



## Asset / Liability Management

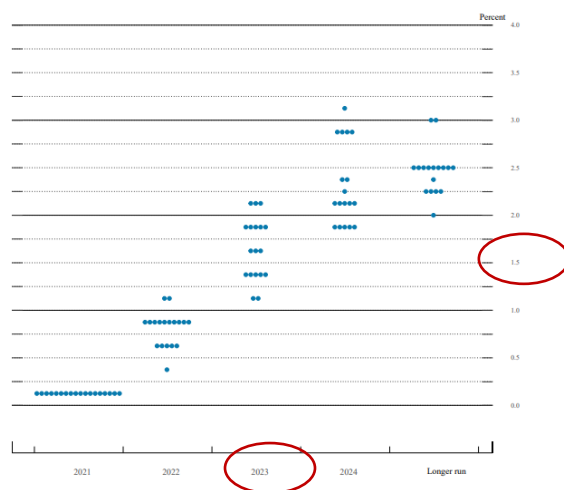
### Lessons from the Current Environment

Over the past month, we have been reminded of the importance of prudent balance sheet management practices and the potential impact rapidly changing interest rates can have on financial institutions. Changes in interest rates not only impact net interest margins but also impact the market values of assets and liabilities. These can negatively impact the tangible capital of the organization.

Sage asset/liability management (ALM) requires being prepared for potential changes which could potentially impair a financial institution's ability to thrive in a difficult interest rate environment, much like the one that we currently find ourselves. The charts below illustrate how quickly market conditions and expectations changed, catching many depositories by surprise. The FOMC Dot Plots are the FOMC participants' best expectation for where they think short-term interest rates will be in the future. In December 2021 (just 15 months ago), the average general expectation of FOMC participants saw the Fed Funds Target Rate around 1.5% in 2023. Fast forward to the most recent survey and the expectation is now indicating the Fed Funds Target Rate will be in the range of 5-5.5% in 2023. This is a significant difference in expectations. Were you prepared for this potential outcome? In December 2021, few would have expected that short-term rates would be 5% in 15 months.

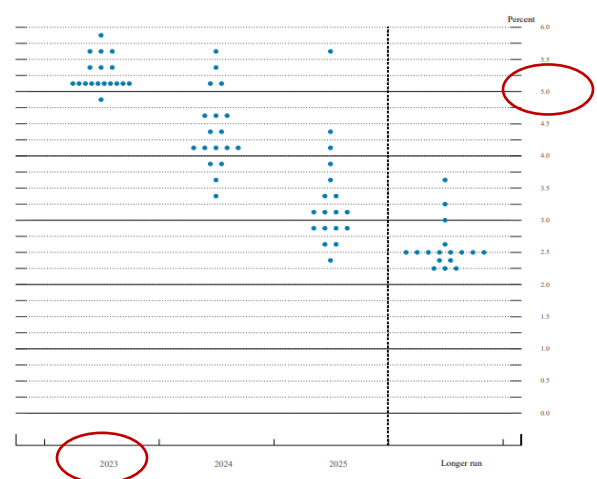
For release at 2:00 p.m., EST, December 15, 2021

Figure 2. FOMC participants' assessments of appropriate monetary policy: Midpoint of target range or target level for the federal funds rate



For release at 2:00 p.m., EDT, March 22, 2023

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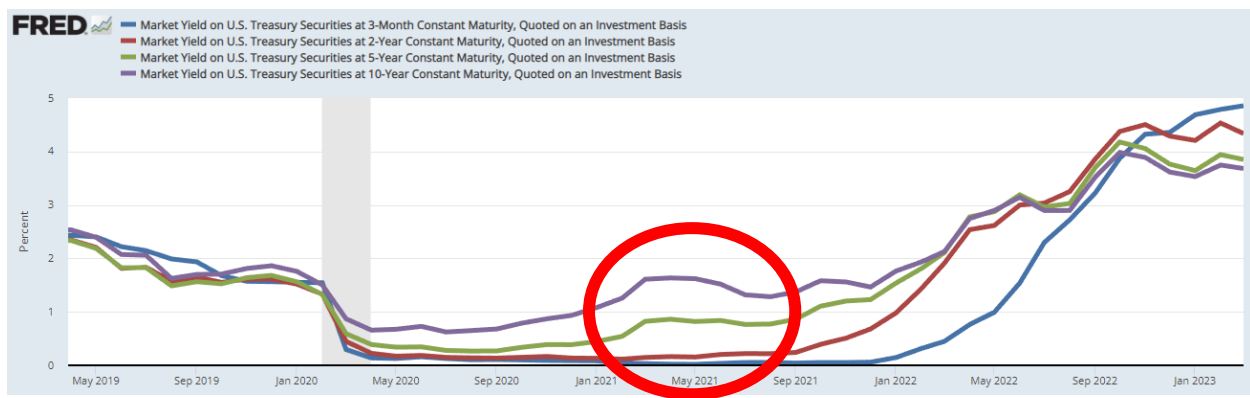


Source: Federal Open Market Committee (FOMC) Summary of Economic Projections <https://www.federalreserve.gov/monetarypolicy/files>

## THE INVESTMENTS

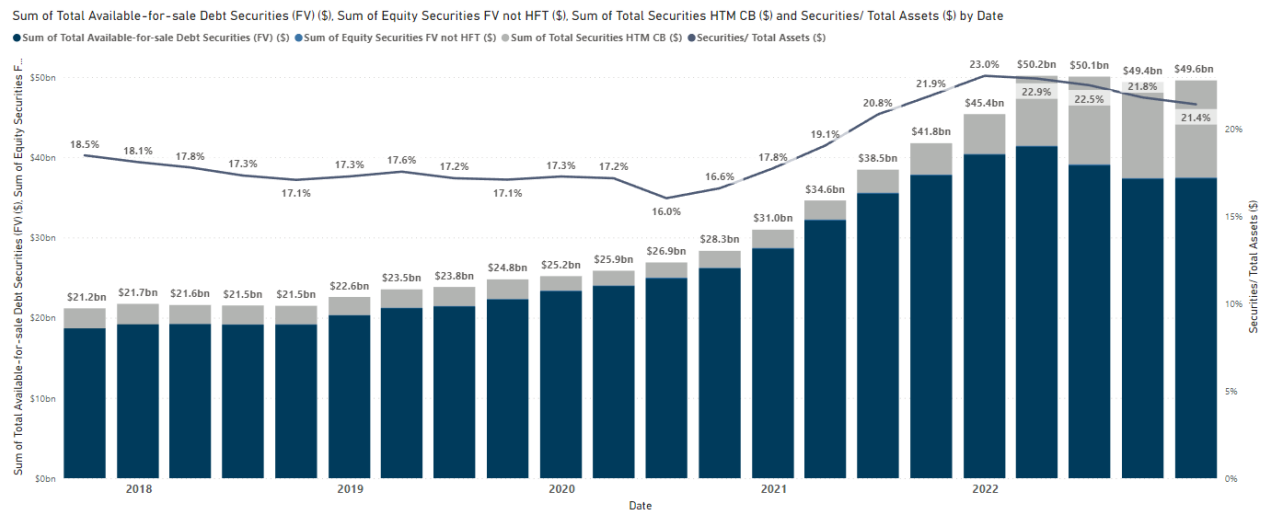
For many depository members, deposits increased substantially from pre-COVID as a result of the unprecedented amount of liquidity that the Fed injected into the financial system in 2020. Loan growth did not start to outpace deposit growth until Q1 '22 as interest rates began to rise. A significant amount of liquidity was held at the Fed because loan growth was challenging. Many depositories had lowered deposit rates to zero or near zero and net interest margins were being strained. Although interest rates were historically low, there was some positive slope in the yield curve, which would provide additional yield advantage for investments that were intermediate or long term. In response, many depositories bought investments and funded them with their overnight balances at the Fed, to increase net interest income.

The yield curve steepened in 2021 as illustrated below by the U.S. Treasury curve.



Board of Governors of the Federal Reserve System (US), Market Yield on U.S. Treasury Securities at 3-Month Constant Maturity, 2-Year Constant Maturity, 5-Year Constant Maturity, and 10-Year Constant Maturity, quoted on an Investment Basis, retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DGS3MO>, March 30, 2023.

When the yield curve steepened in 2021, many Indiana and Michigan banks and credit unions reacted similarly and increased their investment holdings to protect net interest margins. Net interest margins were projected to continue to come under pressure due to limited loan growth expectations. As shown in the illustrations below, Indiana and Michigan banks increased their investment portfolios from approximately \$31B as of 12/31/20 to \$50B 3/31/22, increasing investments from 17.8% of assets to 22.9% over this time horizon. From 12/31/20 to 3/31/22, credit unions in Indiana and Michigan increased their investment portfolios from \$21B to \$28B from 16.7% to 22.8% of total assets.

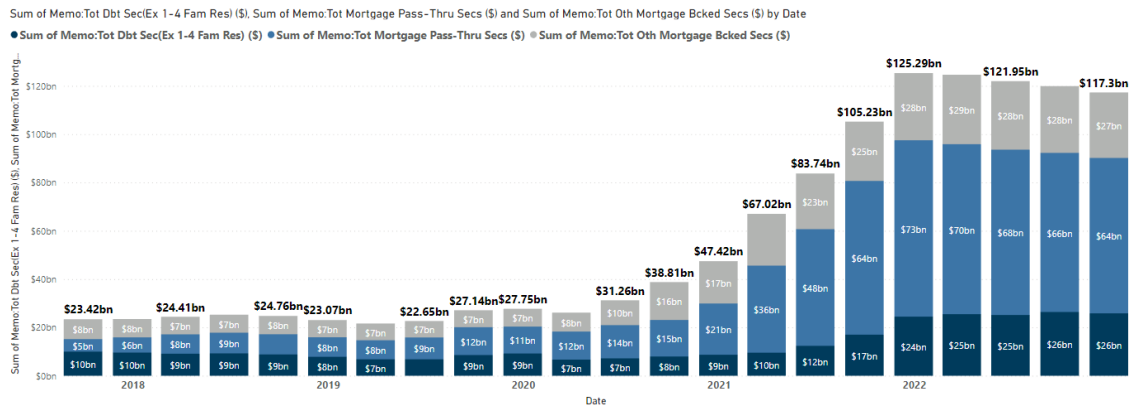


Source: S&P Global Bank Call Report Data as of 12/31/2022 – Michigan Banks

Much of the increase in investments was funded with short duration overnight funds parked at the Fed and the overall duration of assets increased. Depending upon how far out on the curve the individual banks or credit unions reached determined how much their overall balance sheet durations increased, and the subsequent unrealized portfolio losses became.

#### Takeaways:

1. Evaluate a significant investment strategy's impact on the overall balance sheet's interest rate risk and sensitivities in various economic and interest rate environments. It is easy to have 20/20 vision after an event but doing the pre-strategy analysis is a best practice. The additional duration risk taken on by banks and credit unions was likely evaluated to be more beneficial than the scenario where margins just continued to decline.
2. Consider your organization's risk appetite and interest rate risk guidelines (even the more extreme scenarios) when executing new investment strategies. This will ensure that you do not reach too far out on the curve, even at the risk of giving up yield.
3. Avoid duplicating risks of your loan portfolios, or magnifying other balance sheet risks, in the investment portfolio. One issue that has been highlighted in many published opinions which led to the problems with Silicon Valley Bank (SVB) was the amount of greater than 15-year term agency MBS securities it purchased with the significant inflow of concentrated, volatile deposits. As shown below, Silicon Valley Bank (SVB) used the inflow of deposits to purchase mortgage-backed securities. As of 12/31/2021, SVB had \$100B of mortgage-backed securities with 55% having a term of greater than 15 years.



Source: S&P Global Bank Call Report Data as of 12/31/2022 – Silicon Valley Bank

## THE DEPOSITS

Core Deposits have historically been considered the life blood of depositories and an important source of franchise value. Deposits have been considered to have long average lives based on historical analysis, however it has been over 15 years since the Fed Funds rate has been near 5%. An average depositor 35 years or younger would have never experienced today's higher interest rates, which makes it harder to predict their behavior. Another factor is the ability to transact and move money quicker today than at any time in previous rising rate cycles.

Since short-term interest rates have not been near 5% in over 15 years, this is an ideal time to better understand how depositors reacted, how your organization responded, and the end results. This information will help your organization defend its core deposit assumptions which is one of the most significant assumptions in any interest rate risk measurement model. Items to consider evaluating are:

- Measuring the pricing “betas.” This will measure the percentage of increase (or decrease) which a particular deposit type is expected to have with a change in market interest rates. Example: If your interest-bearing checking account goes up .10% when short term market rates go up 1.00%, then your beta is 10%. This is a simplification but is important to understand. Please note betas should also be studied and understood for loan pricing as well but are not within the scope of this article.
- Occasionally, market rates will increase, but a particular deposit account will not increase until some time passes. This is referred to as a “lag.” It is important to understand the lags we expect in response to rising interest rates.
- Rate sensitive vs. non-rate sensitive deposits: We are currently in an environment where it is beneficial to understand your depositors’ interest rate sensitivity and to develop strategies to minimize the marginal cost of funds to your organization. If you have non-interest-bearing deposits in a 5% short-term rate environment and can retain them through the rate cycle, these deposits should be analyzed for expected duration. There are likely other deposit account types which have less than current market rates paid which should also be analyzed for potential longer duration.
- Decay rates: even “core” deposits can decline over time in what we refer to as decay rates. It is important to study declines in core deposits over time to calibrate and defend core deposit assumptions.

Understanding betas, lags, decay rates, and rate sensitive vs. non-rate sensitive deposits are important to the quality and underlying usefulness of an interest rate risk model and asset/liability management committee.

Much attention is given to optionality in loans held and how it changes when interest rates change. Deposits have a high degree of optionality during periods of increasing interest rates and may not be the long-term funding originally assumed. Because of this, exclusively using deposits to fund long-term assets needs to be reviewed. A strategy of utilizing FHLBank Indianapolis term funding to complement core deposits to support longer-term assets, such as mortgages, is an effective approach.

When evaluating the cost of retaining rate-sensitive deposits, consider calculating the **marginal cost of deposits** and compare with FHLBank Indianapolis advances.

For the example below, a depository is looking to generate \$5 million in funding. They are currently paying 1.00% but believe they need to offer a 3.50% account. If 50% of the current 1.00% deposits transfer to the 3.50% account, this will cause the new funding to have a marginal cost of **6.00%**.

**If the institution was looking for funding that had a 5-year life, they could have obtained the same funding from FHLBank Indianapolis at a 3.89% rate (vs. a 6.0% marginal cost).**

INPUTS		
Are you wanting to <i>increase</i> or <i>decrease</i> your deposit rates?	Increase	SELECT
How much new deposits would you like to generate?	\$5,000,000	INPUT FIELD
What APY are you currently paying on deposits that will be cannibalized:	1.00%	INPUT FIELD
New APY for deposits after increase:	3.50%	INPUT FIELD
What is the expected life of the deposits? (Months):	60	INPUT FIELD
Comparable FHLBank Indianapolis advance APR for a 60 month term:	3.89%	INPUT FIELD
What percentage of new deposits do you anticipate cannibalizing with the higher rate? (1-99%):	50.00%	INPUT FIELD
RESULTS		
A comparable FHLBank Indianapolis advance with a 3.89% APR and 60 month term will have an APY of:	4.02%	
<b>Marginal cost of increasing rate to 3.50% assuming cannibalization of 50.0%:</b>	<b>6.00%</b>	
Advantage from using FHLBank Indianapolis advance assuming a 6.00% marginal cost:	1.98%	
New deposit % generated with an APY increase to 3.50%:	50.00%	
Break-even cannibalization with a 3.50% APY:	17.22%	
Break-even APY if anticipating 50.0% cannibalization:	2.51%	

Source: FHLBI Marginal Cost of Funds Tool

In summary, to help with asset/liability and balance sheet funding management:

- Evaluate your deposit products to determine core vs. non-core components
- Use Marginal Cost Analysis to minimize overall funding costs
- Use FHLBI Advances to supplement funding needs and manage interest rate risk
  - Look for opportunities to hedge balance sheet mismatches for recent higher yielding term loans
- Understand your exposure to both up and down rate movements
  - Be sure to model RATES DOWN as well
- Review Core Deposit Assumptions (betas, lags, decay rate)

Other suggestions to assist with liquidity and funding management readiness:

- Review Contingency Funding Plans
- Tabletop Liquidity Exercise -Simulate your organization's readiness
- Ensure wholesale borrowing agreements are in place & up to date
- Pledge collateral
- Take out an advance to test process.

**For additional information on the FHLBank Indianapolis funding, contact FHLBank Indianapolis Advances Desk at 800.442.2568 or [creditdesk@fhlbi.com](mailto:creditdesk@fhlbi.com)**

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