NACUC
NATIONAL ASSOCIATION OF CREDIT UNION CHAIRS

2024 LEADERSHIP DEVELOPMENT SEMINAR

NASHVILLE, TENNESSEE

May 19 - 21, 2024 | Holston House Nashville

FINANCIAL LITERACY TRAINING

NACUC.ORG

NATIONAL ASSOCIATION OF CREDIT UNION CHAIRS

CONNECTING CREDIT UNION BOARD LEADERS

Financial Literacy Training - 2024

Tim Harrington, CPA

Timothy P. Harrington, Inc. dba

TEAMResources

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Presented by Timothy Harrington, CPA

Tim Harrington is a Certified Public Accountant who has consulted with financial institutions since 1992. Since 1996, Tim has been President of TEAM Resources, a firm that provides consulting, strategic planning and training to financial institutions from coast-to-coast. He is the author of the popular the books:

- **Eisenhower on Enlightened Leadership**
- **Living a Life that Matters: Into the Light**
- **Credit Union Guide to Strategic Governance**

Tim is a faculty member of 3 national credit union schools on governance, finance and management, and has spoken to hundreds of thousands of directors, executive management and staff throughout the Northern Hemisphere.

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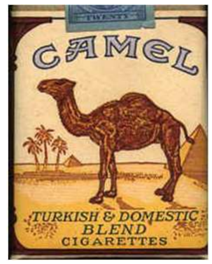
CAMELS
Just Good Ole' Financial Ratios

Capital Adequacy
Asset Quality
Management (includes volunteers)
Earnings
Liquidity – Cash Flow and Sources
Sensitivity – Interest Rate Risk



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CAMELS

Measured on a Scale of 1 to 5

1 - Indicates strong performance
2 - Indicates satisfactory performance
3 - Performance is of supervisory concern
4 - Performance serious supervisory concern
5 - Performance is critically deficient

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Basic Financial Statements

- **Balance Sheet or**
  - Statement of Financial Condition OR
  - Statement of Condition
  - Statement of Position
  - Statement of Financial Position
- **Income Statement**
  - Profit and Loss
  - Revenues over Expenses
- Statement of Cash Flows
- Statement of Changes in Equity

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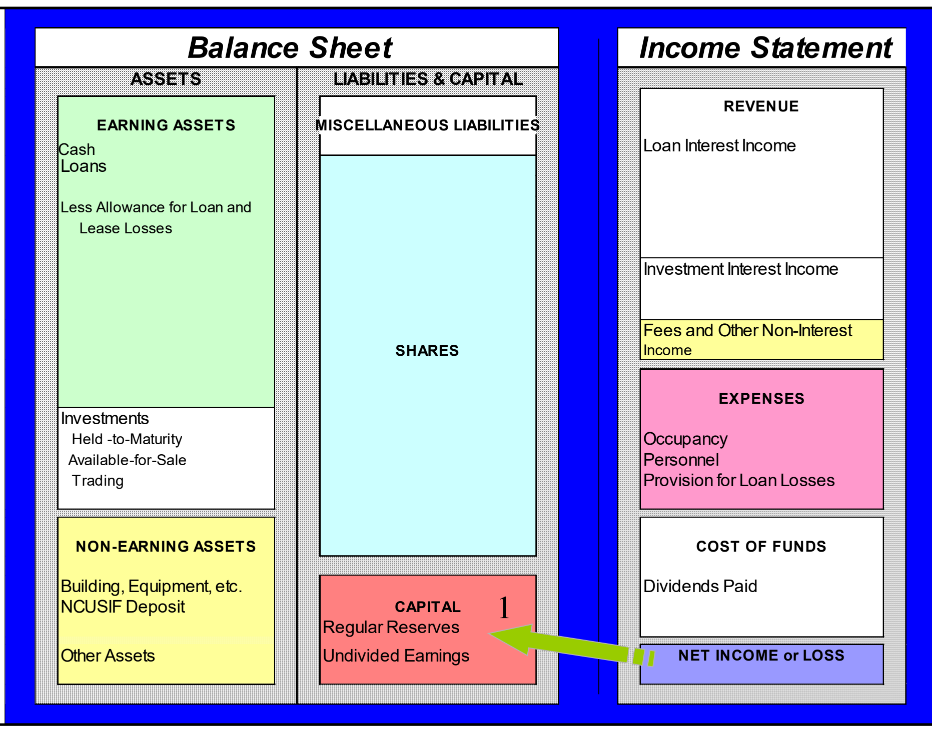

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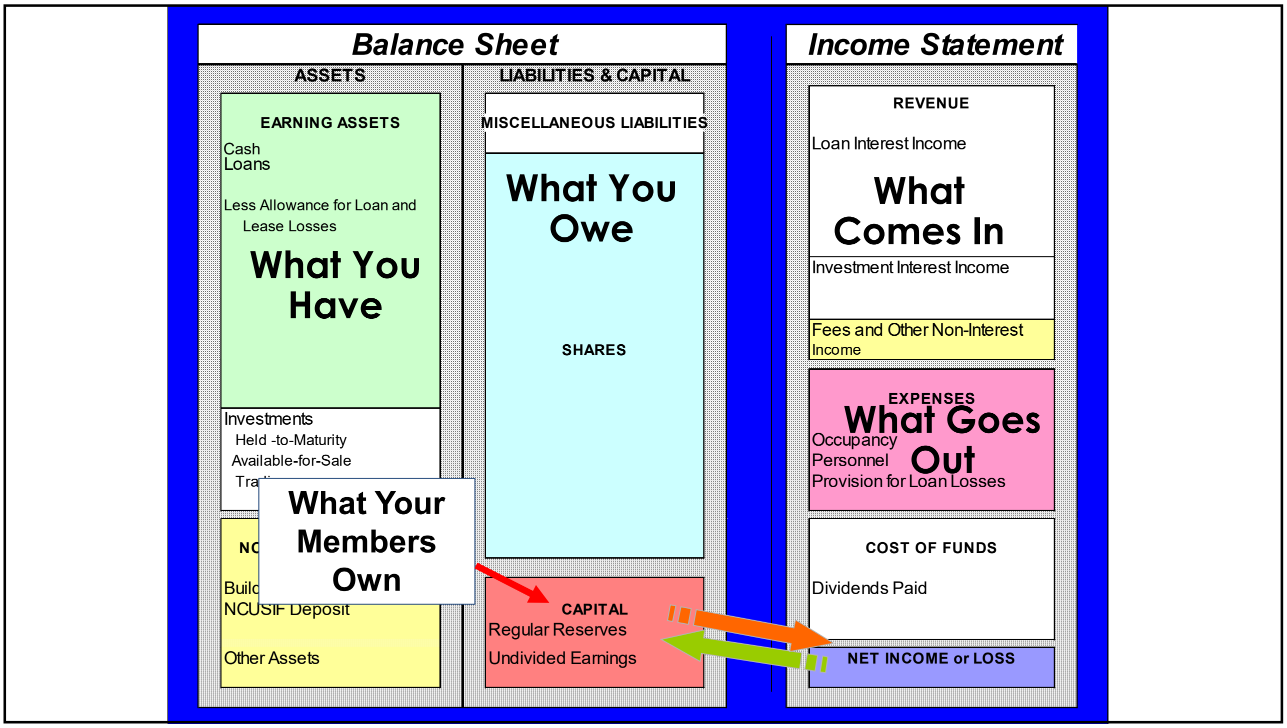

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Key Ratios to Know and Understand

- **Capital to Assets Ratio**
- **Delinquency Ratio/Charge-off Ratio**
- **Net Interest Margin (Spread)**
  - Yield on Assets (interest income ratio)
  - Cost of Funds (interest expense ratio)
  - Net Interest Margin
  - Operating expense ratio
  - Provision for Loan Loss ratio
  - Non-Interest Income ratio
  - ***Return on Assets (profit ratio)***
- **Loan to Share Ratio**

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Why is Capital Important?

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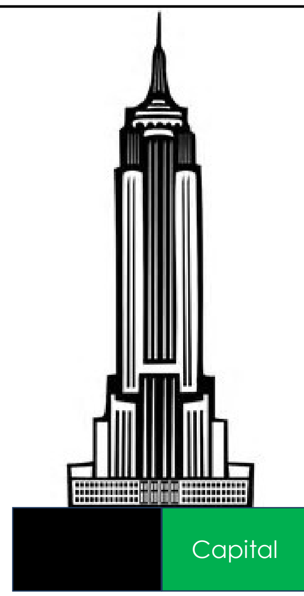
Capital to Assets

Capital is your 'Stability' account

- Grows with profit.
- Shrinks with losses.
- Percentage of Asset Size

- Cushion for the unknowns
- Funding for opportunities or challenges
- Free funding of earning assets
- Cushion for severe economic condition changes.



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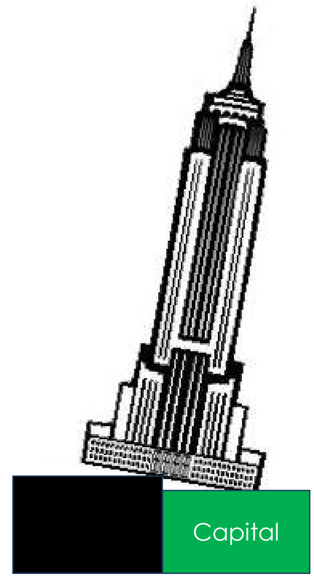
Capital to Assets

HOWEVER…

If Asset size grows, and Capital size doesn't keep up, your structure becomes unstable.



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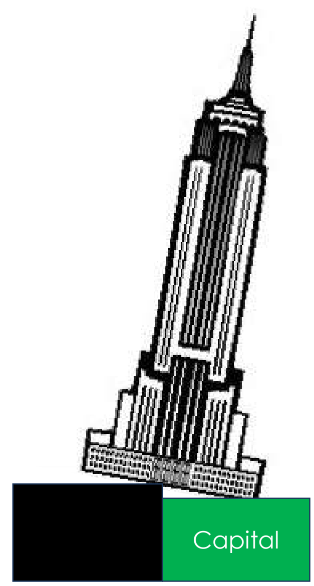

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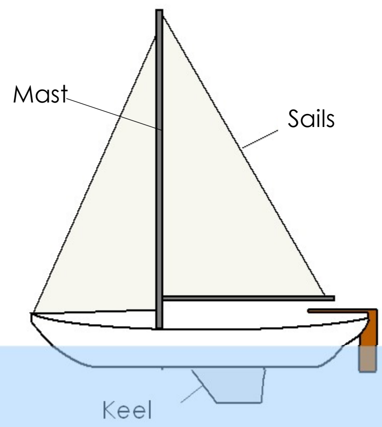
If Assets grow and Capital doesn't keep up, the credit union becomes unstable



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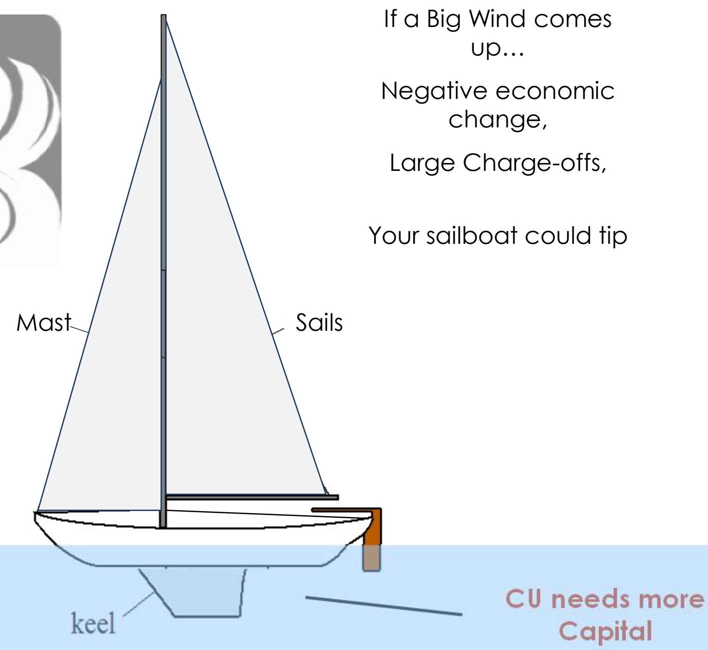

If a Big Wind comes up…

Negative economic change,

Large Charge-offs,

Your sailboat could tip

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What is Capital?

Capital is not cash

- It is the accumulated earnings and losses since you started the credit union.
- Tells you what portion of your assets belong to the member owners and what part is owed to creditors
- Your 'rainy day' fund
- Your 'hibernation' fat

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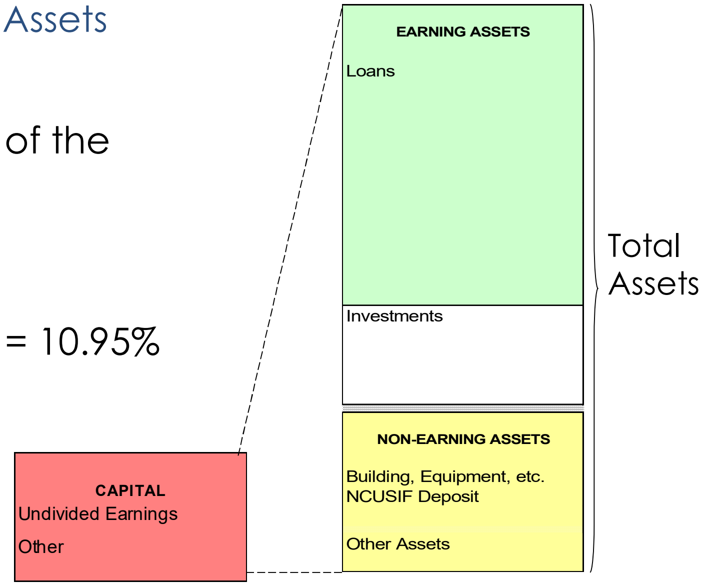
Capital To Assets Ratio
Total Capital/Total Assets

Measure's stability of the credit union

National Average = 10.95%



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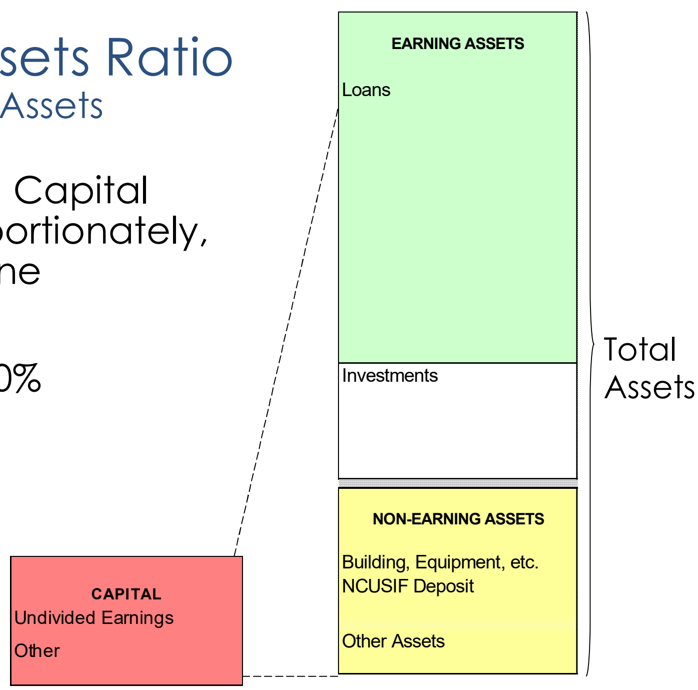
Capital To Assets Ratio
Total Capital/Total Assets

If Assets grow, and Capital doesn't grow proportionately, the Ratio will decline

Woops! Now = 9.90%



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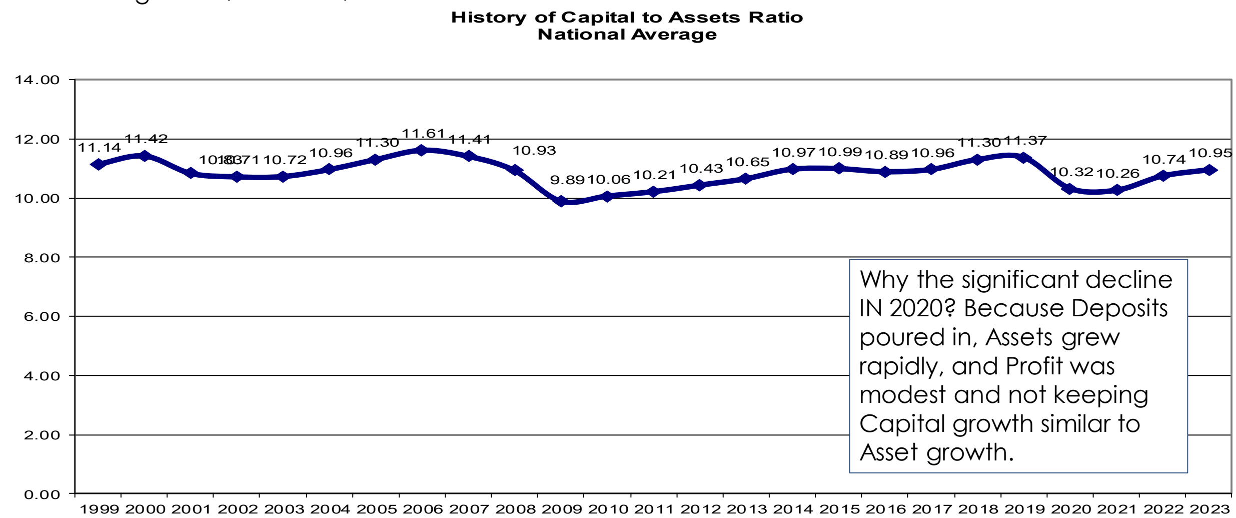
Range: 9.89% to 11.61%



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NCUA Calculation a bit different

NET WORTH / TOTAL ASSETS

(Regular Reserve + Appropriation for Non-Conforming Investments [*SCU Only*] +Other Reserves + Undivided Earnings + Uninsured Secondary Capital [*Low-Income Designated CU Only*] + Net Income or (Loss)) / Total Assets *

*Total assets means a credit union's total assets as measured by either the:

(i) average quarterly balance of the four most recent calendar quarters; or

(ii) average monthly balance over the three calendar months of the calendar quarter; or

(iii) average daily balance over the calendar quarter; or (iv) quarter-end call report balance for the calendar quarter.

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How much Capital is enough?

Suggestion: Project worst 3 years possible
(combination of Asset Growth and Net Losses)

If at end, the ratio is greater than 4%, you may have enough

Prompt Corrective Action Rules
Depends on how much risk your assets and liabilities represent
Depends on level of growth
Depends on profitability of CU 21
Depends on future plans

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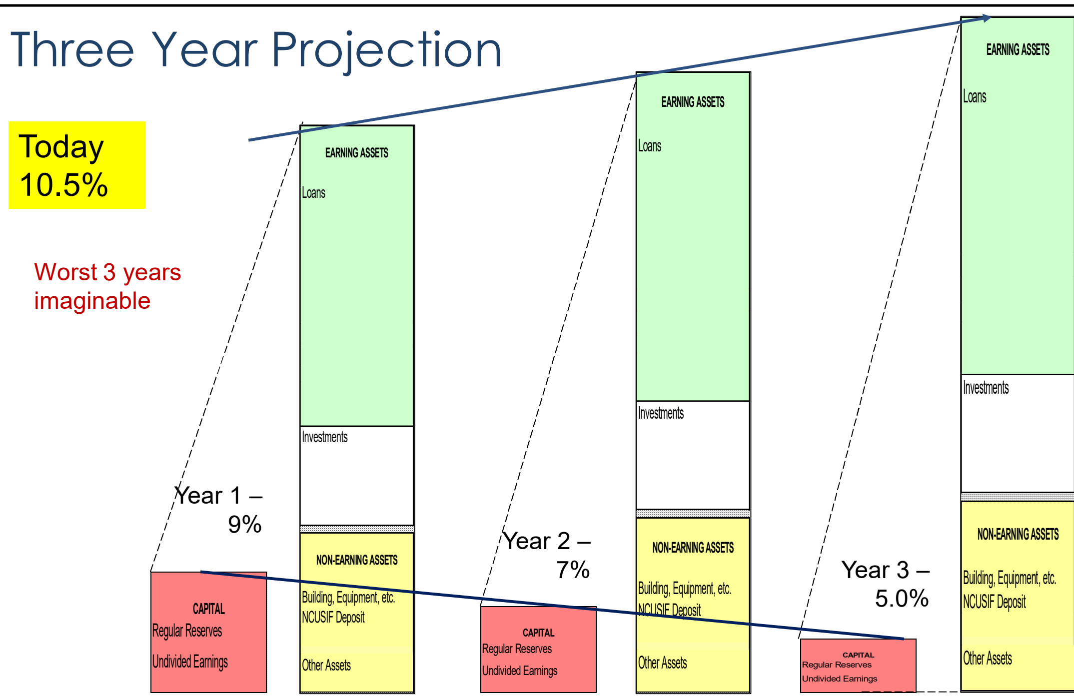
Three Year Projection



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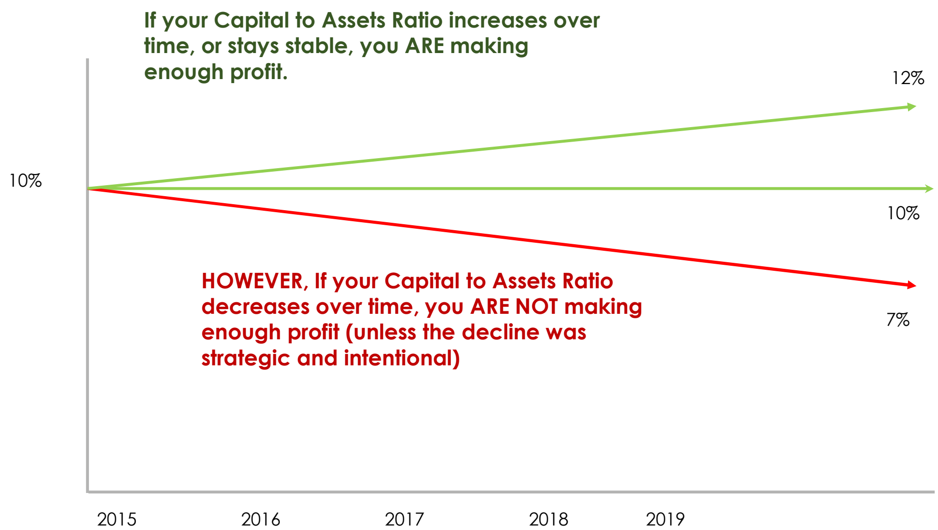
The Capital to Assets Gauge



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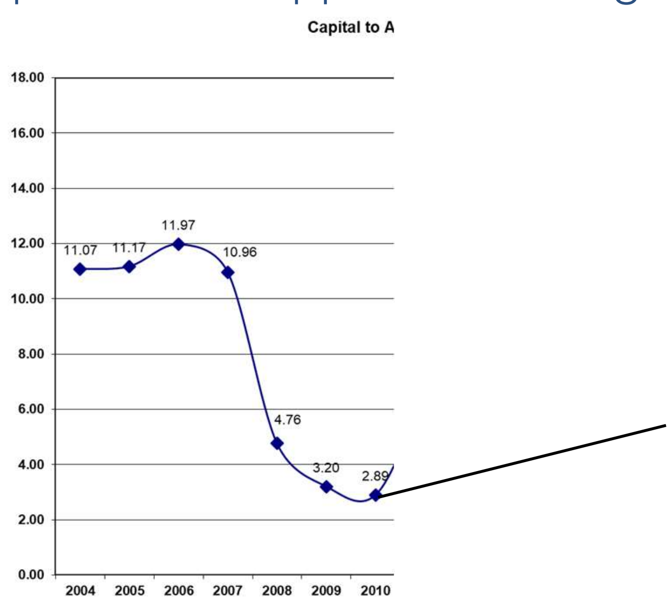
Capital can disappear fast and grows back slowly



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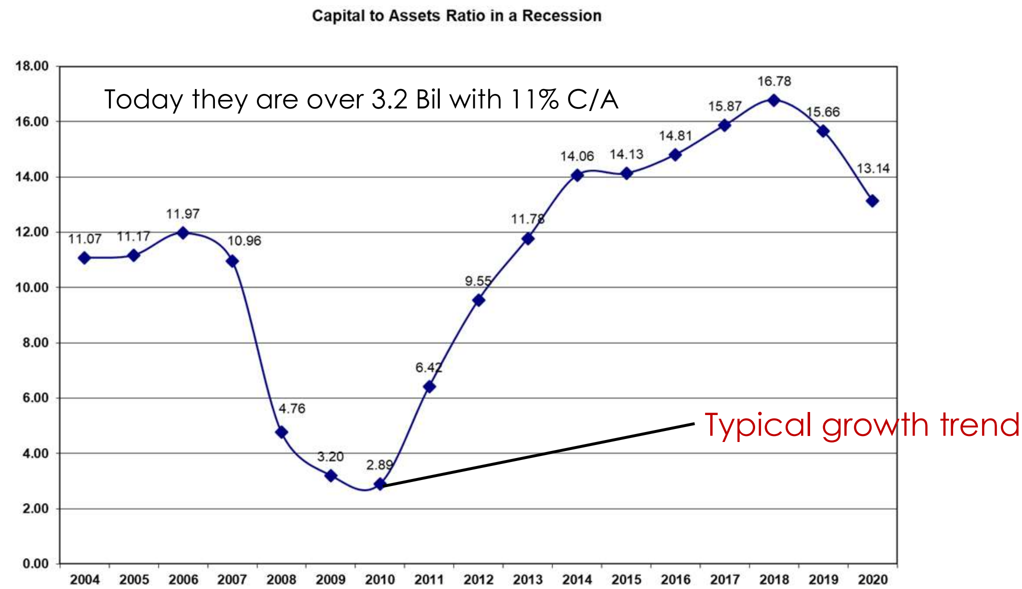

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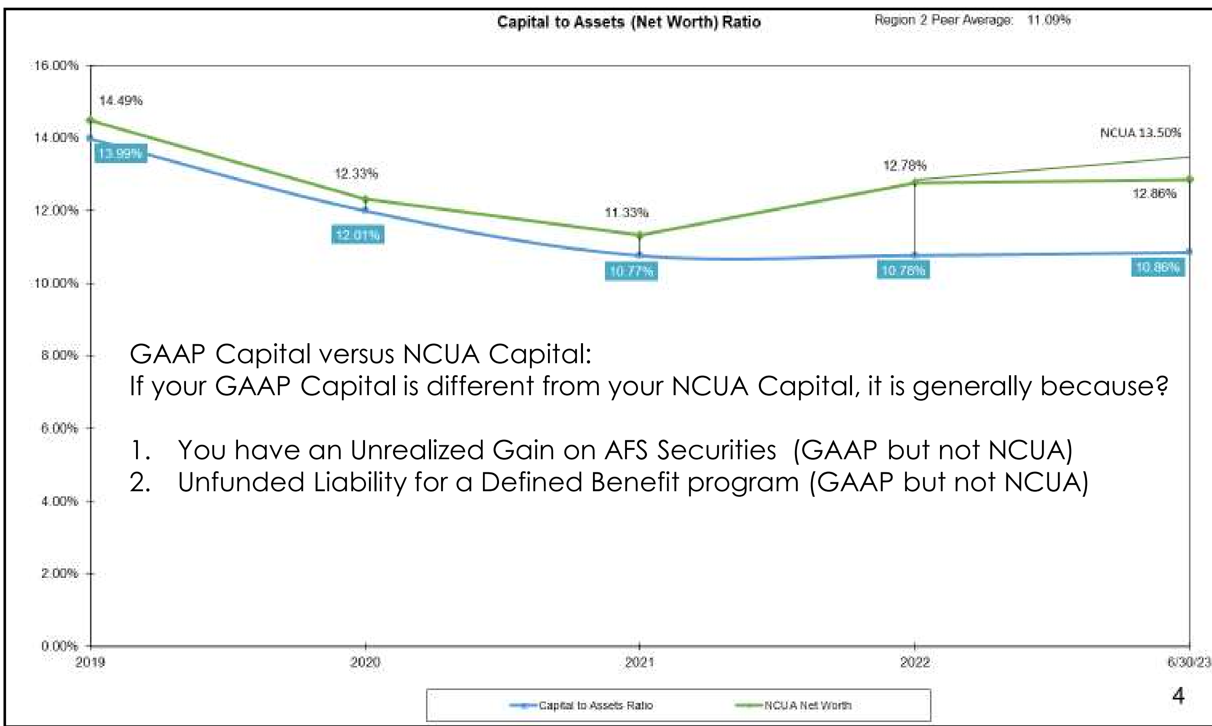

GAAP Capital versus NCUA Capital:
If your GAAP Capital is different from your NCUA Capital, it is generally because?

1. You have an Unrealized Gain on AFS Securities (GAAP but not NCUA)
2. Unfunded Liability for a Defined Benefit program (GAAP but not NCUA)

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How much Profit do we need?

Capital Growth Calculator Calculate ROA Needed Five Year Projection	Fill in white cells, do not change gray cells					
	12/31/2021	12/31/2022	12/31/2023	12/31/2024	12/31/2025	12/31/2026
ANTICIPATED ASSET GROWTH		10.00%	7.00%	-5.00%	6.00%	6.00%
TOTAL ASSETS	$ 227,000,000	$ 249,700,000	$ 267,179,000	$ 253,820,050	$ 269,049,253	$ 285,192,208
TOTAL CAPITAL	$ 18,900,000	$ 21,723,900	$ 24,046,110	$ 24,112,905	$ 26,904,925	$ 28,519,221
$ INCREASE IN CAPITAL (SAME AS NET PROFIT NEEDED)		$ 2,823,900	$ 2,322,210	$ 66,795	$ 2,792,021	$ 1,614,296
% INCREASe IN CAPITAL		14.94%	10.69%	0.28%	11.58%	10.00%
ACTUAL CAP/ASSETS %	8.33%					
DESIRED CAP/ASSETS %		8.70%	9.00%	9.50%	10.00%	10.00%
ROA NEEDED		1.18%	0.90%	0.03%	1.07%	0.58%

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Prompt Corrective Action Rules

• 7% or higher	Well capitalized
• 6%-6.99%	Adequately capitalized
• 4%-5.99%	Undercapitalized
• 2%-3.99%	Significantly undercapitalized
• Less than 2%	Critically undercapitalized

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Prompt Corrective Action Rules

- Mandatory Supervisory Actions
  - Below 7% - transfer 0.1% of Total Assets to Regular Reserve each month
  - Below 6%
    - Develop a Net Worth Restoration plan
    - Limit asset growth
    - No new member business loans
- Discretionary Supervisory Actions

The lower you go, the more authority the regulators take away from management and the board

Capital for Complex CUs

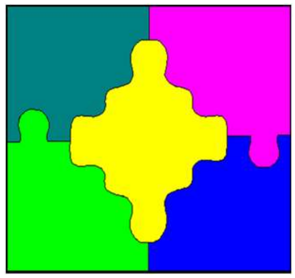
Complex Credit Unions must calculate capital differently from those that are not complex

“Complex” refers to CUs >$500 MM with complex instruments

Must follow **Risk Based Capital Rule**

Can elect to use new **Complex Credit Union Leverage Ratio - CCULR**

Understanding the Five Puzzle Pieces of Profitability



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Which CU is Doing Better?
Why we use Comparable ratios

		$10 Bil CU		$100 Mil CU
Interest income		$ 496,000,000		5,630,000
Cost of funds		(175,000,000)		(1,6400,00)
Net Interest Margin		321,000,000		3,990,000
Operating costs		(329,000,000)		(3,3200,00)
Provision for loan losses		(111,000,000)		(440,000)
Net loss before other income		(120,000,000)		230,000
NII – Non-interest income (Fee income, Other)		136,000,000		780,000
Net Profit or Loss		**$ 16,000,000**		**1,020,000**
Total Capital		**$ 500,000,000**		**$10,000,000**

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Which CU is Doing Better?
Why we use Comparable ratios

As a % of Average Assets		$10 Bil CU		$100 Mil CU
Yield: Interest income		4.96%		5.63%
Less: Cost of funds		(1.75%)		(1.64%)
Net Interest Margin (NIM-Spread)		3.21%		3.99%
Less: Operating costs		(3.29%)		(3.32%)
Less: Provision for loan losses		(1.11%)		(0.44%)
Net loss before other income		(1.20%)		0.23%
Plus: NII-Non-interest income (Fee income, Other)		1.36%		0.78%
Equals: Return on Assets (ROA)		**0.16%**		**1.02%**
Capital to Assets Ratio		**5.00%**		**10.00%**

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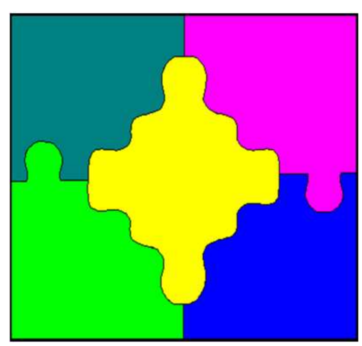
Puzzle Pieces of Profitability…
and We Need to Make a Profit

Credit unions make money 2 ways:
- Interest Income
- Non-Interest Income

Credit unions spend money 3 ways:
- Cost of Deposits (Cost of Funds)
- Operating Expenses (cost of people, buildings, and systems)
- Provision for Loan Losses (cost caused by bad loans)



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Spread Analysis (ROA)
National Averages

As a % of Average Assets	12/31/23	12/31/97
Yield: Interest income	4.43%	7.63%
Less: Cost of funds	(1.42)	(3.64)
Net Interest Margin	3.01	3.99
Less: Operating costs	(2.95)	(3.32)
Less: Provision for loan losses	(0.51)	(0.44)
Net loss before other income	(0.45)	0.23
Plus: Non-interest income	1.13	0.78
Equals: Net Profit or Loss (ROA)	0.68%	1.02%

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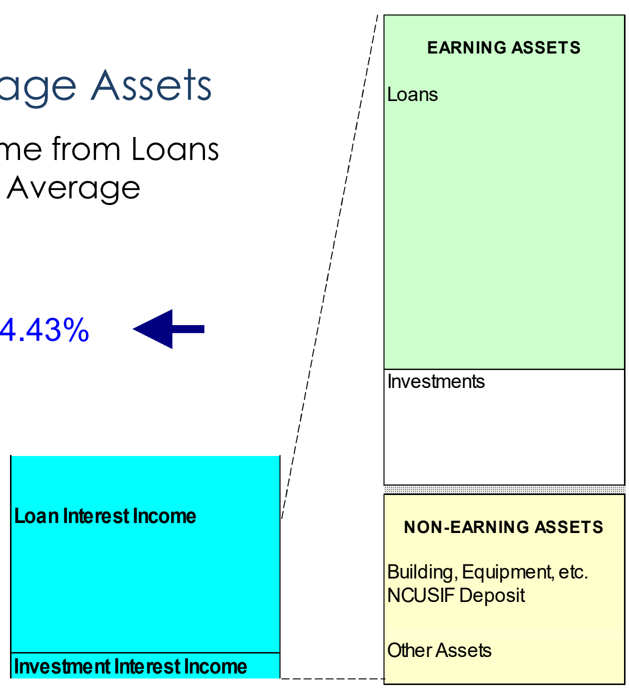
Yield on Average Assets

Total Interest Income from Loans and Investments / Average Assets

National Average = 4.43%



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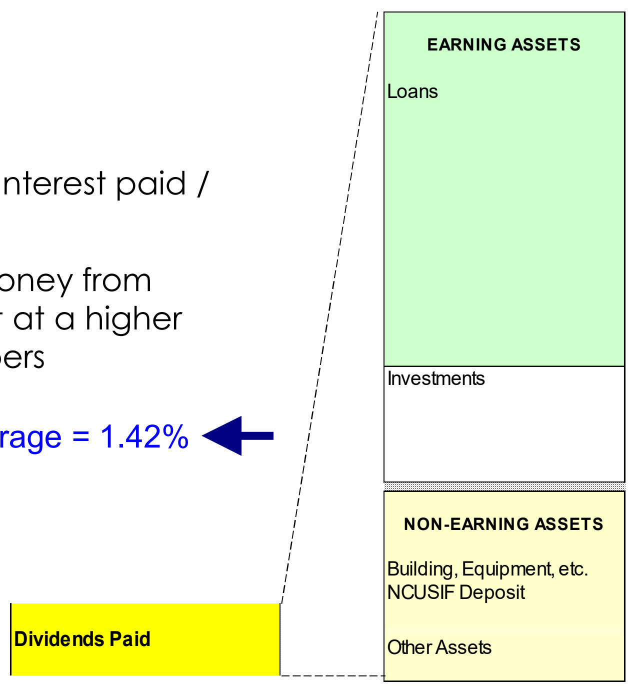
Cost of Funds

Total Dividends and Interest paid / Average Assets

Cost of borrowing money from members to loan out at a higher price to other members

National Average = 1.42%



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What is Net Interest Margin?

Net Interest Margin: the net amount between Yield on Assets and Cost of Funds

- **NIM**
- **Spread**
- You don't control your Interest Income, the Market does
- You don't control you Interest Expense, the Market does

You try to control the spread between the two: **NIM or Spread**

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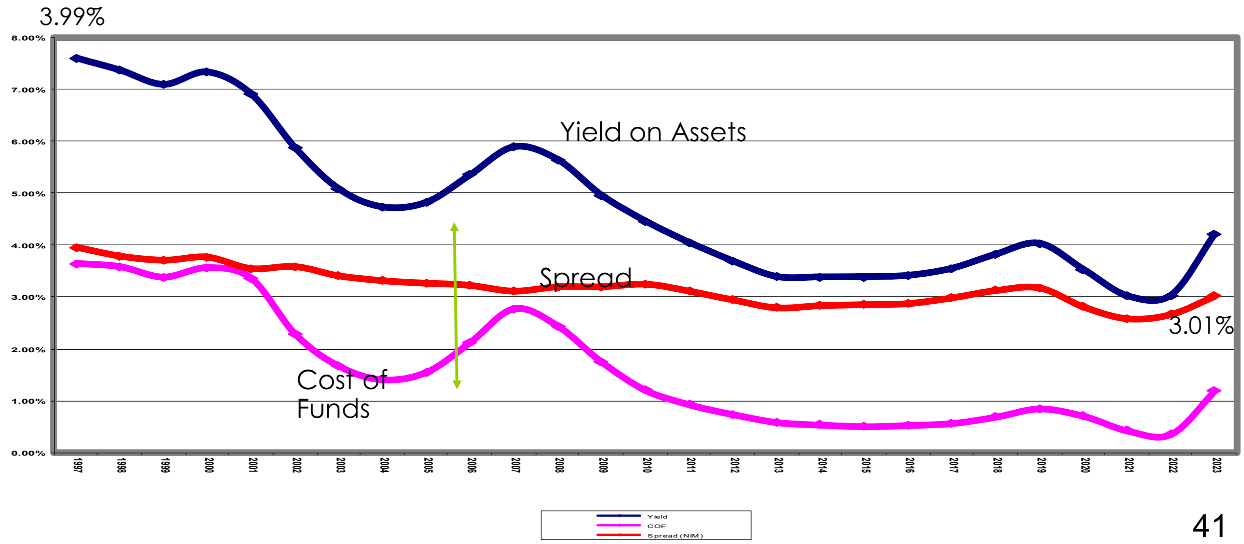
Spread or Net Interest Margin (NIM)
Goal: Can you keep it stable… or grow it?



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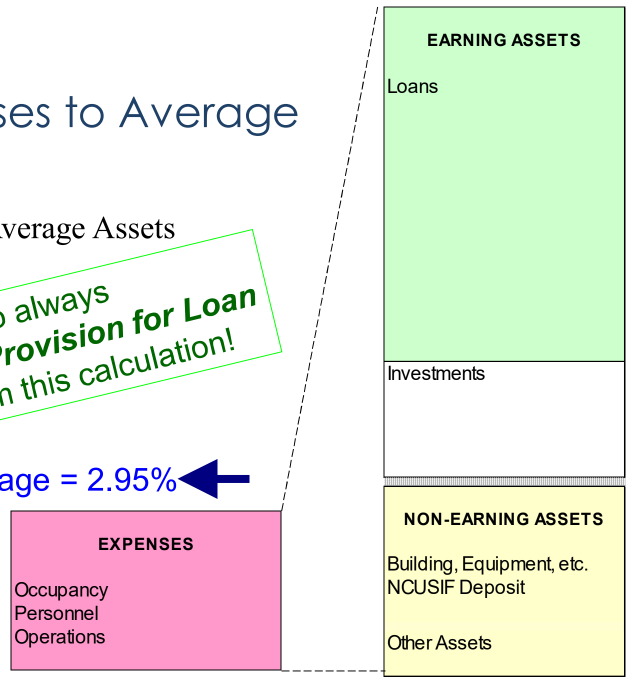
Operating Expenses to Average Assets

Total operating expenses / Average Assets

Remember to always EXCLUDE **Provision for Loan Losses** from this calculation!

National Average = 2.95%



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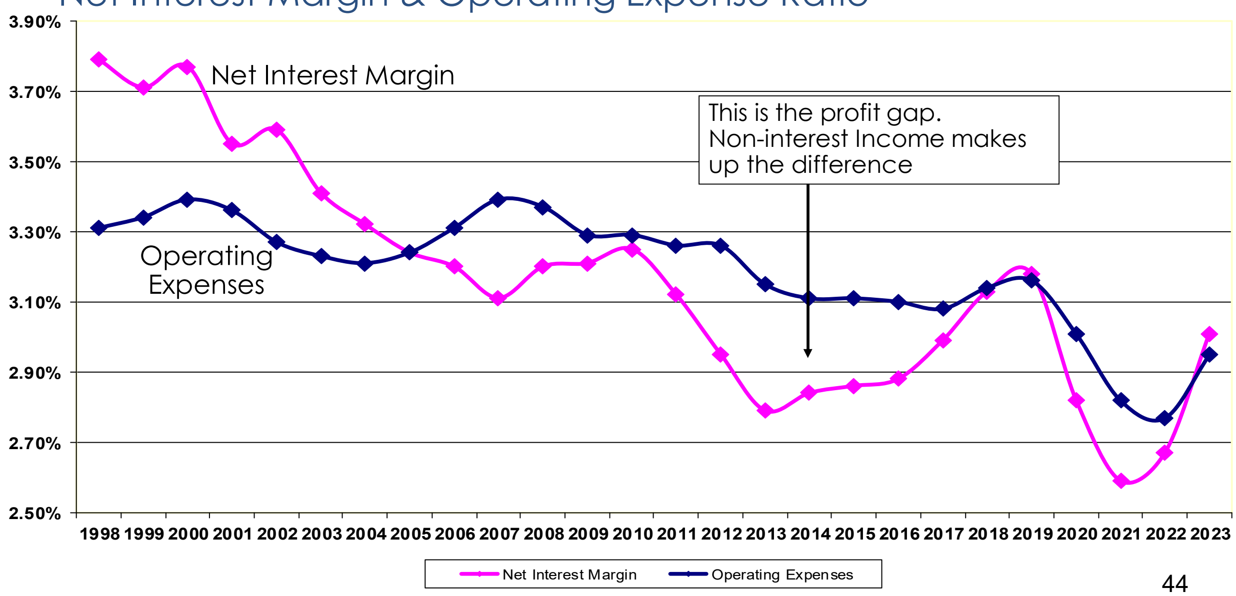
All Credit Unions

Net Interest Margin & Operating Expense Ratio



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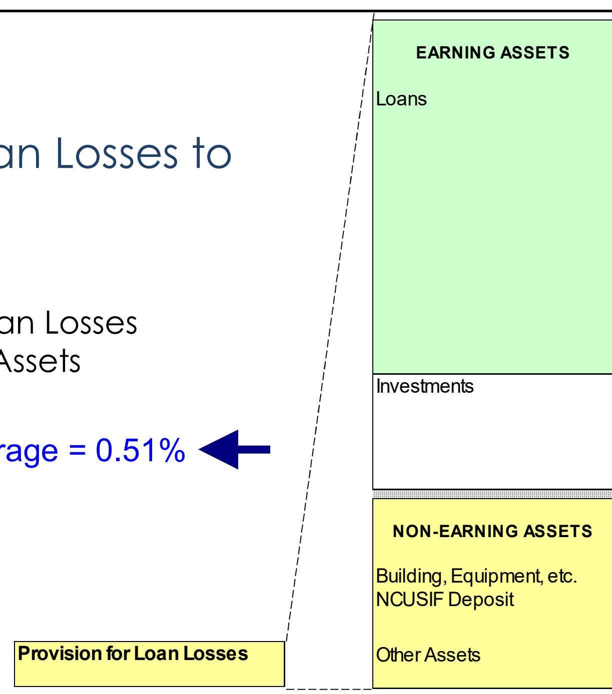
Provision for Loan Losses to Average Assets

Total Provision for Loan Losses Expense / Average Assets

National Average = 0.51%



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Not for Profit,
Not for Charity,
But for Service

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Sources of Non-Interest Income
Not Just Fees!!!

- **Fee Income** – NSF and late loan fee
- **Service Revenues** – Courtesy Pay
- **Commission Income** – sales of something
- **Interchange Income** – Debit and Credit cards
- **Sales of Mortgage Loans**
- **Other Non-Interest Sources** – CUSO selling some product or service

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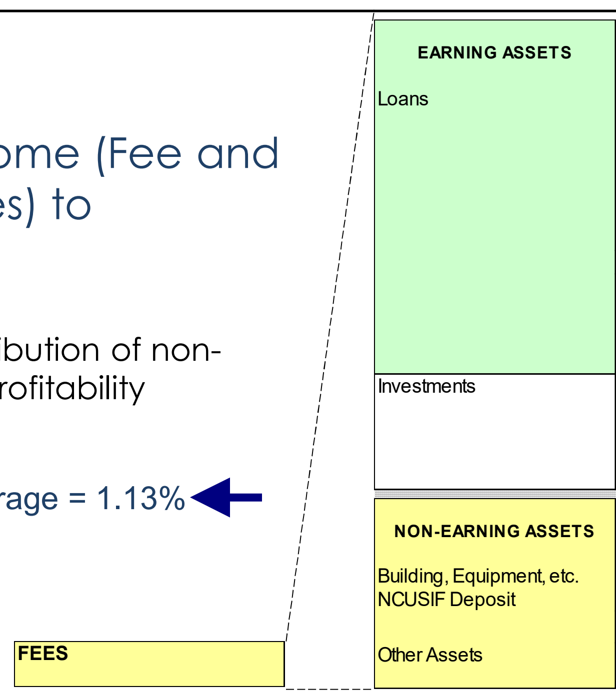
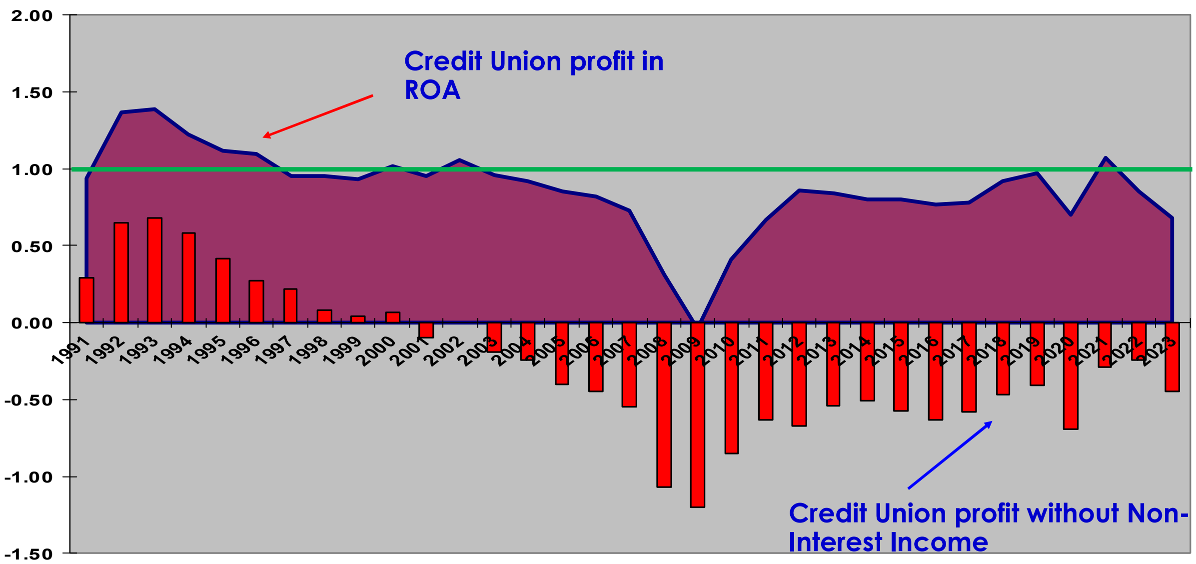
Non-Interest Income (Fee and Service Revenues) to Average Assets

Measure's the contribution of non-interest income to profitability

National Average = 1.13%



Non-Interest Income – Fees Service Revenues



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Equals: Net Profit or Loss (ROA)	0.68%	1.02%

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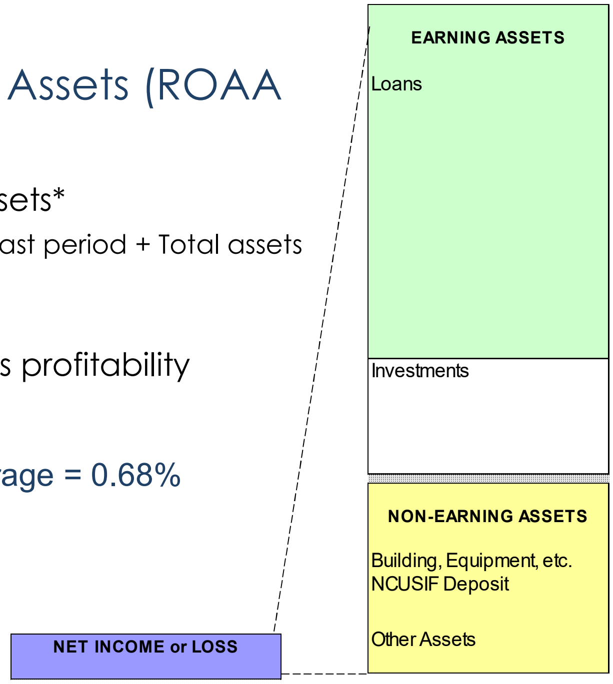
Return on Average Assets (ROAA or ROA)

Net income / Average assets*

*Average assets = Total assets last period + Total assets this period / 2

Measures a credit union's profitability

National Average = 0.68%



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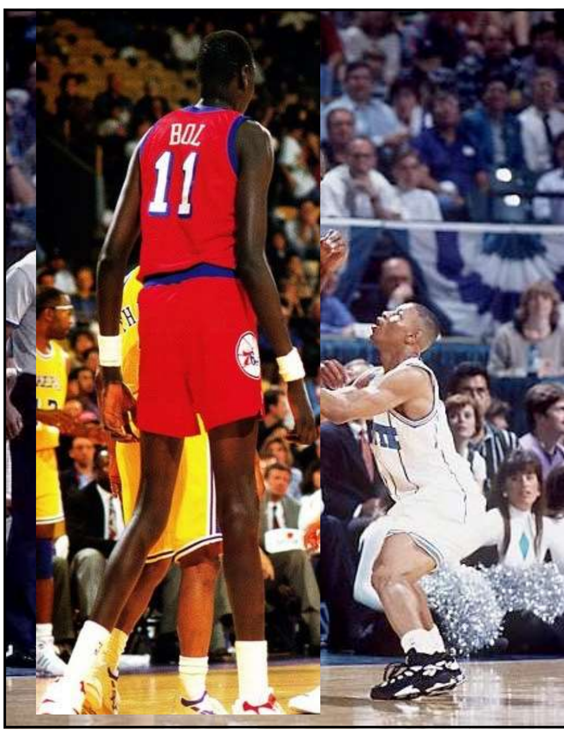

Why Peers don't really help

Manut Bol played at 7'7"
Muggsy Bogues played at 5'3"

On Average, they were 6'5"

Peer info is just a conglomeration of financial data from hundreds of credit unions.

peer info does not:
- Reflect local market difference
- Strategic choices
- Business model differences

All Peer averages can show you is how different you are than the imaginary average

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Different Business Models

Different Spread Results

Know Your Model

	Avg CU	MOMMs CU	Low Op CU
Yield	4.43	6.31	3.18
Cost of funds	(1.42)	(1.79)	(2.04)
NIM	3.01	4.52	1.14
Operating exp	(2.95)	(4.61)	(0.87)
PLL	(0.51)	(0.76)	(0.01)
Net before NII	(0.32)	(0.85)	0.26
Non-Interest Income	1.13	1.72	0.24
ROA	0.68	0.87	0.50
Capital/Assets	11.0%	14.0%	14.0%

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Balance Sheet

ASSETS

EARNING ASSETS

Cash	$ 16,000
LOANS	
Unsecured	13,500
Vehicle	110,000
Real estate	30,000
Total loans	153,500
Less allowance	(1,100)
Net Loans	152,400
INVESTMENTS	
Held to maturity	50,000
Avail for sale	5,000
TOTAL	55,000
Less Allowance for Investment Losses	

NON-EARNING ASSETS

Property and equip	1,500
NCUSIF	2,000
Other assets	100
TOTAL ASSETS	**$ 227,000**

LIABILITIES & CAPITAL

MISCELLANEOUS LIABS

Miscellaneous Liabs	$ 15,100

SHARES

Share savings	68,000
Share drafts	35,000
Money market	45,000
IRAs	41,000
CDs	4,000
Total Shares	193,000

CAPITAL

Regular reserve	8,000
Undivided earn	10,900
Total Capital	18,900
TOTAL LIABS/CAP	**$ 227,000**

Income Statement

REVENUE

INTEREST INCOME

Loans	$11,000
Investments	1,500
TOTAL	12,500

COST OF FUNDS

DIVDENDS PAID	4,200
Net Interest Income	8,300

EXPENSES

Provision for Loan Losses	1,000
Occupancy, Personnel, Systems	7,800
TOTAL	8,800

NON-INTEREST INCOME

Fee Income	700
Service Charges	800
Other Income	400
	1,900
NET INCOME	**$ 1,400**

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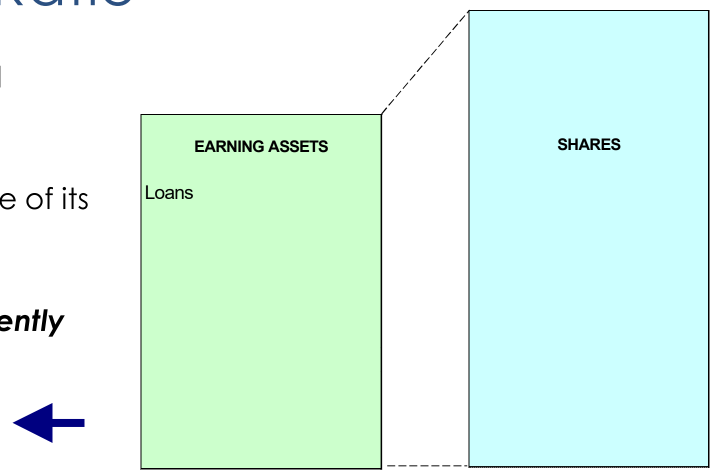
Loan to Share Ratio

Total Loans / Total Shares and Deposits

Measures the credit unions use of its best earning asset

What % of our Deposits is currently loaned out to members?

National Average = 85.2%



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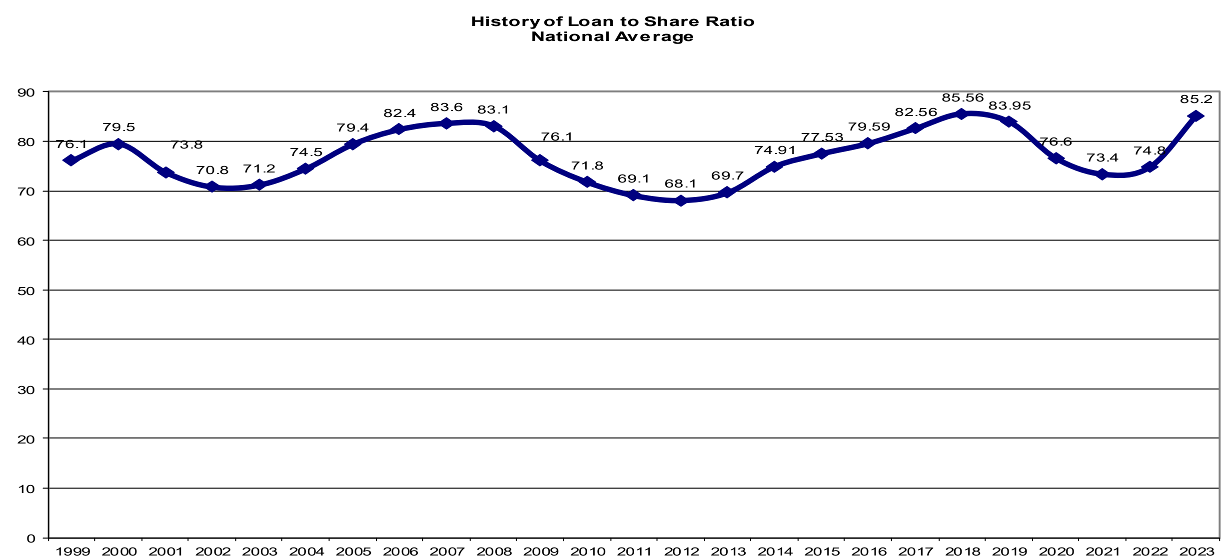

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Which is better, low loan to share or high loan to share ratio?

It Depends

The Loan to Share Ratio tells you only how well you turn deposits into loans

If the loans are poorly underwritten, loan losses could undermine a high Loan to Share Ratio

If the loans are underpriced, the weak Yield could undermine the high Loan to Share Ratio

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Delinquency and Charge-offs

- **Delinquency ratio**
  Delinquent loans over 60 days old / Total loans
- **Charge-off ratio**
  Charge-offs (less recoveries) / Average loans

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Delinquency and Charge-offs

	Normal	Avg. 12/31/23	Modest Means
Delinquency	0.75%	0.83%	1.65%
Net Charge-offs	0.40%	0.61%	0.91%
Combined	1.15%	1.44%	2.56%

But what is considered a healthy ratio depends on the credit union's ***Business Model and Strategy***

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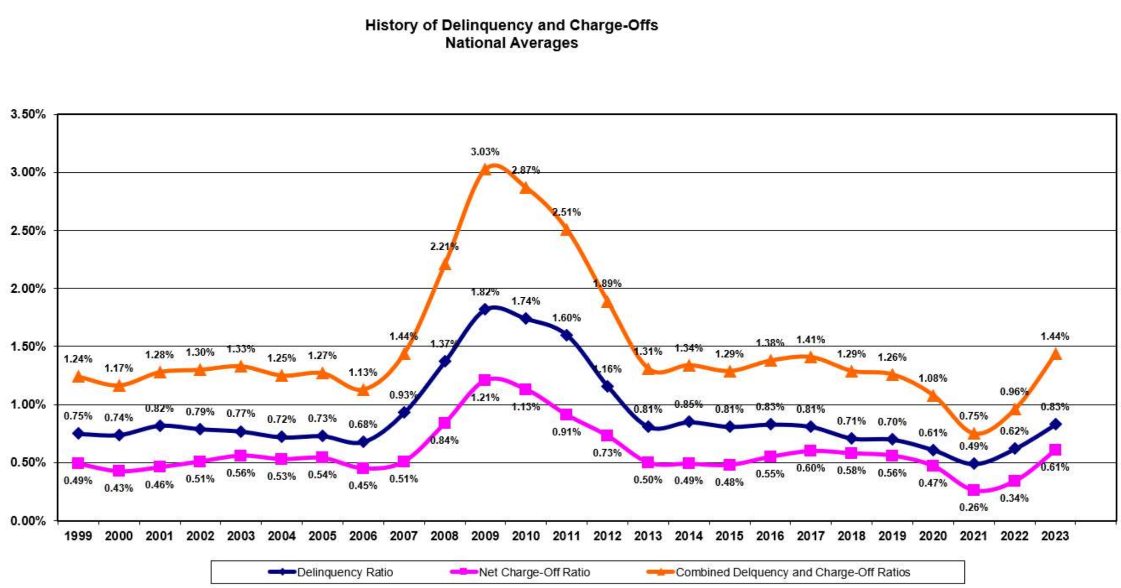
Delinquency and Charge-offs



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Allowance for Loan & Lease Losses

ALLL or ALL or ACL

CECL – Current Estimated Credit Losses:

An amount based on management's best estimate of losses over the life of the loan (or life of the portfolio)

A.L.L.L. is a **Contra-Asset**, that means it takes away from the assets

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Balance Sheet

ASSETS

EARNING ASSETS	
Cash	$ 16,000
LOANS	
Unsecured	13,500
Vehicle	110,000
Real estate	30,000
Total loans	153,500
Less Allowance for Loan Loss.	(1,100)
Net Loans	152,400
INVESTMENTS	
Held to maturity	50,000
Avail for sale	5,000
Allow Inv Loss	
TOTAL	55,000
NON-EARNING ASSETS	
Property and equip	1,500
NCUSIF	2,000
Other N. E. assets	
Other assets	100
TOTAL ASSETS	$ 227,000

LIABILITIES & CAPITAL

MISCELLANEOUS LIABS	
Miscellaneous Liabs	$ 15,100
SHARES	
Share savings	68,000
Share drafts	35,000
Money market	45,000
IRAs	41,000
Other	4,000
Total Shares	193,000
CAPITAL	
Undivided earn	18,900
Gains (Losses) on Investments	
Other	
Total Capital	1[illegible]900
TOTAL LIABS & CAP	$ 227,000

Income Statement

REVENUE		
INTEREST INCOME		
Loans	$	14,000
Investments		3,000
Non-Interest Income		
Fees/Serv Revs		1,900
TOTAL		18,900
EXPENSES		
Occupancy Personnel		7,800
Provision for Loan Losses		1,000
TOTAL		8,800
COST OF FUNDS		
Dividends Paid		8,700
NET INCOME		
NET INCOME	$	1,400

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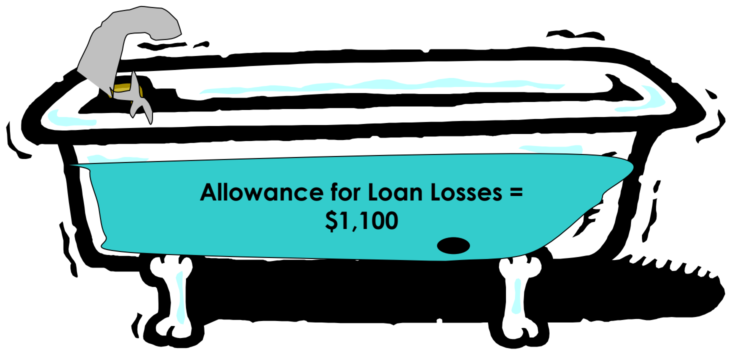
Allowance for Loan and Lease Losses – Before charge-off

Monthly Expense

Usage this month

$0



The ALLL is like a reservoir of loan losses ready to be used. The loss has already been incurred at the time the loan became impaired. We are just waiting for the loan to finally wither and drop

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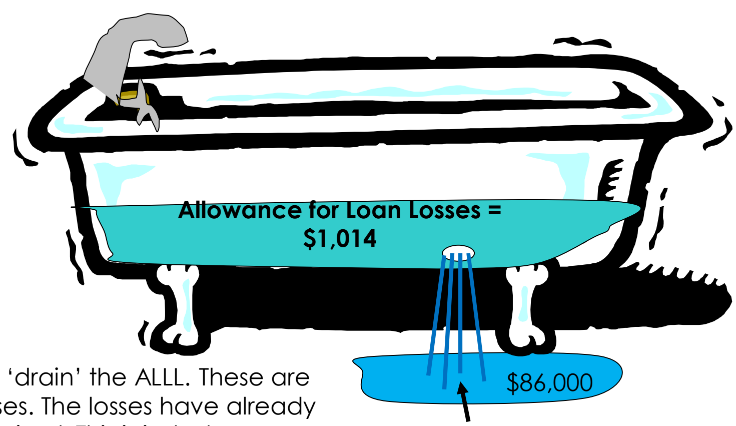
Loans Charged-off

Monthly Expense

Usage this month

$0



Charge-offs 'drain' the ALLL. These are not new losses. The losses have already been recognized. This is just when we finally remove the loan from the books.

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ALLOWANCE FOR LOAN & LEASE LOSSES

LOAN TYPE	Portfolio Balance this Month	Allowance Req. Previous Month	Allowance Req. this Month
Used Auto	$ 65,000,000	$ 507,000	$ 593,000
New Auto	$ 35,000,000	191000	$ 215,000
Credit Card	$ 10,000,000	$ 320,000	$ 350,000
Other Unsecured	$ 3,500,000	$ 45,000	$ 74,000
First Mortgage	$ 30,000,000	$ 23,000	$ 40,000
Home Equity Mortgage	$ 10,000,000	$ 14,000	$ 19,000
	$ 153,500,000	$ 1,100,000	$ 1,291,000
Less Charge-offs at month end		$ 86,000	
Net Allowance		$ 1,014,000	$ 1,291,000
ADJUSTMENT REQUIRED			$ 277,000

The ALLL increases to this amount

The Provision for Loan Loss Expense would be this amount for the month

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Restoring the ALLL through the Income Statement – Provision for Loan Losses

Monthly Expense

Usage this month

$277

The Provision for Loan and Lease Losses is the current monthly charge-to restore the ALLL. It represents matching the expense to the period the loss actually occurred.

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Balance Sheet

ASSETS

EARNING ASSETS

Cash	$ 16,000
LOANS	
...secured	13,500
...hicle	110,000
...l estate	30,000
...loans	153,500
Less Allowance for Loan Loss.	(1,291)
Net Loans	152,400

Add $191,000 to the contra-asset here

INVESTMENTS	
Held to maturity	50,000
Avail for sale	5,000
Allow Inv Loss	
TOTAL	55,000

NON-EARNING ASSETS

Property and equip	1,500
NCUSIF	2,000
Other N. E. assets	
Other assets	100
TOTAL ASSETS	$ 227,000

LIABILITIES & CAPITAL

MISCELLANEOUS LIABS

Miscellaneous Liabs	$ 15,100

SHARES

Share savings	68,000
Share drafts	35,000
Money market	45,000
IRAs	41,000
Other	4,000
Total Shares	193,000

CAPITAL

Undivided earn	18,900
Gains (Losses) on Investments	
Other	
Total Capital	1[illegible]00
TOTAL LIABS & CAP	$ 227,000

Income Statement

REVENUE

INTEREST INCOME	
Loans	$ 14,000
Investments	3,000
Non-Interest Income	
Fees/Serv Re...	
TOTAL	

Add $277,000 to the expense here

EXPENSES

Occupancy / Personnel	7,800
Provision for Loan Losses	(1,277)
TOTAL	8,800

COST OF FUNDS

Dividends Paid	8,700

NET INCOME

NET INCOME	$ 1,400

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Another Important Valuation Concept - INVESTMENTS

MARK TO MARKET

Credit unions must revalue the carrying amount on their books of investments under certain circumstances

This is similar to the concept of ALLL

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Balance Sheet

ASSETS

EARNING ASSETS	
Cash	$ 16,000
LOANS	
Unsecured	13,500
Vehicle	110,000
Real estate	30,000
Total loans	153,500
Less allowance	(1,100)
Net Loans	152,400
INVESTMENTS	
Held to maturity	50,000
Avail for sale	5,000
TOTAL	55,000
Less Allowance for Investment Losses	

NON-EARNING ASSETS	
Property and equip	1,500
NCUSIF	2,000
Other assets	100
TOTAL ASSETS	**$ 227,000**

LIABILITIES & CAPITAL

MISCELLANEOUS LIABS	
Miscellaneous Liabs	$ 15,100
SHARES	
Share savings	68,000
Share drafts	35,000
Money market	45,000
IRAs	41,000
CDs	4,000
Total Shares	193,000
CAPITAL	
Regular reserve	8,000
Undivided earn	10,900
Total Capital	18,900
TOTAL LIABS/CAP	**$ 227,000**

Income Statement

REVENUE	
INTEREST INCOME	
Loans	$11,000
Investments	1,500
TOTAL	12,500
COST OF FUNDS	
DIVDENDS PAID	4,200
Net Interest Income	8,300
EXPENSES	
Provision for Loan Losses	1,000
Occupancy, Personnel, Systems	7,800
TOTAL	8,800
NON-INTEREST INCOME	
Fee Income	700
Service Charges	800
Other Income	400
	1,900
NET INCOME	**$ 1,400**

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Accounting **for Investments**

Held to Maturity (HTM) - an investment that your CU has the intent and capacity to carry until the investment matures and is paid back

Carry on your books at historical (or amortized) value unless:

OTTI – a decline in value that is Other than a Temporary Impairment

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Accounting for Investments

Trading/Equity - an investment that your CU has purchased for speculative purposes. (All Equity investments must be categorized as "Trading")

Carry on your books at market value. Run the increase or decrease in market value through your income statement as an income or expense, even if you did not sell the investment.

Note: You may have Equity securities in your retirement fund portfolio that will need to follow these accounting rules

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Accounting for Investments

Available for Sale (AFS) – any investment that is not HTM or Trading.

Carry on your Balance Sheet at market value but run the increase or decrease in value through your Equity

New Account: Unrealized Gain or Loss on AFS Securities

Most Credit Unions have most of their investments in AVS

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Balance Sheet

ASSETS

EARNING ASSETS	
Cash	$ 16,000
LOANS	
Unsecured	13,500
Vehicle	110,000
Real estate	30,000
Total loans	153,500
Less Allowance for Loan Loss.	(1,100)
Net Loans	152,400
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Avail for sale	5,000
Allow Inv Loss	
TOTAL	55,000
NON-EARNING ASSETS	
Property and equip	1,500
NCUSIF	2,000
Other N. E. assets	
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TOTAL ASSETS	$ 227,000

LIABILITIES & CAPITAL

MISCELLANEOUS LIABS	
Miscellaneous Liabs	$ 15,100
SHARES	
Share savings	68,000
Share drafts	35,000
Money market	45,000
IRAs	41,000
Other	4,000
Total Shares	193,000
CAPITAL	
Undivided earn	18,900
Gains (Losses) on Investments	
Other	
Total Capital	18,900
TOTAL LIABS & CAP	$ 227,000

AFS will often require a new Capital (Equity) account:

Accumulated Gains or Losses on AFS

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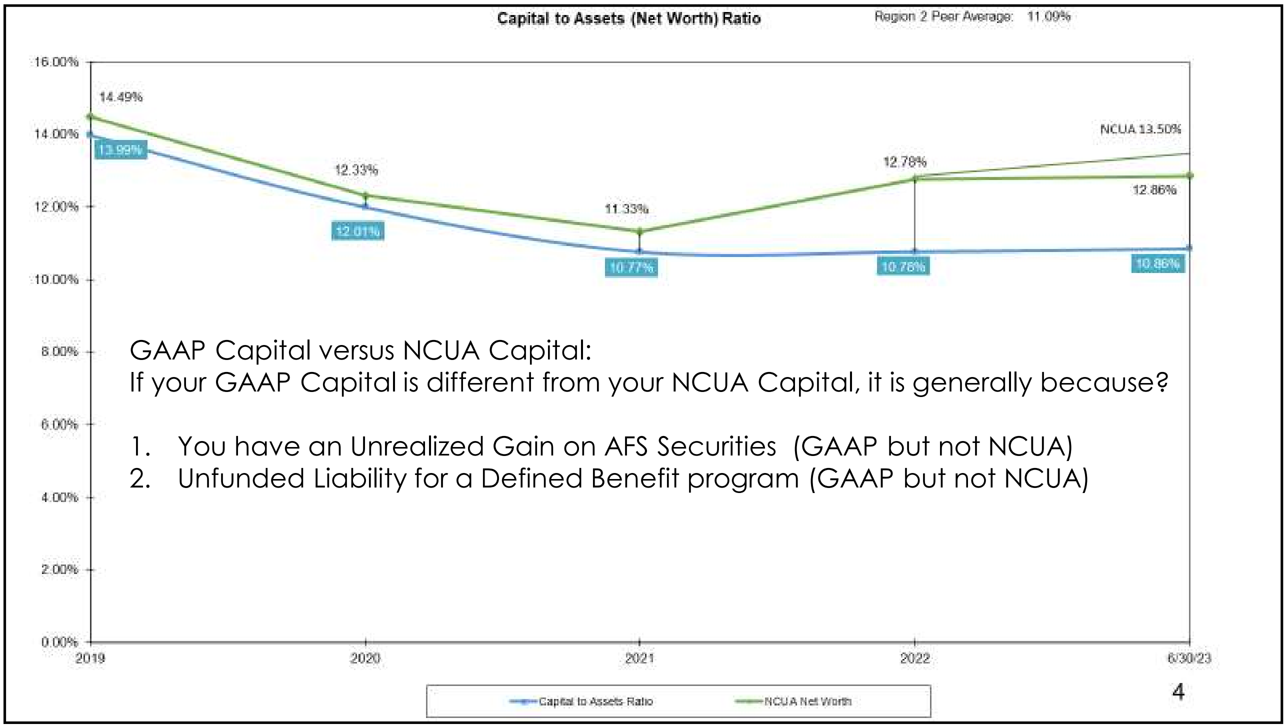
Effect of Investment Market Value being less than Book Value

EQUITY	2022		2023	
Undivided Earnings	$	8,603,597	$	9,531,807
Regular Reserves	$	928,210	$	-
Appropriation for Non-Conforming Investments (SCU ONLY)	$	-	$	-
Other Reserves (Appropriations of Undivided Earnings)	$	-	$	-
Miscellaneous Equity	$	-	$	
Accumulated Unrealized Gains (Losses) on *Available for Sale* Securities	$	(615,715)	$	(3,737,156)
Accumulated Unrealized Net Gains (Losses) on Cash Flow Hedges	$	-	$	-
Other Comprehensive Income (unless already included in item 33 or 34)	$	-	$	-
Net Income (unless this amount is already included in Undivided Earnings)	$	-	$	343,145
Total Equity	$	8,916,092	$	6,137,796
Total Liabilities/Equity	$	139,232,423	$	145,201,721



GAAP Capital versus NCUA Capital:
If your GAAP Capital is different from your NCUA Capital, it is generally because?

1. You have an Unrealized Gain on AFS Securities (GAAP but not NCUA)
2. Unfunded Liability for a Defined Benefit program (GAAP but not NCUA)

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Risk: An ALM Primer

Tim Harrington, CPA

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In ALM, Keep it Simple

<u>Watch Capital at Risk</u>

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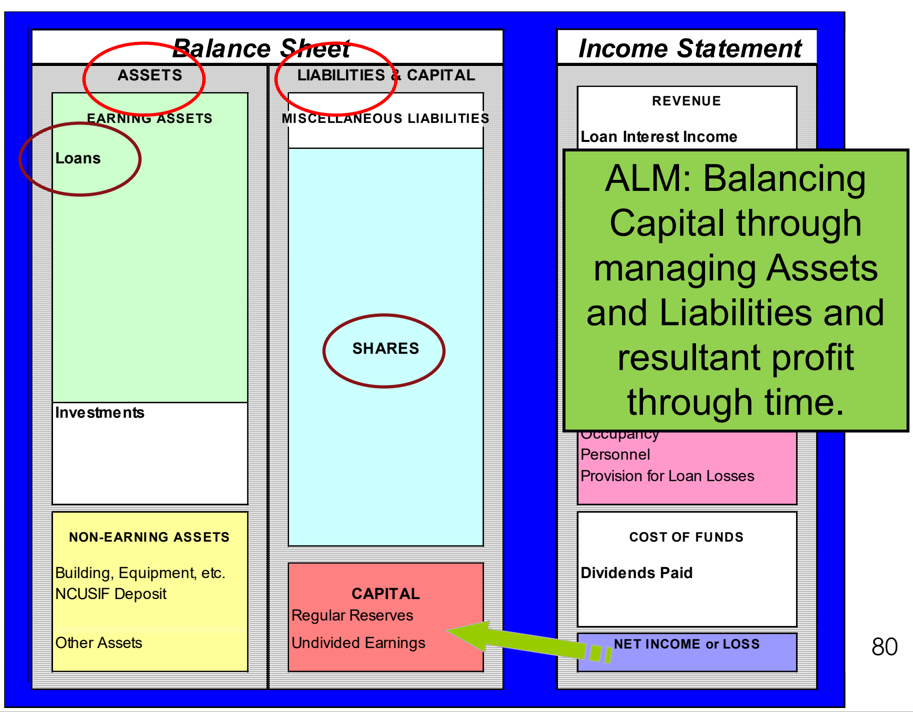

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What Risks Could We Watch?

- Credit Risk
- Interest Rate Risk
- Liquidity Risk
- Transaction Risk
- Compliance Risk
- Strategic Risk
- Concentration Risk
- Growth Rate Risk

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Credit Risk

Risk that we won't get our money back from a loan or investment

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Credit Risk

Risk that the credit union:

- Will make weak loans
- Will make loans to weak borrowers
- Will get involved in investments that might not pay back

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Measuring Credit Risk

✓Delinquency Ratio

Lagging Indicators

✓Net Charge-off Ratio

✓Earning assets to non-earning assets ratio

✓Trend in credit score or grade mix of your loan portfolio **Predictive**

✓Product mix of your loan portfolio

✓Mix of your investment portfolio

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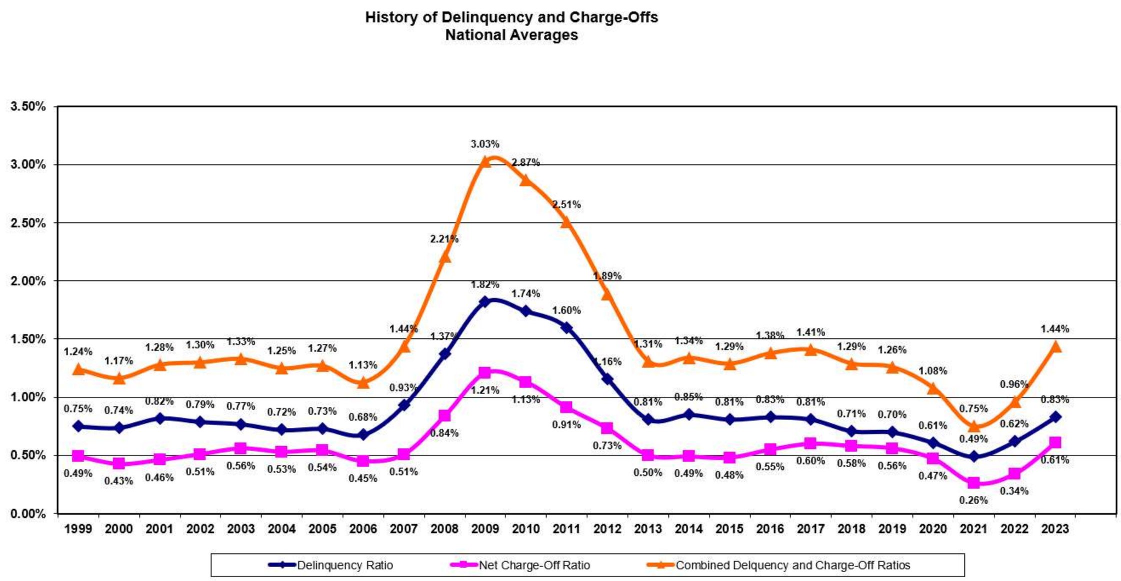
Delinquency and Charge-offs



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Know Your Risk and Return in Each Credit Tier

	DIRECT	%	Loan Balance		Interest Income	Gross Yield	Admin Costs	% Net CO	COF	DEALER COMM	Net Yield
A+ PAPER		51.2%	$	392,676,558		3.33%	0.20%	0.07%	0.76%	0.00%	2.30%
A PAPER		21.4%	$	163,966,984		4.08%	0.20%	0.18%	0.76%	0.00%	2.94%
B PAPER	88.4%	15.9%	$	121,843,742		5.78%	0.40%	0.27%	0.76%	0.00%	4.35%
C PAPER		8.1%	$	62,441,962		7.98%	0.80%	0.74%	0.76%	0.00%	5.68%
D PAPER		2.3%	$	17,806,800		10.53%	1.50%	1.27%	0.76%	0.00%	7.00%
E PAPER		0.4%	$	3,347,407		11.51%	1.80%	0.85%	0.76%	0.00%	8.10%
No Score		0.4%	$	3,408,225		11.43%	1.80%	0.79%	0.76%	0.00%	8.08%
Not Rep	11.3%	0.2%	$	1,671,588		2.95%		0.06%	0.76%	0.00%	2.13%

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Risk Based Pricing = Sharing

Credit Score		A	B	C	D
Loan Rate		5.9	6.9	8.9	11.9
Charge-offs		0.4	0.6	1.2	2.4
Admin costs		0.2	0.4	0.8	1.5
Dealer fee		0.3	0.3	0.3	0.3
Cost of funds		2.2	2.2	2.2	2.2
Anticipated net		2.8	3.4	4.4	5.5

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Compare yield and term to alternative investments

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Interest Rate Risk

The risk of loss due to rising or falling interest rates.

Arises when a credit union's assets do not mature or re-price at the same interval as its liabilities

If interest rates change, what will happen to:

- Net Interest Margin?
- Net Income?
- Capital?

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Interest Rate Risk

Risk that credit union:

- Will lose money due to long-term, fixed rate loans or investments
- Funded by short-term, variable rate deposits

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Interest Rate Risk

At time loan is made:	
Loan rate	3.90%
Your COF at time of loan	0.80%
Spread	**3.10%**
2 years later, rates rise 220 bp:	
Loan rate	3.90%
Your COF at time of loan	2.80%
Spread	**1.10%**

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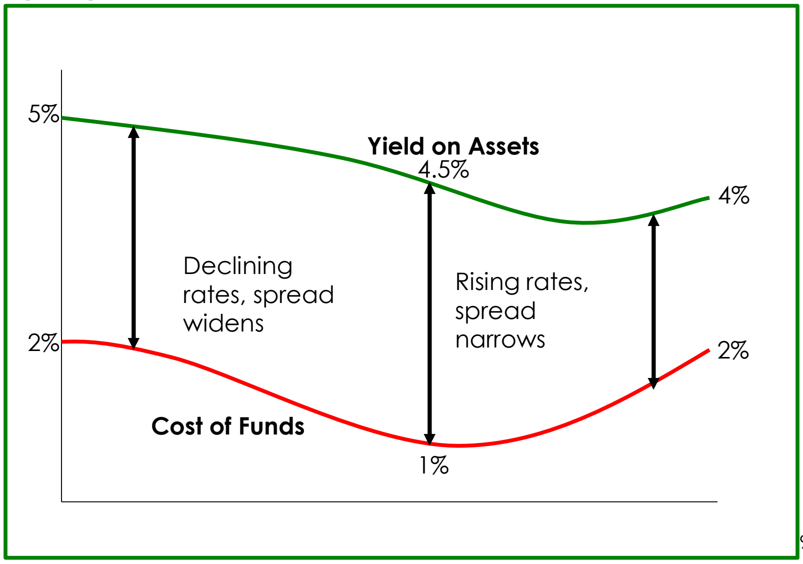
Normal Banking Cycle: Spread widens and narrows with changing rates



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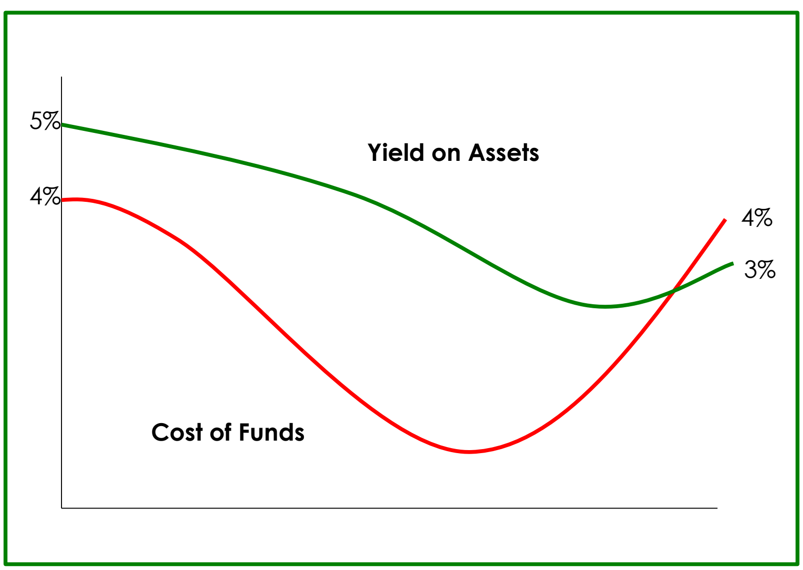
Interest Rate Risk: Catastrophic!



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Causes of Interest Rate Risk

Making Fixed Rate Loans in A Variable Rate World

- Fixed rates over long term
- Terms of fixed rate loans and shares
- Adjustable rate loans,
  - Floors, ceilings, re-pricing period

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Measuring Interest Rate Risk

Always pay attention **Capital at Risk**

Compare rate sensitivity of the credit union's earning assets to that of its interest-bearing liabilities

- Gap Analysis
- Net Economic Value (NEV) Calculations
- Income Simulations

Computer simulations

Shock tests

- ✓Measuring effect on asset values if interest rates rise or fall 300, 400 or 500 basis points

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Net Economic Value:
Book Value vs. Market Value: Capital at Risk

Net economic value (NEV) measures the effect of interest rate risk on capital

NEV measures balance sheet's value at a future fixed point in time

NEV = "present value" of Assets - "present value" of Liabilities: The end result is the "present value" of Capital at some point in the future.

<u>Book Value or Current Value:</u>

Assets	-	Liabilities	=	Capital	Capital to Assets Ratio
$1,000	-	$ 900	=	$ 100	$100 / $1,000 = 10.0%

<u>Future Value:</u> <u>(after a 3 % Pt. (300 bp) increase in market rates):</u>

Assets	-	Liabilities	=	Capital	Capital to Assets Ratio
$ 940	-	$ 900	=	$40	$40 / $940 = 4.3%

Capital at Risk: 67%

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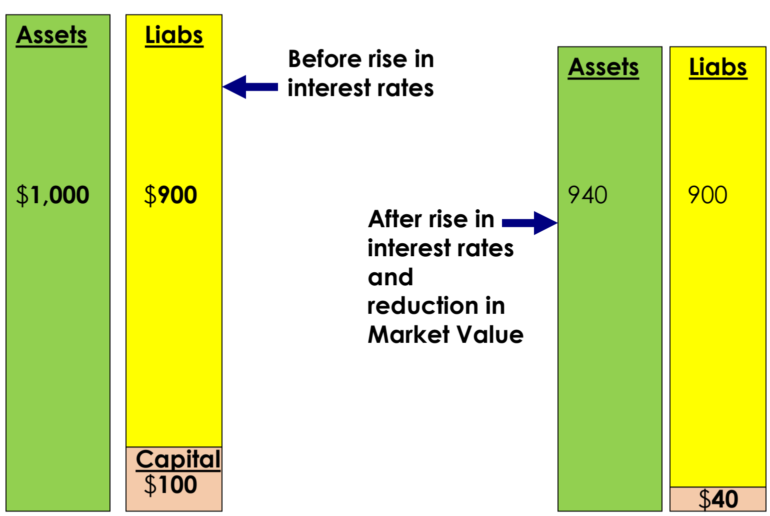
Net Economic Value:
Book Value vs. Market Value



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Capital at Risk
From NCUA Financial Performance Report
(only available for CUs under $500 MM in assets)

		Sep-2022	PEER Avg.**
CAPITAL ADEQUACY RATIOS			
Net Worth / Total Assets[5]	**Ratio**	6.80	10.65
ASSET LIABILITY MANAGEMENT RATIOS[7]			
Est. NEV Tool Post Shock Ratio[4]	**After Stress test**	1.60	6.68
Est. NEV Tool Post Shock Sensitivity[4]	**Capital at Risk**	-70.36	-39.79

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The Saga of Silicon Valley Bank

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Was SVB a Victim of a Bad Market?

"SVB's failure is a textbook case of mismanagement."

Michael Barr
Vice Chair for Supervision
Federal Reserve

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Two of NCUA's "Red Flags" at SVB

1. Rapid Deposit Growth
2. High Level of Long-Term Assets to Total Assets

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Two of NCUA's "Red Flags" at SVB

1. Rapid Deposit Growth

   Above market rates tend to attract less stable rate-sensitive shares. If the credit union then invests these sensitive deposits in longer-term assets (e.g., real-estate loans), it creates a mismatch of maturities for assets and liabilities that could further increase exposure to IRR.

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1. Rapid Deposit Growth

Annual Deposit Growth Rate	2019	2020	2021	2022
Banking Industry	4%	17%	8%	-1%
Credit Unions	8%	18%	12%	5%

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2. High Level of L-T Assets/Total Assets

"We are comfortable being able to put some of that money to work in longer duration" securities on our balance sheet.

Greg Becker
CEO of Silicon Valley Bank
in his 1Q 2021 earnings call

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Two NCUA "Red Flags" at SVB

2. High level of long-term assets to total assets.

A high concentration of assets with maturities longer than three years will reduce the credit union's ability to react to changing interest rates and expose it to increased interest-rate risk.

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Chain of Events

- SVB welcomed all tech company short-term deposits
- Tech companies were thrilled because other area banks didn’t want their high volume of hot money
- To get a higher yield for their influx of deposits, SVB invested in longer-term investments
- Most of their investments were booked as Held to Maturity (no recognition of decline in market value)
- When Fed raised interest rates dramatically, their long-term investments (with lower interest rates) lost massive value

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Chain of Events

- They needed cash, selling HTM investments, causing significant investment losses
- Selling HTM investments *(to qualify for HTM, investment should never be sold)* triggered the conversion of ALL investments to AFS, now requiring ALL Losses to be booked, wiping out their Capital
- They needed more cash, so they tried to sell stock, but no one bought, so Capital stayed near Zero
- Experts saw their plight and texted their clients to withdraw all cash ASAP, causing a run on the bank

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Liquidity Risk

Risk that adequate cash will not be available to fund loans, meet withdrawal demands, or pay bills

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Liquidity Risk

1. Do we know what our sources of cash are going to be?
2. Do we know what are uses of cash are going to be?
3. Do we have access to loans or lines of credit?
4. How much cash and liquid investments do we have?

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Causes of Liquidity Risk

- Investments not liquid
- Loans or investments not paying as planned
- New loans exceeding new deposits
- Deposits leaving the C.U.
- Financial losses
- Lack of alternative funding sources
  - Loans from others
  - Lines-of-credit

Measures of Liquidity

Ungood Federal Credit Union

Liquidity Projection - Cash-Flow Projection

January, 200X

	ACTUAL Jan 0X	ACTUAL Feb 0X	Mar-0X	Apr-0X
BEGINNING CASH BALANCE	$ 24,480,091	$ 28,081,931	$ 30,209,082	$ 22,281,008
ASSUMPTIONS				
NET LOAN (GROWTH) DECREASE	$ 2,415,510	$ 2,210,170	$ (754,776)	$ (758,927)
DEPOSIT GROWTH (DECREASE)	$ 3,707,806	$ 1,366,869	$ 456,244	$ 457,612
CDs MATURING GROWTH (DECREASE)	$ (2,701,680)	$ (1,638,779)	$ (7,779,542)	$ (8,575,551)
ESTIMATED NET INCOME	$ 180,204	$ 188,891	$ 150,000	$ 150,000
NET LIQUIDITY INCREASE (DECREASE)	$ 3,601,840	$ 2,127,151	$ (7,928,074)	$ (8,726,866)
ENDING LIQUIDITY BALANCE	$ 28,081,931	$ 30,209,082	$ 22,281,008	$ 13,554,142
LIQUIDITY MINIMUM ESTABLISHED BY THE ALM COMMITTEE	$ 15,525,625	$ 15,423,515	$ 15,488,545	$ 15,484,158
LIQUIDITY EXCESS (SHORTAGE)	$ 12,556,306	$ 14,785,567	$ 6,792,463	$ (1,930,016)

Managing Liquidity

- Appropriate pricing on deposits
- Ability to sell investments early
- Keeping loans and investments relatively short term
- Lines-of-credit at Corporate, bank or FHLB
  - Borrow from Corporate or FHLB
- Willingness and ability to sell loans or participations

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What Can You Focus On?

1. Maintain **Deposit Growth** at a manageable pace
2. Watch **Duration** on Earning Assets (life of the asset)
3. Monitor projections of **Capital at Risk** and be prepared to restructure your Balance Sheet
4. Review **Concentration Limits** in IRR and ALM policies

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What Can You Focus On?

- Monitor your **Capital to Assets Ratio** (Net Worth Ratio)
  - Its direction and your expectations
- Monitor your **Spread** Analysis and ROA
- If the Capital to Assets Ratio is falling, determine what it would take to improve Profit (ROA) and return your Capital to Assets Ratio back to 'stable'
- **Project** out what might happen to Capital/Assets ratio
- Monitor other Key Ratios in Graphic Form or a DashBoard

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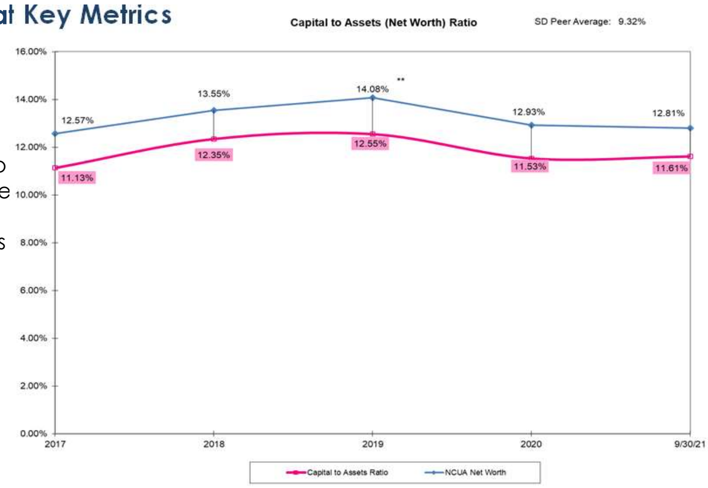
A Quick Look at Key Metrics

Monitor a Graph of your Capital to Assets Ratio. Is the trend 'stable' or 'improving'? Or is it declining?

And why?



Spread Analysis	2016	2017	2018	2019	2020	9/30/2021
Interest Income/Avg Assets	3.40%	3.55%	3.70%	3.89%	3.27%	2.59%
Interest Expense/Avg Assets	0.16%	0.17%	0.18%	0.27%	0.21%	0.17%
Net Interest Margin	3.24%	3.37%	3.52%	3.62%	3.05%	2.41%
PLL /Average Assets	0.46%	0.09%	0.75%	0.51%	0.02%	-0.21%
Operating Expenses	3.91%	4.00%	4.03%	4.06%	3.72%	3.44%
Other Revenues	1.81%	1.80%	1.94%	1.85%	1.46%	1.49%
ROA before NCUA Exp	0.69%	1.09%	0.69%	0.91%	0.77%	0.67%
NCUA Stabilization Expense	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Return on Average Assets	0.69%	1.09%	0.69%	0.91%	0.77%	0.67%

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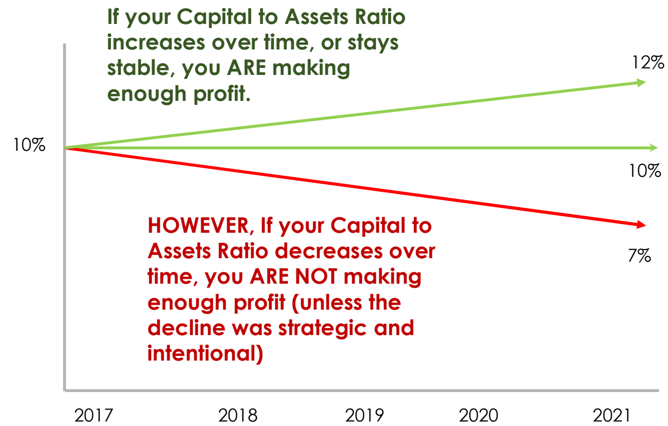
The Capital to Assets Gauge



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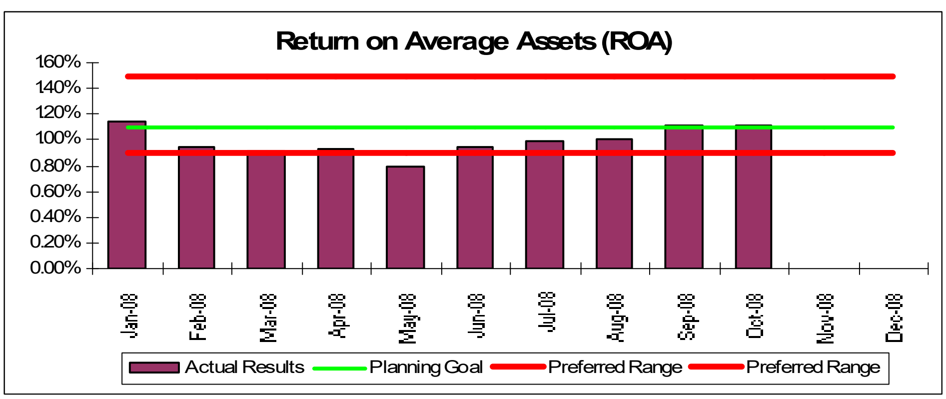
Using an Instrument Panel



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Free DashBoard

http://forteamresources.com/products/free-downloads/

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