Managing Balance Sheets in Todays Interest Rate Environment

Presented By

Connor McGinnis - mcginnis@gobaker.com Account Executive - 833-669-1101 Wayne Story - wstory@gobaker.com Associate Partner - 888-333-8521



SakerGroup PRESENTS Credit Union Strategies for 4th Quarter 2023 Webinar Thursday, October 12, 2023

10:30 a.m. CDT

The global pandemic set into motion a series of historically unprecedented economic policies. Massive amounts of liquidity and stimulus from policymakers enabled a fast recovery, but at what financial cost? The side effect of those "easy money" conditions has been 40yr-high inflation that now must be fought through highly restrictive Fed behavior. Balance sheet managers have been left to deal with the resulting large swings in interest rate and liquidity risks. Quickly increasing cost of funds, stubborn loan rates, and ever-tightening margins are just a few of the most common worries for 2023. More than ever, it is critical that credit union leadership take a whole balance sheet approach, as understanding and utilizing wholesale markets (asset and funding) could significantly reduce some of these pressures.

This webinar will examine the challenges now faced by CEOs, CFOs, and investment officers who must navigate the next phase of these uncharted waters. Join us for an in-depth discussion of the following topics:

- Economic and Market Update Review of current economic conditions and the outlook for growth, inflation, and interest rates
- Interest Rate Risk How to ensure you are prepared for uncertain balance sheet challenges and a constantly changing regulatory focus
- Loan/Deposit Pricing For the first time in over a decade, we must manage both sides of the balance sheet with strong pricing strategies
- Liquidity Risk Management Policy tools and best practices for managing liquidity risk
- Loan Participations Purchasing participations can help you get ahead of much slower moving retail loan rates and, at a minimum, give you market intel for pricing retail loans
- Investment Portfolio Strategies Adapting your strategy and building the "right" investment portfolio for your specific balance sheet

REGISTER NOW

WHO SHOULD PARTICIPATE

Financial institutions' CEOs, CFOs, investment officers, board members, and those who are directly or indirectly responsible for financial management functions will benefit from this webinar. *There is no cost for this webinar*.

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The level of learning for this group internet based webinar is intermediate, and basic knowledge of finance and banking is recommended. No advance preparation is required. Because this webinar is presented without charge to attendees, there are no refund or cancellation policies. We do, however, welcome any constructive suggestions you might have concerning the webinar. Your comments should be directed to Skoshi Heron at 1.888.990.0010.



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Interest Rate Risk and Investment Strategies Seminar for Credit Unions





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- The Fed's Next Moves Update on the rate outlook and likely next steps for Federal Reserve monetary policy
- Interest Rate Risk How to ensure you are prepared for uncertain balance sheet challenges and a constantly changing regulatory focus
- Loan/Deposit Pricing For the first time in over a decade, we must manage both sides of the balance sheet with strong pricing strategies
- Liquidity Risk Management Policy tools and best practices for managing liquidity risk
- Loan Participations Purchasing participations can help you get ahead of much slower moving retail loan rates and, at a minimum, give you market intel for pricing retail loans
- Investment Portfolio Strategies Adapting your strategy and building the "right" investment portfolio for your specific balance sheet
- Agency MBS and CMBS How the right combination of these two asset classes can get you off of the interest rate risk roller coaster

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Hotel Vin, Autograph Collection 215 East Dallas Road Grapevine, Texas 76051 817.796.9696

AGENDA

Wednesday, November 8 Cocktails 6:30 pm

Thursday, November 9 Breakfast 7:30 am Seminar 8:30 am Lunch 12:00 pm Conclusion 3:00 pm

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ACCOMMODATIONS

A block of rooms is available at Hotel Vin, Autograph Collection. Identify yourself as a Baker Seminar attendee when calling **817.796.9696** or <u>click here</u>. The special room rate will be available until **October 9, 2023** or until the room block is sold out. Hotel price: \$369 + fees/tax.

For your convenience, register for the seminar online at <u>GoBaker.com/texas-cu</u>. Call Skoshi Heron at 888.990.0010 for more information.



5.5 hours of Economics and Finance CPE credits will be earned for your attendance.

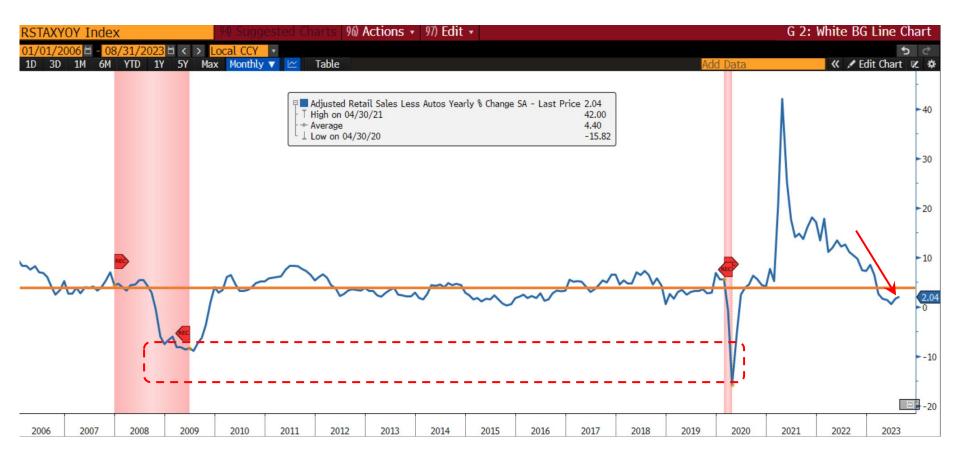
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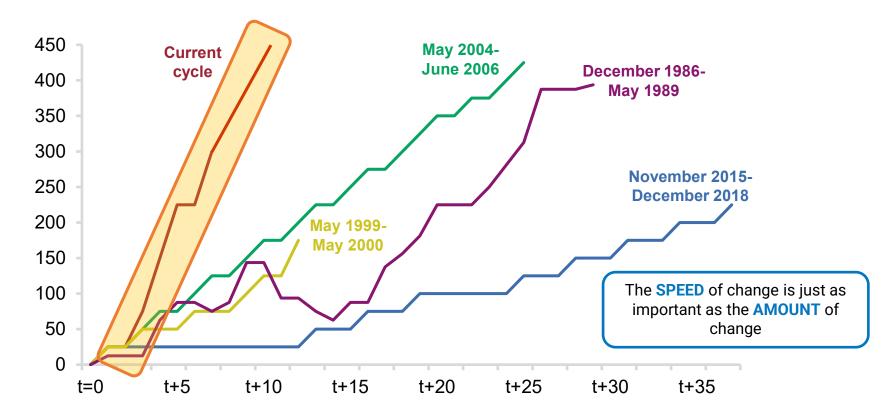


Economic Update: Consumer vs The Fed

Core Retail Sales – Weakening But Holding



Most Aggressive Start to Fed Tightening Cycle in the Past 40 Years



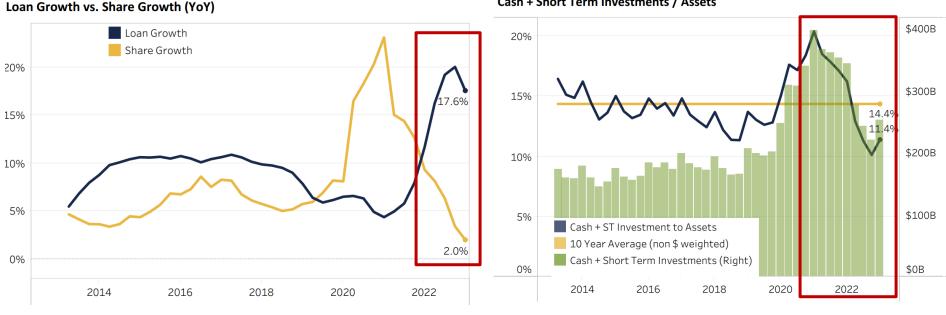
Source: Haver Analytics, Rosenberg Research



Record tightening in CU liquidity

Cash and Short term investments went from a high of **20%** down to **10%** over 9 quarters

Cash + Short Term Investments / Assets

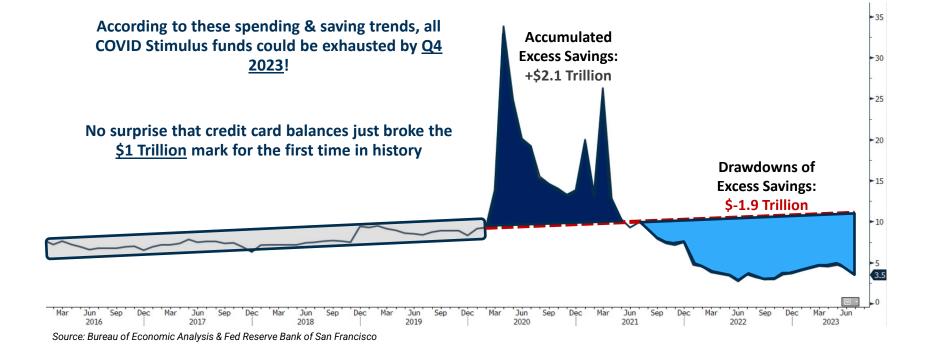


The mismatch between loan and share growth put massive pressure on liquidity

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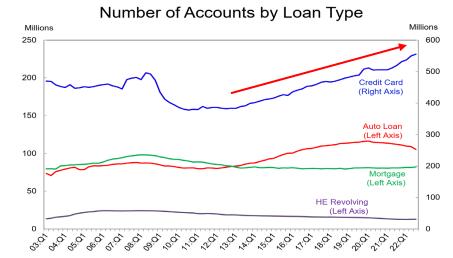
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Ever Shrinking US Personal Savings

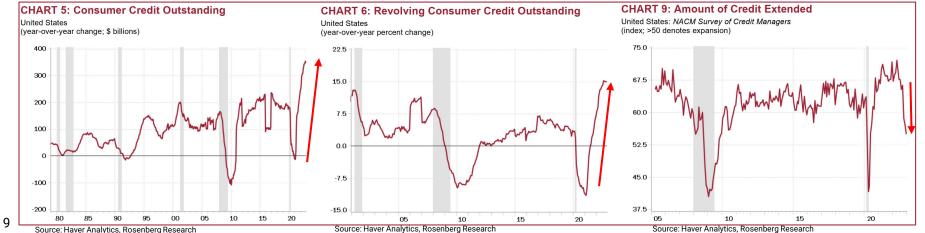


Credit Card Balances – How Much of Consumer Spending Is "Financed"?

- Revolving consumer credit outstanding continues to grow at a record pace
- The 15% year over year growth specifically in credit card balances is the most ٠ since February 2001 (one month before the beginning of the Dot-com recession)
- Although increasing consumer debt does not immediately correlate to an . imminent recession, it can be a troubling sign for future consumer spending
- On top of the growing balances, we also have significancy higher interest . rates leading to higher servicing costs and minimum payments. It's no surprise that this combination has led to credit issuers pulling back on the amount of credit they are comfortable extending right now.

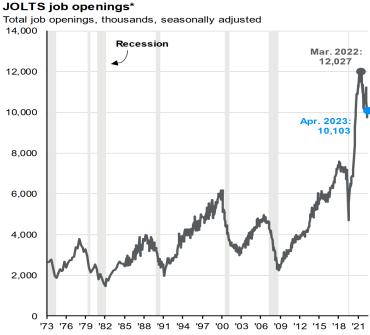


York Fed Consumer Credit Panel/Equifax



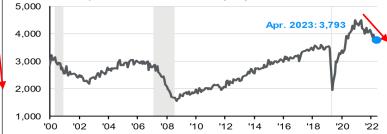
Source: Haver Analytics, Rosenberg Research

Labor Demand Tuesday 10-3-23 – Survey = 8815k vs Actual = 9610k



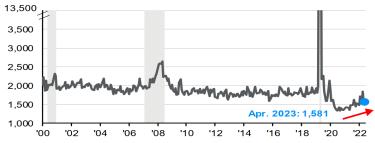
JOLTS quits

Total nonfarm quits, thousands, seasonally adjusted

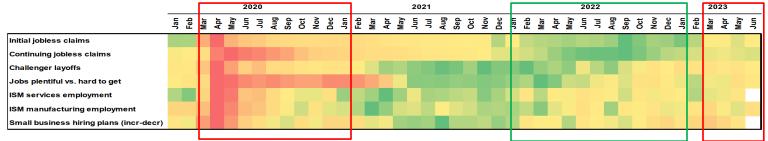


JOLTS layoffs

Total nonfarm layoffs, thousands, seasonally adjusted

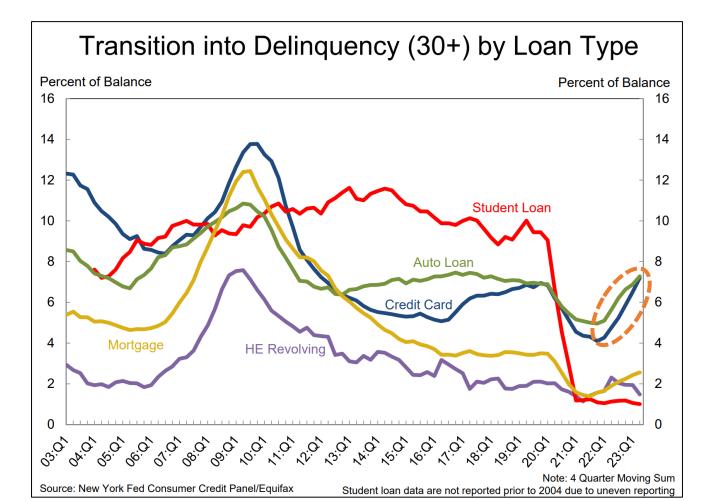


Key labor market indicators



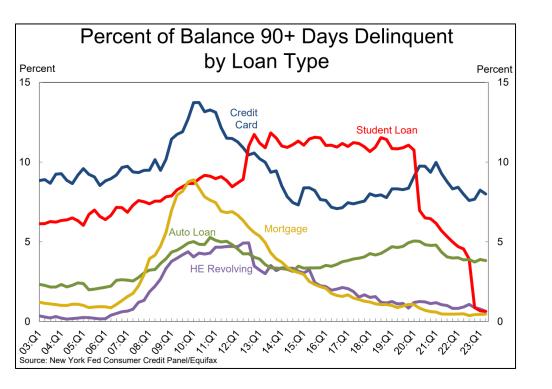
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Consumer Delinquency Moving Higher



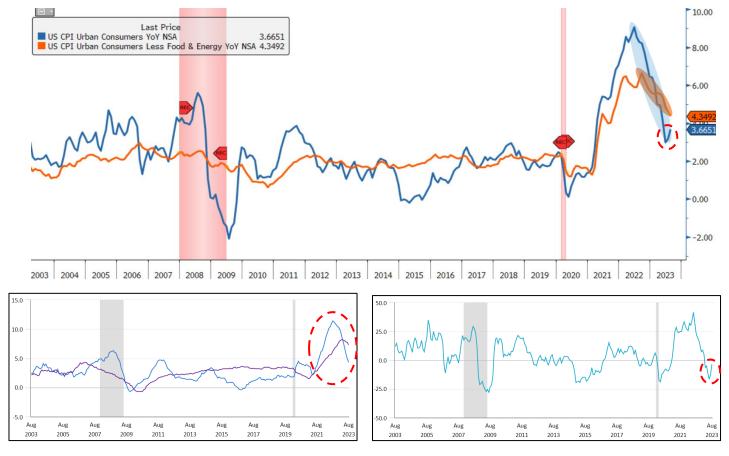
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Student Loan Repayment Coming Next Month!



- Student loan repayment has been on paused since March 2020
- Payments resume in October 2023
- 44 million Americans with Federal Student Loans totaling \$1.6 Trillion
- Average student loan monthly payment estimated at \$393 a month.

Most Recent CPI Data - Continued Improvement But Not "Dead" Yet

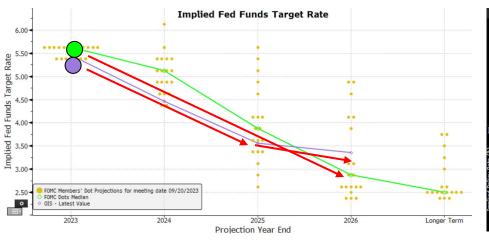


Food • Shelter

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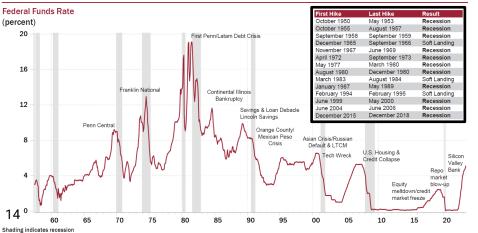
Energy

Higher For Longer...BUT How Much Longer?

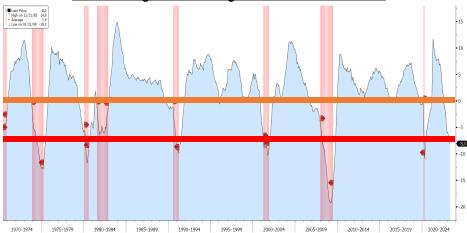




FED TIGHTENING CYCLES ARE ALWAYS FOLLOWED BY SOME SORT OF CRISIS

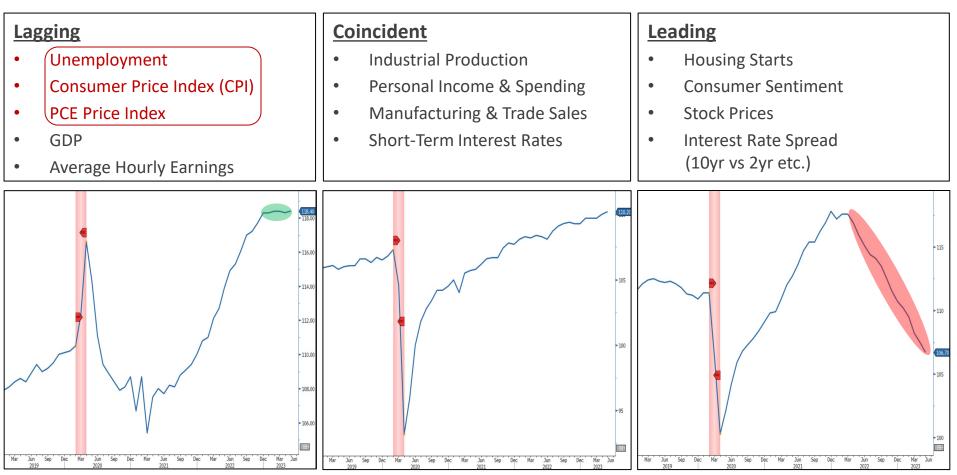


YoY Change in Leading Economic Indicators

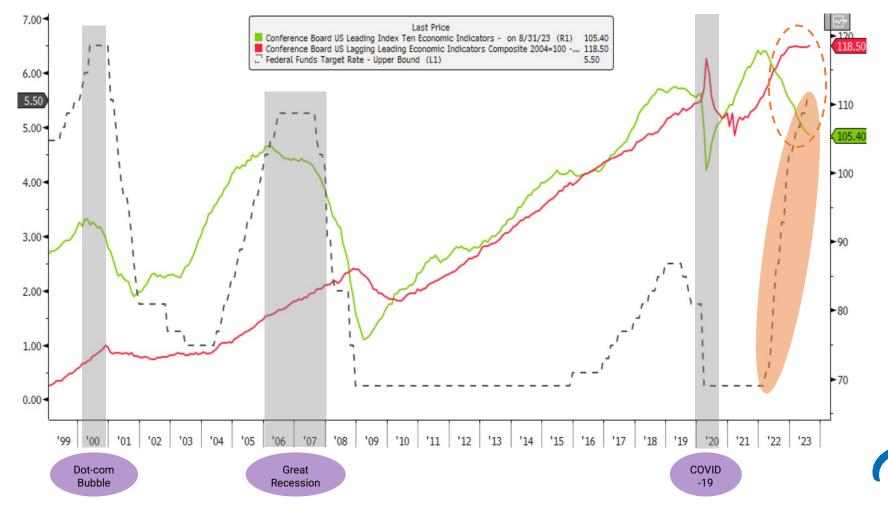


Source: Haver Analytics, Rosenberg Research

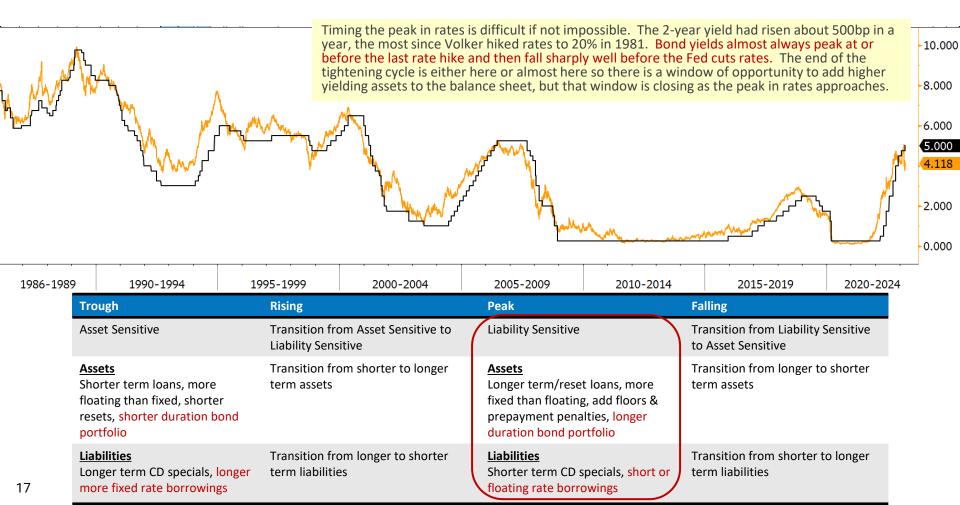
The Fed's "Problem" - Lagging & Coincident Indicators Versus Leading



How "Accurate" Have Economic Indicators Been?



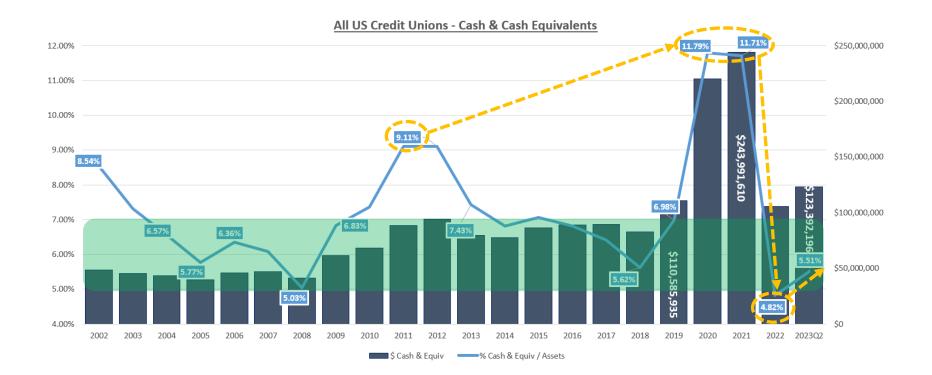
ALM Strategies Through the Cycles





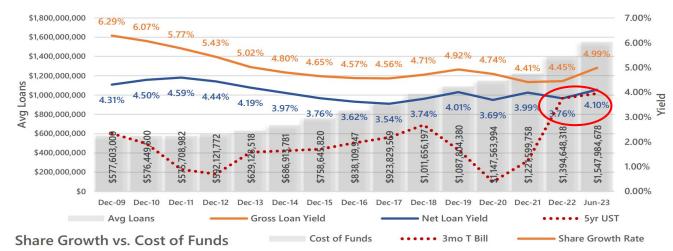
Industry Trends

Industry Liquidity Thru Q2 2023 – HUGE Swings but Back Within "Normal" Range

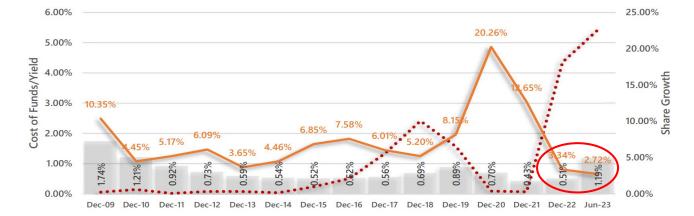


Loan & Deposit Rate Change vs Margin

Gross vs. Net Loan Yield



Net Loan Yield Change Q2 2023: +0.34bps



Cost of Funds Change Q2 2023: +0.68bps

Net Interest Margin vs Fed Funds

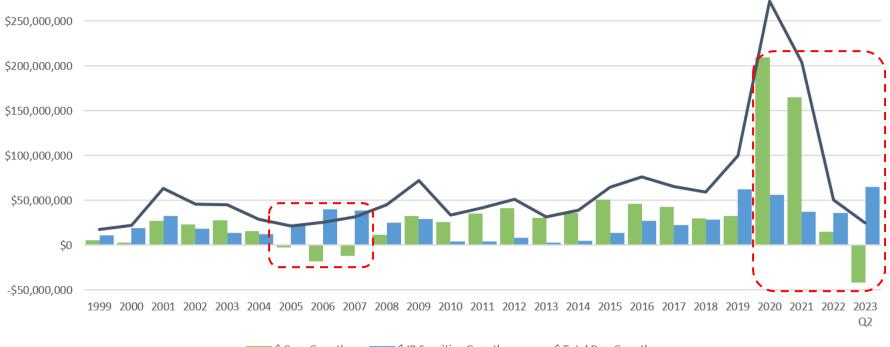






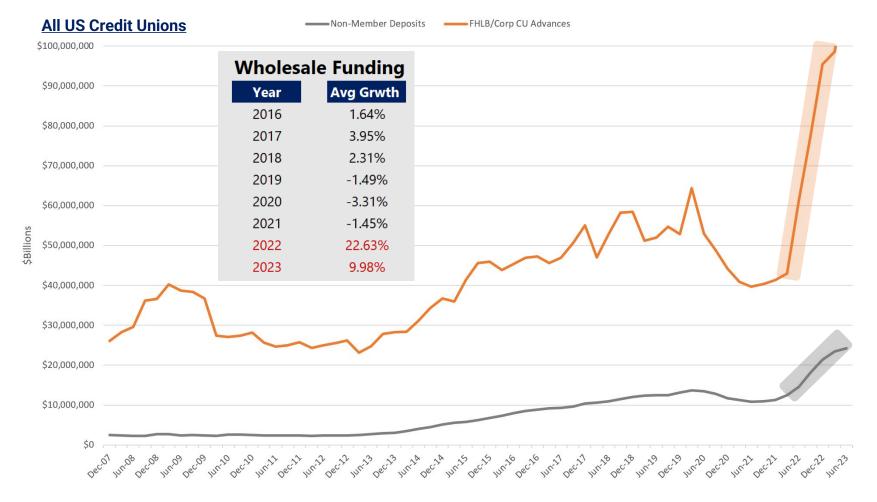
Core & Rate Sensitive Deposits Reversing – CD Specials?

All US Credit Unions

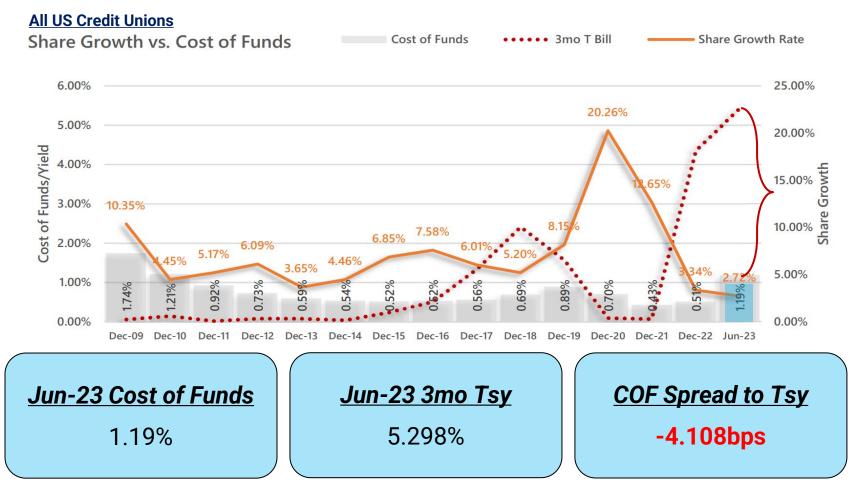


\$ Core Growth \$ IR Sensitive Growth \$ Total Dep Growth

Wholesale Funding Usage Surged in 2022!



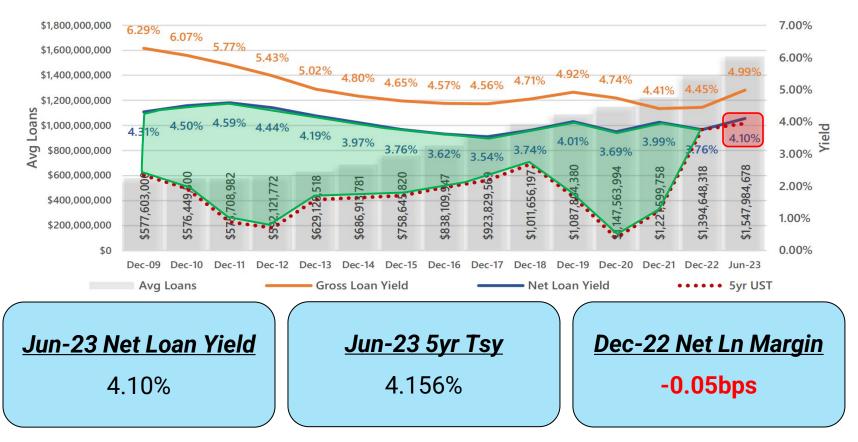
Deposit Pricing Pressures Will Likely Worsen



Loan Pricing Needs to "Catch Up" With Market Swiftly to Protect Margins

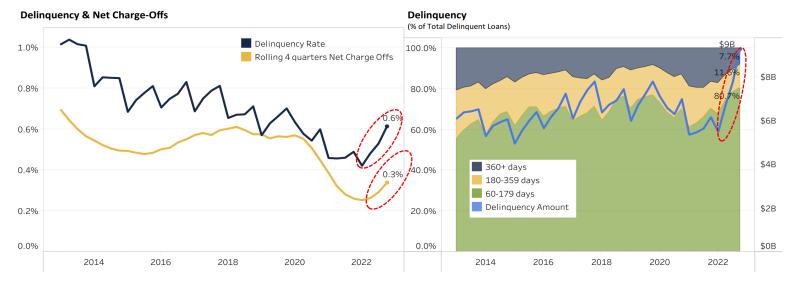
All US Credit Unions

Gross vs. Net Loan Yield



Return To "Normal" Charge-off Rates Coming?

All US Credit Unions



Charge-Offs and Recoveries Amount

Charge-Offs and Recoveries Change

Rolling 4 quarters

Rolling 4 quarters

	Charge-Offs	Recoveries	Net Charge-Offs		Chargeoff %∆	Recovery %∆	Net Chargeoff %Δ
2017 Q4	\$6,586M	\$1,149M	\$5,437M	2017 Q4	17.9%	12.5%	19.1%
2018 Q4	\$7,039M	\$1,276M	\$5,763M	2018 Q4	6.9%	11.0%	6.0%
2019 Q4	\$7,431M	\$1,373M	\$6,058M	2019 Q4	5.6%	7.6%	5.1%
2020 Q4	\$6,596M	\$1,500M	\$5,096M	2020 Q4	-11.2%	9.2%	-15.9%
2021 Q4	\$4,844M	\$1,686M	\$3,157M	2021 Q4	-26.6%	12.4%	-38.0%
2022 Q4	\$6,424M	\$1,737M	\$4,686M	2022 Q4	32.6%	3.0%	48.4%

Credit Union Industry Challenges for 2023 – Discussions to Work Towards a Strong Foundation



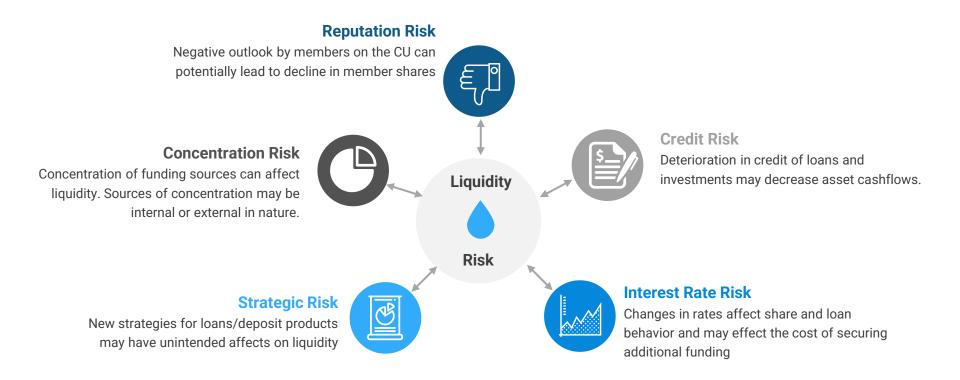
The most effective way to manage in this environment is to be Proactive





Liquidity Management

Primary Risks



No risk is mutually exclusive and all these interrelated risks may contribute to liquidity risk



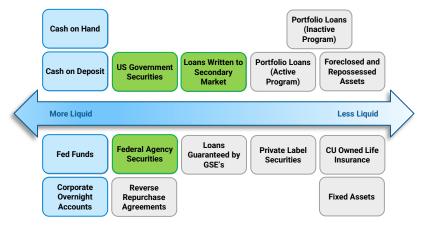
Liquidity Risk Management

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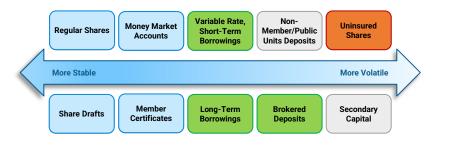
Liquidity risk management needs to address the specific challenges and risks of the individual CU

Asset vs Liability Based Liquidity



Asset Based Liquidity

Liability Based Liquidity

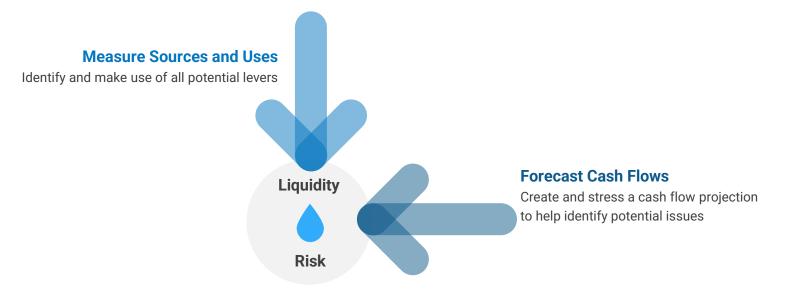


CU's need to understand their potential types of liquidity the cost/benefit of each and how to access each one of them

Measure Sources and Uses

	orrow FHLB / Corp CU or <u>BTFP</u> mediate		Sell Investments	/eek	Retail Deposit or CD Specials	2 We	Non-Member Deposits – LID		Loan Participations
Pros:	Immediate Funds Competitive Rates Unlimited Structures BTFP is extremely borrower friendly	A A A	Quick Funds Potentially lower cost Redeploy into higher performing assets		Reward members Add New members Compete to become PFI		No cannibalization Usually easy to access Ability to raise funds outside of member and competitor space	A A A	"Unlimited" funding Create off-balance sheet servicing income Better control IRR and concentration risks
Cons:	Capital Investment Limited LOC Must collateralize Prepayment penalties on FHLB/Corp	A A A	Potential loss on sale Reduce potential margin protection Near term hit to net worth & earnings	A A	CANNIBALIZATION Limited to member base	>	Can take up to 2 weeks Non-DTC certificates can be withdrawn early		Can take a month or more Process is more involved Loans must be priced at or above secondary market to take full advantage
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Liquidity Risk Management



Liquidity risk management needs to address the specific challenges and risks of the individual CU CakerGroup

Forecast Cash Flows

Modeling cash flows and stressing them should help the CU identify circumstances when cash outflows exceed cash inflows and to anticipate the need for liquidity action ahead of time

Assumptions



- Balance of shares and loans
- Interest rate changes
- Changes to prepayment speeds



Highly volatile or unpredictable: -asset amortization (prepayments) -shares and deposits -off-balance-sheet commitments (lines or letters of credit) -other estimated cash flows

Back Test



Unexpected fluctuations in loan demand or deposit balance

Adverse performance results due to poor internal management information systems, reporting and communication

Projecting and stressing liquidity has become a critical examiner ask, and will most likely be more scrutinized due to recent events

Liquidity Cash Flows and Stress Testing

Base Case:

Loan and investment cashflows from E	Base Scenario
Loan Principal Reinvestment:	100%
Investment Principal Reinvestment:	0%
Deposit Run-Off:	0%
	e 11

No additional stress on available sources of liquidity

Level 1:

Loan and investment cashflows from +	100bps Scenario
Loan Principal Reinvestment:	100%
Investment Principal Reinvestment:	0%
Deposit Run-Off:	3%
Projected cash levels are strained by:	10%
Security market values reduced by:	10%
Available lines of credit reduced by:	10%

Level 2:

Loan and investment cashflows from +200	Obps Scenario
Loan Principal Reinvestment:	100%
Investment Principal Reinvestment:	0%
Deposit Run-Off:	6%
Projected cash levels are strained by:	20%
Security market values strained by:	20%
Available lines of credit reeduced by:	20%
Brokered Deposit availability reduced by:	50%

Level 3:

Loan and investment cashflows from +10	Obps Scenari	0
Loan Principal Reinvestment:	100%	
Investment Principal Reinvestment:	0%	
Deposit Run-Off:	10%	
Projected cash levels are strained by:	30%	
Security market values strained by:	30%	
Available lines of credit reeduced by:	30%	
Brokered Deposit availability reduced by:	100%	

By having proactive discussions on projected growth and contingencies will allow us to have better pricing conversations than "shooting from the hip"

Liquidity Cash Flows and Stress Testing

	Current	Base Case 12mo	Level 1 12mo	Level 2 12mo	Level 3 12mo
Total Assets	\$244,778,848	\$244,778,848	\$231,357,202	\$211,304,142	\$182,356,256
Cash and Contingent Liquidity					
Total Cash and Cash Equivalents	\$66,314,153	\$84,797,509	\$71,264,576	\$57,637,064	\$41,974,104
Total Securities at Market Value	\$31,375,923	\$29,808,178	\$17,114,594	\$15,329,292	\$13,509,206
Net Available Lines of Credit	\$47,554,150	\$47,554,150	\$42,798,735	\$38,043,320	\$33,287,905
Net Available Non Member Deposits	\$49,344,046	\$49,344,046	\$49,344,046	\$24,672,023	\$0
Total	\$194,588,272	\$195,178,158	\$180,242,379	\$135,681,699	\$88,771,215
Contingent Liabilities					
Total Unfunded Loan Commitments	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267
Pending Bond Claims	\$0	\$0	\$0	\$0	\$0
Loans Transferred with Recourse	\$0	\$0	\$0	\$0	\$0
Other Contingent Liabilities	\$0	\$0	\$0	\$0	\$0
Total	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267
Net Available Contingent Liquidity	\$157,861,005	\$158,450,891	\$143,515,112	\$103,904,593	\$64,102,959
% of Total Assets	64.49%	64.73%	60.41 %	46.44%	31.56%
% Cash to Total Assets	27.09%	27.97%	25.78%	24.15%	22.97%
	40%	40%	25%	20%	15%

The projected levels are liquidity are meant for stress purposes only and are not meant as a forecast of the credit unions potential growth targets.

Comparing the results of the stress test to the base gives the CU a good idea of where funding sources may be lacking

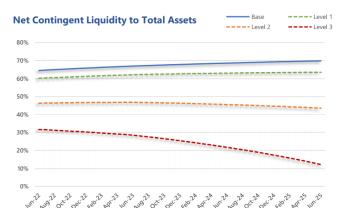
Liquidity Cash Flows and Stress Testing



Liquidity Stress testing assumptions should test breakpoints for strategies

	Current	Base Case 12mo	Level 1 12mo	Level 2 12mo	Level 3 12mo	
Total Assets	\$244,778,848	\$244,778,848	\$231,357,202	\$211,304,142	\$182,356,256	
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Net Available Non Member Deposits	\$49,344,046	\$49,344,046	\$49,344,046	\$24,672,023	\$0	for all possible
Total	\$194,588,272	\$195,178,158	\$180,242,379	\$135,681,699	\$88,771,215	for all possible
Contingent Liabilities						liquidity sources an
Total Unfunded Loan Commitments	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	
Pending Bond Claims	\$0	\$0	\$0	\$0	\$0	stressing them
Loans Transferred with Recourse	\$0	\$0	\$0	\$0	\$0	•
Other Contingent Liabilities	\$0	\$0	\$0	\$0	\$0	appropriately?
Total	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	\$36,727,267	
Net Available Contingent Liquidity	\$157,861,005	\$158,450,891	\$143,515,112	\$103,904,593	\$64,102,959	
% of Total Assets	64.49%	64.73%	60.41%	46.44%	31.56%	4
% Cash to Total Assets	27.09%	27.97%	25.78%	24.15%	22.97%	





Loan and investment cashflows from Base Scenario Loan Principal Reinvestment: 100% Investment Principal Reinvestment: 0% 0% Deposit Run-Off: No additional stress on available sources of liquidity Level 1: Loan and investment cashflows from +100bps Scenario Loan Principal Reinvestment: 100% Investment Principal Reinvestment: 0% Deposit Run-Off: 3% Projected cash levels are strained by: 10% Security market values reduced by: 10% Available lines of credit reduced by: 10% Level 2: Loan and investment cashflows from +200bps Scenario Loan Principal Reinvestment: Investment Principal Reinvestment: 0% Deposit Run-Off: Projected cash levels are strained by: Security market values strained by: Available lines of credit reeduced by: 20% Brokered Deposit availability reduced by: Level 3:

e Case:

Loan and investment cashflows from +300	ops Scenari
Loan Principal Reinvestment:	100%
Investment Principal Reinvestment:	0%
Deposit Run-Off:	10%
Projected cash levels are strained by:	30%
Security market values strained by:	30%
Available lines of credit reeduced by:	30%
Brokered Deposit availability reduced by:	100%



Liquidity Risk Management

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Liquidity risk management needs to address the specific challenges and risks of the individual CU



Changes in Business Strategy

Offering a deposit special, like a high-rate certificate product to attract new member shares

Borrowing to fund loan growth (such as FHLB or corporate credit unions)

Soliciting nonmember deposits, public unit, and brokered deposits

Increasing operating expenses materially – for example,
 changes in staff size, new data processing system,
 change in external vendors

Launching a new lending program

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Are we tracking the performance of new products/initiatives?



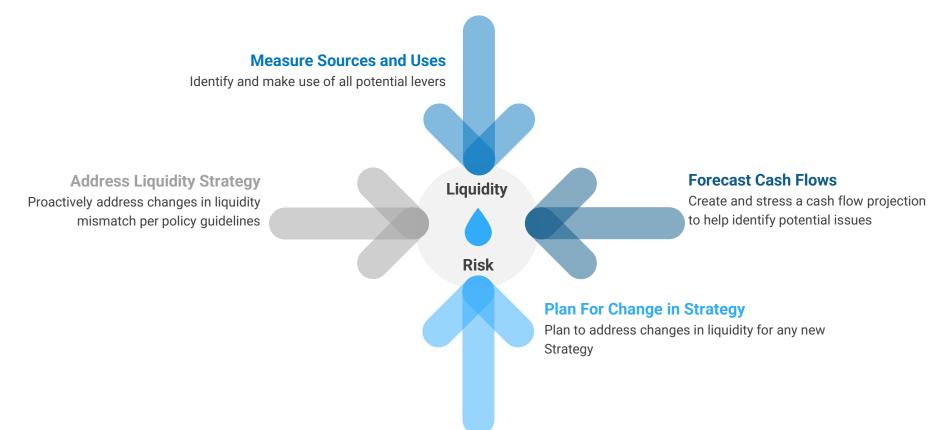
Tracking and Controlling Cannibalization

New CD Special Rate		4.00%		4.00%
Total Growth	s	10,000,000	s	10,000,000
% of New Money Raised		80%		60%
Rate on Cannibalized Deposits		0.50%		0.50%
Cost of Cannibalization		3.50%		3.50%
New Money Raised @ 4%	S	320,000	S	240,000
Cannibalized Deposits @ 3.50%	S	70,000	\$	140,000
Total	S	390,000	S	380,000
Incremental Interest Expense	s	390,000	s	380,000
Divided by New Money Raised	s	8,000,000	S	6,000,000
Marginal Cost of New Funds		4.88%		6.33%
Comparable Wholesale Funding		5.50%		5.50%
Payup vs Wholesale Funding		-0.63%		0.83%

How can we reduce cannibalization?

- New Money Only requests can work but often may alienate loyal members
- Longer Term Requirements
 - Money from outside the CU can be put into any CD term
 - Money moved from an internal account had to go into a longer term (ex. Min term 12 months)
 - Still cannibalization, but the longer duration ensures some stability
- Companion Deposit Accounts
 - Offer a high yield savings account with a matched deposit in a certificate.
 - Key is to price below wholesale funding while also being competitive.
 - Not allowing subsequent deposits will limit cannibalization.

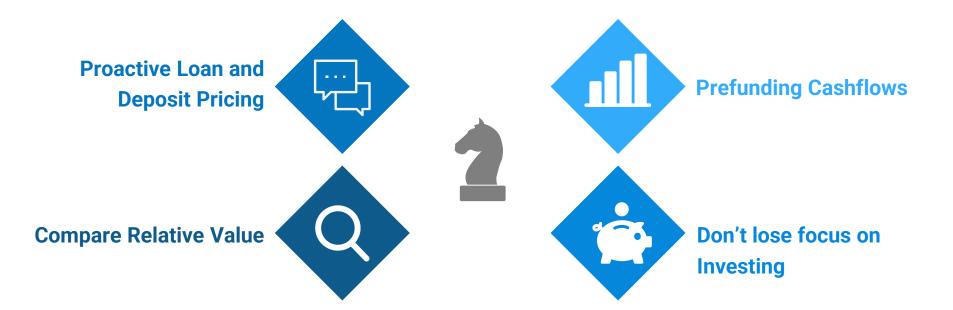
Liquidity Risk Management



Liquidity risk management needs to address the specific challenges and risks of the individual CU



Address Liquidity Strategy



Every decision we make has a ripple effect on liquidity. By having proactive discussions on strategy we can minimize the impact of our decisions on our liquidity position.

Proactive Loan and Deposit Pricing

Deposits

O Raise Deposit Rates

 $\left< \underbrace{\bigcirc} \right>$ Certificate Specials

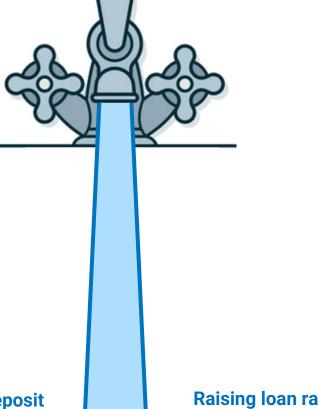
O Non-Member Deposits

 $\{ \bigcirc \}$ Borrowings

 $\left\{ \widehat{\bigcirc} \right\} \textbf{ Selling Investments}$

Sell Loan Participations

When loan growth starts out pacing deposit growth, these are typically the first responses



Loans

SO Raise Loan Rates

Raising loan rates should be one of the first discussions we have, We must maintain a level of growth that won't stress liquidity



Proactive Deposit Pricing

Cost of Funds vs. #1 Understand the true cost of your deposit products Servicing Source of New Tracking deposit flows to see if and where new deposits are #2 coming in to the CU Funds **Wholesale** #3 Monitor wholesale alternatives to retail funding sources **Alternatives** Product and Understand the costs of wholesale funding compared to the #4 **Promotion Pricing** retail costs. **Opportunities to** Offering new products such as online only savings or rewards #5 checking to capture new market share. Innovate



Example Cost of Servicing

How to Calculate Cost of Servicing

Share Draft Ba	lance	\$ 15,000,000.00
Share Draft Ex	penses	
	Interest Expense	\$ -
	Debit Card Processing	\$ 165,000.00
	Debit Card Costs	\$ 18,000.00
	ATM Maintenance	\$ 85,000.00
	Marketing Expense	\$ 14,000.00
	Employee Salary and Benefits	\$ 290,000.00
	Other Operating Expense	\$ 250,000.00
Total Expense		\$ 822,000.00
Share Draft Inc	ome	
	ATM Income	\$ 38,000.00
	Debit Card Interchange	\$ 205,000.00
	Overdraft Charges	\$ 305,000.00
	NSF Charges	\$ 47,000.00
	Debit Card Replacement	\$ 1,000.00
Total Income		\$ 596,000.00
Net Expense		\$ 226,000.00
Cost of Servici		1.507%



Understanding how Cost of Servicing factors into deposit pricing

- Understanding the cost of servicing can help us make better decisions for loan and deposit pricing by factoring in all the costs/income associated with a member account.
- OTS estimated servicing cost for transaction accounts as 1.80%

Proactive Loan Pricing





Factoring In Operating Costs

Calculating Net Loan Yield – Auto Loan

New Auto Balan	ice	\$ 10,000,000.00
New Auto Rate		5.00%
New Auto Incon	ne	
	Interest Income	\$ 500,000.00
	Late Fees	\$ 3,600.00
	Skip Pay Fee	\$ 450.00
	Warranty Income	\$ 8,000.00
	GAP Income	\$ 60,000.00
Total Income		\$ 572,050.00
New Auto Expe	ises	
Industry	Interest Expense (with Servicing)	\$ 161,000.00
Averages +	Provision Expense	\$ 32,000.00
TS Servicing	Loan Servicing	\$ 30,000.00
	Credit Reports	\$ 3,250.00
	Collection Expense	\$ 8,000.00
	Marketing Expense	\$ 25,000.00
Total Expenses		\$ 259,250.00
Net Income		\$ 312,800.00
Return on Loan		3.128%



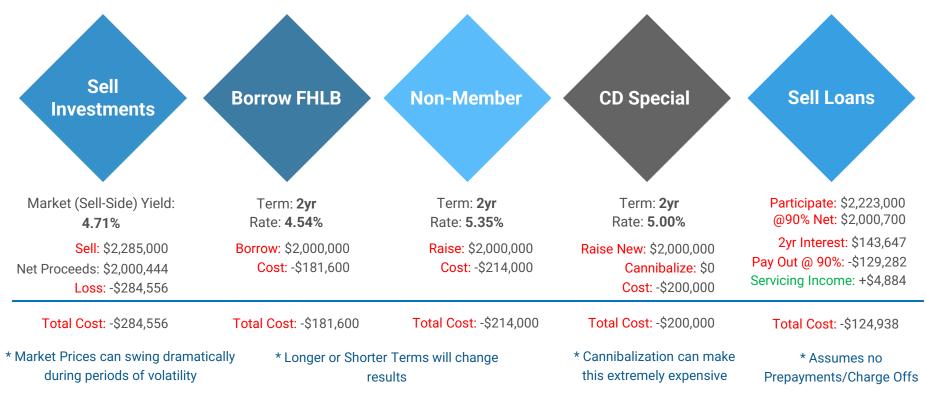
What if these are Indirect Autos?

- For indirect autos, we must also include the dealer reserve
- Average dealer reserve is around 1.50%
- If we assume that 1.50% is written down over 3 years, that's another 50bps of annual "expense" bringing us to:

Net Return on Loan = 2.628%

Compare Relative Value

What if we needed to raise \$2mm?



Along with the pros/cons of each type of funding, total cost should be factored



Prefunding Cashflows

50

Yield Roll-Off and Reinvestment Risk

2/28/2023

Page 1 of 1

	Summar	ry						Reinve	stment	Oppor	tunities	;						
	ed 12Mo Cash 12mo Yield Ro zed Interest In	oll-Off:	<mark>29,490,0</mark> <u>1.</u> 423,6	44	Yield 3.75 4.00 4.25 4.50 4.75 5.00	Ann. Income 1,105,877 1,179,602 1,253,328 1,327,053 1,400,778 1,474,503	<u>Inc. / (Dec</u> 682,261 755,986 829,711 903,436 977,161 1,050,883	5.25 5.50 5.75 6.00 6.25	5 1,54 1,62 5 1,69 0 1,76 5 1,84	ncome 8,228 1,953 95,679 9,404 3,129 6,854	1,198 1,272 1,345 1,415	4,612 3,337 2,062		<u>Yield</u> 7.00 7.50 8.00 8.50 9.00 9.50	2,06 2,21 2,35 2,50 2,65	ncome 4,304 1,755 9,205 6,655 4,106 1,556	<u>Inc. / (</u> 1,640 1,788 1,935 2,083 2,230 2,230	,688 ,138 ,588 ,039 ,489
Portfolio Sector	ASC 320	# Item	% Port	Avg Cpn	Par	Book Price	Market Price	Gain/ <mark>(Loss)</mark>	Acctg	Yield Proj	Mkt	Av Proj	/erage -300	Life +300	Eff Dur	Eff Cnvx	% Price -300	e Change +300
Portfolio Totals	AFS	24 135	1.5 98.5	1.715 1.489	5,937,000 386,069,341		100.000 89.228	0 (48,817,481)	1.72 1.03	1.72 1.08	1.72 4.76	0.97 3.98	0.97 3.51	0.97 4.16	0.88 3.78	(0.08) 0.11	1.36 11.57	(2.83) (10.55)
	Total	159	100%	1.493	392,006,341	101.844	89.391	(48,817,481)	1.04	1.09	<mark>4.71</mark>	3.93	3.47	4.10	3.73	0.11	11.40	(10.42)

	Discount Window – Primary Credit	Bank Term Funding Program	Terms of Borrowing
Eligible Collateral	 Securities eligible for the Program plus a wider range of securities; loans (see collateral schedule on frbdiscountwindow.org) 	 Collateral eligible for purchase by Reserve Banks in open market operations, such as U.S. Treasuries, U.S. agency securities, and U.S. agency MBS 	Size of Advance • There is no limit to the number or size of advances in the aggregate. Eligible depository institutions may borrow up to the value of eligible collateral they pledge.
Collateral Valuation	Fair Market Value	Par Value	Valuation • There will be no haircuts applied. Margin will be 100% of par value.
Rate	 Primary credit rate (today = 4.75%) 	OIS + 10 bps (today = 4.39%)	Advance • Advances will be made available to eligible depository institutions for a term of up to one year
	 Rate changes as primary credit rate changes 	Rate is fixed on day advance is made	Prepayment Borrowers may prepay advances (including for purposes of refinancing) at any time without penalty.
Margin	 For securities eligible for the Program, no haircuts; 100% margin For others, see collateral schedule 	 No haircuts; 100% margin 	 The rate for term advances will be the one-year overnight index swap rate plus 10 bps. The rate will be fixed for the term of the advance on the day the advance is made.
Term	on frbdiscountwindow.org. • Up to 90 days	Up to one year 9	Recourse Advances made under the Program are made with recourse beyond the pledged collateral to the eligible depository institution. s

Borrowing against your portfolio maturities ensures you have the money to pay back the borrowing without taking a loss on sale of investments **Baker**Group

Don't Loose Focus on Investing

Even in periods of tight liquidity, investments should be part of the conversation

- It is very important to have a written investment strategy so that the CU has a plan for the current market conditions
- Investments are typically grown when rates are at their lowest, and singled out for their losses when rates rise
- The only way to change that is to try and make continued purchase to Doller-cost-average the portfolio
- By ignoring the investment portfolio during periods of excess loan growth, we hurt the benefits of liquidity and margin protection the portfolio can bring

The discussion is not should we write the loan or buy the investment, but rather how can we do 51 both?





Asset Liability Management

The better ALCO understands key assumptions, the more time we can focus on strategy

Asset Liability Management touches almost every area of the credit union so review of the key results **dominates** most ALCO discussions

In order to have an effective ALCO the ALM needs to have good **institution specific assumptions** for the critical risk tests such as NII and NEV





Our assumptions should always strive to be **reasonable and supportable**

All members of the ALCO should have a good understanding of the assumptions and how they **drive** the results The risk of poor assumptions is an **inaccurate** view of the credit unions strategic ability to manage the balance sheet

Assumptions should be reviewed at least once a year so that everyone maintains a good understanding of the inputs

The NEV Assumptions should reflect Market Rates

												-			
	Book	Current	D	iscount Ra	ates	A	verage l	Life		Market Value			Price Volat	lity	Contribution to
Assets	Value	Yield	-300	0	300	-300	0	300	-300	0	300	-300	0	300	Category Change
Credit Cards	6,205,478	8.90	8.50	11.50	14.50	4.02	4.02	4.02	6,349,637	5,822,799	5,375,002	9.05%	0.00%	-7.69%	3.29%
Other Unsecured Loans	7,582,029	6.22	6.15	9.15	12.15	2.81	3.89	4.73	7,616,580	6,861,033	6,030,076	11.01%	0.00%	-12.11%	6.10%
New Auto Loans	7,219,066	4.10	1.99	3.50	6.50	1.67	2.03	2.40	7,494,807	7,332,159	6,894,958	2.22%	0.00%	-5.96%	3.21%
Used Auto Loans	20,243,751	5.04	1.99	4.00	7.00	1.72	2.00	2.34	21,366,358	20,724,560	19,551,097	3.10%	0.00%	-5.66%	8.61%
Other Secured Loans	1,312,048	6.05	2.50	4.90	7.90	2.81	3.89	4.73	1,446,413	1,378,261	1,251,815	4.94%	0.00%	-9.17%	0.93%
First Mortgage Loans	32,072,094	3.68	2.50	4.95	7.95	3.06	4.96	6.54	33,143,519	30,423,472	26,137,148	8.94%	0.00%	-14.09%	31.45%
Jr Mortgage Loans	10,025,186	4.30	4.50	4.85	7.85	2.77	3.70	4.53	9,994,669	9,877,828	8,867,179	1.18%	0.00%	-10.23%	7.41%
Other Mortgage Loans	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0.00%	0.00%	0.00%	0.00%
Commercial RE Loans	25,544,048	4.64	4.50	5.75	8.75	1.77	2.25	2.89	25,645,384	25,027,279	23,157,206	2.47%	0.00%	-7.47%	13.72%
Commercial Other Loans	9,897,736	3.77	4.50	5.75	8.75	1.55	2.06	2.87	9,799,310	9,550,775	8,826,185	2.60%	0.00%	-7.59%	5.32%
TOTAL LOANS	120,101,436	4.65	3.68	5.53	8.53	2.36	3.24	4.07	122,856,676	116,998,167	106,090,666	3.46%	0.00%	-5.64%	80.02%
What is the Market Rate of the loans that we are writing?															

At the end of the day NEV is measuring our **risk to capital** of having to liquidate our assets to pay off our liabilities, having bad assumptions can reduce our ability to manage this risk

NEV can also highlight if our pricing methodologies have **disconnected** from the rest of the market place and identify if we are not properly being rewarded



NEV results should drive duration and price volatility targets

Risk Assessment	Net Worth Ratio	%Change in Market Value of Net Worth	Risk Assessment	Net Worth Ratio	% Change in Market Value of Net Worth
Low Risk	6% or Above	25% or less	Low Risk	7% or Above	40% or Less
Moderate Risk	4% to 5.99%	25% to 50%	Moderate Risk	4% to 6.99%	40% to 65%
High Risk	Less than 4%	50% or Above	High Risk	Less than 4%	65% or Above

NCUA Pre Supervisory Test Guidelines

NCUA Supervisory Test Guidelines

NEV Scenario	Description	Assets Avg Life	Liabilities Avg Life	+300 NEV Capital Ratio	NCUA Risk Assessment	+300 Change in NEV	NCUA Risk Assessment	OVERALL NCUA Risk Assessment
1	Historical - CU Past 15 Years	2.27	4.22	15.15%	LOW RISK	6.95%	LOW RISK	LOW RISK
2	Historical - All US CU Past 15 Years	2.27	10.48	28.37%	LOW RISK	14.07%	LOW RISK	LOW RISK
3	Historical - Peer Group Past 15 Years	2.27	7.46	23.21%	LOW RISK	14.12%	LOW RISK	LOW RISK
4	Historical - Rising Rates	2.27	3.86	14.05%	LOW RISK	3.65%	LOW RISK	LOW RISK
5	Historical - Falling Rates	2.27	4.34	15.55%	LOW RISK	8.55%	LOW RISK	LOW RISK
6	Historical - Worst 12 Month Period	2.27	1.54	6.66%	MODERATE RISK	-30.73%	LOW RISK	MODERATE RISK
7	NERA Study	2.27	2.23	8.95%	LOW RISK	-14.53%	LOW RISK	LOW RISK
8	PAR Scenario	2.27	0.16	1.31%	HIGH RISK	-81.46%	HIGH RISK	HIGH RISK
9	NCUA NEV Supervisory	2.27	0.78	5.96%	LOW RISK	-25.68%	MODERATE RISK	MODERATE RISK

Strategy for **LOW** or **MODERATE** Risk

Room for additional duration and/or yield

Both categories viewed as **acceptable** levels of risk by NCUA

Strategy for **HIGH** Risk

Additional duration or volatility should be weighed and tested before addition

High risk can be acceptable assuming **increased IRR management** standards



NII Assumptions should be driven by how the CU is going to reprice its own products

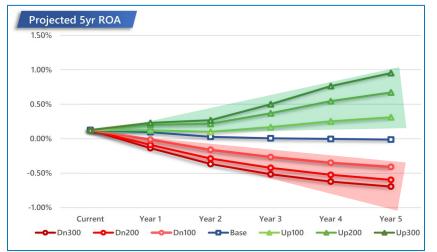
																											_						
	Book	Current	Rate	Rate	Delay			Reinv	estment	Rate					Eff	ective Be	ta					Av	g Life ()	/rs)				Current	Loan Pro	epayme	ent Spee	d (CPR)	
Assets	Value	Yield	Floor	Сар	(Mos)	-300	-200	-100	0	100	200	300	-300	-200	-100	0	100	200	300	-300	-200	-100	0	100	200	300	-300	-200	-100	0	100	200	300
Loans																																	
Credit Cards	6,205,478	0.00	5.00	0.00	0.00	5.00	5.00	5.00	5.75	6.75	7.75	8.75	25%	38%	75%		100%	100%	100%	4.02	4.02	4.02	4.02	4.02	4.02	4.02	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Other Unsecured Loans	7,582,029	6.22	5.00	0.00	0.00	5.00	5.00	5.00	5.53	6.18	6.86	7.58	18%	27%	53%		65%	66%	68%	2.81	3.15	3.56	3.89	4.07	3.89	4.73	20.00	16.00	14.00	12.00	11.00	12.00	8.00
New Auto Loans	7,219,066	4.07	1.99	0.00	0.00	1.99	2.60	3.35	4.10	4.85	5.60	6.35	70%	75%	75%		75%	75%	75%	1.67	1.78	1.90	2.03	2.18	2.03	2.40	24.00	21.00	18.00	15.00	12.00	15.00	8.00
Used Auto Loans	20,243,751.00	4.99	1.99	0.00	0.00	1.99	2.00	2.01	2.13	2.88	3.63	4.38	5%	6%	12%		75%	75%	75%	1.72	1.83	1.91	2.00	2.13	2.00	2.34	22.00	19.00	17.00	15.00	12.00	15.00	8.00
Other Secured Loans	1,312,048	6.05	2.50	0.00	0.00	9.03	9.53	10.03	10.53	11.03	11.53	12.03	50%	50%	50%		50%	50%	50%	2.81	3.15	3.56	3.89	4.07	3.89	4.73	20.00	17.00	14.00	12.00	11.00	12.00	8.00
First Mortgage Loans	32,072,094.00	3.68	2.50	0.00	0.00	2.51	2.57	3.07	3.99	4.99	5.99	6.99	49%	71%	92%		100%	100%	100%	3.06	3.75	4.29	4.96	5.52	4.96	6.54	20.00	15.00	12.00	9.00	7.00	9.00	4.00
Jr Mortgage Loans	10,025,186	4.30	4.50	0.00	0.00	4.50	4.50	4.69	5.48	6.48	7.48	8.48	33%	49%	78%		100%	100%	100%	2.77	3.18	3.42	3.70	4.00	3.70	4.53	20.00	16.00	14.00	12.00	10.00	12.00	7.00
Other Mortgage Loans	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0%	0%	0%		0%	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commercial RE Loans	25,544,048	4.64	4.50	0.00	0.00	4.50	4.50	4.50	4.50	5.25	6.25	7.25	0%	0%	0%		75%	88%	92%	1.77	1.90	2.04	2.25	2.42	2.25	2.89	30.00	27.00	24.00	20.00	17.00	20.00	10.00
Commercial Other Loans	9,897,736.00	2.13	4.50	0.00	0.00	4.50	4.50	4.50	4.50	5.29	6.29	7.29	0%	0%	0%		79%	90%	93%	1.55	1.68	1.83	2.06	2.26	2.06	2.87	30.00	27.00	24.00	20.00	17.00	20.00	10.00
TOTAL LOANS	120,101,436	4.05	3.43	0.00	0.00	3.50	3.56	3.76	4.22	5.06	5.98	6.5 5	0.24	0.33	0.45		0.84	0.88	0.89	2.36	2.67	2.92	3.24	3.51	3.24	4.07	13.01	19.49	16.96	14.14	11.80	14.14	7.5/
Total LOANS 120,101,436 405 3.43 0.00 0.00 250 3.56 3.76 4.22 5.06 5.98 69 How will the CU adjust to changing rates?										l	prel			e ao nts	ch		ge	wit	:h r	ate						•							

Most NII's assume that balances for all products remain the **same**, ALCO should recognize how changing balances will affect the overall results

If our ALM does **NOT** reflect our pricing strategies the CU may have a false sense of what the **challenges** might be in a changing rate environment

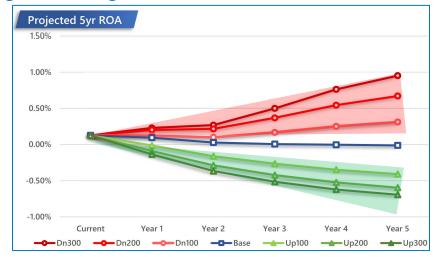


Income Simulation results should drive average life targets



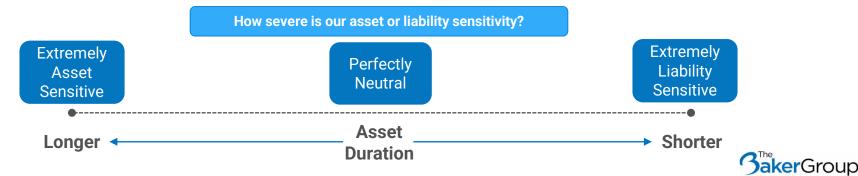
Investment Strategy for ASSET Sensitivity

- Assets tend to reprice faster than liabilities – rising rate protection - Falling rates put negative pressure on earnings and margin



Investment Strategy for LIABILITY Sensitivity

- Liabilities tend to reprice fast than assets falling rate protection
 - Rising rates put negative pressure on earnings and margin



ALCO must always connect the results of the ALM to the overall strategy

- Is the CU's ALM helping to drive toward our strategic goal?
- Is the CU making **proactive decisions** to prepare the balance sheet for a changing economic environment?
 - Is the balance sheet prepared for a recession?
- Is the CU properly managing risks vs. rewards?
 - Does the ALCO know how low our loan rates can fall before they become unprofitable?
- Is the CU considering how the rapidly changing competitive landscape affects our core products?
 - Are Online-only offerings and fintech lending taking some market share from our potential member base?
- Are we considering **other data** in deciphering our ALM results?
 - How is our membership demographic changing and how does that affect our risk profile?

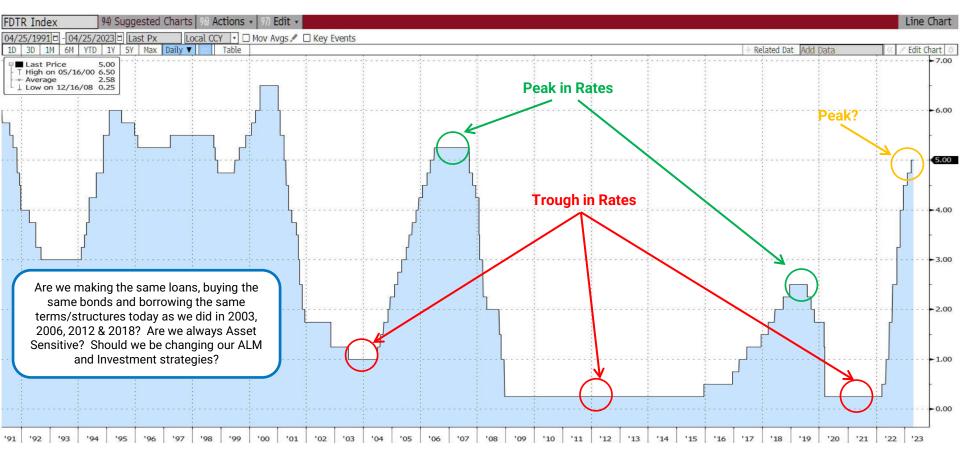
If ALCO starts to focus on these types of questions vs. just reviewing the numbers then we can start shifting the mindset of the ALCO from **passive** to **active**.





Investment Management

Our strategy should adapt with changes in the economic environment

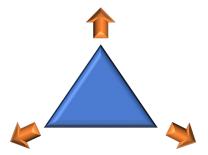




The Industry's Challenges

Inverted Yield Curve

Inverted curve presents a fundamental challenge to most banks' basic business model (borrow short, lend long)



Liquidity

Crisis period of historic low rates followed by the most aggressive Fed tightening cycle in decades impaired bond portfolios and drained liquidity Higher for longer or Recession? No crystal ball for where interest rates are going, higher for longer or recession looming?

Being reactive hurts our ability to build a suitable investment portfolio

Reactive Portfolio Manager

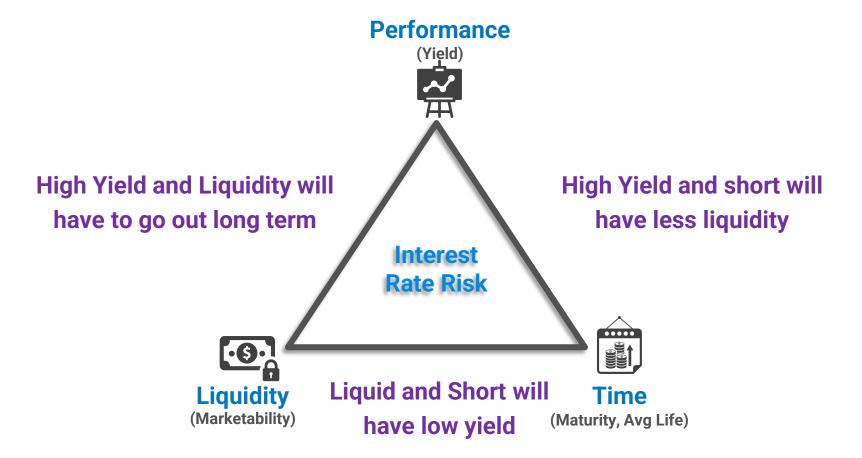
- Calls their brokers only when they have money to spend
- Says things like "what's good today" or "show me what you've got"
- They feel like they are choosing from multiple bonds but often end of being sold what the broker has to sell
- No real strategy, mainly "shooting from the hip", usually between multiple meetings!
- Tend to jump from one idea to the next, depending on what looks good at the time
- Ultimately they end up with a mixed bag of bonds from multiple ideas and no clear strategy

Proactive Portfolio Manager

- Talks with their brokers regularly, even when they don't have money to deploy
- Instead they discuss balance sheet and IRR needs along with market conditions and strategy
- Using their ALM results and consultative discussions, they build an investment strategy for near-term guidance
- Future purchase decisions are guided by that strategy, which incorporates the entire balance sheet
- When there is excess liquidity to invest, they have their brokers find the best value within those strategic parameters
- In the end, their disciplined investment strategy and process makes their portfolio more likely to perform and align with their overall balance sheet position

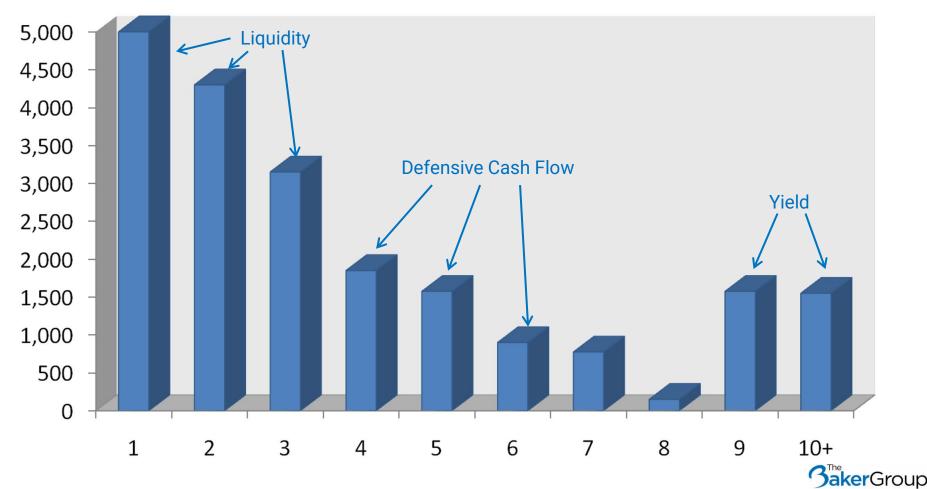


The "Iron Triangle of Portfolio Management" shows if we can't have it all





A Modified Barbell Cashflow approach can help build a portfolio to our needs



A comprehensive strategy keeps the guess work out of investing

1. Economic Overview, Market Update and Fed Policy Outlook

• Review of local/national economies, recent trends in various rates/yields and the outlook for Federal Reserve monetary policy

2. Financial Performance

- Historical review of your performance during recent economic environment and interest rate moves
- Comparison against peers

3. Interest Rate Risk Forecast

- Review of your overall interest rate risk given the rate outlook (Step 1) and the institution's performance during the current economic/rate environment (Step 2)
- Earnings at Risk (Income Simulation) is our balance sheet positioned for higher or lower rates? What is our greatest risk?
- Capital at Risk (Net Economic Value) are we risking too much net worth, should we shorten/lengthen the duration?

4. Investment Portfolio Review

- Review of the investment portfolio using good analytics and reporting. Should include performance measures, adherence to policy limits and progress toward strategy targets.
- Given our recent financial performance (Step 2) and our forecasted risk to earnings and capital (Step 3) given the rate outlook (Step 1), is our investment portfolio positioned properly? Do we need to make changes to our strategy?

5. Updated Written Investment Strategy

Only after completing Steps 1-4 can we finally determine if our investment strategy needs to be updated. Should we be extending? Are we taking on too much risk or not enough? Is our cashflow too volatile?



Investment Strategies Should Be In Transition Now

Low Rate (Trough) Strategies	Transition	High Rate (Peak) Strategies
Minimum duration	\longrightarrow	Maximum duration
Premiums	\longrightarrow	Discounts
High coupon	\longrightarrow	Low coupon
Negative convexity OK	\longrightarrow	Reduce negative convexity
High cash flow bonds	\longrightarrow	Lockouts
Buy ARMs & floaters	\longrightarrow	Sell ARMs & floaters
Current pay CMBS	\longrightarrow	Lockout CMBS
Prepay protection less important	\longrightarrow	Prepay protection more important
1X Callable Agencies	\longrightarrow	Bullet agencies or callables with call protection
Cushion callables	\longrightarrow	Discount callables

Investment strategies have been focused on **protecting the value** of the portfolio (i.e. shorter duration, more cash flow) as rates have been low and rising.

Now that rates are approaching what many believe to be the peak in rates and end of the tightening cycle, strategies need to shift to **protecting the yield** of the portfolio (i.e. longer duration, less cash flow)



Key Takeaways

- ALM and IRR management are very real and very serious requirements for ALL banks & credit unions
 - · Fed is committed to stomping out inflation at "almost" any cost
 - It is the credit union's job to make sure their balance sheet and risk/reward balance remains in line with the current rate environment
 - Reviewing your ALM results for an hour once a quarter isn't enough ALCO and management must include IRR in all strategic decisions

Loan & Deposit pricing decisions cannot be made inside a bubble

- · We cannot set our loan and deposit rates based solely on what the local competition is offering
- It is the credit unions job to deliver value to both borrowers and savers while earning a safe margin in-between
- · For over a decade, deposits sat dormant regardless of rate while we mostly focused on getting more borrowers in the door
- ALM education is extremely important as many times an uneducated ALCO/Board can lead to mispriced assets & liabilities

Make Sure Your Balance Sheet is "Recession / Crisis Ready"

- During your next ALCO, ask the question Are we recession ready and how can we be better prepared?
- Are you pricing your loans properly? Do we have a good deposit pricing strategy? ALCO's need to be proactive and aggressive
- Make sure you are adding the "right" assets for your balance sheet and ALM. Don't just take what is coming to you "easily"
- · Assess your Interest Rate Risk along with your Liquidity Risk and make the necessary adjustments

• We operate on MARGIN...making decisions based solely on asset yields can be a mistake

- We currently have the ability to add margins we haven't seen in a long time. However that window is closing quickly!
- · Now is the time to tack-on additional margins and earnings
- Compare current asset yields to current and expected COF levels...NOT future asset yields!
- · Writing below market loans is just as dangerous as buying below market investments
- Take advantage of the extremely rare opportunity to increase earnings while reducing Interest Rate Risk
 - · There are many quality assets available with multiple benefits in both the investment and loan spaces
 - · Better yet, many of these assets offer the additional benefit of pulling in the reins from an IRR perspective



We are Here to Help!



Thank You!

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