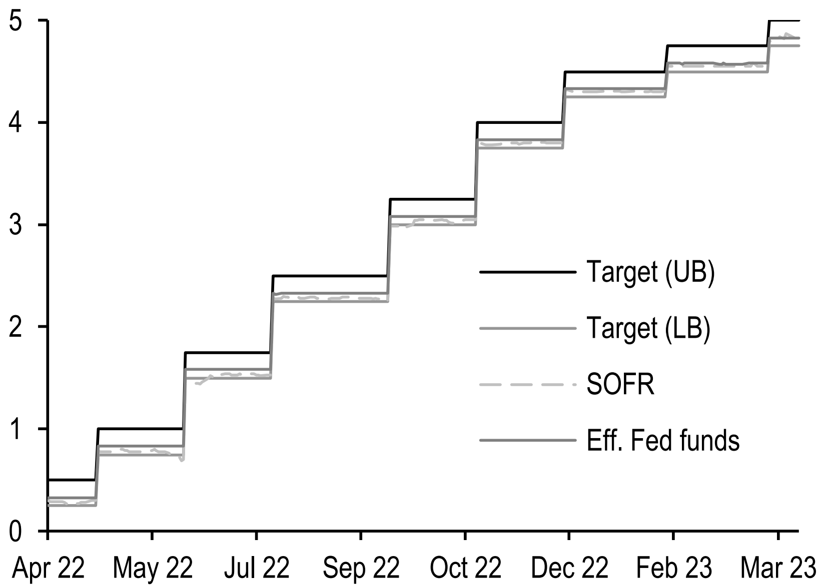
- Emergency measures introduced in the aftermath of the SVB collapse have been successful in preventing contagion, helping markets stabilize and normalize the price of credit as reflected in various credit spreads
- But deposit outflows to money markets continue, albeit at a slowing pace, and banks of all stripes will likely boost the size of liquid assets (cash, cash equivalents and short term securities) on their balance sheets. This shift, coming as it does amidst shrinking deposits for smaller and regional banks, is likely to result in shrinking the quantity of credit extension to the real economy
- For central banks, this is significant forward-looking economic impact that will likely not be reflected in measures of financial conditions
- As a crude gauge of what might lie ahead, we can look to the comparative experience of large banks versus small banks in the past six years (during which regulatory developments have caused larger banks to operate with higher liquidity ratios).
  - Small banks grew loans at a ~8% CAGR before as well as after 2017
  - Large banks experienced a ~1.5% reduction in annualized loan growth, likely attributable to increased liquidity preference
  - Using typical GDP multipliers and Taylor rule coefficients, such a 1-2% slowdown in loan growth, if it were to now occur systemwide, would represent the equivalent of 100-200bp of rate hikes
- Central banks will need to factor in such real-time bank balance sheet trends into decision making, as these trends may deviate from what might be expected based on the price of credit and market-based measures of financial conditions

Source: FRED, Federal Reserve H.8, J.P. Morgan

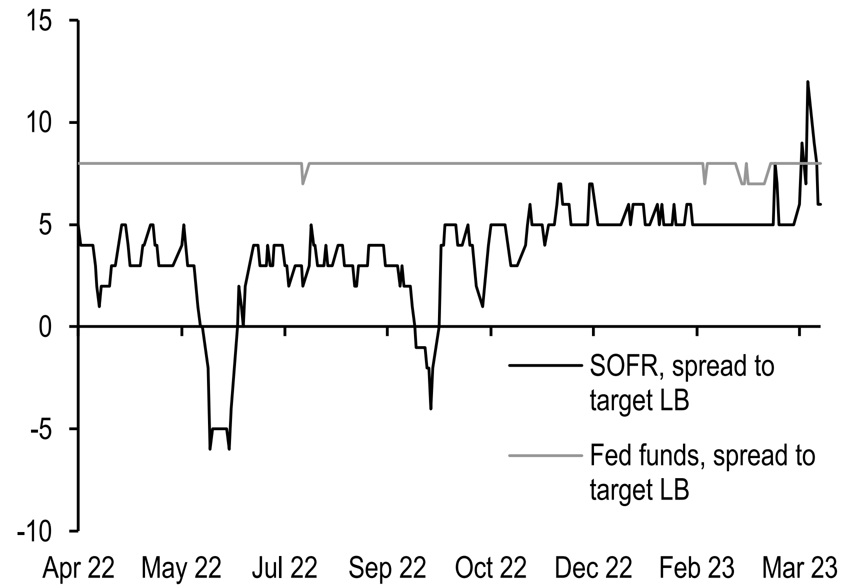
IOR / RRP rate adjustments have been successful in preventing a “leaky floor” and keeping the short rate complex within the desired band

Even as the Fed has delivered 475bp of hikes, IOR and RRP policy has been successful in largely preventing a leaky floor and keeping short rates such as overnight fed funds and SOFR within the desired band

Fed funds target upper and lower bounds, overnight SOFR and the daily effective fed funds rate; %, past year



Overnight SOFR and the effective fed funds rate differentials relative to the lower bound; bp



- Even as the Fed has hiked the funds rate target by 475bp over the past year, policy implementation via the IOR and RRP rates has been effective in keeping short rates such as SOFR and the overnight funds rate within the target range with very limited exceptions around quarter end
- As such, the leaky floor has largely been prevented, and overnight rates have never exceeded the top of the band

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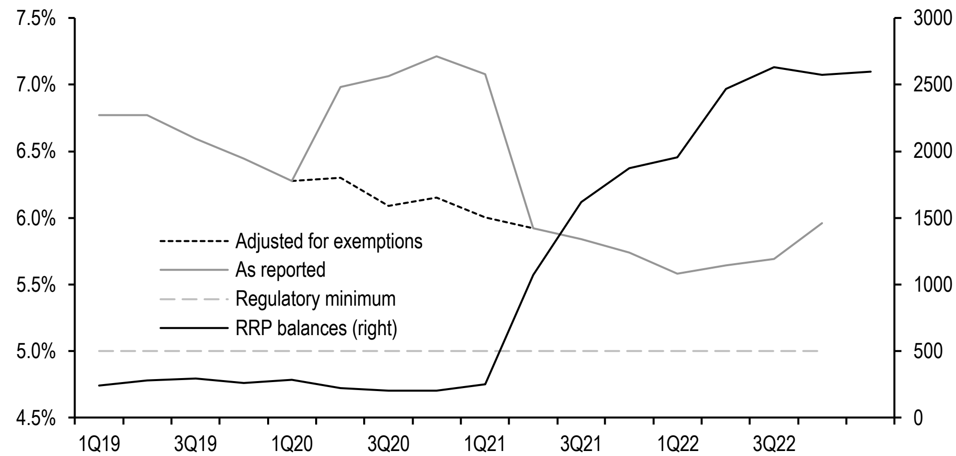
Source: J.P. Morgan, NY Fed, Bloomberg Finance L.P.

The RRP program has been successful in enabling effective transmission of monetary policy in the face of significant leverage constraints within the banking system during the 2021 QE period

Deposit growth accelerated during the post-pandemic QE period, causing leverage capital ratios to fall at large banks; leverage considerations would have been even more severe without the RRP program

Aggregate SLR for the top four banks, as reported and after adjusting for temporary post-pandemic exemptions (%), RRP balances* (right, $bn)



- Post-pandemic QE produced sharp growth in Reserves and bank deposits, which immediately led to leverage constraints at banks
- Temporary exemptions helped in the short run, after which growth in RRP balances was the key enabler for continued QE and monetary policy transmission

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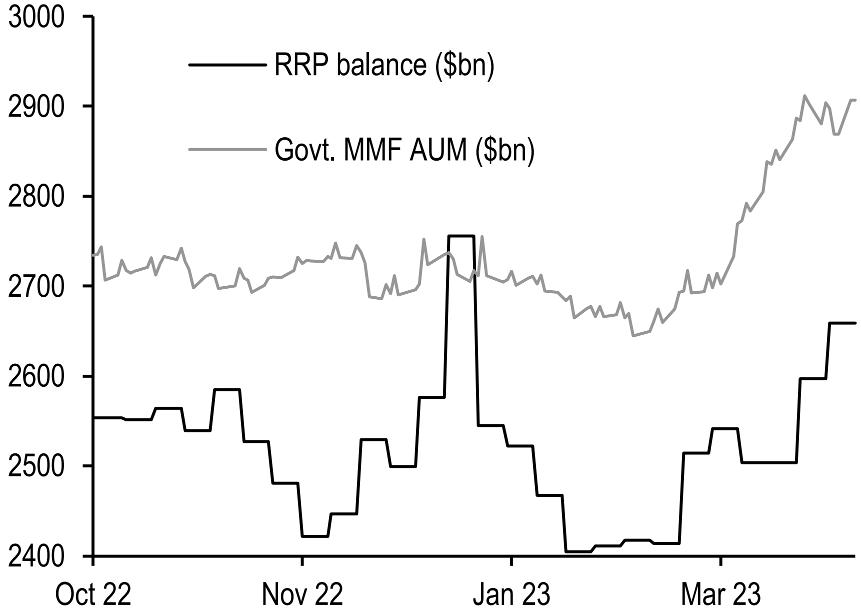
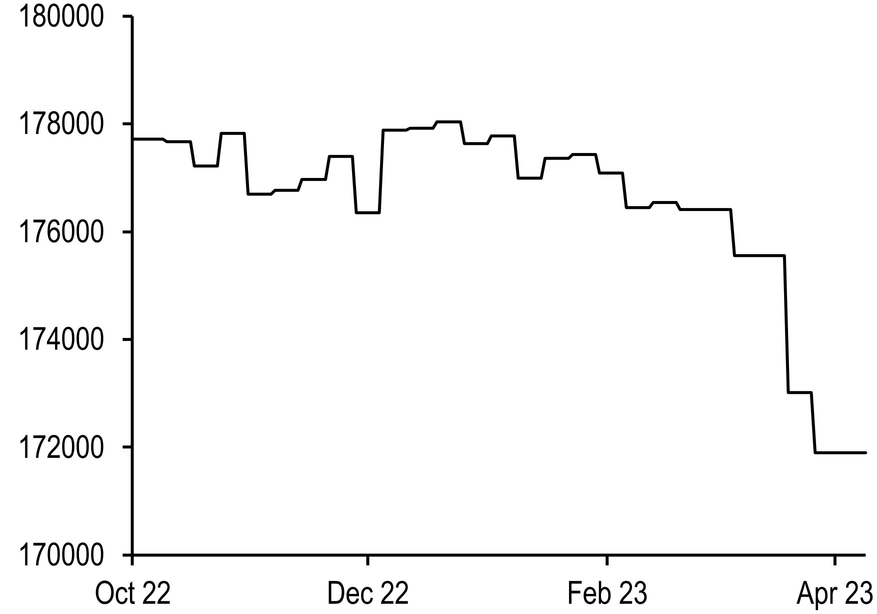
Source: J.P. Morgan, Federal Reserve H.4, Bloomberg Finance L.P.
*RRP balances are shown as of quarter-end

Looking ahead, continuing deposit outflows to the RRP via money market funds is an emerging risk that bears watching

Fed RRP balance ($bn) versus government money market fund AUM ($bn) and total commercial bank deposits* ($bn)





- The RRP program has an important role to play in managing the mix between central bank liabilities to banks / non-bank entities
- While not the intention, a sustained migration of bank deposits to money market funds, which then place funds in the RRP, risks disintermediating banks
- This could also lead to increased deposit betas (loosely, the ratio of deposit rates to the risk-free benchmark rate) and, in turn, lower the banking system's capacity for maturity transformation; as a rough approximation, a 1% system-wide increase in deposit betas could result in a $100bn 10-year duration equivalents lowering in the banking system's capacity for interest rate risk
- This could serve as an additional headwind to credit growth,and another relevant consideration for the policy stance that will likely not be reflected in measures of financial conditions

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Source: J.P. Morgan, Crane Data, Federal Reserve H.8., Federal Reserve H.4., FRED
*Reflects seasonally adjusted total deposits

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