## О нив $Z^{\text {ITAYIOLOS }}$

## Deposit Pricing and Interest Rate Risk Concepts

John Ruhl, CFA Will Craycraft, CPA

## What is the Kentucky Derby's signature drink?

Old Fashioned<br>Manhattan<br>Mint Julep<br>Lilly

## TAYLOR ADVISORS EBRIEF - MANAGING FUNDING COSTS AMID RISING RATES

## ZTAYLORADVISORS

Investments | Asset / Liability | Risk Management

## Deposit Diaries: Managing Funding Costs Amid Excess Liquidity and Rising Rates

2/15/2022 | 5 MIN READ

Much has been made of Chairman Powell's recent pivot towards normalizing monetary policy, accelerating the taper of QE, and subsequent "lift-off" from the zero-bound Fed Funds rate. The market has begun to reprice expectations for short-to-intermediate rates and the yield curve has steepened accordingly. Traditionally, steeper yield curves favor margin managers, as the spread between funding costs and earning asset yields widens while depositories have historically succeeded in lagging the Fed's rate hikes.

As we look forward into 2022, market participants are pricing in 4 or more Fed rate hikes, we thought it prudent to revisit considerations for deposit pricing for a rising rate environment. In this eBrief, we will discuss macroeconomic trends amongst community financial institutions, historical deposit pricing behavior, and factors to monitor as your ALCO looks for direction in pricing.

Read Full Article

"Study the past, monitor the present and prepare for the future" is a mantra at Taylor Advisors and one we believe will suit ALCOs well as we navigate an evolving interest rate regime. With PPP fee income recognition wrapping up and secondary market volumes normalizing to an extent, profitability for 2022 and beyond will become more dependent up NIM. Deposit pricing will be an important piece of the equation as banks work through excess liquidity. In addition to your institution's specific liquidity profile, be sure to monitor the following:
-Deposit pricing from the prior rate hiking cycle and any lessons learned from successes or missteps
-Consumer and business accounts behavior and any trends in drawdowns or spending of savings
-Non-traditional depositories' rates and any migration of your deposit base to these platforms (i.e. fintech, SOFI, Marcus, money market mutual funds, state sponsored public deposit funds)
-Loan to deposit ratios and trends amongst your in-market competition

## YIELD CURVE - 2019 Q4 TO 2020Q1



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## FED RATE DECREASES AND DEPOSIT BETAS - FALLING RATES

Fed Funds Target Rate (\%)

# BETAS BASICS - FALLING RATES 

## Calculating a Beta

## Starting Point

Fed Funds Rate
5.00\%

## FED RATE DECREASES AND DEPOSIT BETAS - FALLING RATES

Betas: 2019-2020 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $2.50 \%$ | $0.25 \%$ | $2.25 \%$ |  |

Betas: 2007-2009 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $5.25 \%$ | $0.25 \%$ | $5.00 \%$ |  |

Betas: 2000-2003 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $6.50 \%$ | $1.00 \%$ | $5.50 \%$ |  |

FED RATE DECREASES AND DEPOSIT BETAS - FALLING RATES



## FED RATE INCREASES AND DEPOSIT BETAS - RISING RATES



# BETAS BASICS - RISING RATES 

## Calculating a Beta

## Starting Point

Fed Funds Rate
0.25\%

# FED RATE INCREASES AND DEPOSIT BETAS - RISING RATES 

Betas from 1Q2022-4Q2022

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $0.25 \%$ | $4.50 \%$ | $4.25 \%$ |  |

Betas: 2015-2018 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $0.25 \%$ | $2.50 \%$ | $2.25 \%$ |  |

Betas: 2004-2006 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $1.00 \%$ | $5.25 \%$ | $4.25 \%$ |  |

## FED RATE INCREASES AND DEPOSIT BETAS - RISING RATES



## FED RATE INCREASES AND DEPOSIT BETAS - RISING RATES

Betas may appear to be trending lower, but this does not automatically mean cost of funds will see less pressure.

Betas from 1Q2022-4Q2022

| Starting Point | Ending Point | Change | Beta | Beta 8 percentage <br> points lower |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $0.25 \%$ | $4.50 \%$ | $4.25 \%$ |  | Change in COF 30 |
| US Commercial Banks COF | $0.14 \%$ | $1.13 \%$ | $0.99 \%$ | $23 \%$ | Chan <br> bps higher |

Betas: 2015-2018 Cycle

|  | Starting Point | Ending Point | Change | Beta |
| :--- | :---: | :---: | :---: | :---: |
| Fed Funds Rate | $0.25 \%$ | $2.50 \%$ | $2.25 \%$ |  |
| US Commercial Banks COF | $0.28 \%$ | $0.97 \%$ | $0.69 \%$ | $31 \%$ |



## FED RATE INCREASES AND DEPOSIT BETAS - RISING RATES

## Betas from 1Q2022-4Q2022

Beta
23\%
Betas: 2015-2018 Cycle

## Beta

"What-If" the current
Beta
23\%
Betas: 2015-2018 Cycle beta had been 31\%? COF would be 1.46\%.
"What-If" the current beta had been $46 \%$ ? COF would be 2.10\%.
$31 \%$

Betas: 2004-2006 Cycle

## Beta

46\%

## BETAS BASICS - SUMMARY AND APPLICATION

- Rising rate cycles are typically gradual.
- The current rising rate cycle is different!
- Betas are dynamic.
- Betas often exhibit a lag compared to the Fed Funds Rate.
- All of this points to the need for bank-specific beta assumptions.


## BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETAS - BEFORE

| Net |
| :---: | :---: | :---: | :---: | :---: |
| Interest |
| Income |
| Year 1 |



- The bank exhibits asset sensitivity based on beta assumptions that are bank-specific but that are dated.


## BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETAS - BEFORE

| Account | Repricing Correlations \% |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | +100 | +200 | +300 | +400 |
| NOW Retail Variable | 20 | 20 | 20 | 20 |
| NOW Retail Premium Variable | 25 | 25 | 25 | 25 |
| NOW Commercial Variable | 20 | 20 | 20 | 20 |
| MMDA Retail Variable | 45 | 45 | 45 | 45 |
| MMDA Commercial Premium Variable | 50 | 50 | 50 | 50 |
| Savings Retail Variable | 25 | 25 | 25 | 25 |
| Savings Retail Premium Variable | 30 | 30 | 30 | 30 |
| Savings Commercial Variable | 25 | 25 | 25 | 25 |

О нuв ZИTalior BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETAS - AFTER BEFORE BETA STUDY

| Account | Repricing Correlations \% |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | +100 | +200 | +300 | +400 |
| NOW Retail Variable | 20 | 20 | 20 | 20 |
| NOW Retail Premium Variable | 25 | 25 | 25 | 25 |
| NOW Commercial Variable | 20 | 20 | 20 | 20 |
| MMDA Retail Variable | 45 | 45 | 45 | 45 |
| MMDA Commercial Premium Variable | 50 | 50 | 50 | 50 |
| Savings Retail Variable | 25 | 25 | 25 | 25 |
| Savings Retail Premium Variable | 30 | 30 | 30 | 30 |
| Savings Commercial Variable | 25 | 25 | 25 | 25 |

AFTER BETA STUDY

| Account | Repricing Correlations \% |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | +100 | +200 | +300 | +400 |
| NOW Retail Variable | 12 | 15 | 17 | 20 |
| NOW Retail Premium Variable | 12 | 15 | 17 | 20 |
| NOW Commercial Variable | 12 | 15 | 17 | 20 |
| MMDA Retail Variable | 75 | 78 | 80 | 83 |
| MMDA Commercial Premium Variable | 75 | 78 | 80 | 83 |
| Savings Retail Variable | 60 | 63 | 67 | 70 |
| Savings Retail Premium Variable | 60 | 63 | 67 | 70 |
| Savings Commercial Variable | 60 | 63 | 67 | 70 |

## BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETAS - AFTER



| - The net interest income results show |
| :--- |
| reduced asset sensitivity in year 1. |



- In year 2, the profile also shows
reduced asset sensitivity.
- This is more representative of the bank's true risk profile.


## BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETA STRESS

## AFTER BETA STUDY

| Account | Repricing Correlations \% |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | +100 | +200 | +300 | +400 |
| NOW Retail Variable | 12 | 15 | 17 | 20 |
| NOW Retail Premium Variable | 12 | 15 | 17 | 20 |
| NOW Commercial Variable | 12 | 15 | 17 | 20 |
| MMDA Retail Variable | 75 | 78 | 80 | 83 |
| MMDA Commercial Premium Variable | 75 | 78 | 80 | 83 |
| Savings Retail Variable | 60 | 63 | 67 | 70 |
| Savings Retail Premium Variable | 60 | 63 | 67 | 70 |
| Savings Commercial Variable | 60 | 63 | 67 | 70 |

## AFTER BETA STUDY - WITH STRESS

\left.| Account | Repricing Correlations \% |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | +100 | +200 | +300 | +400 |
| NOW Retail Variable | 24 | 30 | 34 | 40 |
| NOW Retail Premium Variable | 24 | 30 | 34 | 40 |
| NOW Commercial Variable | 24 | 30 | 34 | 40 |
| MMDA Retail Variable | 90 | 93 | 95 | 98 |
| MMDA Commercial Premium Variable | 90 | 93 | 95 | 98 |
| Savings Retail Variable | 75 | 78 | 82 | 85 |
| Savings Retail Premium Variable | 75 | 78 | 82 | 85 |
| Savings Commercial Variable | 75 | 78 | 82 | 85 |$\right]$

NOW account betas doubled

MMDA betas increased 15 percentage points
Savings betas increased 15 percentage points

## BANK SPECIFIC ASSUMPTIONS: DEPOSIT BETA STRESS



## STUDY THE PAST - HISTORICAL RELATIONSHIP OF COF/LIQ



MONITOR THE PRESENT - LIQUIDITY LIMITATIONS
Unrealized Gains (Losses) on Investment Securities


Source: FDIC.
Note: Insured Call Report filers only.

#  

## STUDY THE PAST - HISTORICAL RELATIONSHIP OF DEPOSIT COSTS



## STUDY THE PAST - UNDERSTANDING THE DEPOSIT BASE



承 When poll is active, respond at pollev.com/sw370
苑 Text SW370 to 22333 once to join
Which of your depositors had the biggest impact on Cost of
Funds?

## STUDY THE PAST - UNDERSTANDING THE DEPOSIT BASE

| Deposit Category | Current Balance | Wgt. Rate | 0-50K | Wgt. Rate | 50-150K | Wgt. Rate | >150K | Wgt. Rate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Free Checking | 154,376,030 | 0.000\% | 53,629,590 | 0.000\% | 30,152,602 | 0.000\% | 70,593,838 | 0.000\% |
| Interst Checking | 82,397,441 | 0.171\% | 27,771,477 | 0.100\% | 23,420,053 | 0.150\% | 31,205,910 | 0.250\% |
| Savings | 162,170,709 | 0.339\% | 48,129,612 | 0.150\% | 61,648,221 | 0.350\% | 52,392,876 | 0.500\% |
| Money Market | 137,418,051 | 1.631\% | 18,823,197 | 0.750\% | 56,862,911 | 1.250\% | 61,731,943 | 2.250\% |
| Total Deposits | 536,362,231 | 0.547\% | 148,353,876 | 0.163\% | 172,083,788 | 0.559\% | 215,924,567 | 0.801\% |

General Population
Balances <\$50K
Less Rate Sensitive

Excess Savers
Balances <\$150K
Somewhat Rate Sensitive

HNW, Public Funds, Rate Shoppers
Balances >\$150K Highly Rate Sensitive

## STUDY THE PAST - UNDERSTANDING THE DEPOSIT BASE

If we saw deposit runoff, where did it come from?
Were we tracking the runoff?

| Deposit Type | Nov | Dec | Jan | Feb | Mar | Total | \% of Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brokers | 3,130,000 | 784,000 | 1,387,645 | 265,000 | 452,000 | 6,018,645 | 37.10\% |  |
| Money Managers | 715,000 | 935,000 | 650,000 | 2,145,000 | 260,416 | 4,705,416 | 29.01\% | Who were we competing with? |
| Other Fin. Inst. | 20,000 | 100,000 | 2,000,000 | 230,000 | 187,000 | 2,537,000 | 15.64\% |  |
| First Bank | - | 300,000 | - | 125,000 | 200,000 | 625,000 | 3.85\% |  |
| Farmers Bank | 170,000 | 5,000 | 182,516 | 219,526 | 500,000 | 1,077,042 | 6.64\% | Which accounts are leaving? |
| Peoples Bank | 200,000 | 310,000 | 100,000 | 260,000 | 149,461 | 1,019,461 | 6.28\% |  |
| Credit Union | 120,000 | 80,000 | - | - | 40,000 | 240,000 | 1.48\% |  |
| Grand Total | 4,355,000 | 2,514,000 | 4,320,161 | 3,244,526 | 1,788,877 | 16,222,564 | 100\% |  |

## RATE ADJUSTMENT SURGERY



Bankers/Surgeon's toolkit for Deposit Pricing
Scalpel
Carving Knife
Chainsaw

What are the benefits of each?
What are the drawbacks?

## RATE ADJUSTMENT SURGERY



## RATE ADJUSTMENT SURGERY



## Carving Knife Pricing

Moderate increase in Cost of Funds

Making adjustments to most tiers, risking some lower balance runoff

We award the rate sensitive AND the non-rate sensitive customers

What if they are expecting more?

What if they start to look around?


# Scalpel Defensive Pricing 

Making adjustments to top tiers, pricing above a lower rate sheet

Top-down defensive strategy
Accept rate-sensitive runoff
Use deposit monitoring to find targeted depositors

Bank's offered CD specials for the rate sensitive; some publicized, some not publicized

Bank CD Special -

CDs repricing @ 4.50\%

Non-Maturity Conversion + 3.50\%

New CD Growth @ 4.5\%

Total Funding Repriced

## What does it cost to post a special?

Int. Exp.
1,000,000 30,000

2,000,000 70,000
Savings converts from 1\% to 4.5\%

500,000 22,500 Minor growth


Bank's offered CD specials for the rate sensitive; some publicized, some not publicized

## What if we are more defensive but see runofff?

## Exception Price certain CDs - 4.00\%



## STUDY THE PAST - Changing Expectations



STUDY THE PAST - Bank Asset Mix - June 30, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 2022 | Banks lag Fed Rate Moves | $1.75 \%$ | $2.97 \%$ | $2.85 \%$ | $3.11 \%$ | $0.27 \%$ |



| Date | Deposit Pricing Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 2022 | Banks lag Fed Rate Moves | 1.75\% | 2.97\% | 2.85\% | 3.11\% | 0.27\% |



| Date | Deposit Pricing Strategy | Fed Funds | $\begin{aligned} & \text { 2YR } \\ & \text { Treasury } \end{aligned}$ | 1YR <br> Brokered | 5YR FHLB | Industry COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 2022 | Banks lag Fed Rate Moves | 1.75\% | 2.97\% | 2.85\% | 3.11\% | 0.27\% |

$2,500,000$

| 2,000,000 |  |
| :---: | :---: |
|  | Borrowing e |
| 1,500,000 | Time $>\$ 250 \mathrm{~K}$ exp. |
| 1,000,000 | Time <\$250K exp. |
| 500,000 | SAV/MMDA Exp. |
|  | NOW exp. |

hus Zanticis STUDY THE PAST - Summary of Performance - June 30, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 2022 | Banks lag Fed Rate Moves | $1.75 \%$ | $2.97 \%$ | $2.85 \%$ | $3.11 \%$ | $0.27 \%$ |


$\square$ Other $\square$ Loans ■Pledged $\square$ Unpledged $\square$ Cash + FFS
Source: S\&P Global Market Intelligence; Banks <\$10Billion



- IE: Other Interest Expense

■ Int Exp: Fed Funds Purchased \& Repos
■ IE: Time Deposits <= $\$ 250 \mathrm{~K}$
■ IE: Time Deposits > \$250K
■IE: Savings Deposits (incl MMDA's)
■ IE: Transaction Accounts

## STUDY THE PAST - Changing Expectations




hus Zaliailis STUDY THE PAST - Bank Liability Mix - September 30, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| September <br> 2022 | Only reward worthy <br> customers | $3.25 \%$ <br> +150 bps | $4.22 \%$ <br> +125 bps | $4.00 \%$ <br> +115 bps | $4.22 \%$ <br> +111 bps | $0.43 \%$ <br> +16 bps l |



STUDY THE PAST - Bank Funding Costs - September 30, 2022

| Date | Deposit Pricing Strategy | Fed Funds | $\begin{gathered} \text { 2YR } \\ \text { Treasury } \end{gathered}$ | 1YR Brokered | 5YR FHLB | Industry COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| September 2022 | Only reward worthy customers | $\begin{gathered} \text { 3.25\% } \\ +150 \mathrm{bps} \end{gathered}$ | $\begin{gathered} \hline 4.22 \% \\ +125 \mathrm{bps} \end{gathered}$ | $\begin{gathered} \text { 4.00\% } \\ +115 \mathrm{bps} \end{gathered}$ | $\begin{gathered} \hline 4.22 \% \\ +111 \mathrm{bps} \end{gathered}$ | $\begin{gathered} 0.43 \% \\ +16 \mathrm{bps} \end{gathered}$ |

4,000,000

hus ZantisidudY THE PAST - Summary of Performance - September 30, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| September <br> 2022 | Only reward worthy <br> customers | $3.25 \%$ <br> +150 bps | $4.22 \%$ <br> +125 bps | $4.00 \%$ <br> +115 bps | $4.22 \%$ | $0.43 \%$ |
| +111 bps | +16 bps |  |  |  |  |  |



## STUDY THE PAST - Changing Expectations



[^0]STUDY THE PAST - Bank Asset Mix - December 31, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| December | Retain Deposits - | $4.50 \%$ | $4.32 \%$ | $4.50 \%$ | $4.24 \%$ | $1.25 \%$ |
| 2022 | Plug Gaps with WSF | +125 bps | +10 bps | +50 bps | +2 bps | +82 bps |



Source: S\&P Global Market Intelligence; Banks <\$10Billion
hus Zarkition STUDY THE PAST - Bank Liability Mix - December 31, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| December | Retain Deposits - | $4.50 \%$ | $4.32 \%$ | $4.50 \%$ | $4.24 \%$ | $1.25 \%$ |
| 2022 | Plug Gaps with WSF | +125 bps | +10 bps | +50 bps | +2 bps | +82 bps |



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STUDY THE PAST - Bank Funding Costs - December 31, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| December | Retain Deposits - <br> Plug Gaps with WSF | $4.50 \%$ <br> +125 bps | $4.32 \%$ <br> +10 bps | $4.50 \%$ <br> +50 bps | $4.24 \%$ | $1.25 \%$ |
| 2022 | +2bps | +82 bps |  |  |  |  |

7,000,000

hus Zantur STUDY THE PAST - Summary of Performance - December 31, 2022

| Date | Deposit Pricing <br> Strategy | Fed Funds | 2YR <br> Treasury | 1YR <br> Brokered | 5YR FHLB | Industry <br> COF |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| December | Retain Deposits - | $4.50 \%$ | $4.32 \%$ | $4.50 \%$ | $4.24 \%$ | $1.25 \%$ |
| 2022 | Plug Gaps with WSF | +125 bps | +10 bps | +50 bps | +2 bps | +82 bps |





## How much do you anticipate overall funding costs at your bank increasing in the next $\mathbf{1 2}$ months?

None<br>Less than 25 bps<br>25-50 bps<br>Over 50 bps

PRE-MEETING SURVEY 3/8/23:
HOW MUCH DO YOU ANTICIPATE OVERALL DEPOSIT RATES AT YOUR BANK INCREASING IN THE NEXT 12 MONTHS?
A. None
B. Less than 25 bps
C. 25-50 bps
D. Over 50 bps


## PREPARE FOR THE FUTURE - 2023 POSITIONING

## Deposit/IRR Consideration Matrix IRR \& Highly Asset

| , | Position | Sensitive <br> Large floating rate asset base, high cash/lower loan demand Consider: <br> - Defensive Pricing - absorb runoff |  | Liquidity/ Capital |
| :---: | :---: | :---: | :---: | :---: |
|  | Large floating rate asset base, low cash, strong loan demand <br> Consider: <br> - Rates down exposure - avoid term funding |  |  |  |
| Liquidity/ Capital |  |  |  |  |
| Lower |  |  |  | Stable/ |
|  | Large fixed rate asset base, low cash, strong loan demand. <br> Consider: <br> - Pay-Fixed hedged funding strategies to add liability duration |  | Large fixed rate asset base, stable liquidity/stable to lower loan demand <br> Consider: <br> - Adjusting NMD pricing to prevent CD conversion | Higher |
|  | IRR <br> Position | Neutral/ Lia <br> Sensitive | ability |  |

PREPARE FOR THE FUTURE - 2023 POSITIONING

| Term | Treasury Rate | FDIC National Average | FDIC Rate Cap |
| :---: | :---: | :---: | :---: |
| 1 month | 4.62 | 0.18 | 6.33 |
| 3 month | 4.86 | 0.67 | 6.61 |
| 6 month | 4.82 | 0.97 | 6.95 |
| 1 year | 4.43 | 1.49 | 6.77 |
| 2 year | 3.79 | 1.41 | 6.52 |
| 3 year | 3.55 | 1.31 | 6.16 |
| 4 year | 3.46 | 1.25 | 6.16 |
| 5 year | 3.36 | 1.35 | 5.77 |
| 10 year | 3.30 |  |  |


| SOFR Swap | FHLB Index ${ }^{1}$ |
| :---: | :---: |
| 4.46 | 4.96 |
| 4.78 | 5.16 |
| 4.78 | 5.09 |
| 4.35 | 4.71 |
| 3.71 | 4.18 |
| 3.50 | 3.97 |
| 3.39 | 3.86 |
| 3.32 | 3.78 |
| 3.29 | 4.16 |


| Brokered <br> Deposit $^{2}$ | National <br> Market <br> Deposits $^{3}$ |
| :---: | :---: |
|  |  |
| 4.90 | 4.95 |
| 5.00 | 5.05 |
| 5.05 | 5.10 |
| 5.00 | 5.05 |
| 5.00 | 5.05 |
| 4.90 | 4.95 |
| 4.85 | 4.90 |
| 4.75 | 4.80 |
| 4.75 |  |

[^1]${ }^{2}$ Brokered Deposit rates represent estimates based on a review of suggested 'All-In' rates
${ }^{3}$ National Market Deposit rates based on estimates of expectations for clearing levels on various platforms

## PREPARE FOR THE FUTURE

- How can we position our Deposit Base?
- Low overall allocation to Time Deposits
- Adjusting the Early Withdrawal Penalties
- Create higher tiers to handle rate-sensitive depositors
- Reward those with ample opportunities elsewhere
- Relationship Price worthy accounts higher
- Long-Life, Low-Cost Deposits proved their value
- What products can we market to drive NMD growth


## PREPARE FOR THE FUTURE - DEMOGRAPHICS AND DEPOSITS



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## PREPARE FOR THE FUTURE - DEMOGRAPHICS AND DEPOSITS



## BANK SPECIFIC ASSUMPTIONS: DEPOSIT DECAYS - BEFORE

| 20.00\% |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10.00\% |  |  |  |  |  |
| Value | 0.00\% |  |  |  |  |
| of Equity | $-10.00 \%$ |  |  |  |  |
|  | -20.00\% |  |  |  |  |
|  | -30.00\% |  |  |  |  |
|  | -40.00\% |  |  |  |  |
|  |  | +100 | $\longrightarrow \text { EVERi }$ | $\begin{array}{r} +300 \\ -\infty-\text { EV } \end{array}$ | +400 |
|  | +100 |  | +200 | +300 | +400 |
| EVE Risk (Before) EVE Policy | -0.80\% |  | -1.82\% | -2.55\% | -3.09\% |
|  | -15.00\% |  | -25.00\% | -30.00\% | -35.00\% |

- "Conservative" default assumptions show slight liability sensitivity.


## BANK SPECIFIC ASSUMPTIONS: DEPOSIT DECAYS - BEFORE

| Account Names | Term <br> (Months) |
| :--- | ---: |
| Demand Retail | 90.00 |
| Demand Commercial | 90.00 |
| Demand Public Funds | 6.00 |
| NOW Retail | 76.00 |
| NOW Retail Premium | 76.00 |
| NOW Commercial | 76.00 |
| MMDA Retail | 55.00 |
| MMDA Commercial | 55.00 |
| MMDA Commercial Premium | 55.00 |
| MMDA Public Funds | 55.00 |
| Savings Retail | 76.00 |
| Savings Retail Premium | 76.00 |
| Savings Commercial | 76.00 |
| Savings Public Funds | 76.00 |

- A decay term of 55 months equates to an average life of 2.3 years.
- A decay term of 90 months equates to an average life of 3.8 years.

DH50RS
BANK SPECIFIC ASSUMPTIONS: DEPOSIT DECAY

## BEFORE DECAY STUDY

| Account Names | Term <br> (Months) |
| :--- | ---: |
| Demand Retail | 90.00 |
| Demand Commercial | 90.00 |
| NOW Retail | 76.00 |
| NOW Retail Premium | 76.00 |
| NOW Commercial | 76.00 |
| MMDA Retail | 55.00 |
| MMDA Commercial | 55.00 |
| MMDA Commercial Premium | 55.00 |
| MMDA Public Funds | 55.00 |
| Savings Retail | 76.00 |
| Savings Retail Premium | 76.00 |
| Savings Commerciall | 76.00 |
| Savings Public Funds | 76.00 |

## AFTER DECAY STUDY

| Account Names | Term <br> (Months) |
| :--- | ---: |
| Demand Retail | 97.00 |
| Demand Commercial | 108.00 |
| NOW Retail | 101.00 |
| NOW Retail Premium | 133.00 |
| NOW Commercial | 107.00 |
| MMDA Retail | 98.00 |
| MMDA Commercial | 104.00 |
| MMDA Commercial Premium | 55.00 |
| MMDA Public Funds | 60.00 |
| Savings Retail | 120.00 |
| Savings Retail Premium | 113.00 |
| Savings Commercial | 109.00 |
| Savings Public Funds | 144.00 |

- A decay term of 97 months equates to an average life of 4.0 years.
- A decay term of $\mathbf{1 4 4}$ months equates to an average life of 6.0 years.


## BANK SPECIFIC ASSUMPTIONS: DEPOSIT DECAYS - AFTER



## BANK SPECIFIC ASSUMPTIONS: DEPOSIT DECAY STRESS

## AFTER DECAY STUDY

| Account Names | Term <br> (Months) |
| :--- | ---: |
| Demand Retail | 97.00 |
| Demand Commercial | 108.00 |
| NOW Retail | 101.00 |
| NOW Retail Premium | 133.00 |
| NOW Commercial | 107.00 |
| MMDA Retail | 98.00 |
| MMDA Commercial | 104.00 |
| MMDA Commercial Premium | 55.00 |
| MMDA Public Funds | 60.00 |
| Savings Retail | 120.00 |
| Savings Retail Premium | 113.00 |
| Savings Commercial | 109.00 |
| Savings Public Funds | 144.00 |

- What if these decay terms are reduced by 50\% in a stressed scenario?
- How is EVE impacted?

STRESSED RESULTS





[^0]:    Source: Federal Reserve Bank

[^1]:    ${ }^{1}$ Bloomberg FHLB Index. FHLB Index rates will differ slightly from various regional FHLB member banks.

