Peer Analysis and Balance Sheet Strategies Update

FHLBank Boston
Strategic partnerships. Reliable funding.

November 16, 2023

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Presenters

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Assistant Vice President, Senior Financial Strategist

Overview

- Markets & Economy Update
- Peer Analysis & Call Report Trends
- Balance Sheet Strategies

We Are in the Era of Tighter Liquidity

It was a cruel summer for interest rates as yields rose swiftly. Market participants struggle to “shake it off” and convince customers that there is no “bad blood” and that they “belong” with them.

Markets & Economy Update

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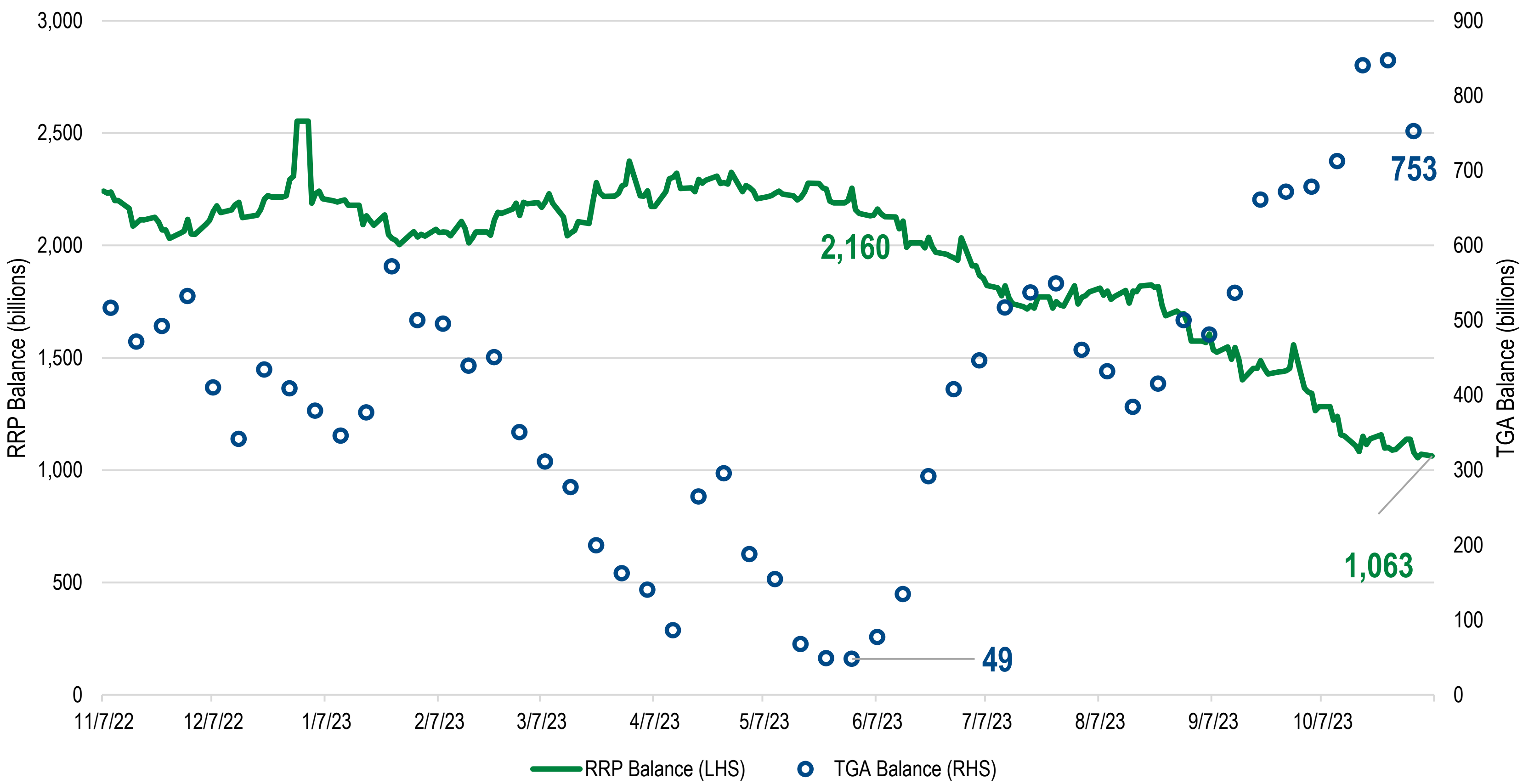
Markets & Economy Update

- Short-Term Rates
- Quantitative Tightening
- Asset Spreads
- Shape of the Yield Curve(s)
- Health of the Consumer

Short-Term Liquidity Markets

Treasury bill issuance has increased significantly following the resolution of the debt ceiling, which has led to a reduction in balances at the Fed's Reverse Repo program.

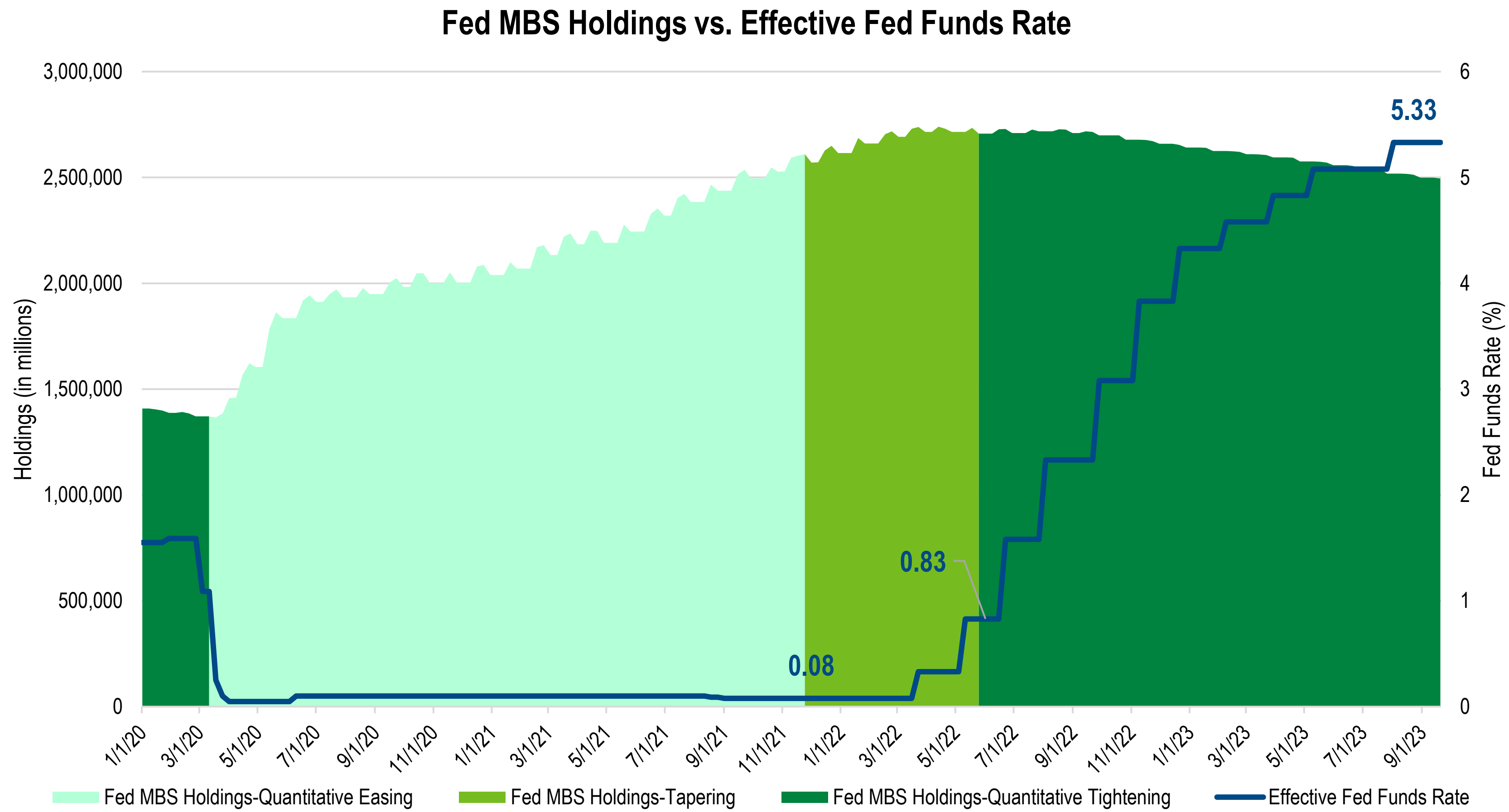
Reverse Repo and Treasury General Account Balances



Source: Federal Reserve Board of Governors, Federal Reserve Bank of New York, FHLBank Boston

Rate Hikes vs. Balance Sheet Reduction

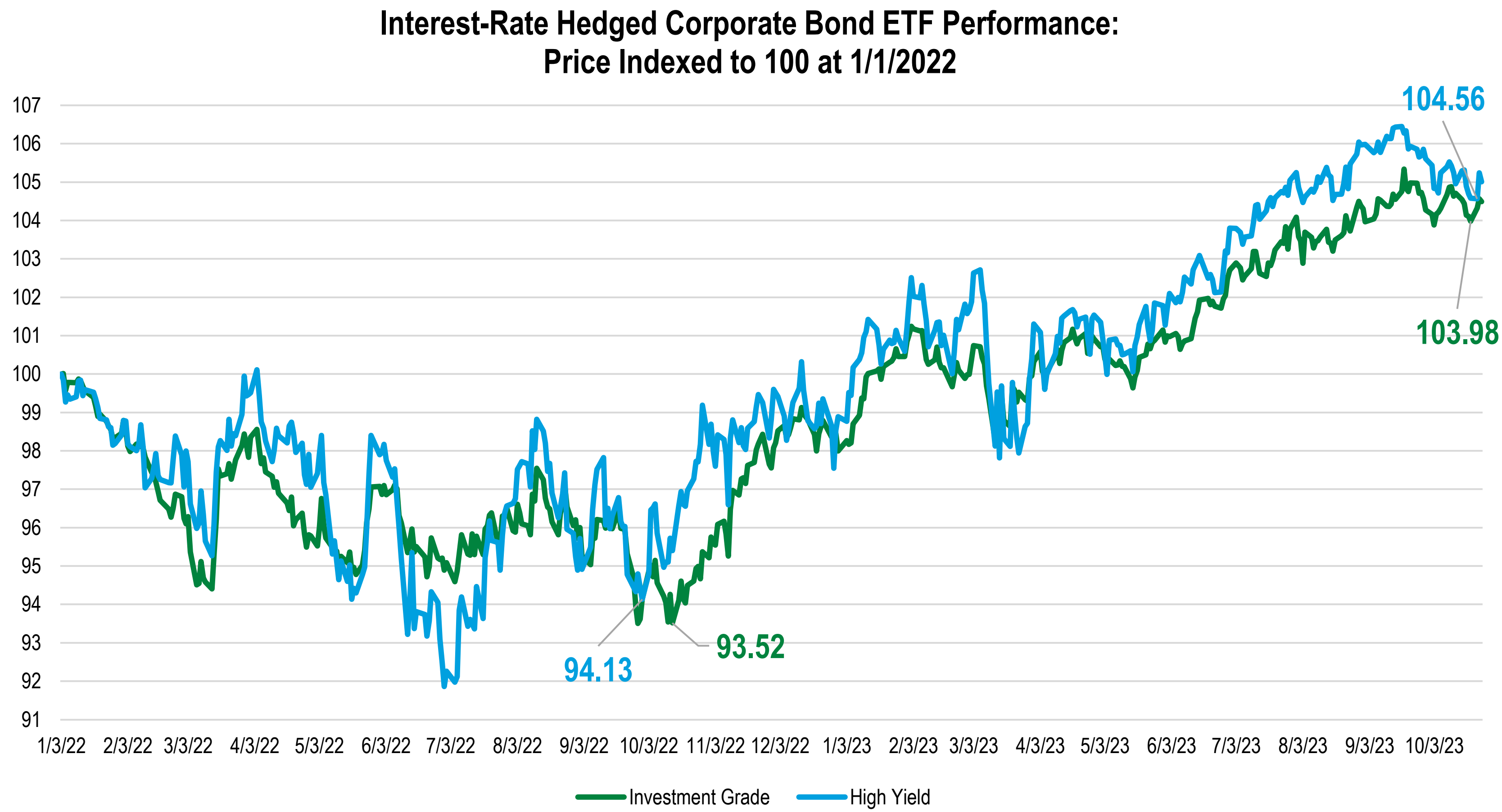
More hikes at a faster clip have shouldered the load of quantitative tightening as compared to the logistical challenges of reducing the bond holdings.



Source: Federal Reserve Bank of St. Louis, FHLBank Boston

Interest-Rate & Liquidity Stress, Not Credit

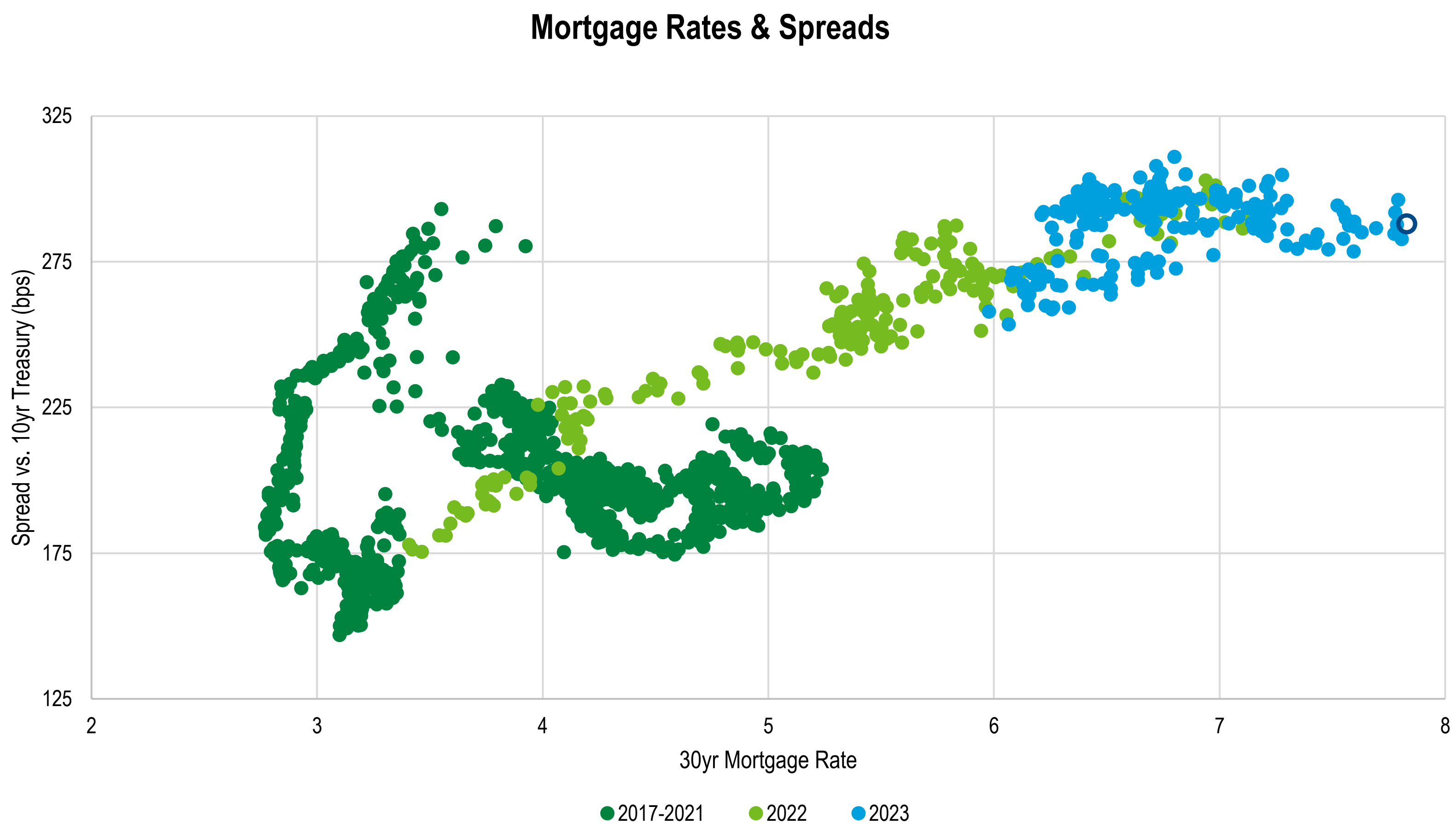
The first phase of the hiking cycle (2022) saw volatility and weakness in corporate credit, but during the second phase (2023) where the hikes were more modest, credit has been a top performer.



Source: S&P Global, FHLBank Boston

Wider Mortgage Spreads

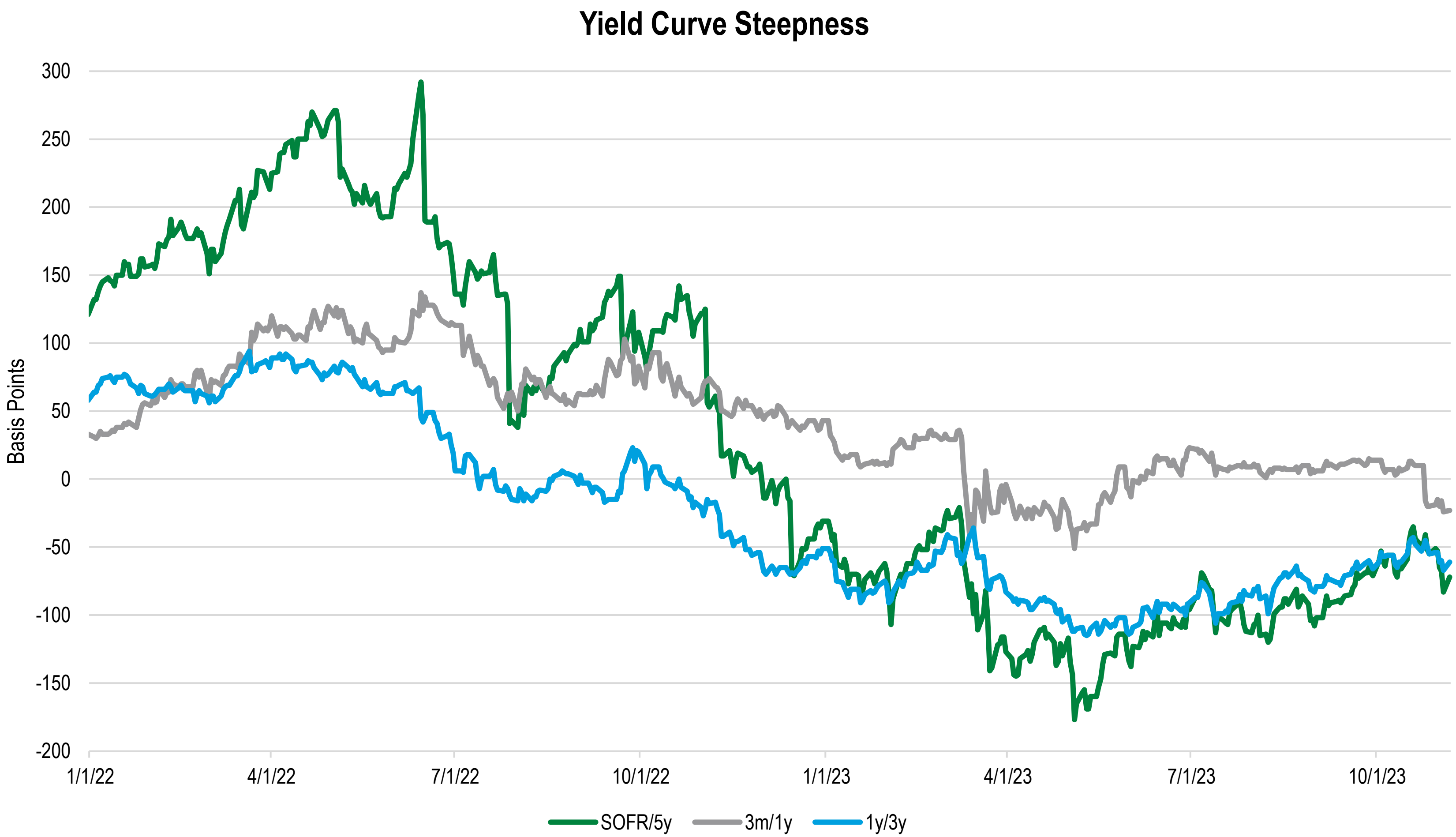
Rate uncertainty and dampened demand from depositories for MBS have pushed mortgage spreads wider, while nominal rates are near the highest level in decades.



Source: Federal Reserve Bank of St. Louis, Optimal Blue, FHLBank Boston

Shape of the Yield Curve(s)

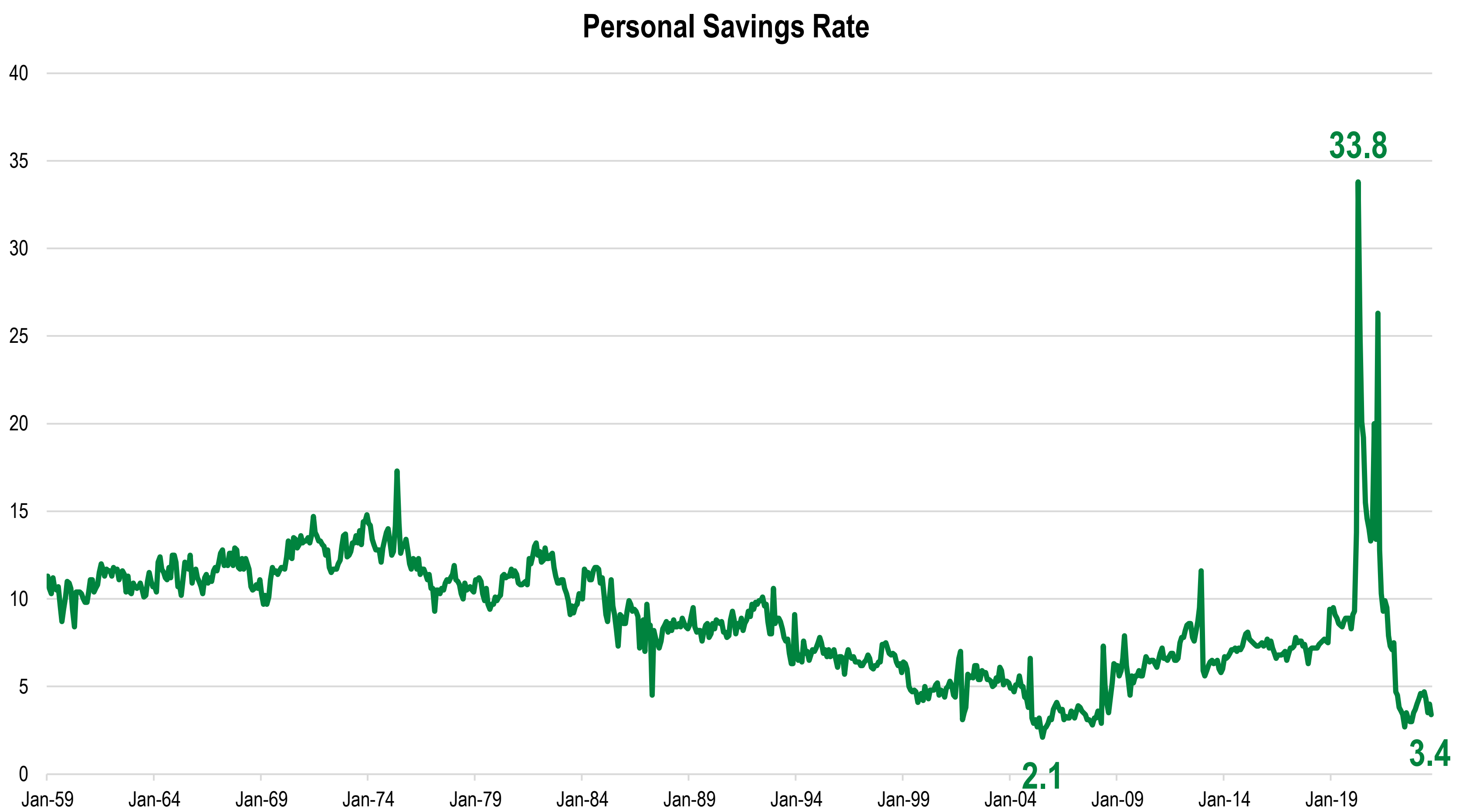
Since the spring, the yield curve has become less inverted, as the prospect of Higher for Longer has become increasingly baked into market expectations.



Source: Federal Reserve Bank of St. Louis, FHLBank Boston

The Consumer Balance Sheet

In 2022, personal savings came close to breaching all-time lows and has seen more of a plateauing vs. a reversion to normal.



Source: U.S. Bureau of Economic Analysis, FHLBank Boston

Peer Analysis & Call Report Trends

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Peer Analysis & Call Report Trends

- Earnings Trends
- Deep Dive on Deposit Outperformers
- Loan Growth & Asset Repricing
- Deposit Remixing

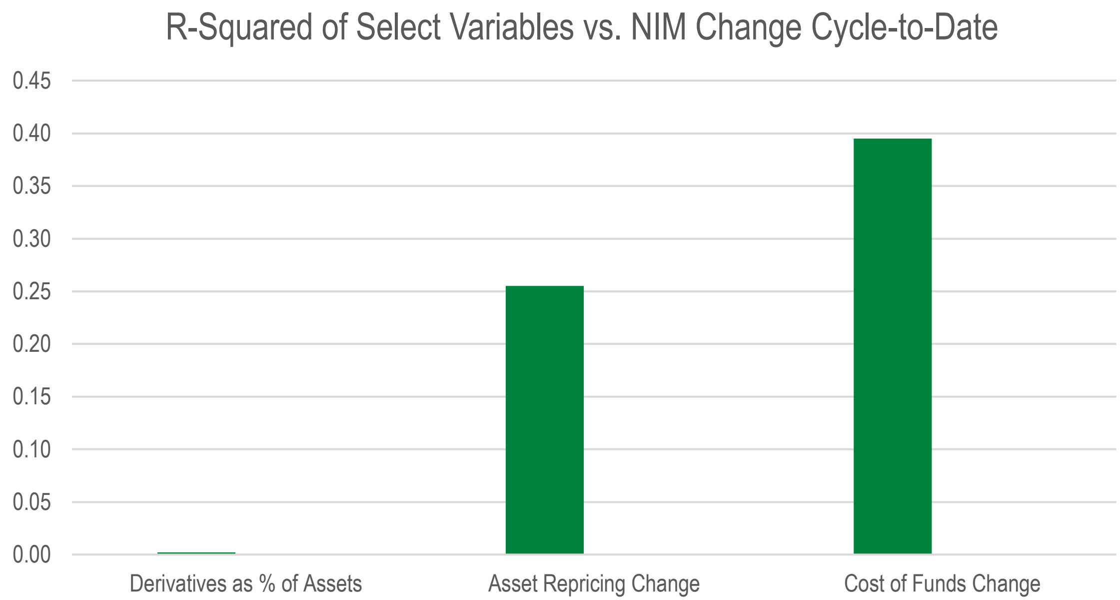
What's the Biggest Driver of NIM Performance?

- Frequency of asset repricing?
- Managing cost of funds?
- Using derivatives?

We ran an analysis against several variables across 183 select member banks to find out

Better Deposit Pricing Discipline, Better NIM

Managing cost of funds has been the clearest path to higher profitability so far relative to sampled alternatives. Interestingly, using interest rate derivatives is slightly *inversely* correlated with NIM performance.



Correlation	R^2	Variables
-0.0464	0.0022	NIM Change Cycle-to-Date vs. Derivatives as % of Assets
0.5051	0.2551	NIM Change Cycle-to-Date vs. Asset Repricing Change
-0.6286	**0.3951**	**NIM Change Cycle-to-Date vs. Cost of Funds Change**

Source: S&P Global, FHLBank Boston

What's the Biggest Driver of Higher Deposit Costs?

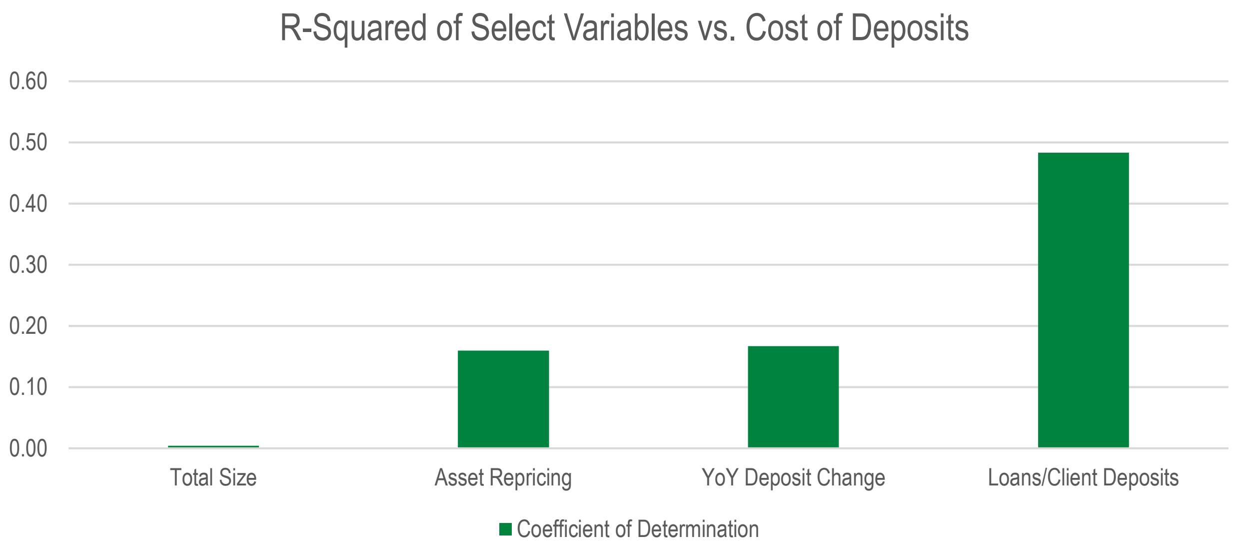
- Asset size?
- Deposit volumes?
- Asset repricing?
- Lending choices?

This time, we ran an analysis against several variables across 181 select member banks

More Loans, Higher Deposit Costs

How “loaned up” a member bank has been is the best-sampled predictor of what they will pay on deposits.

More aggressive amounts of lending are very highly correlated with cost of deposits.

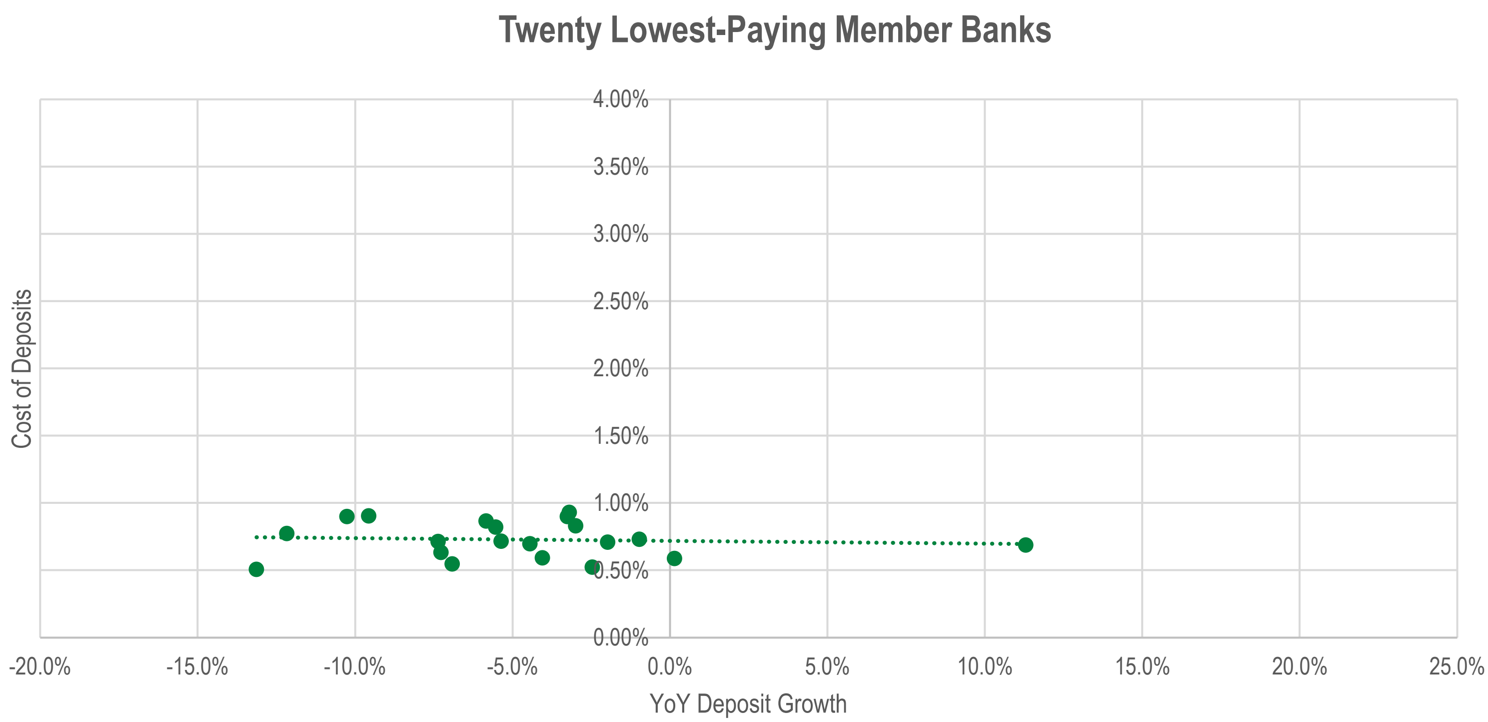


Correlation	R^2	Variables
0.0659	0.0043	Cost of Deposits vs. Total Size
0.3995	0.1596	Cost of Deposits vs. Asset Repricing
0.4088	0.1671	Cost of Deposits vs. Deposit Change
0.4976	0.2476	Cost of Deposits vs. Loans/Deposits
0.6954	**0.4836**	**Cost of Deposits vs. Loans/Client Deposits**

Source: S&P Global, FHLBank Boston

Lower Deposit Costs, Lower Deposit Growth

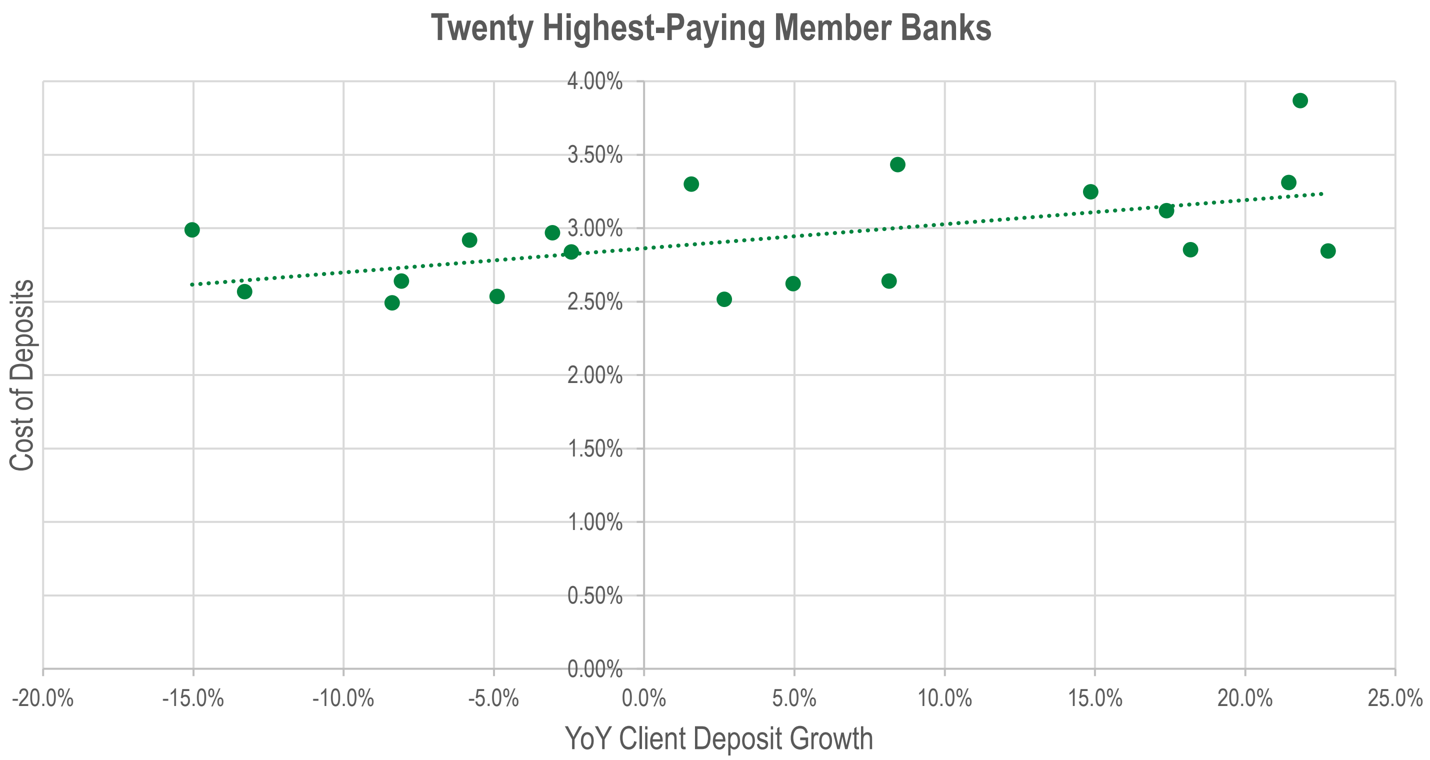
Members that have kept the tightest lid on deposit costs have almost universally seen net client deposit outflows at this point in the cycle.



Source: S&P Global, FHLBank Boston

Higher Deposit Costs = A Mixed Bag

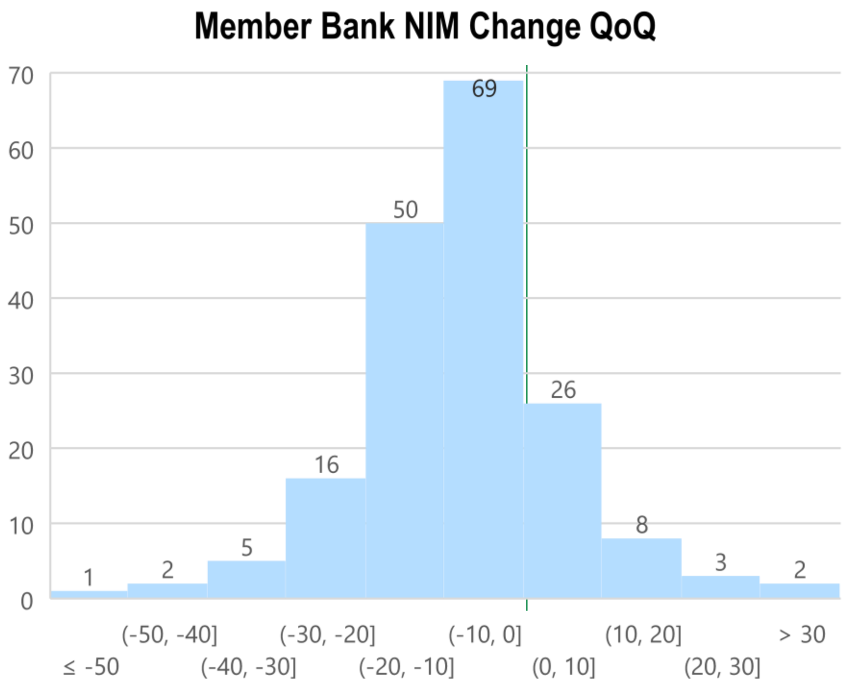
While higher deposit costs are positively correlated with growth, not every bank that pays up experiences volume. Nine of the 20 highest payers still have net client outflows YoY.



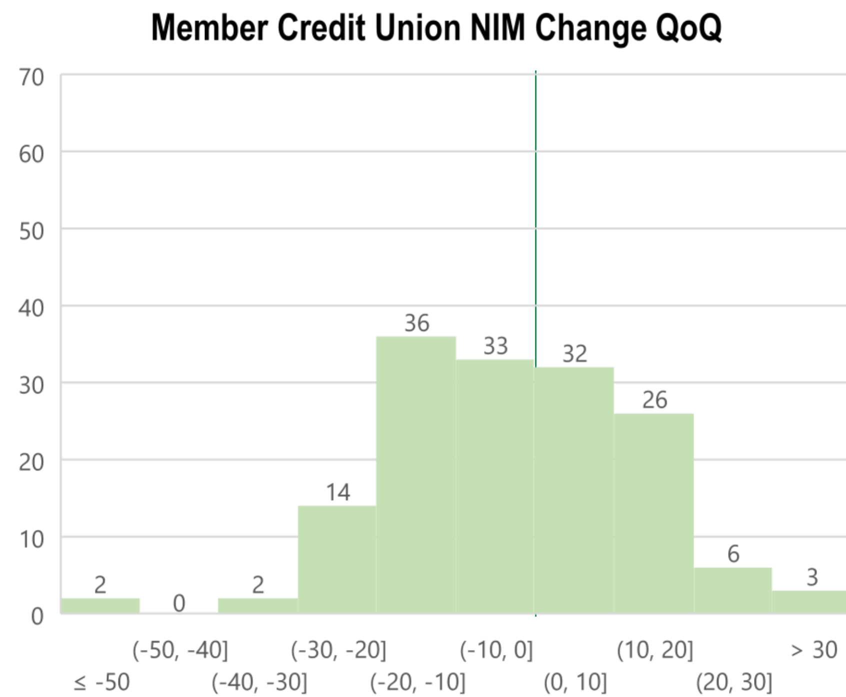
Source: S&P Global, FHLBank Boston

Moderating NIM

Most banks still saw NIM contraction this quarter. Credit Unions were similar but a little better off.



Highest (bps)	35	# of Increases	39	21%
Lowest (bps)	-59	# of Decreases	136	74%
Median (bps)	-7	# of Unchanged	8	4%
		Total	183	100%

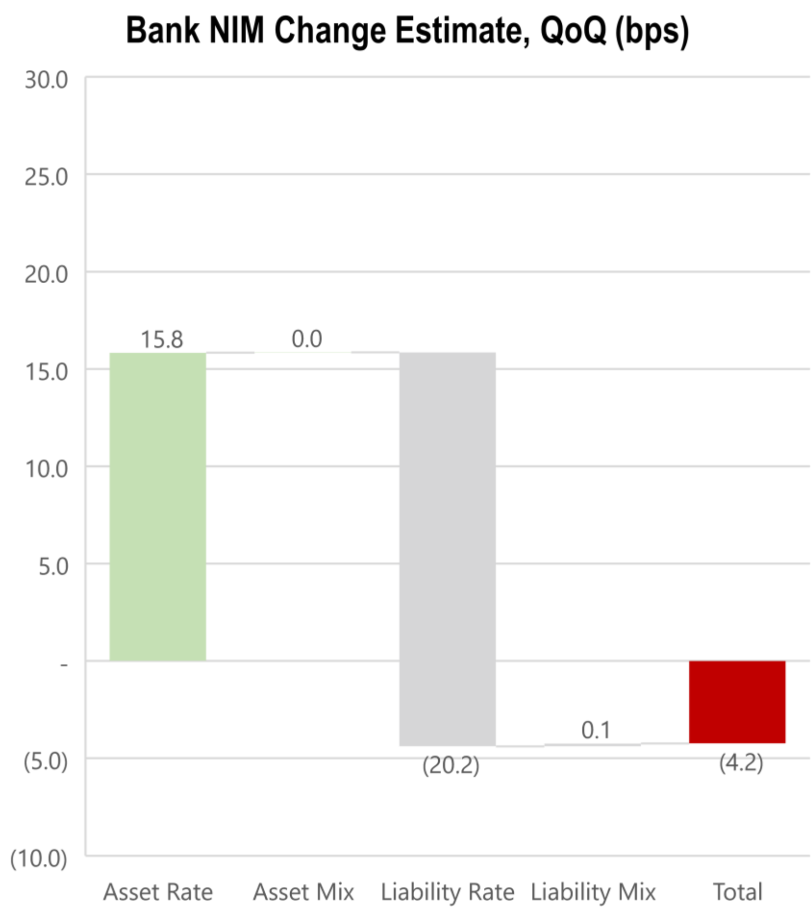


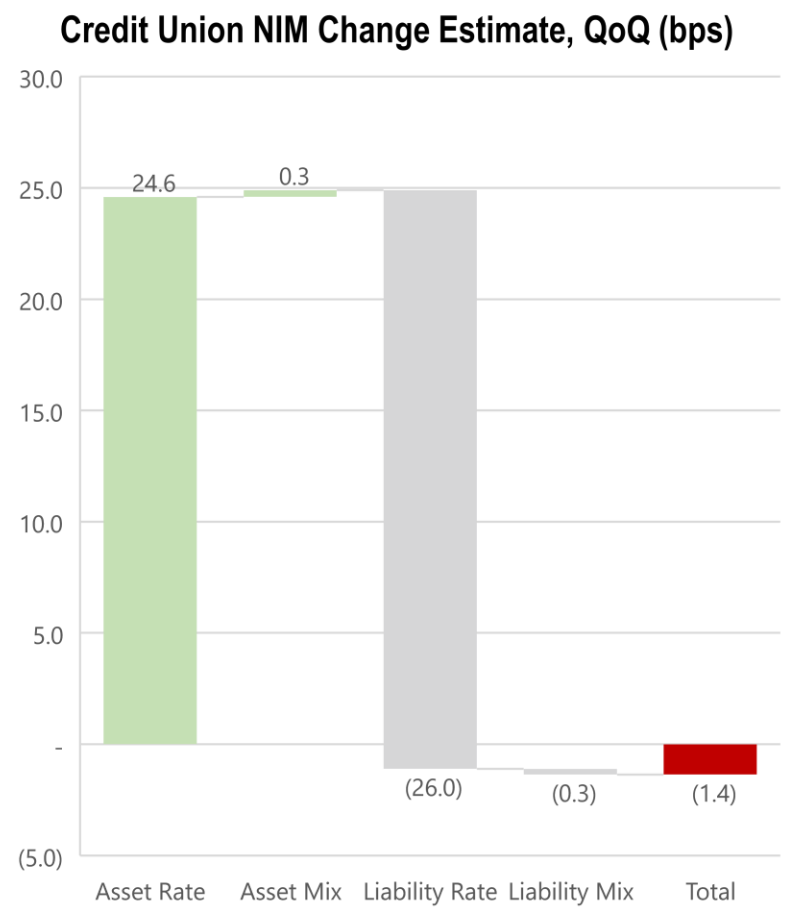
Highest (bps)	117	# of Increases	68	43%
Lowest (bps)	-55	# of Decreases	86	54%
Median (bps)	-3	# of Unchanged	4	3%
		Total	158	100%

Source: S&P Global, FHLBank Boston

Deposit Pricing Still Pushing NIM

Liability rates were overwhelmingly the driver of lower NIMs. For the first quarter of the cycle, credit unions raised liability rates more than banks.

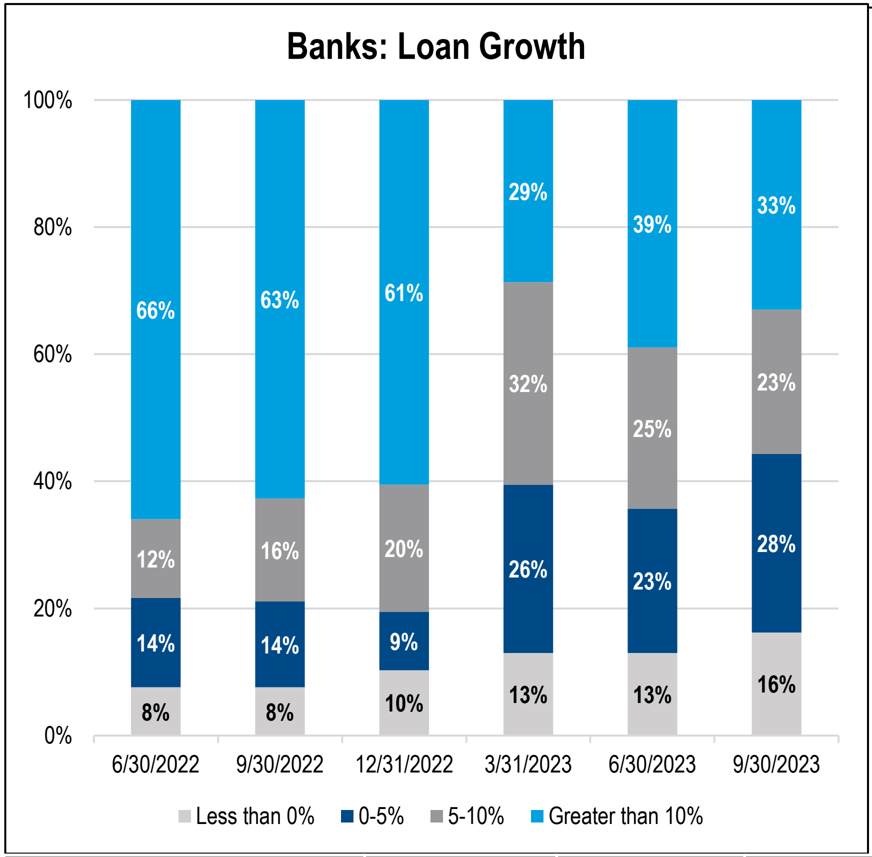


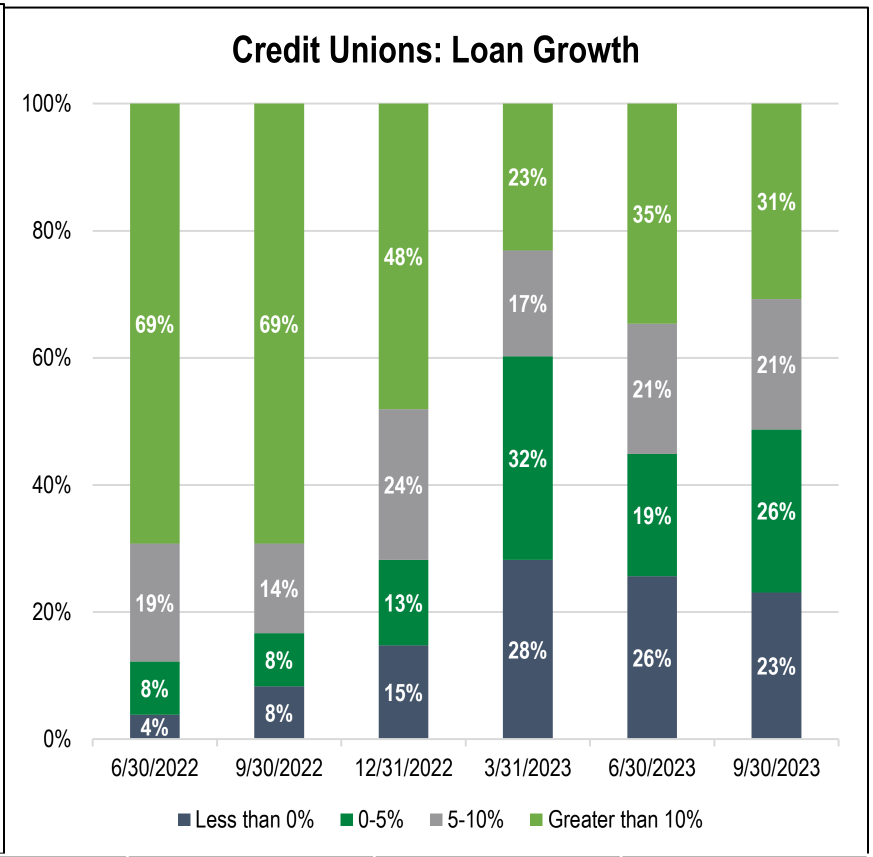


Source: S&P Global, FHLBank Boston

Loan Growth is Normalizing

Down from the exceptional levels seen in late 2022, loan growth for most continues to settle into mid-single-digit territory.



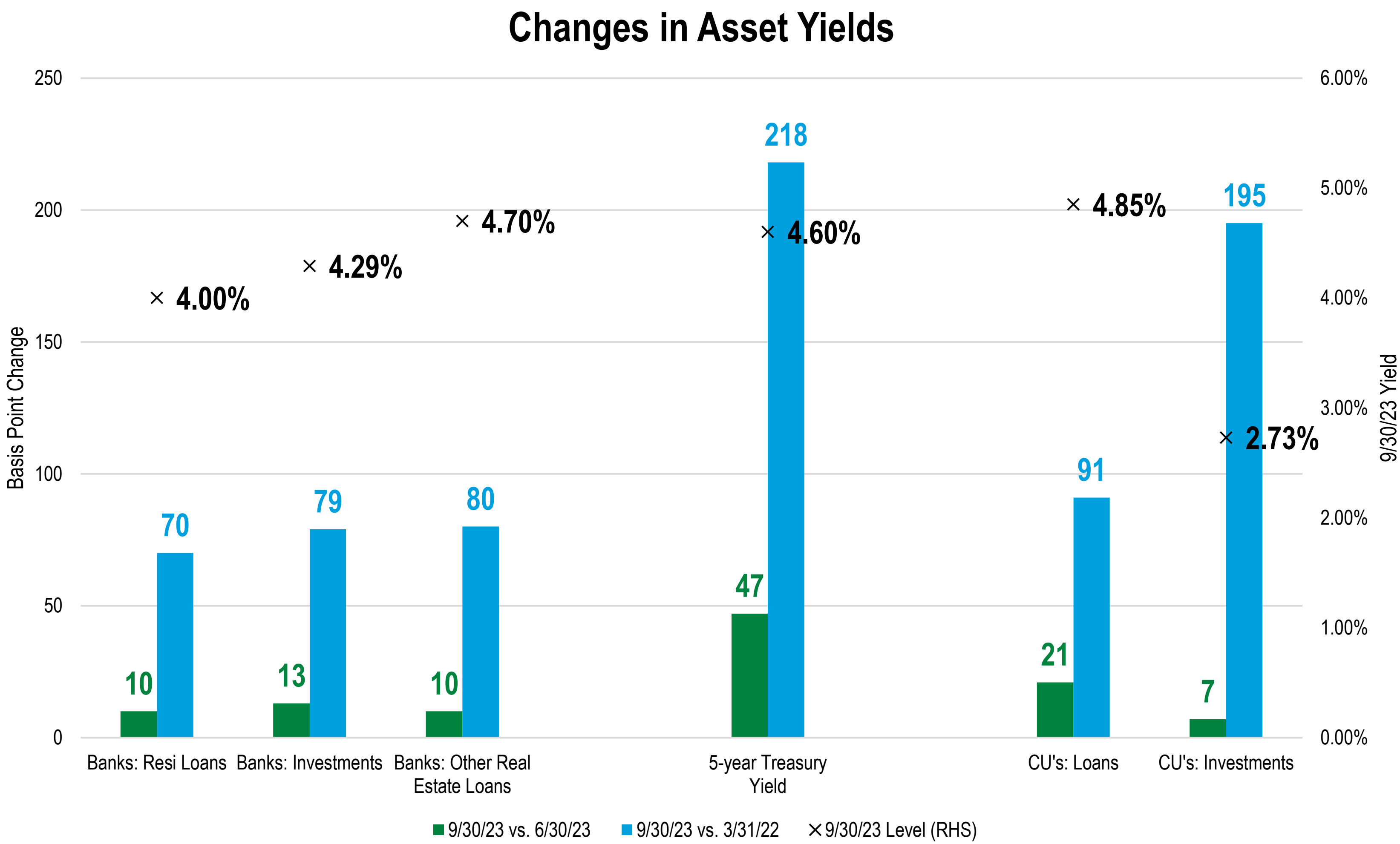


Median Loan Growth	6/30/22	9/30/22	12/31/22	3/31/23	6/30/23	9/30/23
Credit Unions	17.74%	15.87%	9.80%	3.23%	6.73%	5.35%
Banks	14.50%	13.10%	11.91%	6.06%	7.86%	5.98%

Source: S&P Global, FHLBank Boston

Asset Yields Repricing Slowly but Surely

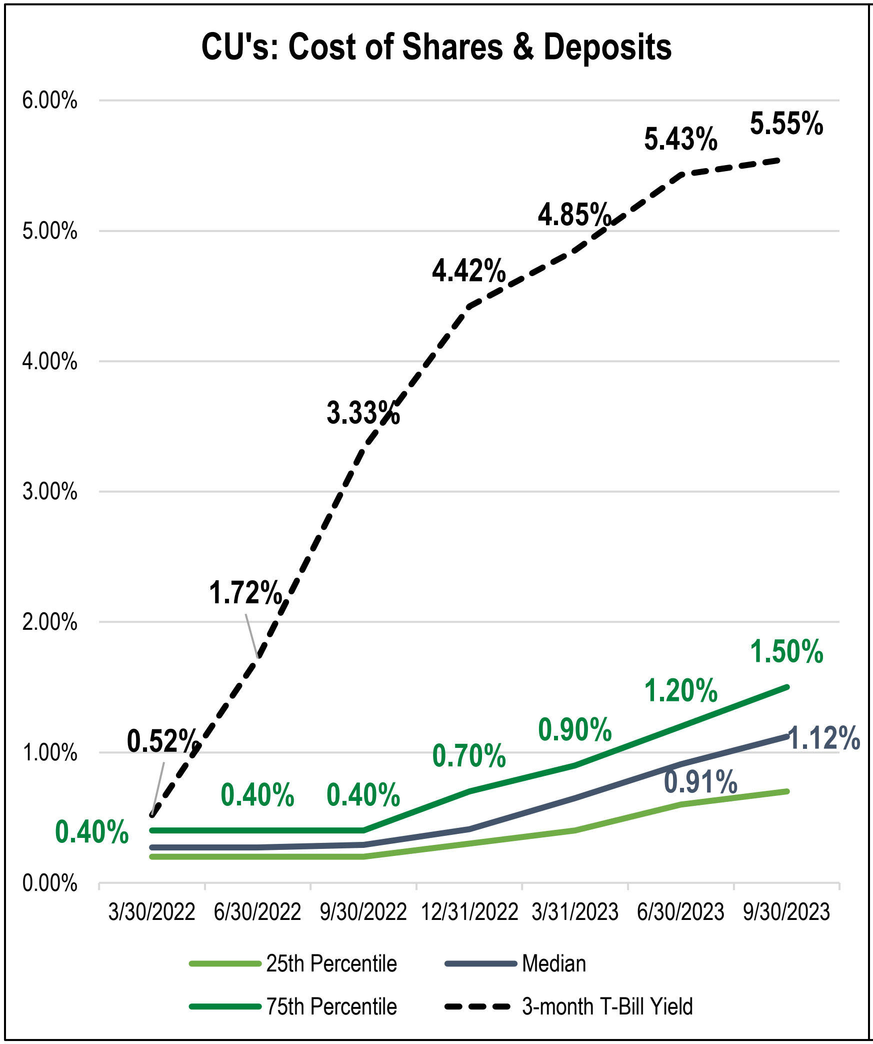
Asset yields are repricing higher but still at a fraction of the large move that has occurred in Treasury rates.

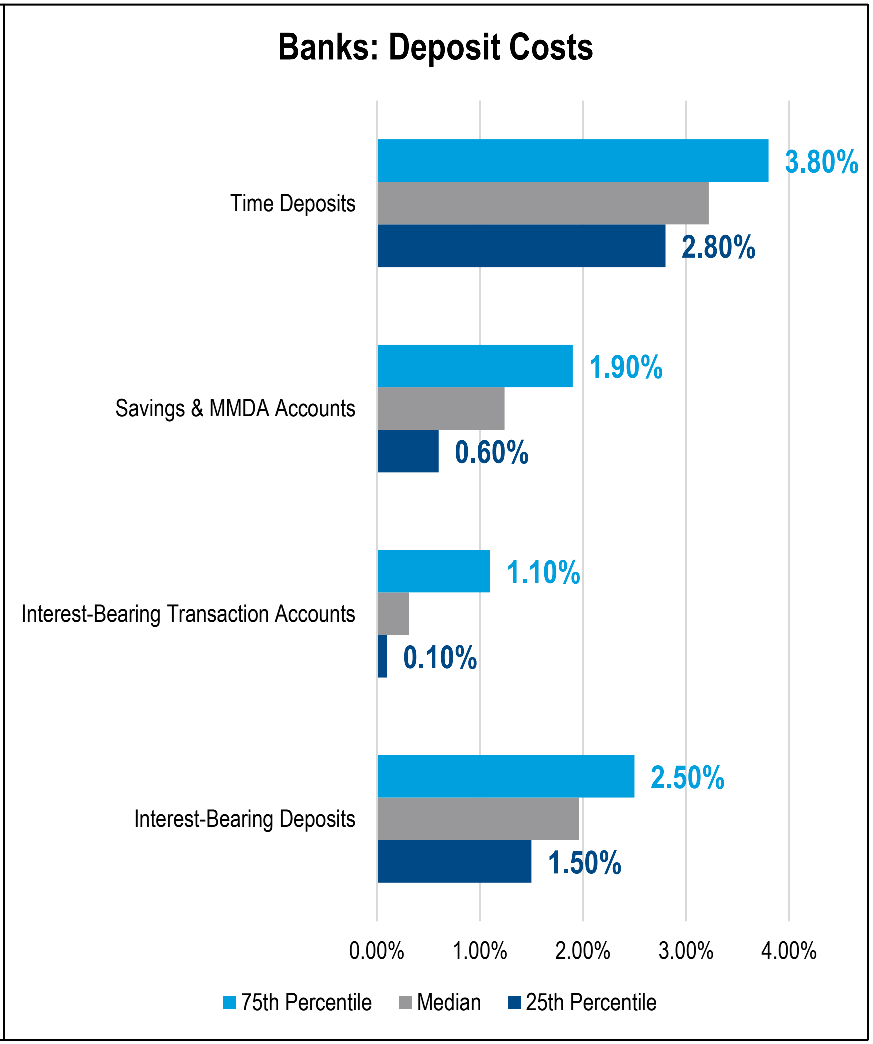


Source: S&P Global, FHLBank Boston

Deposit Costs Still on the Way Up

Even as the rate of increase for market rates slows, deposit costs still have a lot of room to keep rising and catch up.



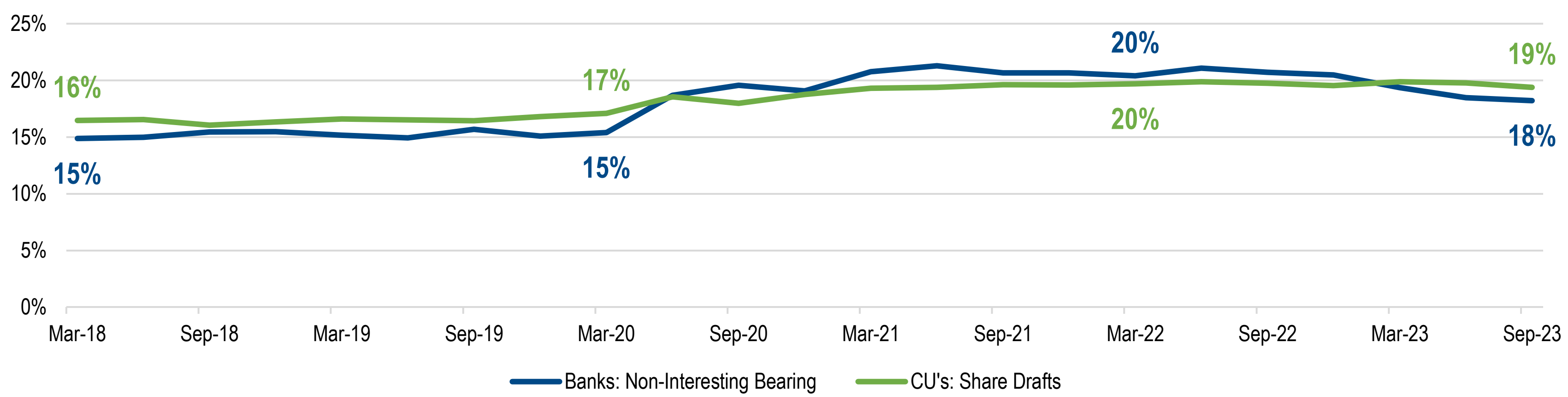


Source: S&P Global, FHLBank Boston

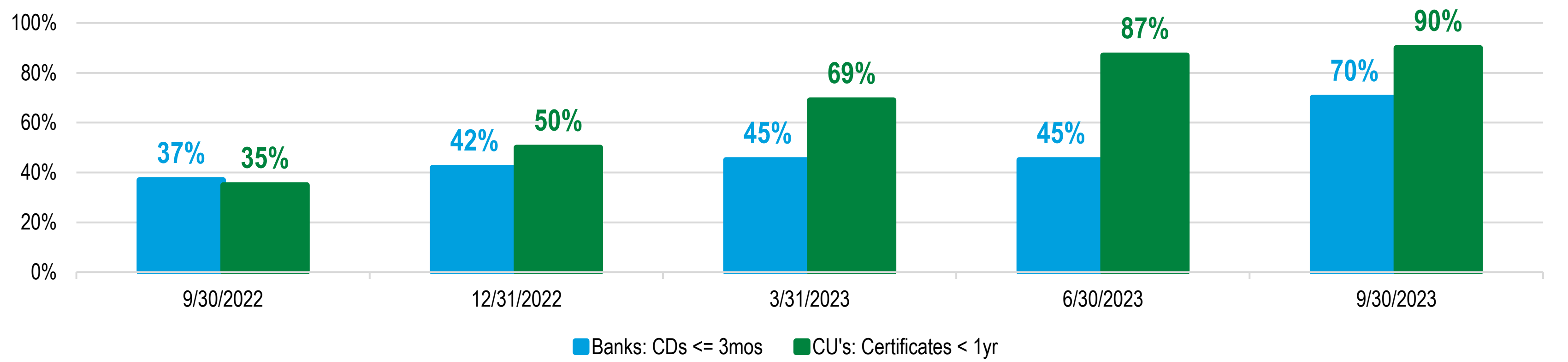
Deposit Migration

The growth in shorter-term deposits continues, but reliance on non-interesting bearing deposits and share drafts has remained above pre-2020 levels.

Non-Interesting Bearing (Banks) & Share Drafts (Credit Unions) to Total Deposits



% of Members Increasing Q/o/Q



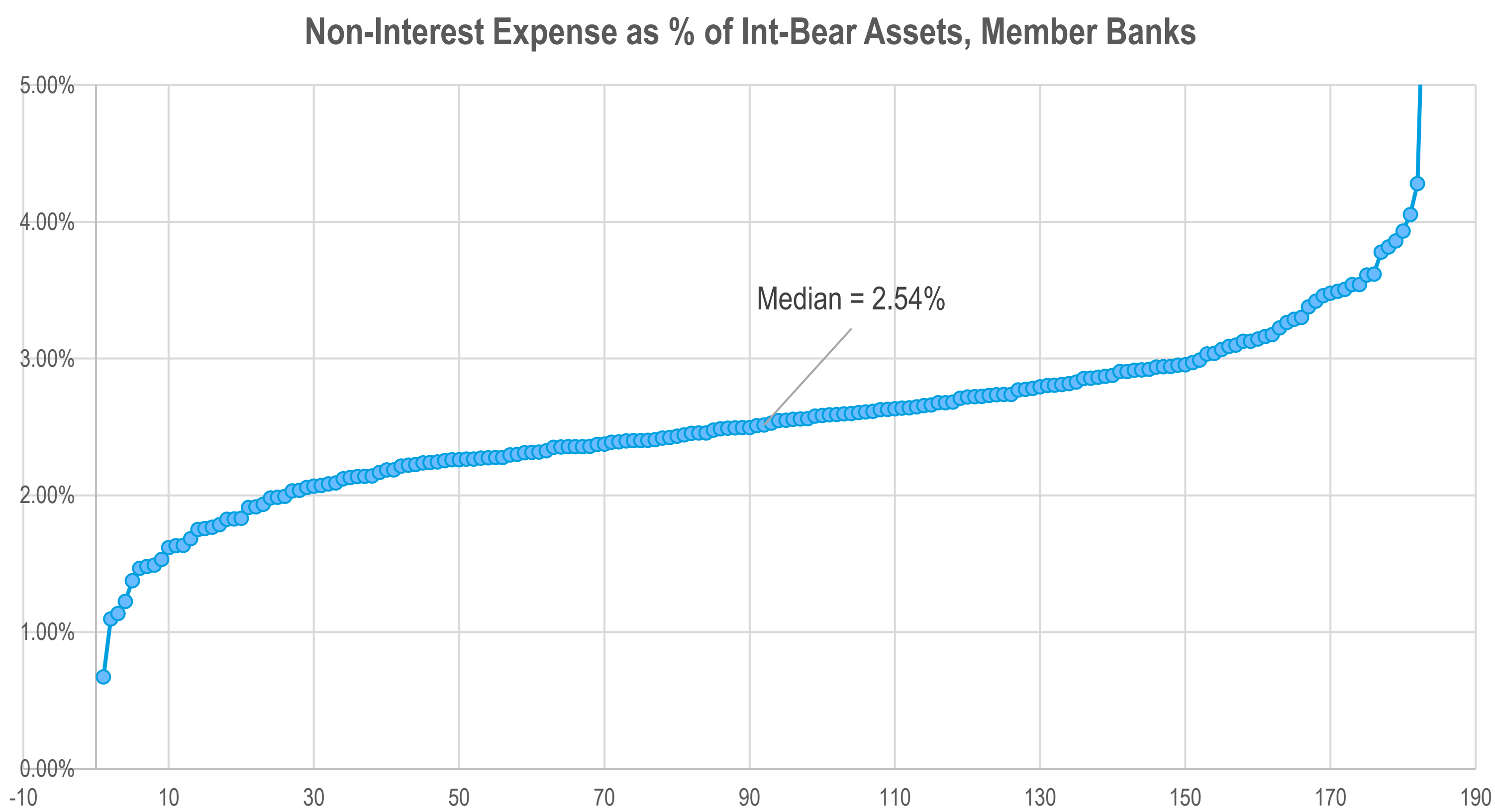
Source: S&P Global, FHLBank Boston

Peer Expense Management - Banks

As members contemplate a lower growth environment, expense management has come into focus for many.

Member banks have a median non-interest expense as a % of interest-bearing assets ratio of 2.54%.

Size seems to be no panacea -- the correlation between size and cost is minimal at 0.029.



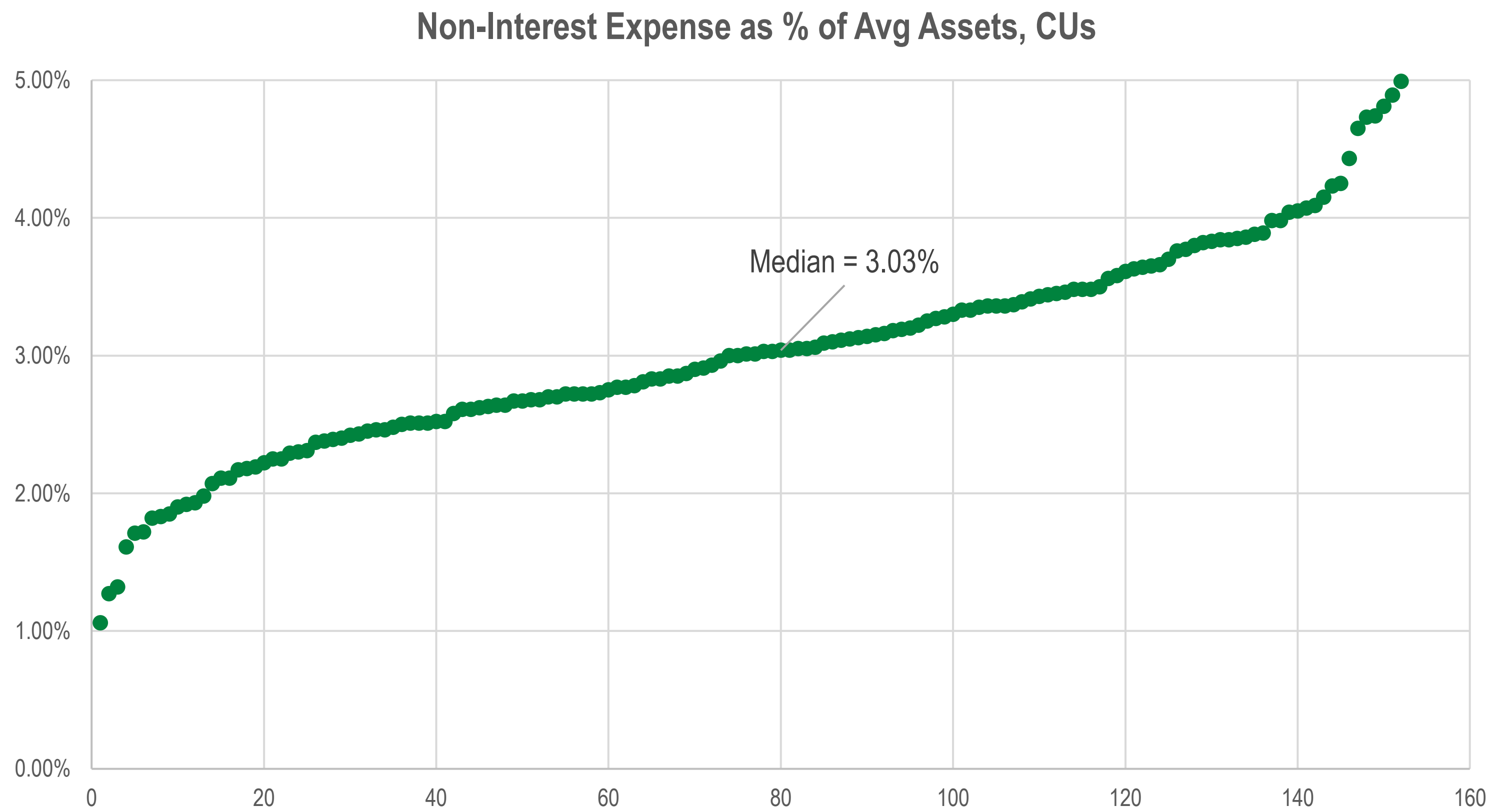
Source: S&P Global, FHLBank Boston

Peer Expense Management - Credit Unions

Member credit unions have structurally higher non-interest expense than member banks.

Member credit unions have a median non-interest expense as a % of average assets ratio of 3.03%.

Perhaps surprisingly, the correlation between size and cost is *inversely* correlated at -0.131.



Source: S&P Global, FHLBank Boston

Balance Sheet Strategies

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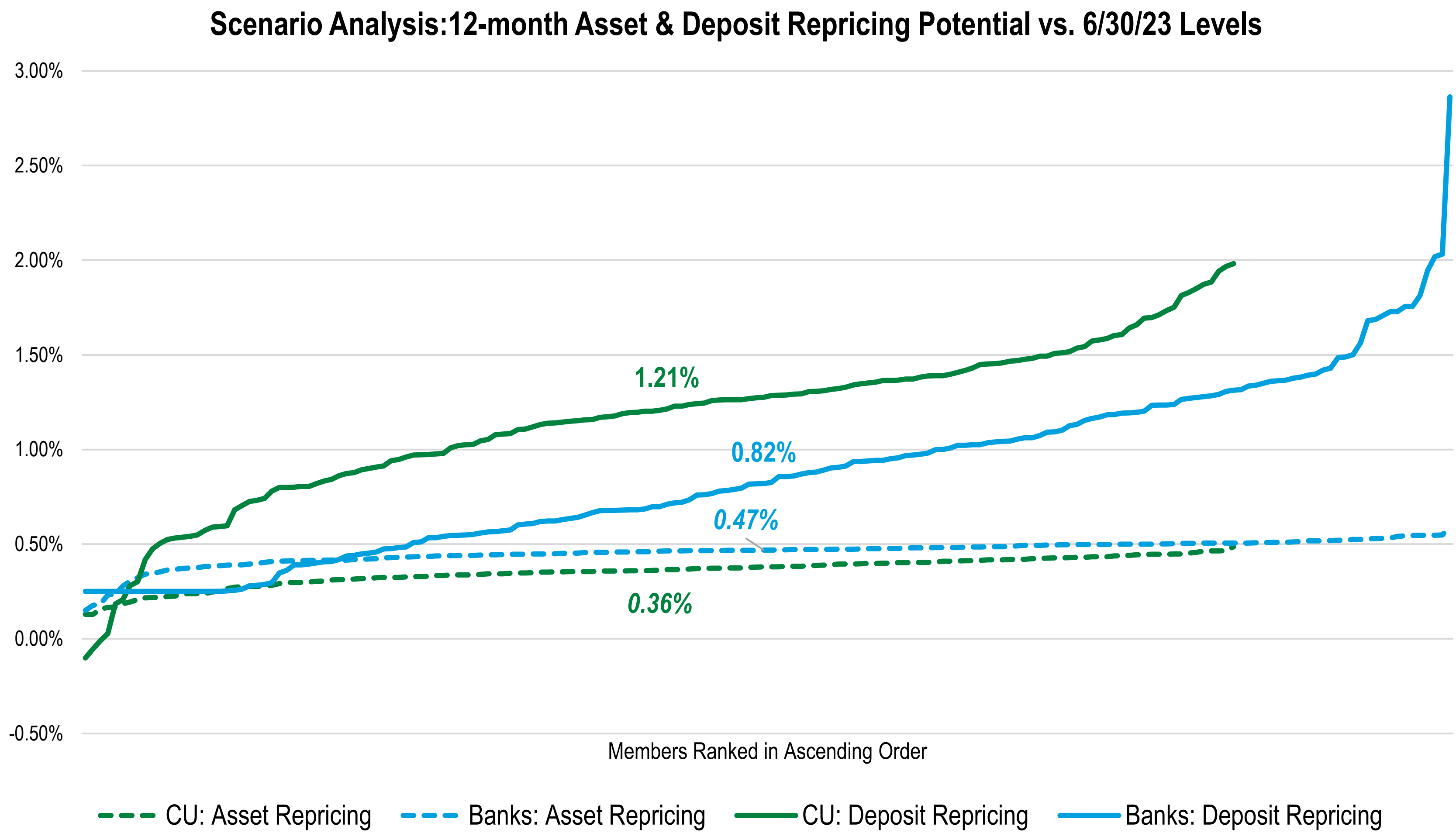
Balance Sheet Strategies

- Combating Rising Deposit Costs
- NEV Test Ideas
- Comparing Rolling Short vs. Laddered Bullets
- Value of Dividends

More Funding Cost Challenges on the Horizon?

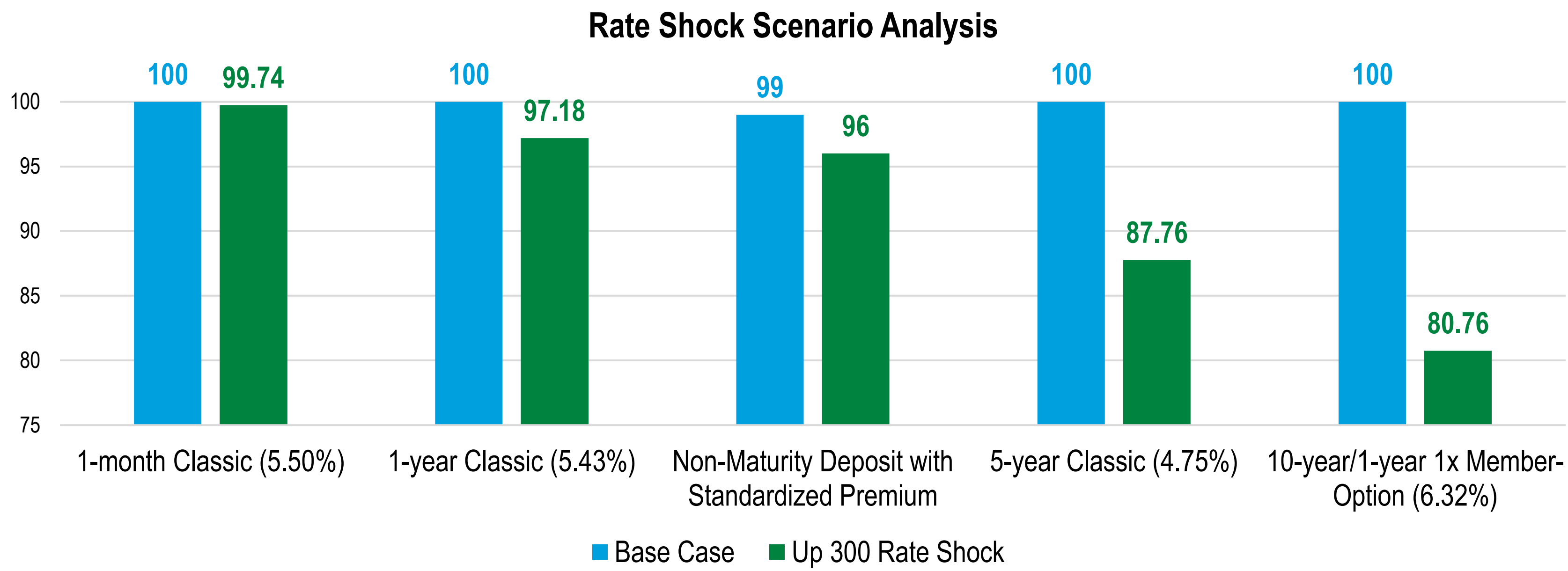
With the incremental deposit likely still costing over 5%, interest expense has the potential to continue rising faster than asset yields given mix shift within funding, modest asset cash flows and slowing loan growth.



Source: S&P Global, FHLBank Boston

Credit Union Strategies: NEV Test Mitigation

The Member-Option Advance allows members to extend liability duration to mitigate interest-rate risk today while still retaining flexibility to shorten the funding efficiently if balance sheet needs and/or market conditions change.

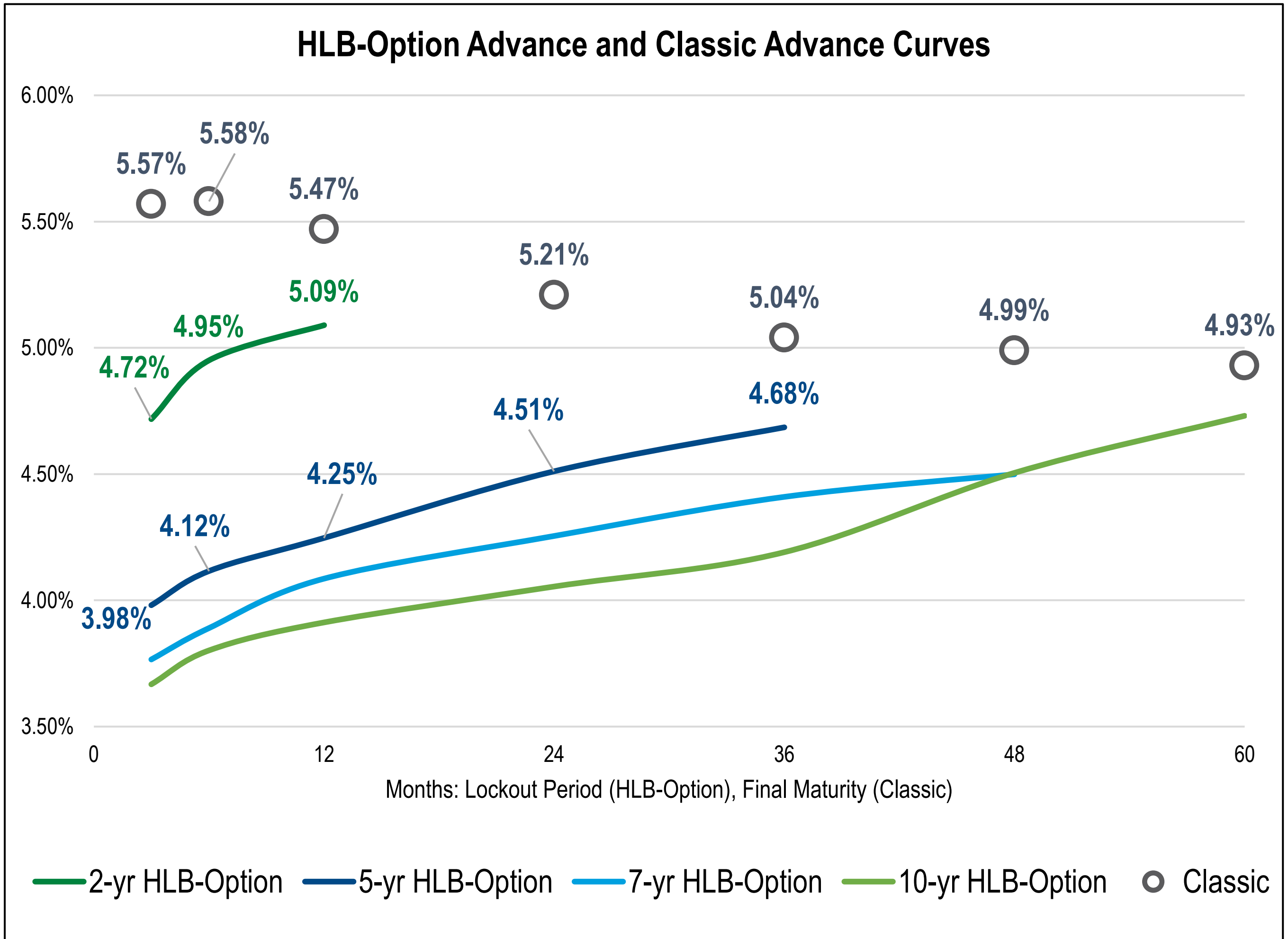


Difference in Post-Shock Capital Ratio vs. the Non-Maturity Deposit (in bps)

	1-month Classic	1-year Classic	5-year Classic	10-year/1-year 1x Member-Option
1% of Assets	-4	-1	+8	+16
5% of Assets	-11	-4	+25	+48

Margin Relief

Putable advances like the HLB-Option Advance allow members to benefit from high levels of interest-rate volatility in the form of advance rates below that of Classic Advances.

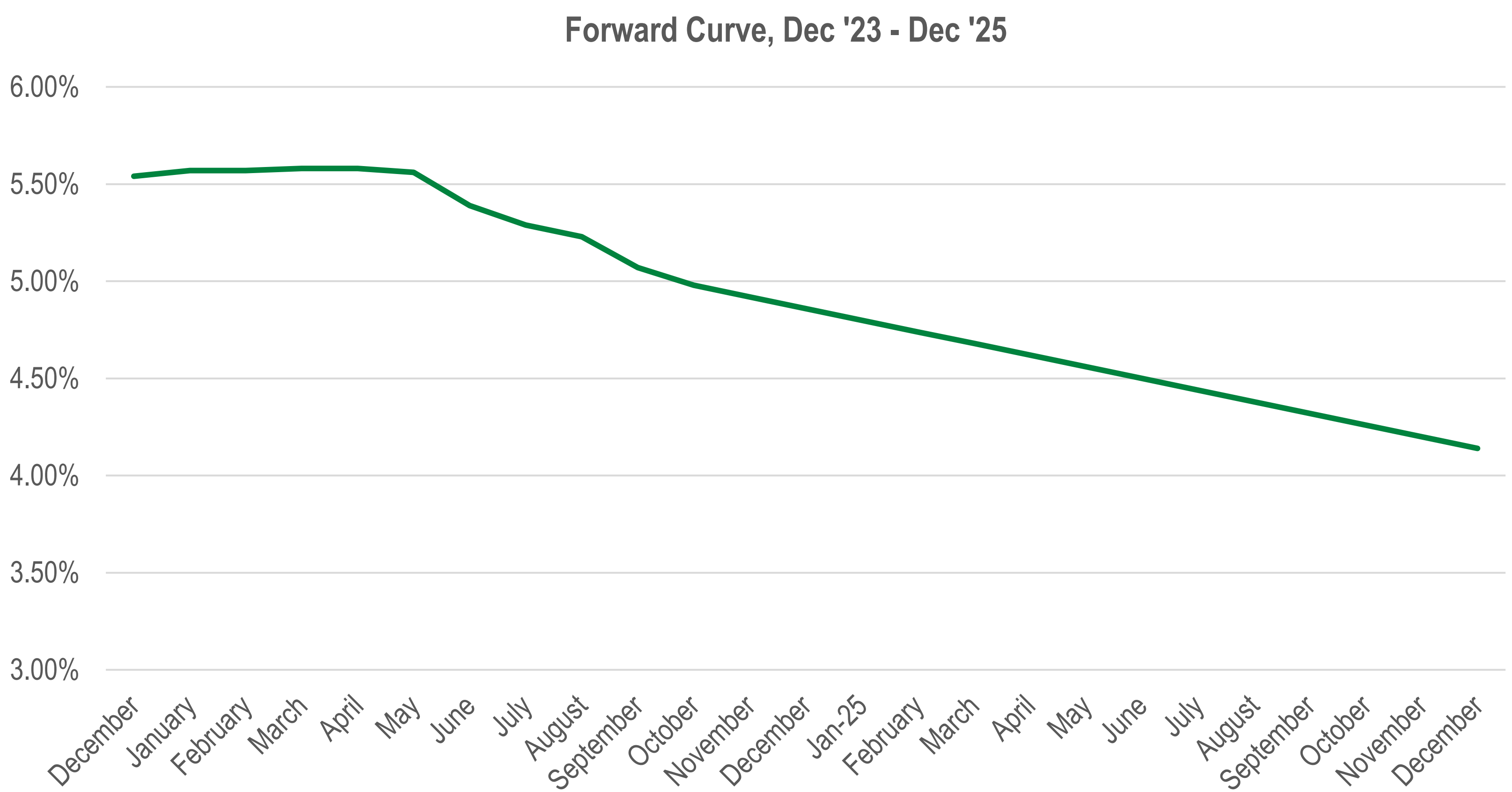


Potential HLB-Option Advance Use Cases
Marginal Cost of Funds deposit defense
Funding positively convex (i.e. little prepay risk) assets
Blended investment leverage strategies
Use of longer lockouts to reduce liability sensitivity
Reduced potential interest expense in “soft landing” scenarios

Source: FHLBank Boston

Forward Curve

Through forward rate estimates, FHLBank's pricing implies that short-term advances will drop in 3Q 2024 and bottom out around 4.00% at the end of 2025.



Source: FHLBank Boston

Roll Short or Ladder Long?

Which strategy ultimately produces the lowest cost of funds depends upon how reality lines up with current expectations.

If no cuts are on the horizon, longer-term advances are attractive. If bigger and/or faster cuts materialize in latter 2024 and 2025, rolling short will be most rewarding in the long run.

Rolling Short-Term Advances

Static Rates	2024	2025
1-mo	5.54%	5.54%
3-mo	5.56%	5.56%
6-mo	5.57%	5.57%
	5.56%	5.56%

Forward Curve Estimate	2024	2025
1-mo	5.25%	4.28%
3-mo	5.16%	4.35%
6-mo	5.25%	4.23%
	5.22%	4.29%

Deeper Cuts	2024	2025
1-mo	5.15%	3.65%
3-mo	5.09%	3.50%
6-mo	4.95%	3.37%
	5.06%	3.51%

Laddering Long-Term Advances

Static Rates	2024	2025
1-yr Classic	5.36%	5.36%
2-yr Classic	4.98%	4.98%
3-yr Classic	4.78%	4.78%
	5.04%	5.04%
Difference	0.52%	0.52%
Winning Strategy?	Long	Long

Forward Curve	2024	2025
1-yr Classic	5.36%	4.22%
2-yr Classic	4.98%	4.98%
3-yr Classic	4.78%	4.78%
	5.04%	4.66%
Difference	0.18%	0.37%
Winning Strategy?	Long	Short

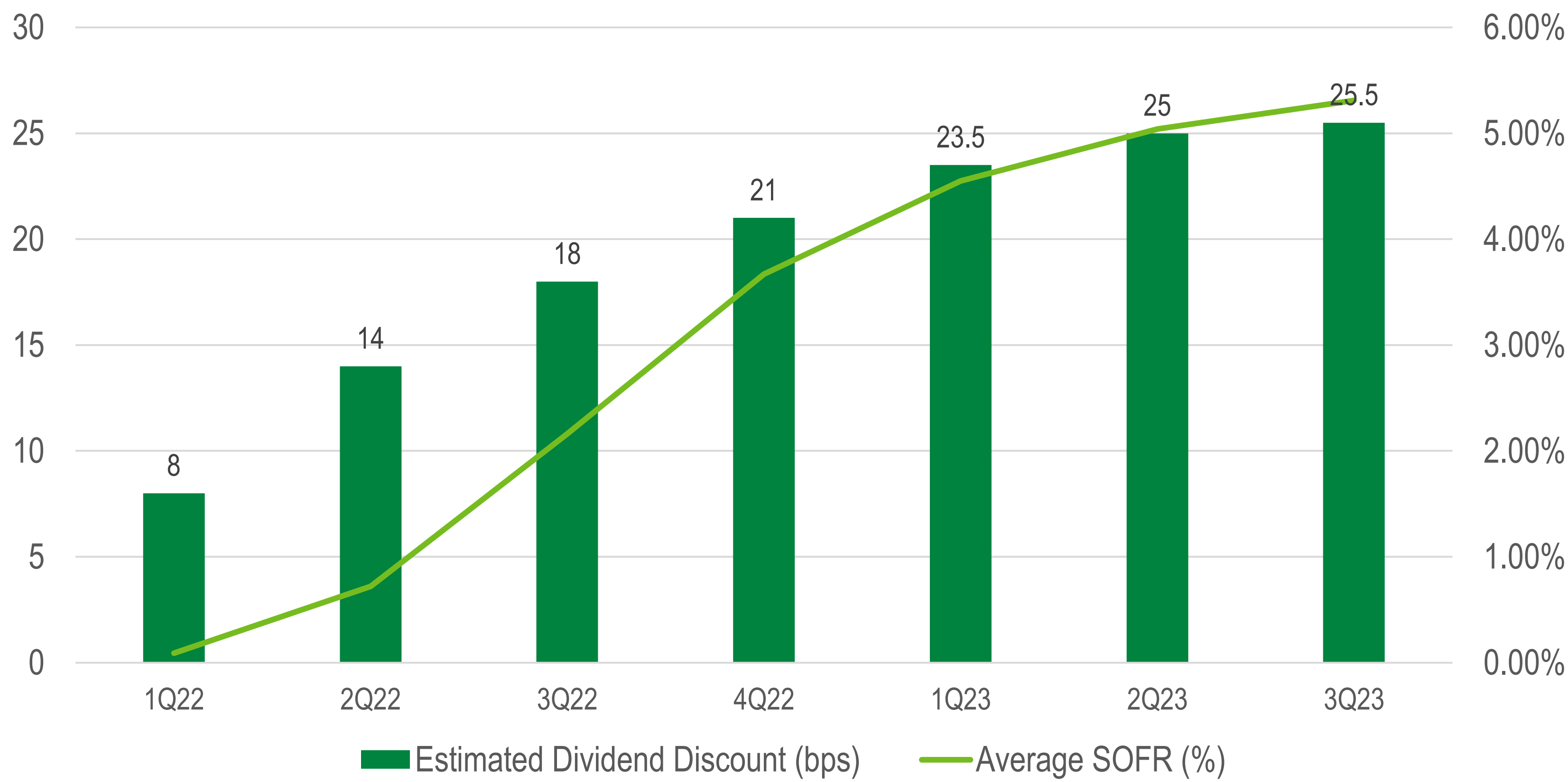
Deeper Cuts	2024	2025
1-yr Classic	5.36%	3.54%
2-yr Classic	4.98%	4.98%
3-yr Classic	4.78%	4.78%
	5.04%	4.43%
Difference	0.02%	0.93%
Winning Strategy?	Long	Short

Source: FHLBank Boston

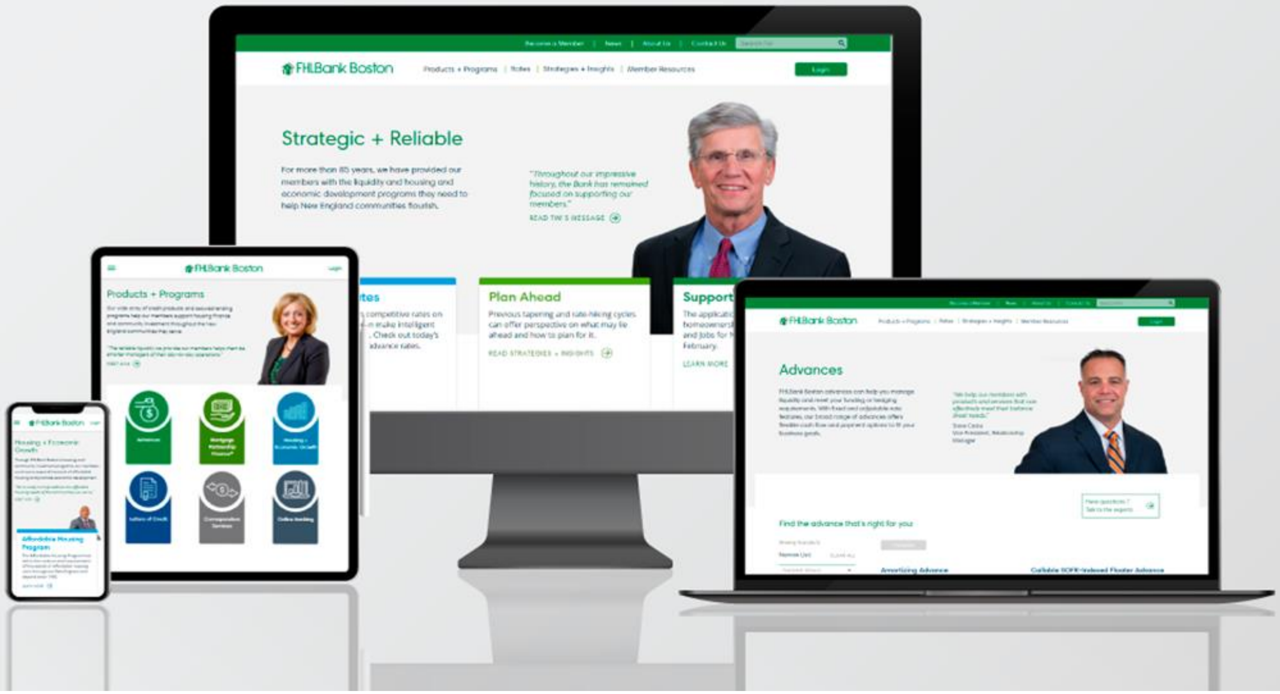
Estimated Value of FHLBank Dividends

As rates have risen, so too has the dividend on capital stock – and the estimated value of that dividend relative to advances pricing.

In 3Q, the estimated value of the dividend was up to 25.5 bps.



Source: FHLBank Boston



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