ALM & Funding Strategies for the Current Environment

FHLBank Boston

Strategic partnerships. Reliable funding.

September 28, 2023

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Presenters

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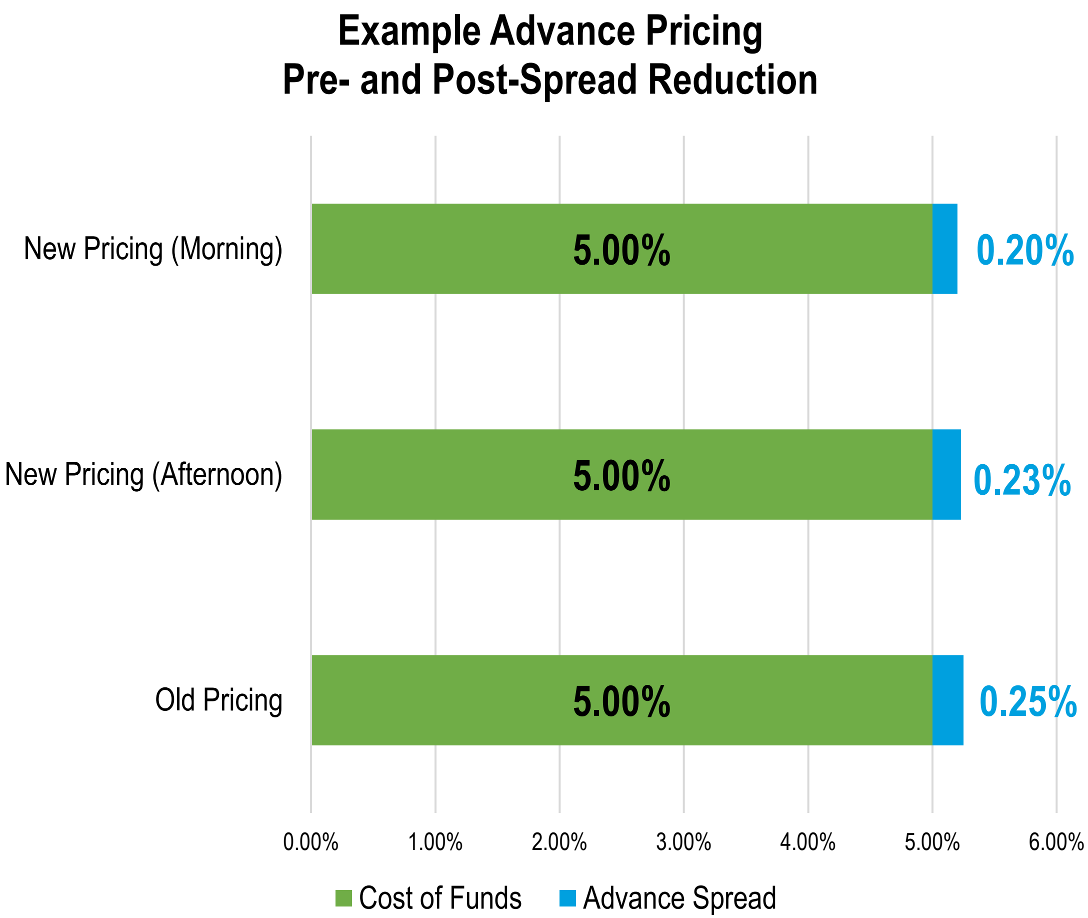
Overview

- Economic Considerations
- 30k Foot Perspective
- Deposit Pricing Strategies
- Assessing Growth for the Asset Side of the Balance Sheet
- Funding- Fixed or Floating?
- Ideas for Advances
- Q&A

FHLBank Boston Happenings

Lower rates, educational sessions and networking events



Upcoming Events

Tuesday, October 24
Webinar: Commercial Real Estate (CRE) Update with Colliers

Thursday, November 2
In-person: CEO/CFO Roundtable (Newton Marriott, Newton, MA)

Wednesday, November 15
Webinar: Peer Analytics & Balance Sheet Strategies

Economic Considerations

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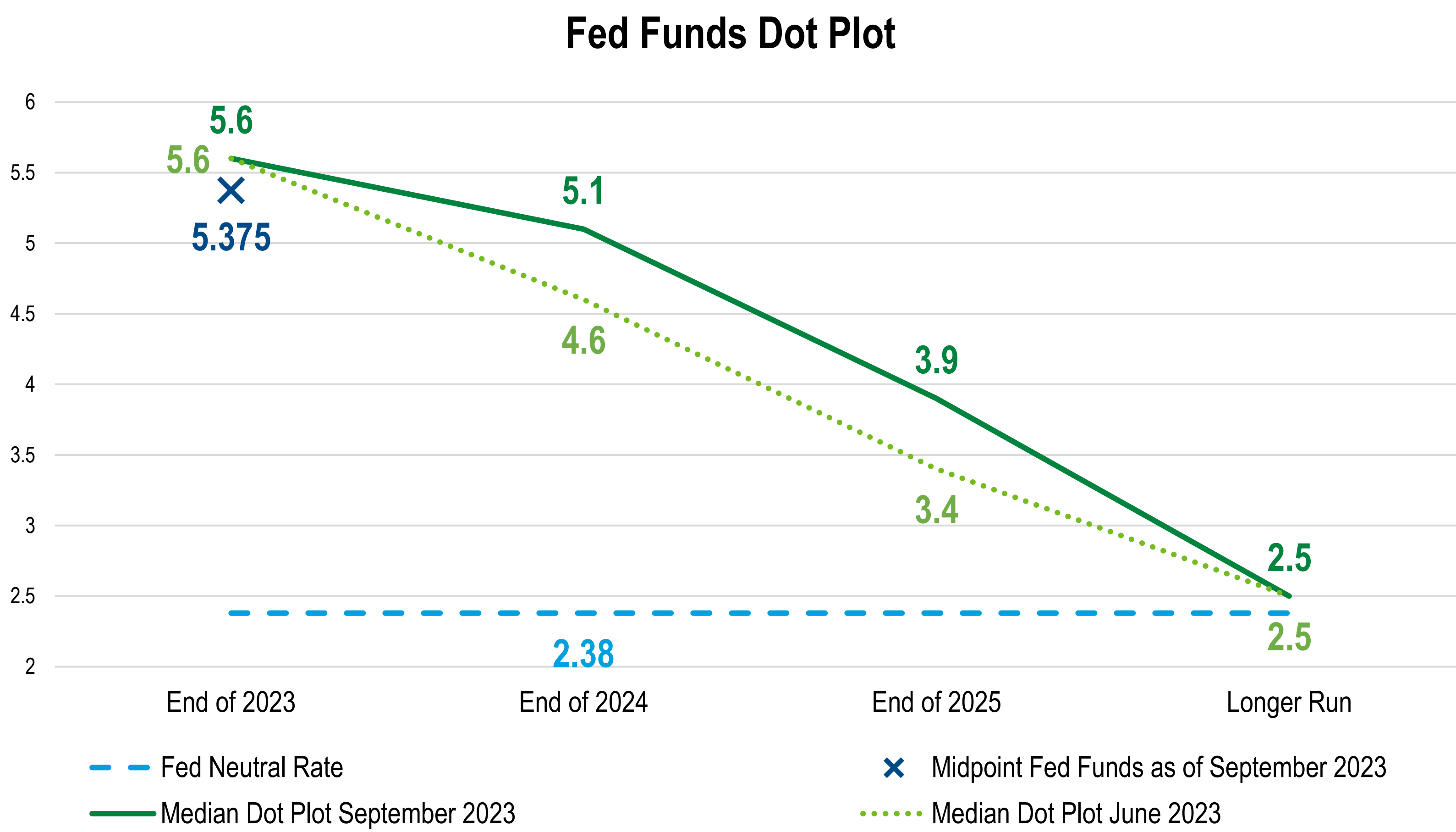
What are the Fed's Projections for Short-Term Rates?

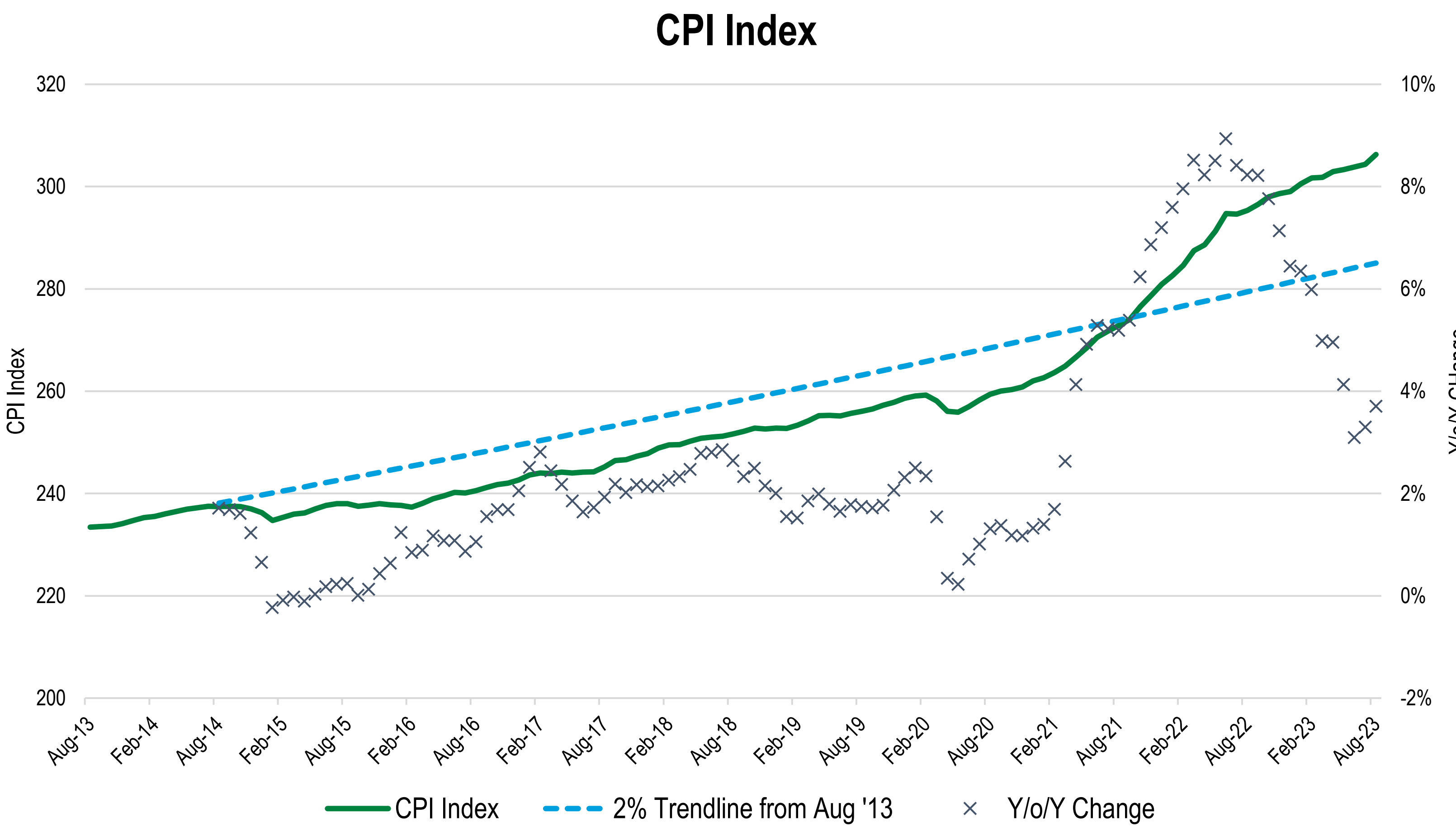
No change to the 2023 year-end dot plot, but there was a bump in the 2024 and 2025 forecasts. The possibility of higher for longer continues to make its way into expectations.



Source: Federal Reserve, FHLBank Boston

Is the Fight Against Inflation Almost Over?

Last month's reading came in higher than expected, which helped support the higher for longer narrative. While the headline number is coming down, the compounding effect still creates challenges for the consumer and businesses.



Source: U.S. Bureau of Labor Statistics, FHLBank Boston

30k Foot Perspective

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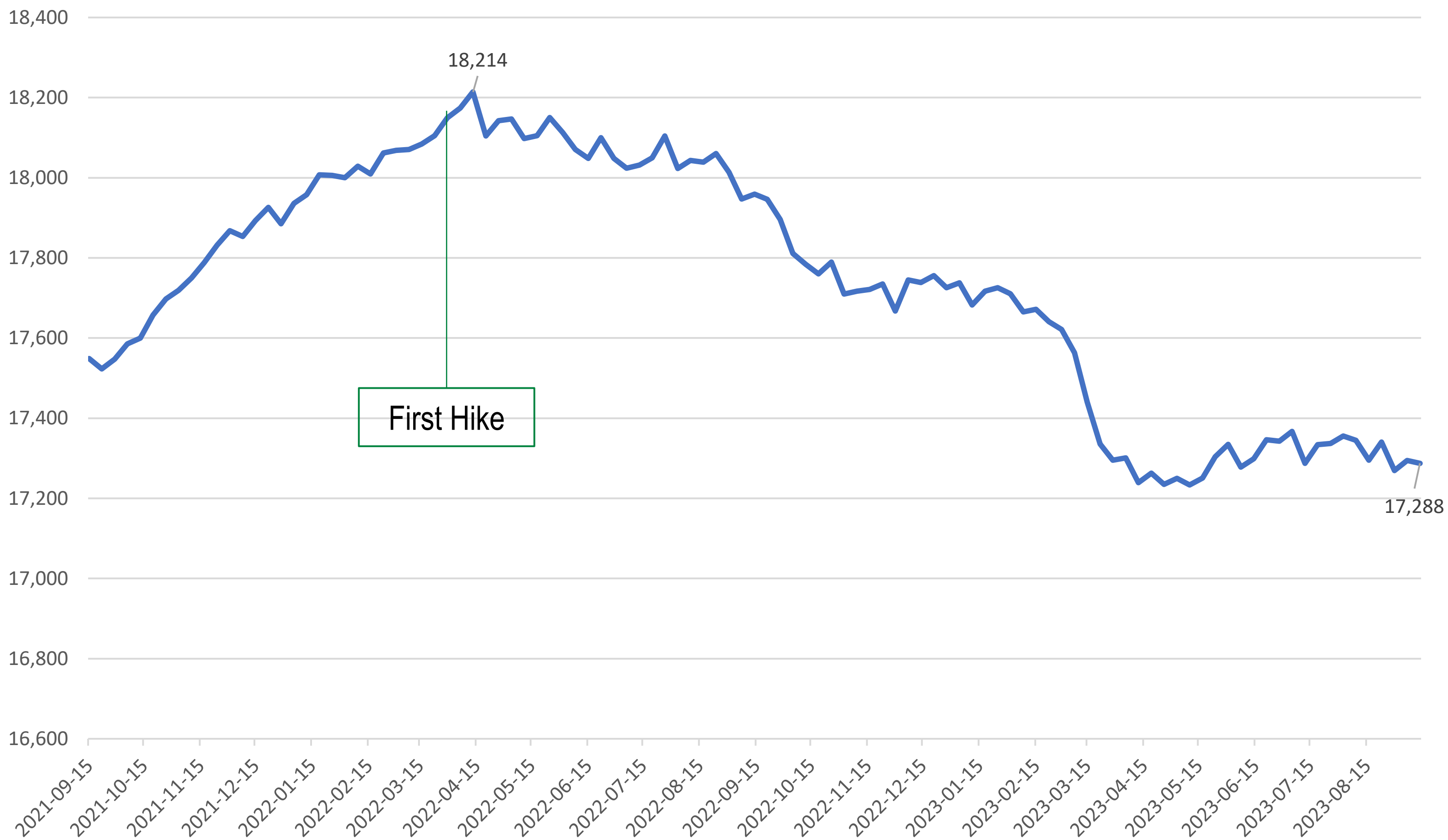
Industry Deposits

Total commercial bank deposits peaked just after the first FOMC hike. For the past five+ months, they have stabilized.

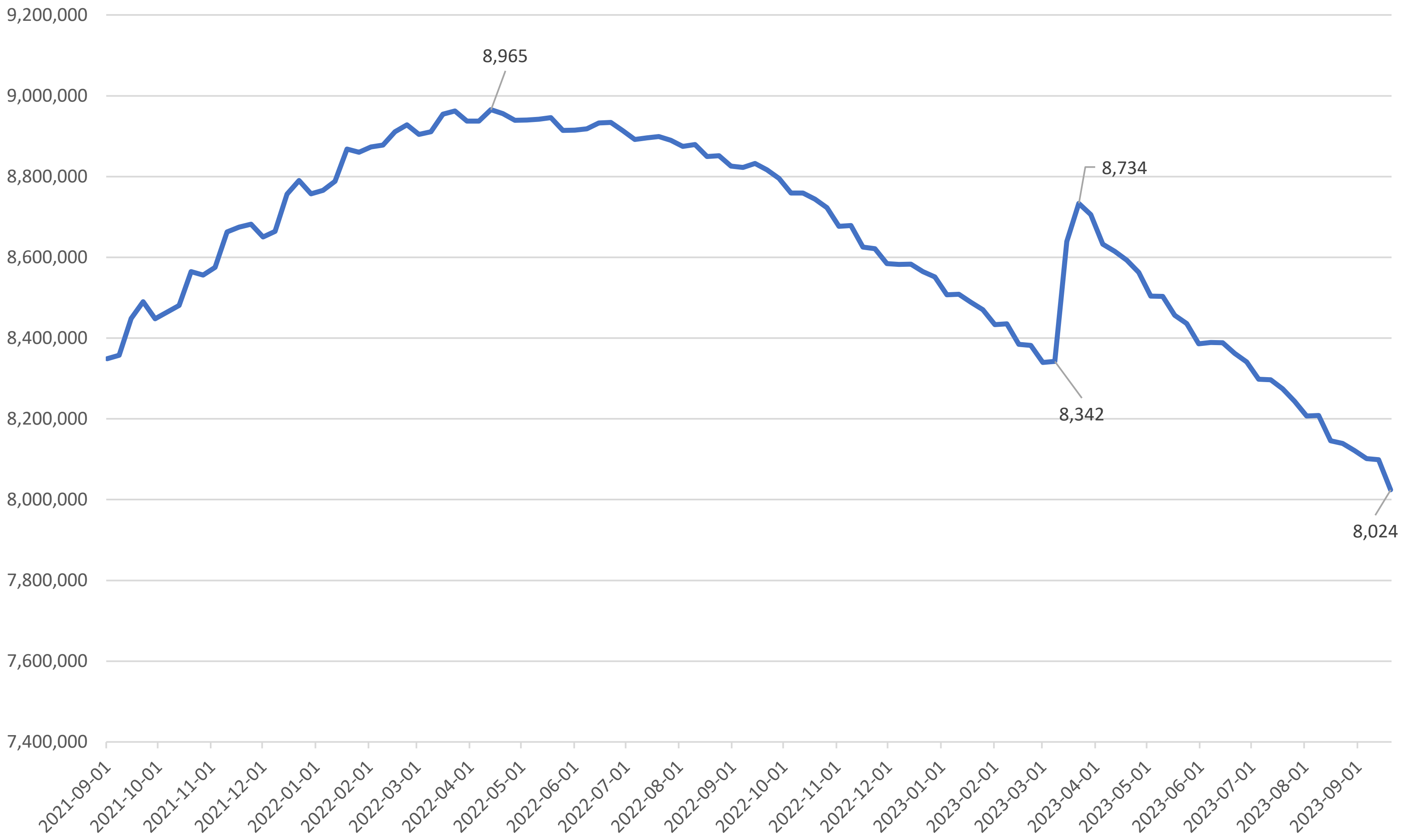


Source: Federal Reserve Bank of St. Louis

Fed Balance Sheet

The Fed balance sheet peaked with industry deposits.

After a brief spike in March due to the bank runs, it has resumed its decline largely because of reverse repo facility runoff.

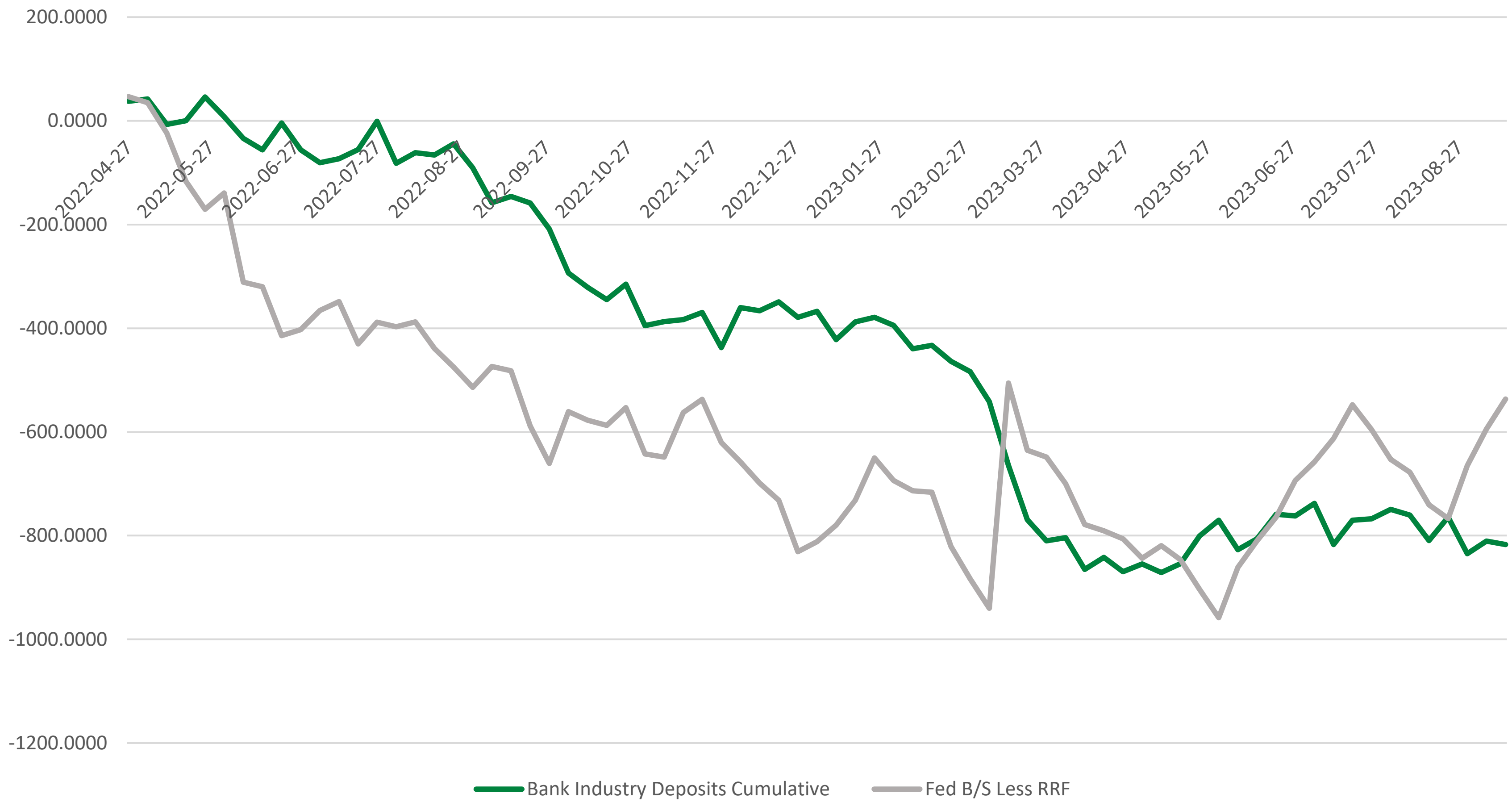


Source: Federal Reserve Bank of St. Louis

Fed Actions Correlated to Industry Deposits

Since late April 2022, total commercial bank deposits have dropped along with the Fed's balance sheet.

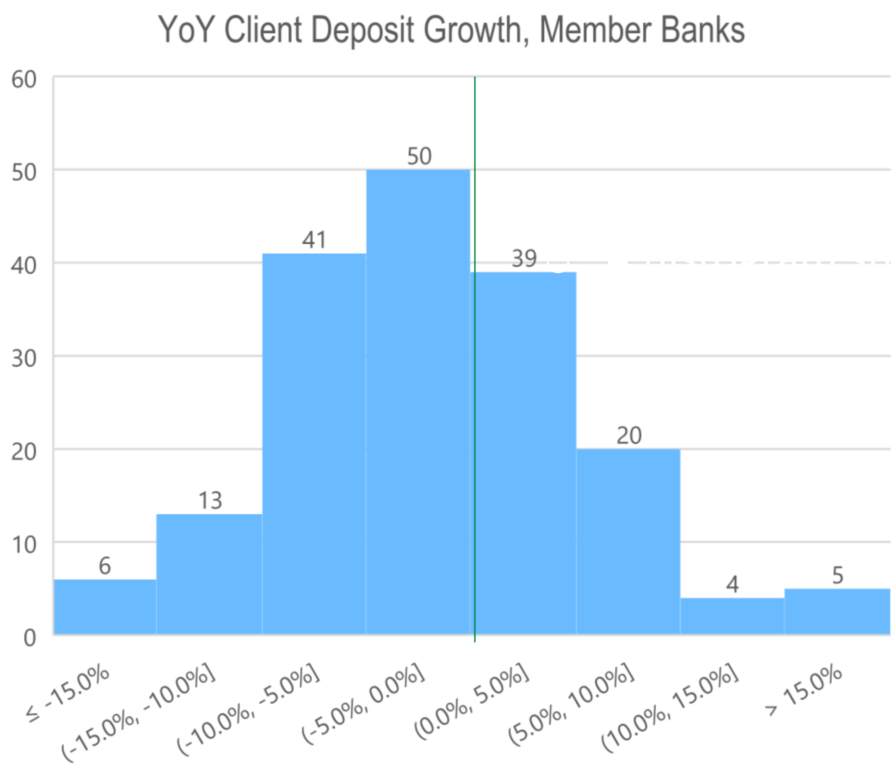
Statistically, the correlation coefficient for these data is 0.744, for an r^2 value of 0.554. From that, it could be reasonably inferred that most bank deposit declines can be explained by quantitative tightening.

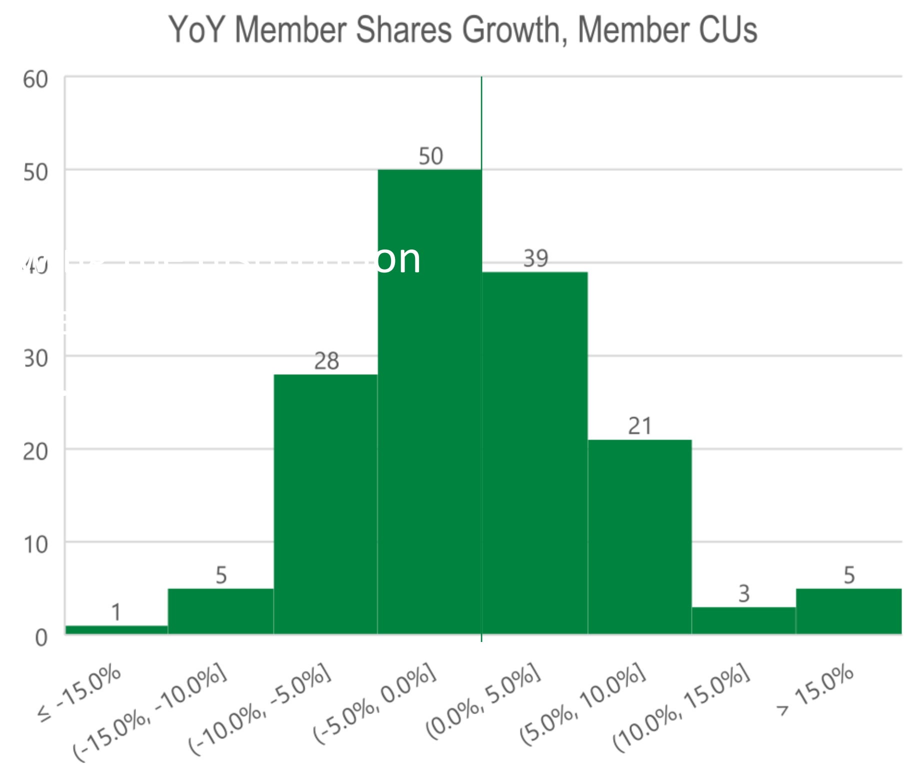


Source: Federal Reserve Bank of St. Louis, FHLBank Boston

Deposits in the Past Year

Approximately 59% of total member depositories have lower deposits/shares YoY.





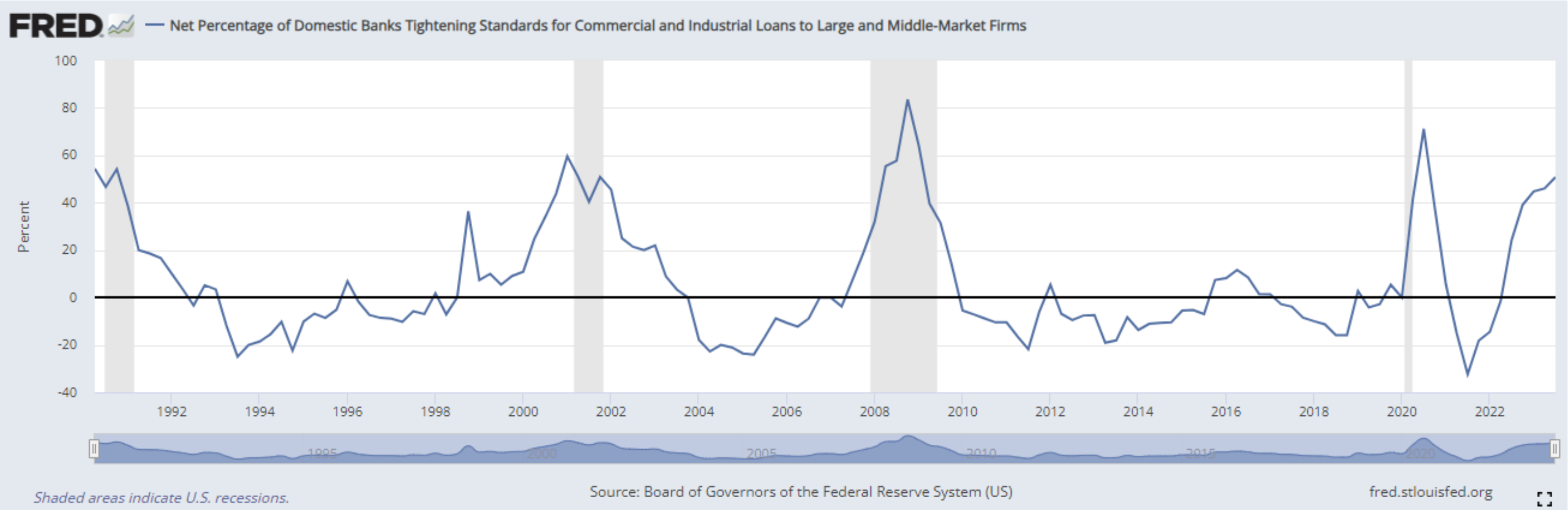
62% of member banks have lower YoY deposits

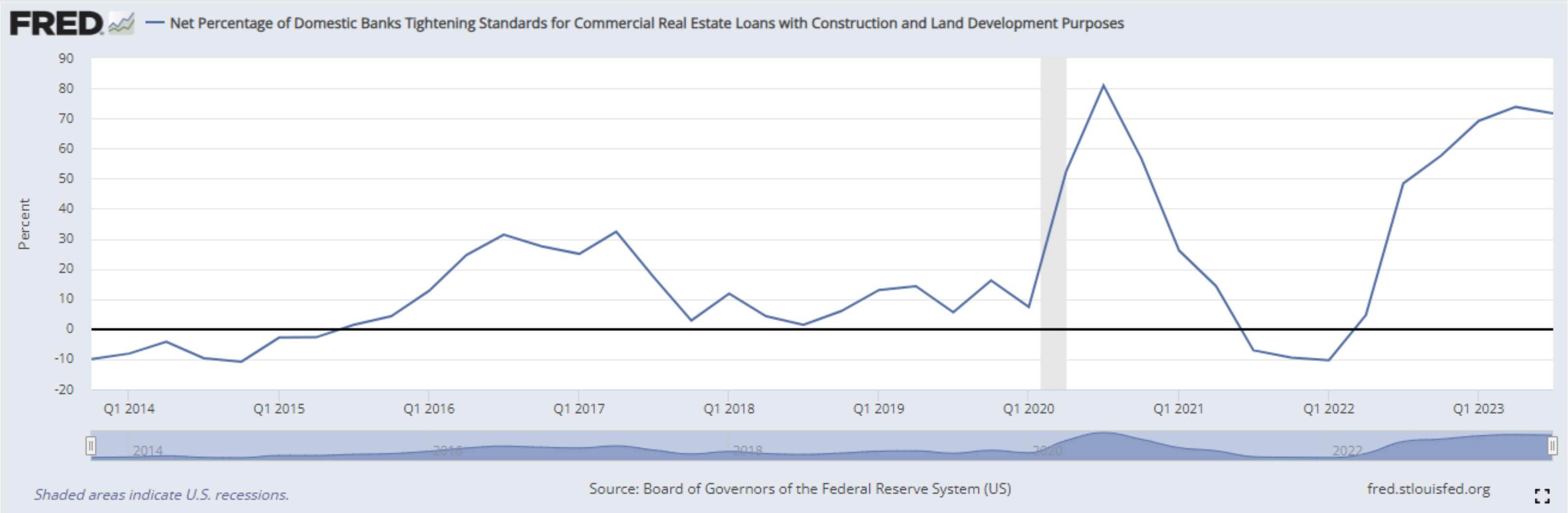
55% of member CUs have lower YoY deposits

Source: S&P Global, FHLBank Boston

Tightening Lending Standards

Quarterly Senior Loan Officer Survey shows banks tightening lending standards in Commercial & Industrial and CRE + Construction to levels that have been recessionary in the past.





Source: Federal Reserve Bank of St. Louis

Deposit Pricing Strategies

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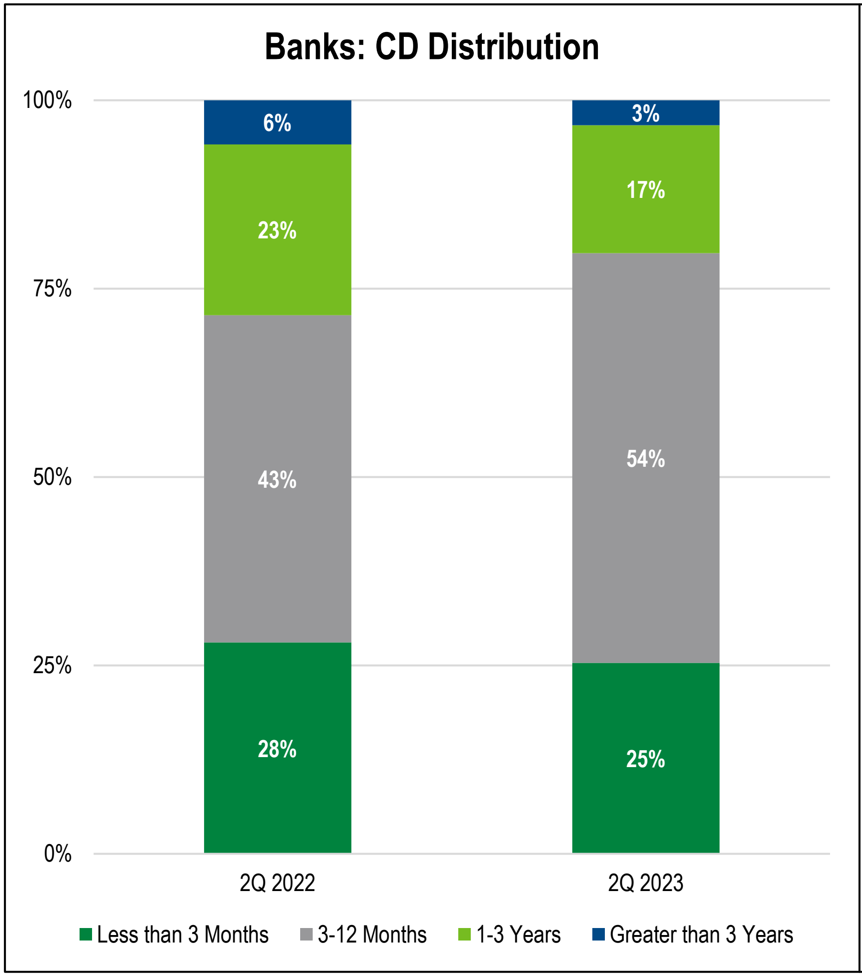
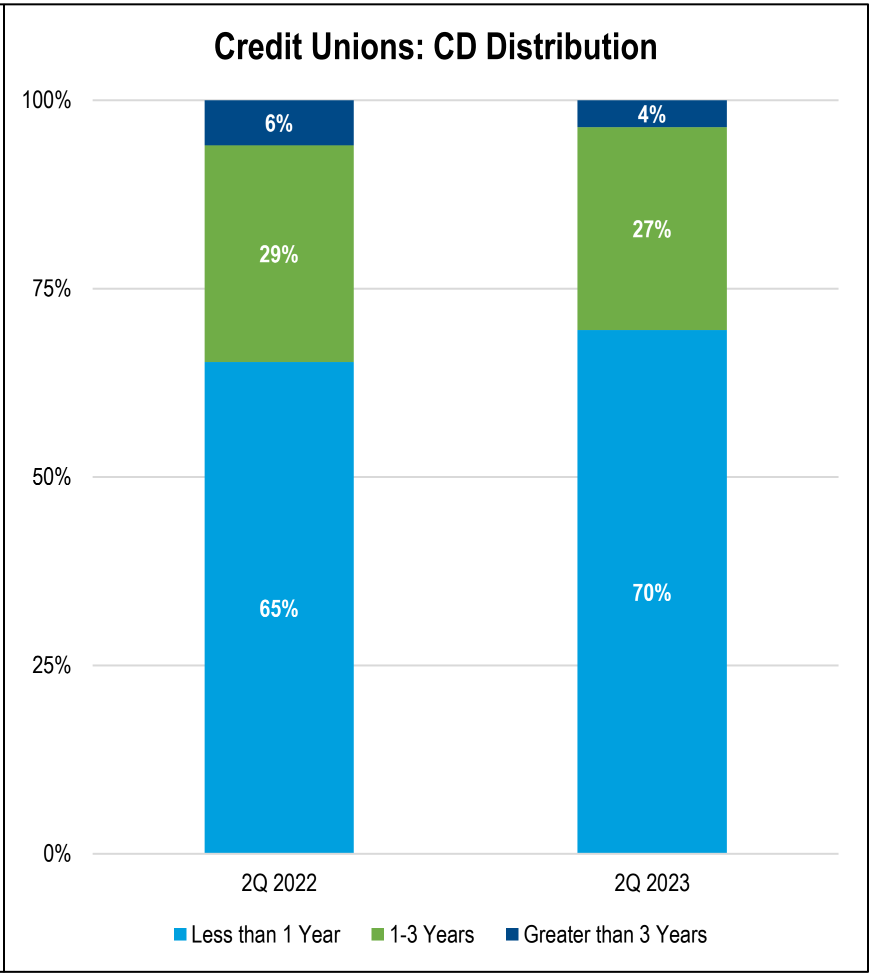
Maturity Distribution of CDs

As CDs became a bigger piece of the funding pie (y/o/y growth of 37% and 64% for banks and credit unions, respectively), the maturity profile got shorter and shorter, applying further pressure to interest-rate sensitivity metrics.

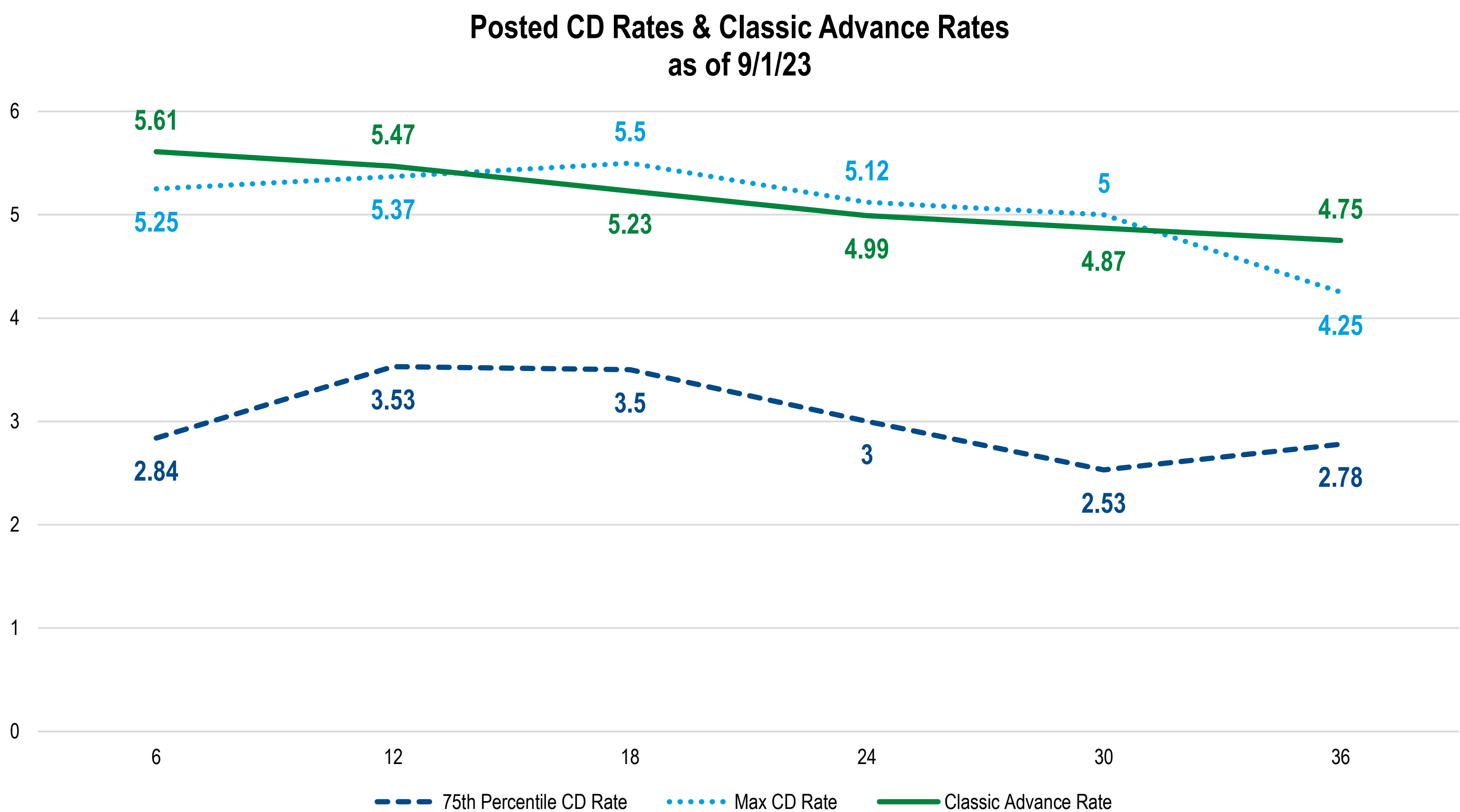




Source: S&P Global, FHLBank Boston

The Shape of the Yield Curve(s)

Inverted yield curves tend to create a challenging backdrop for gathering retail time deposits, but the absolute level of rates may offset that dynamic.



Source: S&P Global, FHLBank Boston

Deposit Considerations in this Unique Environment

The last year has been one of the most challenging times to retain and grow deposits, and the path and level of interest rates do not appear to be providing significant relief any time soon.

- **Test the waters on longer CDs?**
  - Differentiation from all the other "4.75% for *only* 5 months" specials out there
- **Track and identify your Marginal Cost of Funds**
  - It doesn't take much drift from existing funds to make advances more cost-effective
- **Non-traditional features?**
  - Step-ups, teaser rates, no-cost withdrawals- what moves the needle for your customers?
- **Position Sizing and Balance Sheet Synchronization**
  - More CD reliance means more consideration for replacement strategies, syncing up with projected asset cash flows (and additions)

Assessing Growth for the Asset Side of the Balance Sheet

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To Grow or Shrink?

Budget season is coming up -- should depositories GROW or shrink or try to stay the same?

Assessing the Value of Growth

Capital

- Limiting capital ratio and target range
- Peer analysis

Risk Guidelines

- Asset-based liquidity
- Liability-based liquidity
- Contingent liquidity

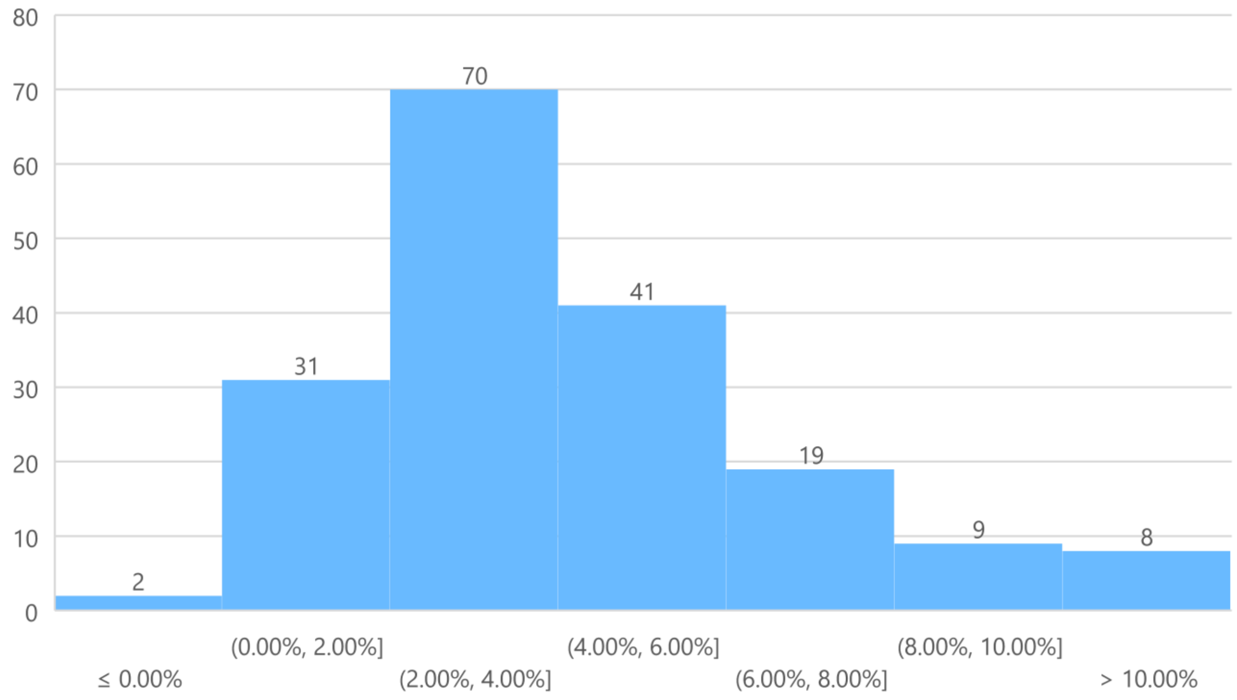
Profitability

- Specific assets, liabilities
- Non-interest income, expense
- ROA, ROE

Excess Capital, Banks

As of 2Q23, member banks are limited by different ratios; more commercial-heavy lenders are typically limited by Total Capital.

The mean percentage points above "well-capitalized" is 4.30% and the median is 3.52%.



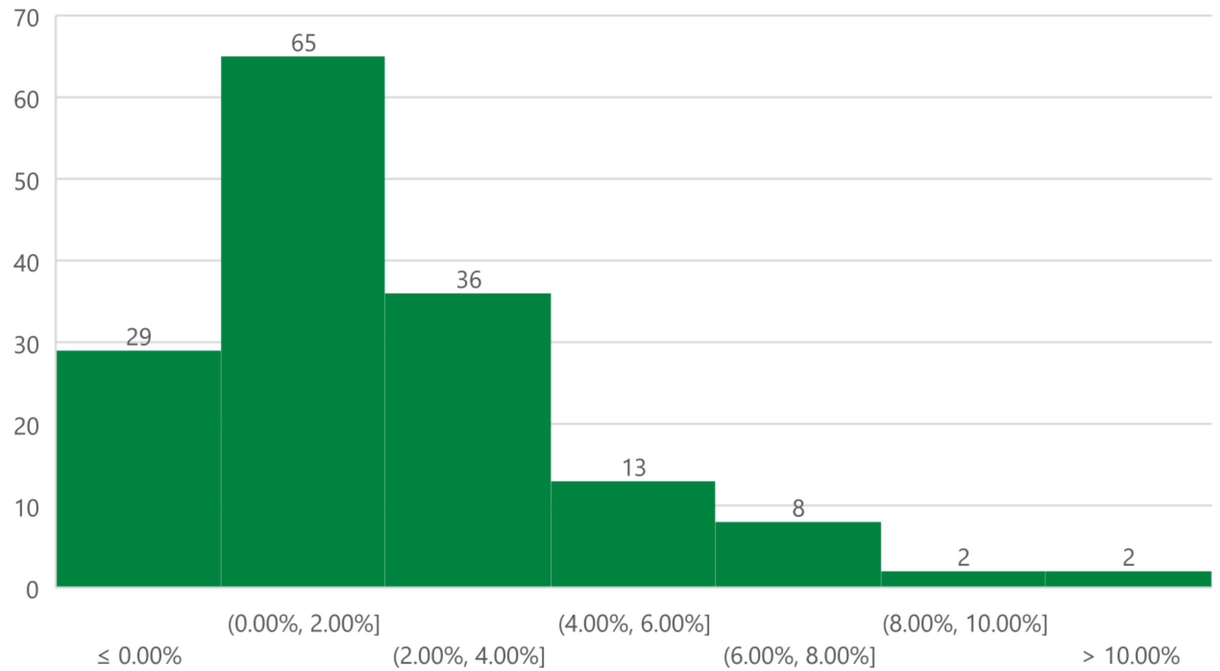
Limiting Ratio	No. of Banks
CBLR	53
Tier 1	59
Total Capital	68

Source: S&P Global, FHLBank Boston

Excess Capital, Credit Unions

Member credit unions are most limited by CCULR and Net Worth ratios. Importantly, “well-capitalized” for credit unions on Net Worth is 7% vs. 5% on the similar Tier 1 Leverage ratio for banks.

The mean percentage points above “well-capitalized” is 2.01% and the median is 1.53%.



Limiting Ratio	No. of Banks
CCULR	127
Net Worth	26
Total Capital	2

Source: S&P Global, FHLBank Boston

Ideas for Integrated Guidelines

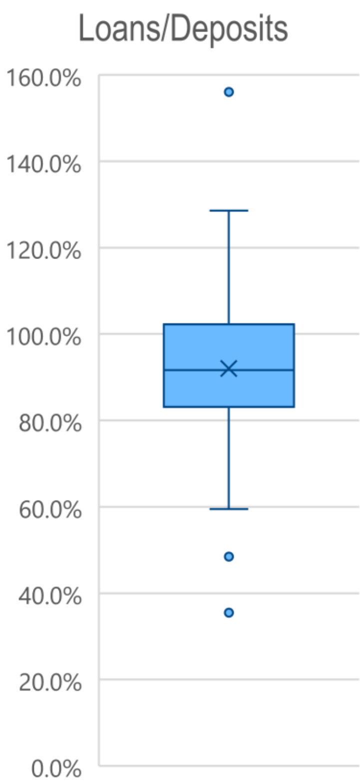
Depository guidelines all influence each other. Calibrating them based on overall strategy and client verticals could allow for a good balance of risk and reward.

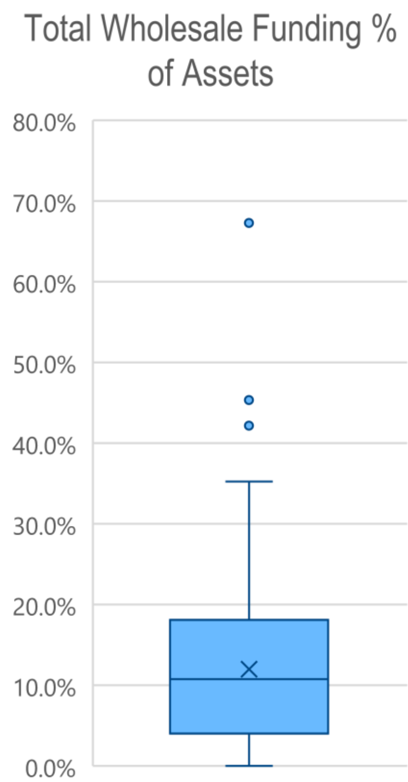
Capital Ratios	**Minimums** = Well-capitalized levels + internal buffer, TCE > 0 + internal buffer **Target** = ranges based on institution stress tests + peer analysis, primarily determined by credit risk
Loans/Deposits	**Maximum** = 100% + risk tolerance of maximum borrowings **Target** = Based on business strategy + client verticals; higher uninsured deposits or higher concentrated deposits argue for a lower ratio; size of levels between risk categories within institution-specific borrowing structure
Asset-Based Liquidity Ratios	**Minimum** = Adequately-capitalized thresholds **Target** = Inversely related to Loans/Deposits
Borrowing Capacity	**Minimum** = Percentage of deposits at fluctuation risk + near-term asset funding (loan pipeline + line drawdowns) **Target** = Minimum + buffer to handle outsized deposit changes + buffer to handle collateral valuation changes
Wholesale Funding	Could break out brokered deposits separate from borrowings because of regulatory treatment, slower funding horizon, and correlation with other risks **Maximum** = Bounded by risk tolerance on Loans/Deposits + Liquidity Ratio and institution-specific structure

Liquidity Metrics, Peer Comparisons

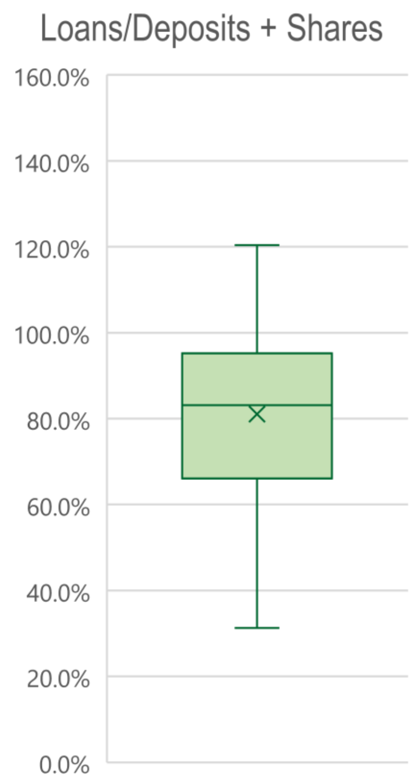
In the box-and-whisker charts below, the tops and bottoms of boxes are 75th and 25th percentiles of members, respectively. The center line is the median and the "x" is the mean. Dots are outliers.

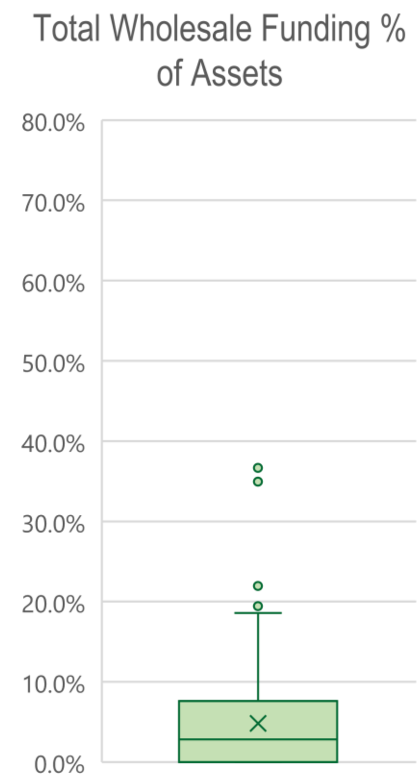
Banks





Credit Unions





Source: S&P Global, FHLBank Boston

How Profitable Are Loans?

With higher rates and widening market spreads, loan profitability could be attractive if depositories are comfortable with credit risk in an uncertain environment.

Residential Mortgage Profitability Estimate

Rate	**7.25%**
Option Cost	1.30%
Interest Rate Cost	4.10%
Liquidity Cost	0.35%
ALM Spread	1.50%
Operating Costs	0.25%
Operating Profit	1.25%
Taxes	0.31%
Net Profit	0.94%

Tier 1 Leverage Capital	5.00%
Internal Buffer	1.00%
Loss Reserve	0.60%
Unexpected Losses	1.80%
Composite Capital	8.40%
Economic ROE	**11.2%**

Commercial Loan Profitability Estimate

Rate	**7.75%**
Option Cost	0.50%
Interest Rate Cost	4.25%
Liquidity Cost	0.25%
ALM Spread	2.75%
Operating Costs	0.30%
Operating Profit	2.45%
Taxes	0.61%
Net Profit	1.84%

Tier 1 Risk Capital	8.00%
Internal Buffer	1.00%
Loss Reserve	1.25%
Tier 2 Capital	0.75%
Unexpected Losses	5.00%
Composite Capital	16.00%
Economic ROE	**11.5%**

Questions for Assessing Growth

- **Should we build capital, deploy capital, or hold steady?**
  - Capital can grow by ROA in one year
- **Are we approaching risk limits on liquidity metrics? Are the risk limits contemplated wholistically and calibrated appropriately?**
  - Are there unpledged assets that could enhance borrowing capacity?
- **Does estimated lending profitability justify using funding and capital?**
- **Are the biggest concerns ALM-related, or do they touch on a different part of the equation like non-interest items?**

How FHLBank Boston Fits Into the Strategy

Shrink

Sell Mortgages Through MPF

Grow

Maximize capacity, borrow to complement risk profile

Funding - Fixed or Floating?

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Float or Extend?

Floating

Fixed

SOFR-indexed 1-month term	S + 21	1-month bullet	5.50%
SOFR-indexed 3-month term	S + 21	3-month bullet	5.57%

Which should you borrow? Is there a clear better/worse option?

Advance rates presented are for illustrative purposes only and do not constitute an offer or any FHLBank expectations. Please call for current prices.

Apples-to-Apples

Compare structures on both a relative and absolute basis to triangulate value.

Relative Value

	Bullet	SOFR-Indexed
1-month	S + 17	S + 21
3-month	S + 16	S + 21

- Subtracting **1-month** Term SOFR of 5.33% from the 5.50% 1-month bullet results in a spread of **17 bps**
- Subtracting **3-month** Term SOFR of 5.41% from the 5.57% 3-month bullet results in a spread o **16 bps**
- Bullets are cheaper

Absolute Value

	Bullet	SOFR-Indexed
1-month	5.50%	5.51%
3-month	5.57%	5.51%

- The bullet's price is still cheaper than the floating
- The 3-month Floater is cheaper on Day One, however
  - If there is no hike over the 3-month horizon, then the Floater will be cheaper
  - If there is a hike, the bullet will likely be cheaper

Advance rates presented are for illustrative purposes only and do not constitute an offer or any FHLBank expectations. Please call for current prices.

Questions to Decide

Making the right call for your institution could emerge from asking the right questions.

- **How long are we going out, ultimately?**
  - If only one month in this example, the bullet is best. If longer, consider other questions.
- **What do we think is going to happen at upcoming FOMCs?**
  - Understand what the market is pricing in for odds of a hike and recognize those conditions are baked into the bullet price. If you have a strong view one way or another, this opinion could be decisive on its own.
- **How closely do we want to monitor this and incur operation risk or administrative work?**
  - Floaters could be a good option versus manually rolling bullets to limit the chances of having an issue one day. Rolling bullets, especially at markdown times, requires being more on the ball.
- **Do I have a hedging strategy or guideline that encourages one option or another?**
  - SOFR Floaters are a great fit to mitigate the chances for hedge ineffectiveness against SOFR-indexed swaps.
  - Some organizations have guidelines that encourage longer-term funding.

Ideas for Advances

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Different Solutions for Different Objectives

Interest-rate risk mitigation, funding cost relief, control of cash flows- the robust lineup of advance types affords options to meet the need(s) of your balance sheet.

HLB-Option Advance

- Fixed; *sell* option to lower the rate

SOFR Flipper Advance

- Float to Fixed; *sell* option to lower the rate

Member-Option Advance

- Fixed; *buy* option to capture down-rate flexibility

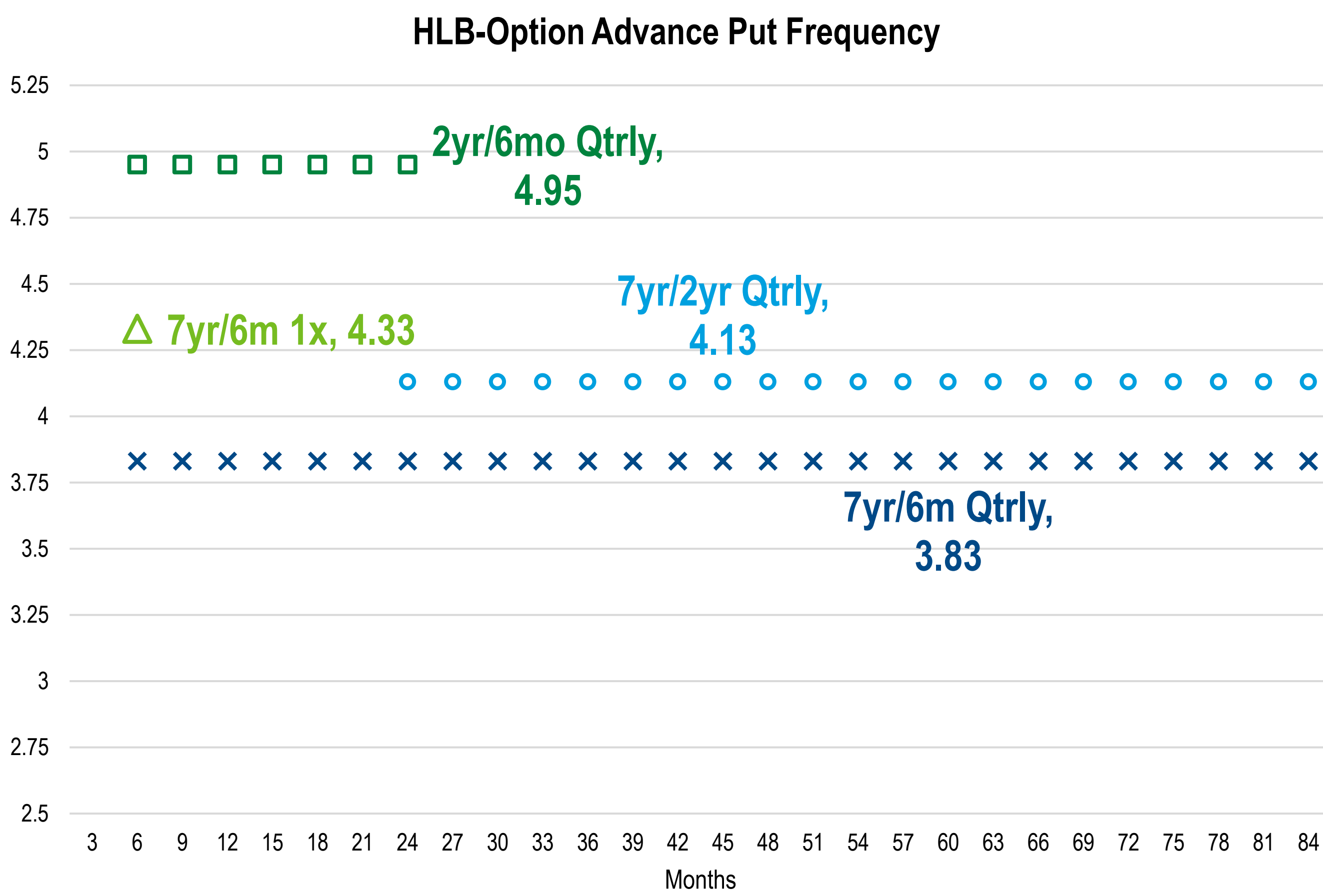
Symmetrical Prepayment Advance

- Fixed; *buy* option to capture up-rate flexibility

HLB-Option Advance

Because the member is selling the optionality, certain features (longer maturities, shorter lockouts, higher frequency, higher volatility) will typically lead to that option having more value, reducing the rate.

Factors that Can Lead to Lower Rates on HLB-Option Advances
More Frequent Puts vs. Less Frequent Puts
Shorter Lockout Period vs. Longer Lockout Period
Longer Stated Maturity vs. Shorter Stated Maturity
Higher Levels of Interest-Rate Volatility

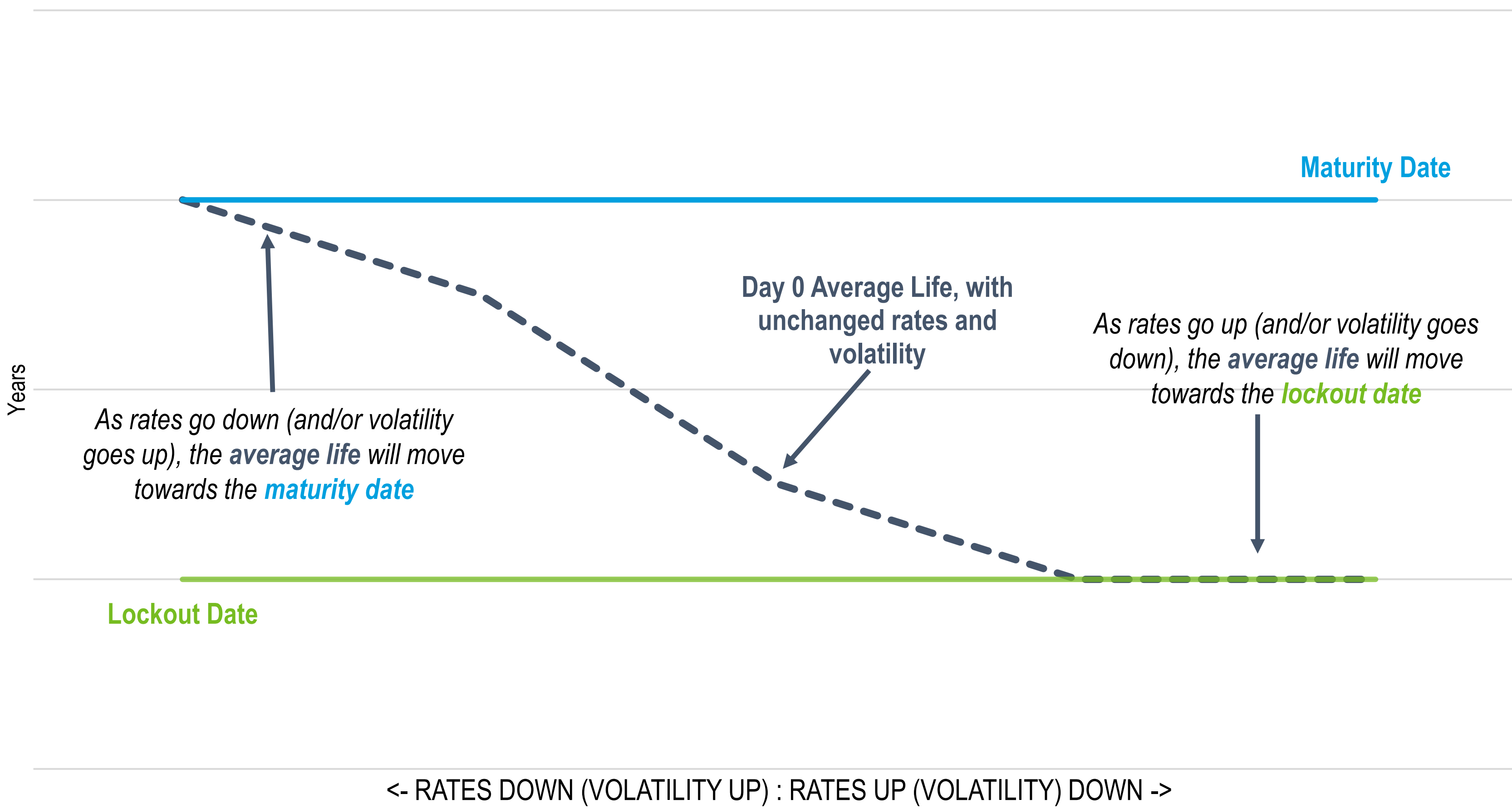


Source: FHLBank Boston

What Does the Cash Flow Profile Look Like?

The average life can extend and contract, like a mortgage loan or mortgage-backed security, as interest rates and interest-rate volatility change over time.

Example Instantaneous Rate Shock: HLB-Option Advance

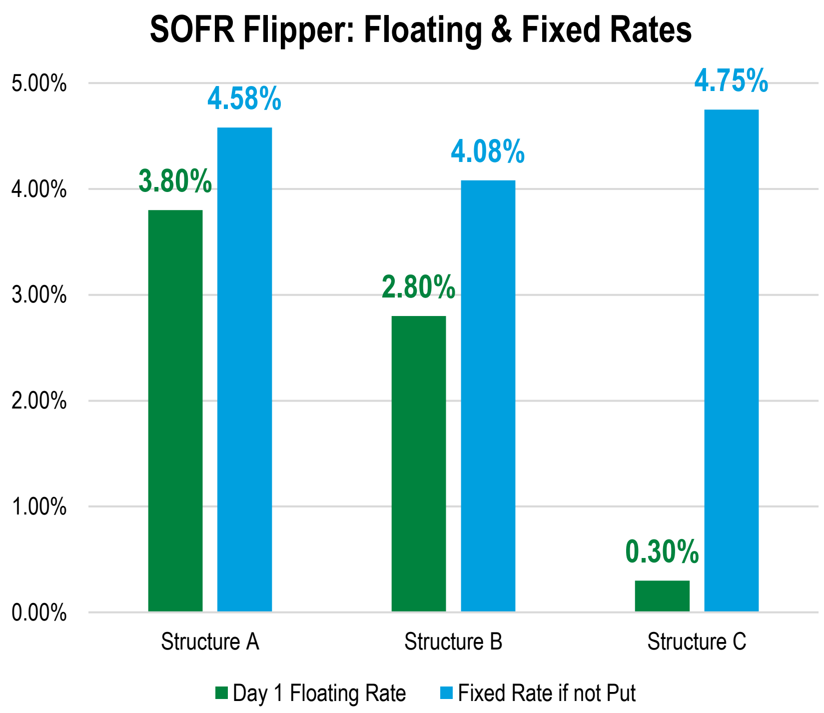


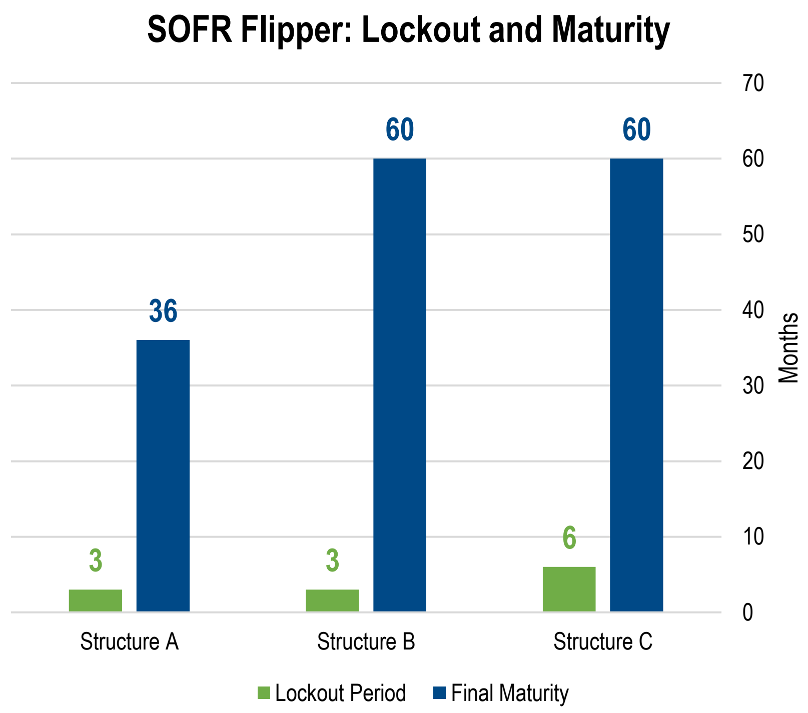
Source: FHLBank Boston

SOFR Flipper Advance

A “cousin” to the HLB-Option Advance- key difference is an initial floating period at a discount to SOFR.

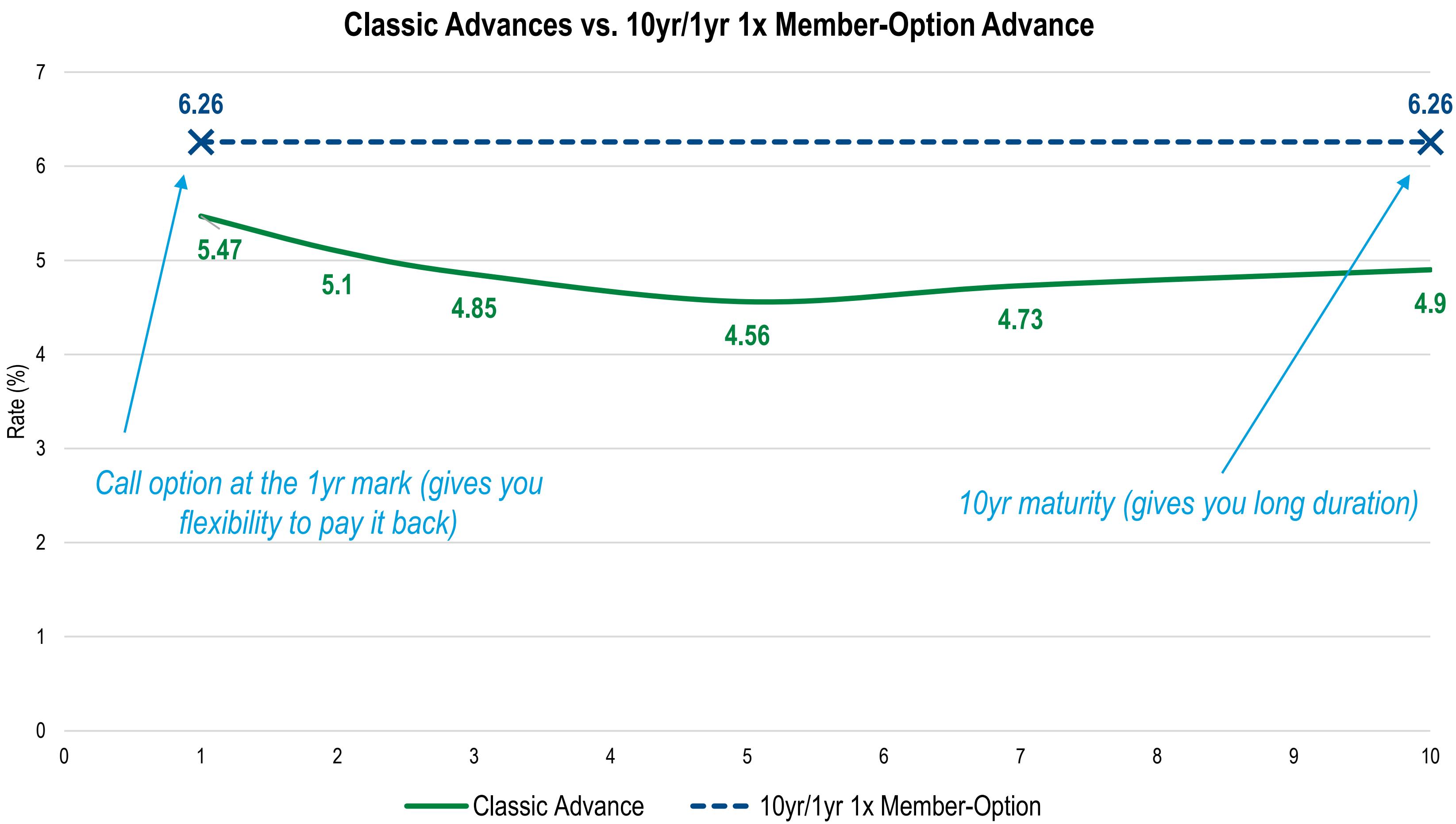
Structure A	Structure B	Structure C
3yr Maturity, 3mo Lockout SOFR less 150 Floating 4.58% Fixed Rate	5yr Maturity, 3mo Lockout SOFR less 250 Floating 4.08% Fixed Rate	5yr Maturity, 6mo Lockout SOFR less 500 Floating 4.75% Fixed Rate





Member-Option Advance

Control the cash flows by tailoring the a) maturity, b) lockout period, and c) call frequency to your needs.



Efficient Interest-Rate Risk Mitigation

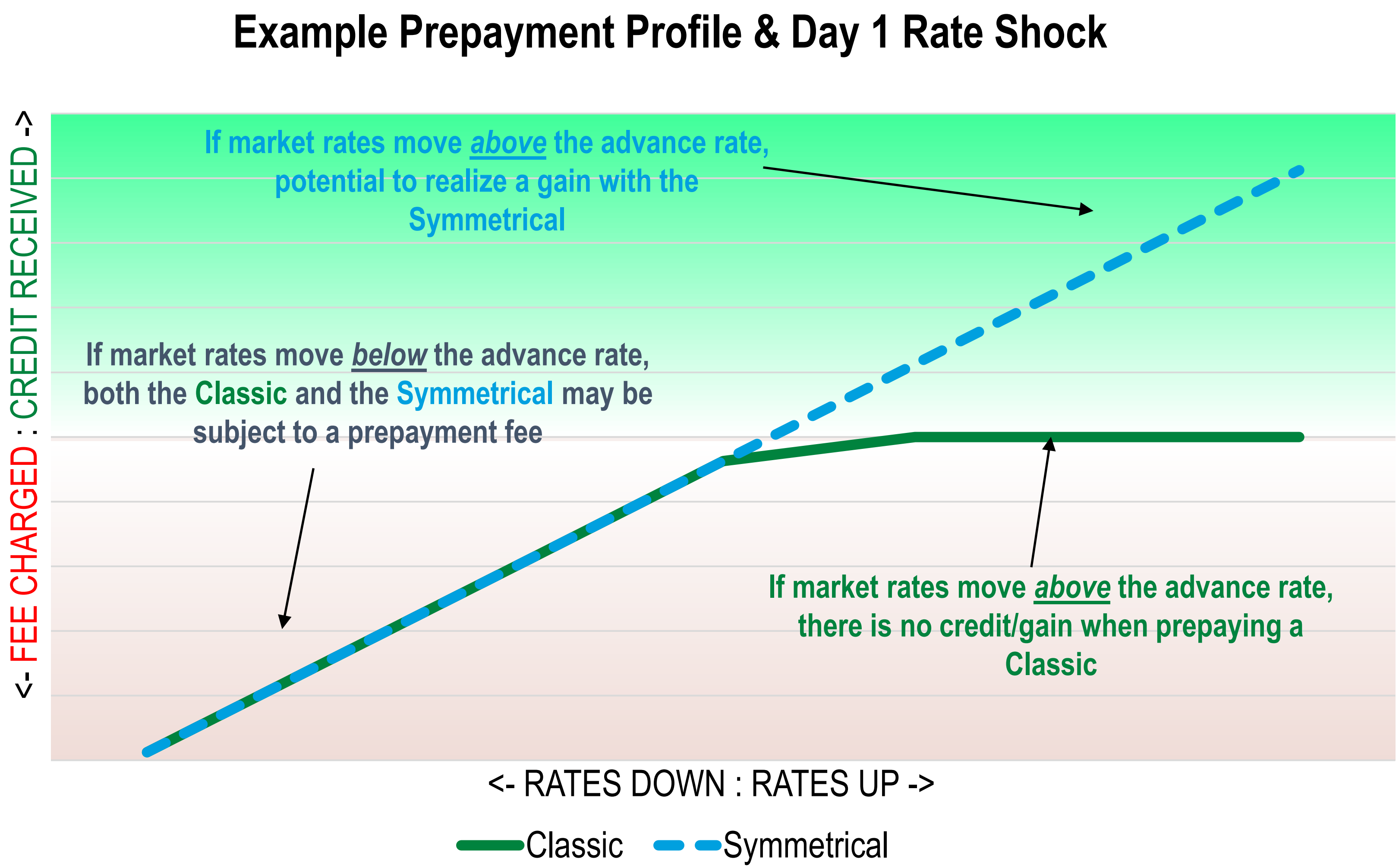
Dampen exposure to EVE/NEV, with less principal required compared to borrowing in the belly of the curve, while still retaining flexibility.

10yr/1yr 1x Member-Option Advance	To match the **duration** benefits, how much in Classic Advances would be required?	What would be the **interest expense** for using Classics to get the same duration benefits?
• $10 million par amount • 6.26% rate • 7.58 Duration • $7,577 Dollar Value of One Basis Point (DV01) • $634,694 Annual Interest Expense	• 1yr: $77 million • 2yr: $39 million • 3yr: $27 million • 5yr: $17 million	• 1yr: $4.27 million • 2yr: $2.03 million • 3yr: $1.32 million • 5yr: $774k

Same duration benefits, less borrowing required, and a lower total cost

Symmetrical Prepayment Advance

As the name implies, there is a mirror-like prepayment profile if rates are shocked up or down.



Manage Borrowing Needs Efficiently

The use cases would be all the same reasons you would use Long-Term Classics plus the added flexibility to unwind at a gain with favorable market movements.

September 2022

- 5yr Classic @ 4.03%
- 5yr Symmetrical @ 4.05%

September 2022 to September 2023

- Market continually underprices the potential of higher for longer, and Fed Funds go from 2.50% to 5.50%, and the belly of the curve goes up by ~50-75 bps

September 2023

- Prepay Credit on Classic from Prior Year = 0%
- Prepay Credit on Symmetrical from Prior Year = +2.5%

Questions?

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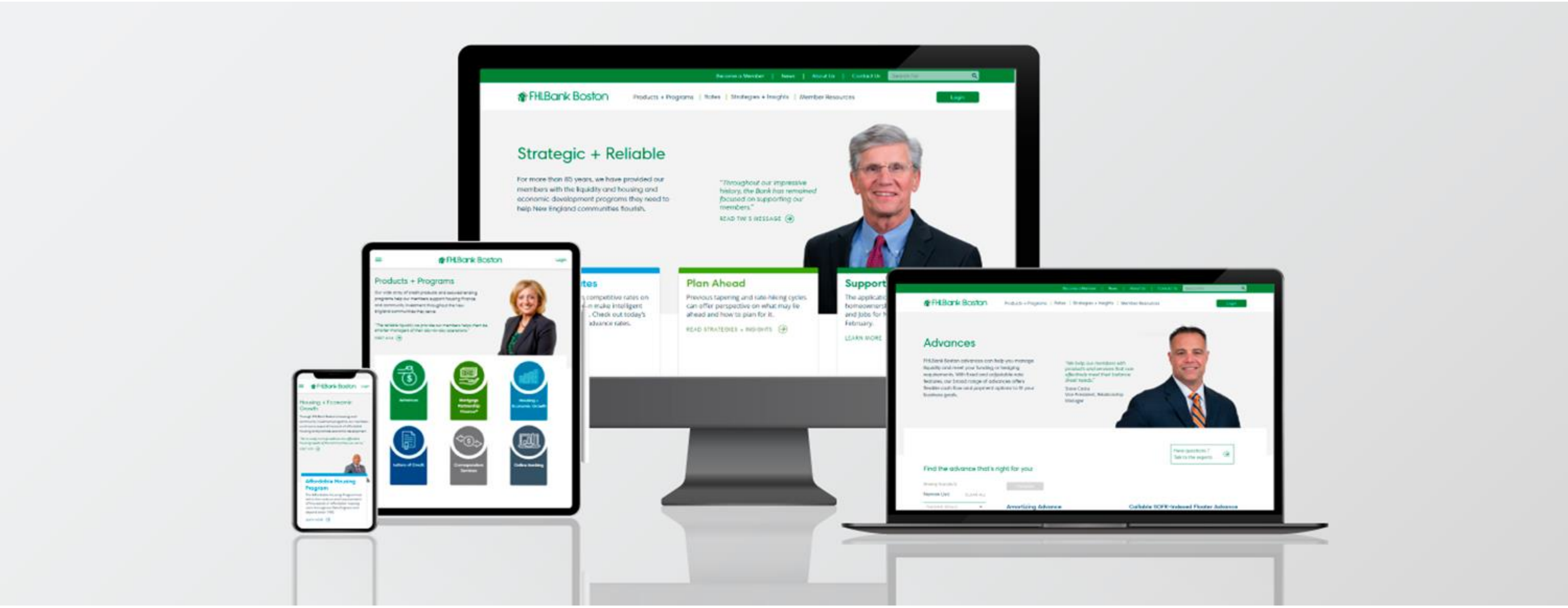

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