



Mark H. Smith
I N C O R P O R A T E D

LIQUIDITY TRAINING FOR CREDIT UNION LEADERS - WHAT YOU NEED TO KNOW

PRESENTED BY:
CYNTHIA R. WALKER
CEO

(Webinar will begin on the hour)

WEBINAR OBJECTIVES



Define liquidity risk



Identify where this risk originates



Discuss causes of liquidity insufficiencies.



Explore funding resources



Liquidity forecasting

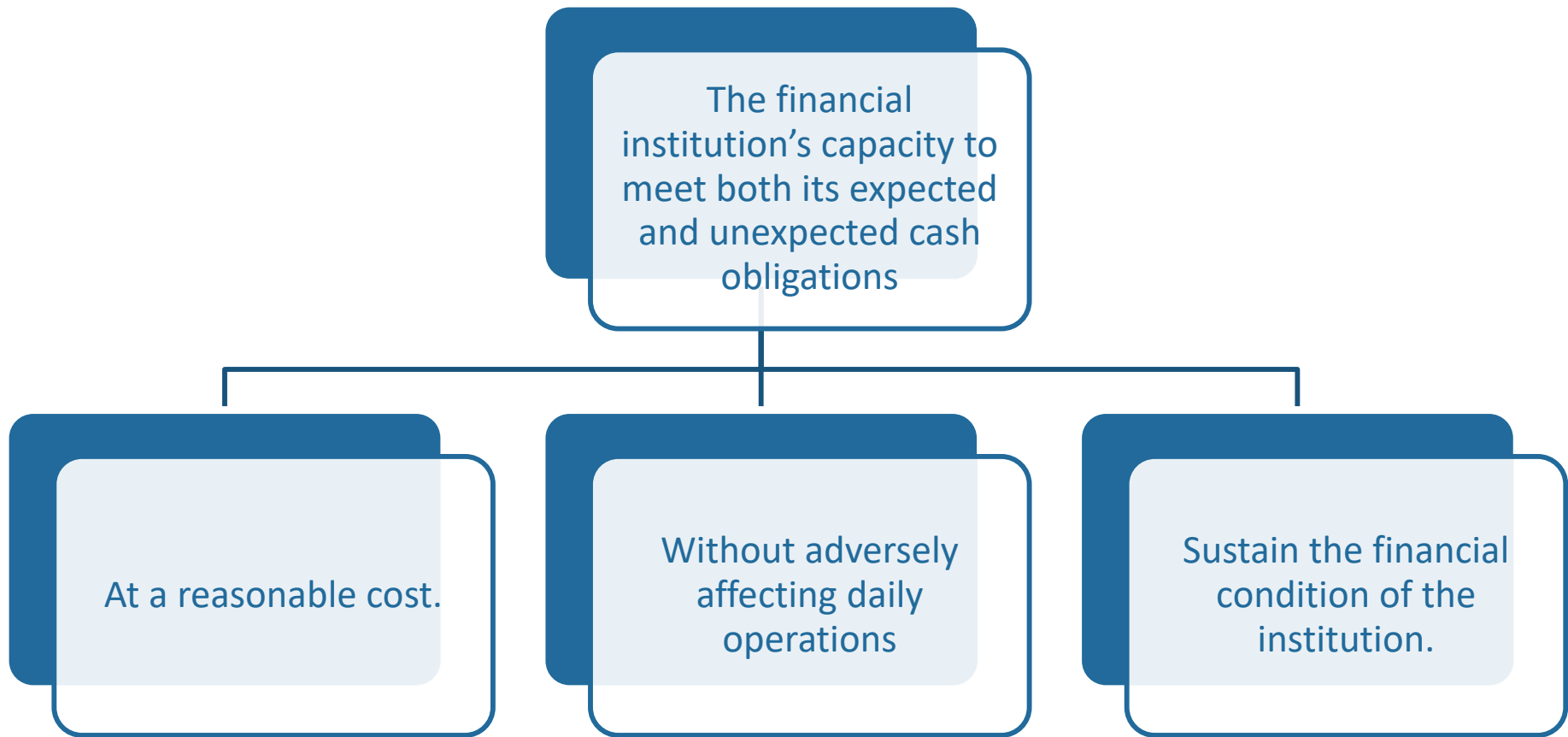


Liquidity and contingency funding policies



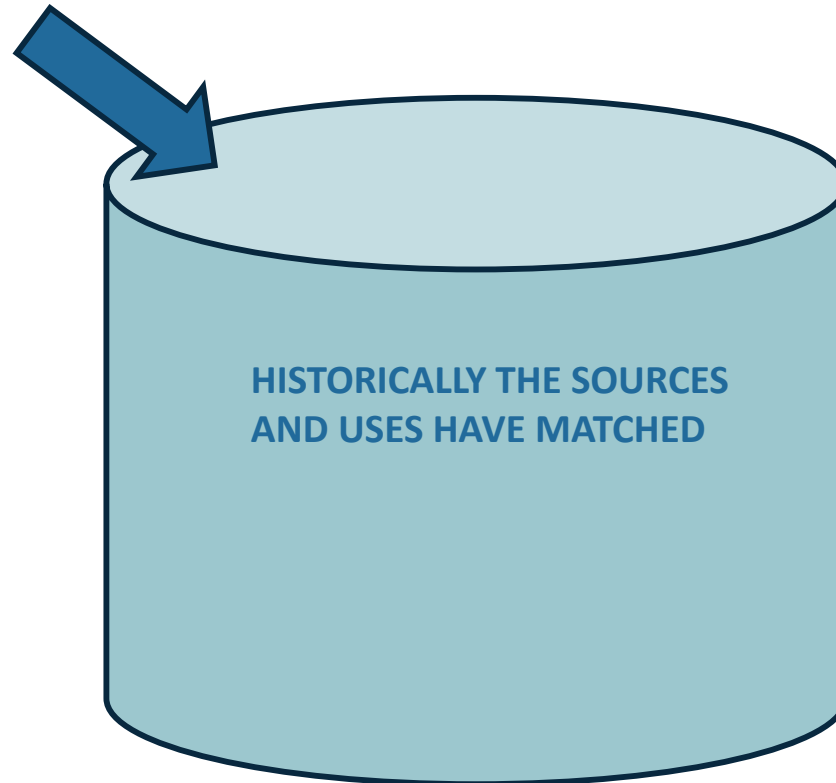
Review regulatory expectations

LIQUIDITY DEFINITION



SOURCES AND USES

Core deposit growth (share insurance a factor)
CD specials
Wholesale borrowing
Maturing investments
Sell investments
Loan payments
Income



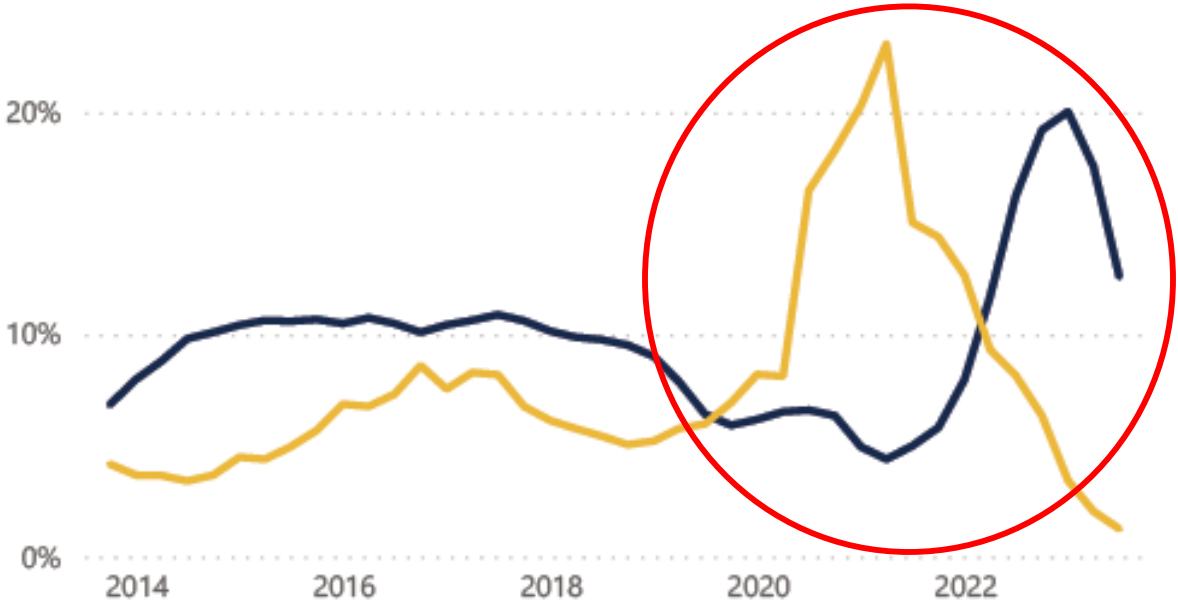
New loans
New investments
Share withdrawal
Negative income
Loan losses

TRENDS

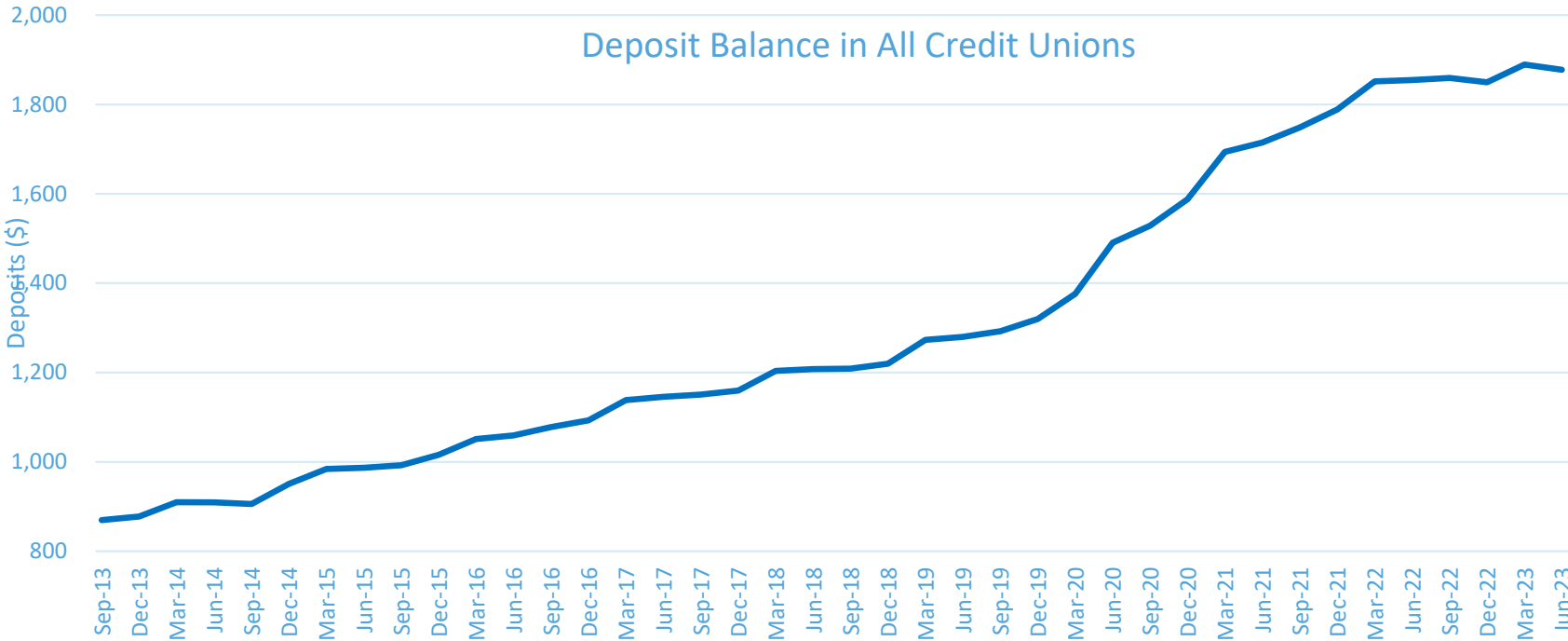
2022 LOANS INCREASED AND SHARES DECREASED

Loan Growth vs. Share Growth (YoY)

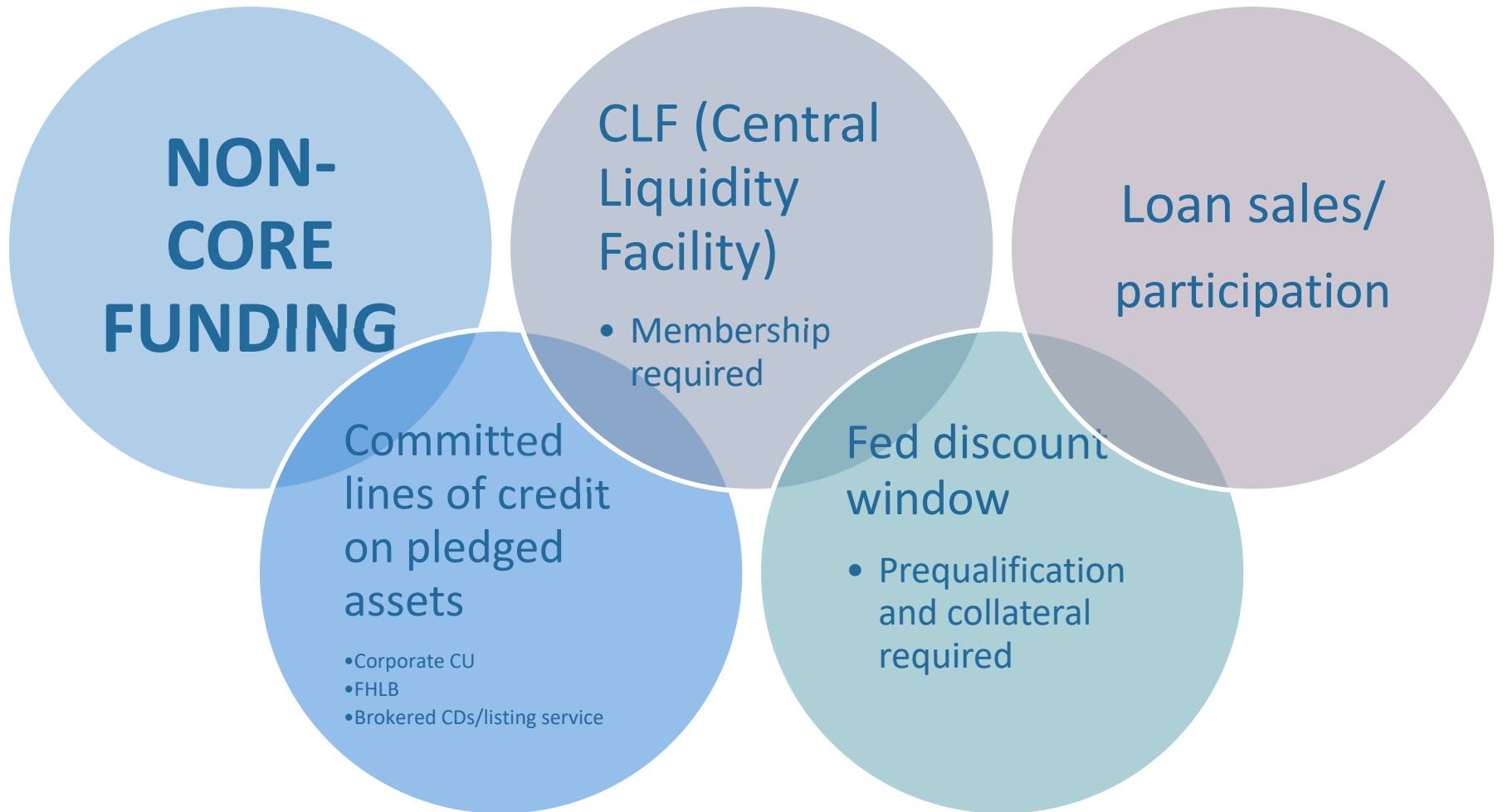
● Loan ● Share



TRENDS



FUNDING RESOURCES



LIQUIDITY RISK FACTORS

INTERRELATED RISKS MAY INCREASE LIQUIDITY RISK

Mismatch in sources and uses of funds

Market constraints on the ability to convert assets into cash

Unable to access sources of funds

Unanticipated share withdrawals

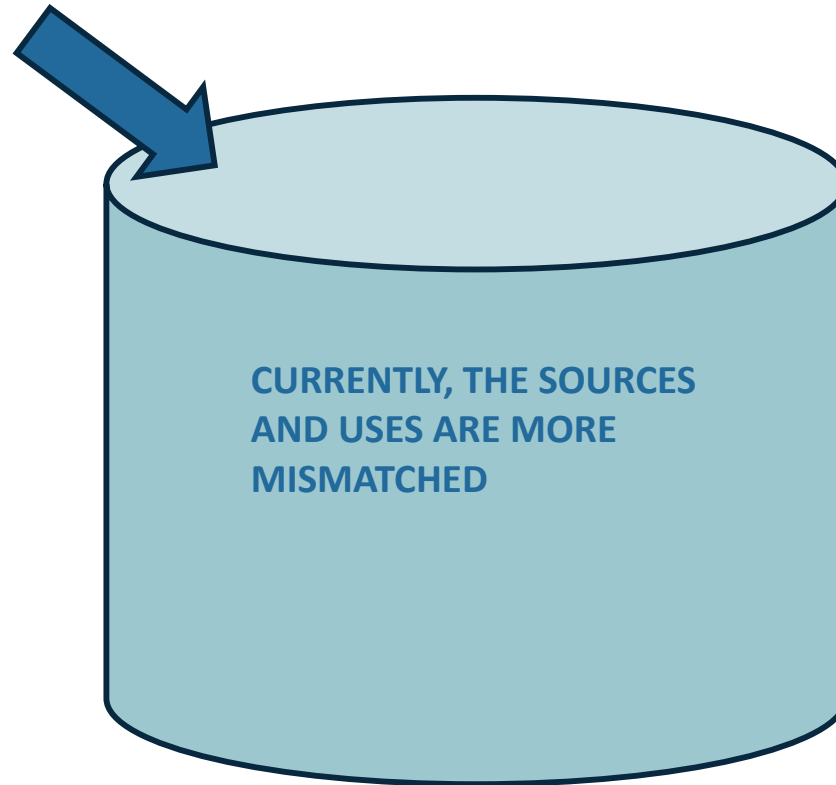
Unbalanced growth

Field of membership issues

Changes in economic conditions

SOURCES AND USES

~~Deposit growth slow~~
~~Wholesale borrowing~~
~~Maturing investments~~
~~Sell investments~~
~~Loan payments~~
Income



New loans
New investments
Share withdrawal
Negative income
Loan losses

LIABILITY-BASED LIQUIDITY

The graphic below illustrates the relative stability of various funding sources dimensioned from most stable to least stable.



https://publishedguides.ncua.gov/examiner/#ExaminersGuide/Liquidity/Liquidity.htm?ToCPath=Liquidity%257C_____0

QUICK LIQUIDITY RATIOS

When overnight ratio is low and the one-year liquidity ratio is low, it could be a warning

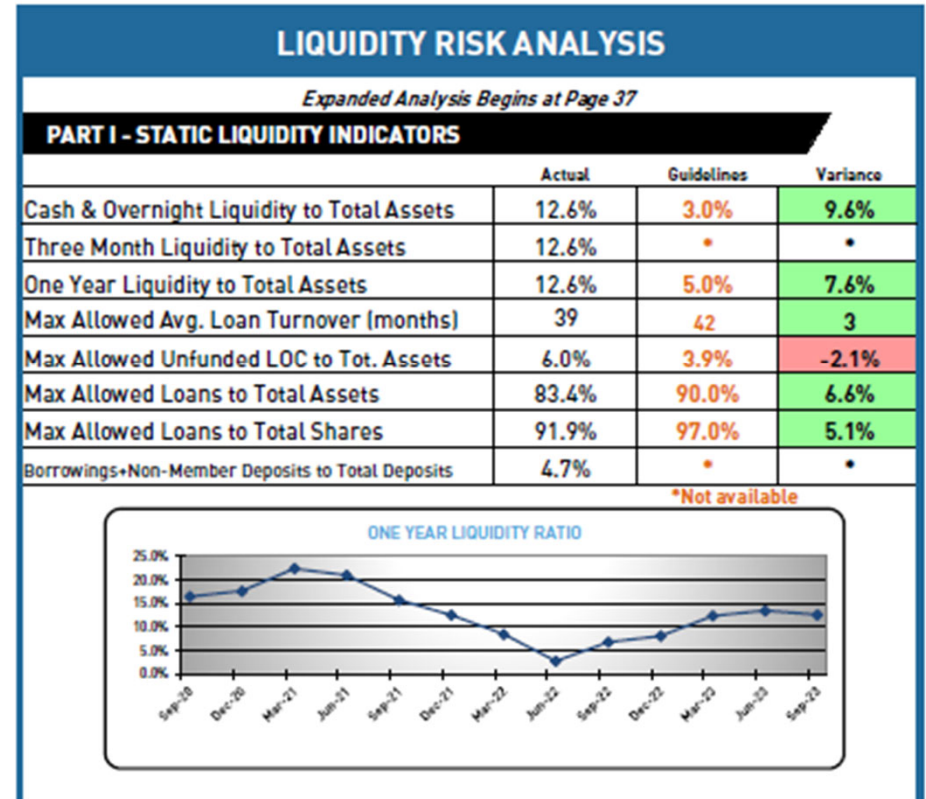
When loans-to-assets and loans-to-shares are high could be a warning

High unfunded LOC could be a possible exposure

Borrowing and non-member deposits could be an exposure

Loan turnover extension could be a liquidity risk

PANEL 3



BASIC LIQUIDITY RISK ESTIMATES

$$\text{Overnight Cash Ratio} = \frac{\text{Cash} + \text{Overnight Deposits}}{\text{Total Assets}}$$

Simple forward-looking

$$\text{1-Year Liquidity Ratio} = \frac{\text{Cash} + \text{Overnight} + \text{Investments} \leq 1 \text{ Year}}{\text{Total Assets}}$$

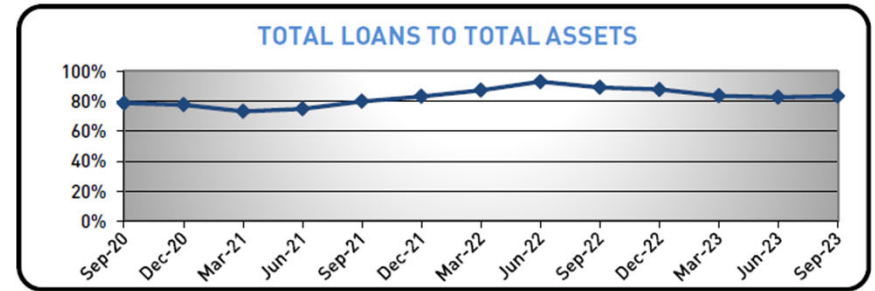
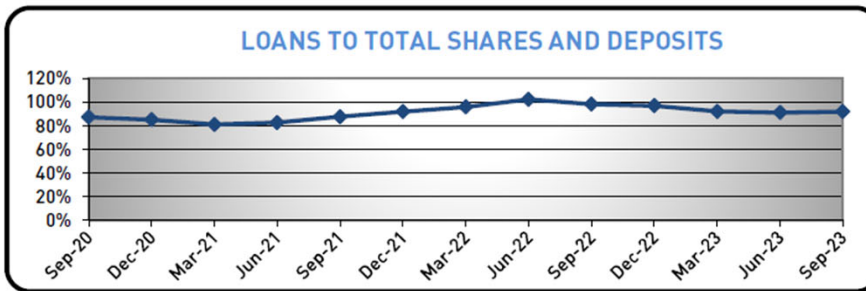
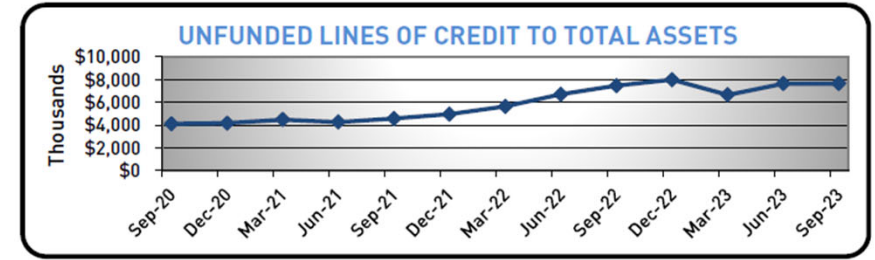
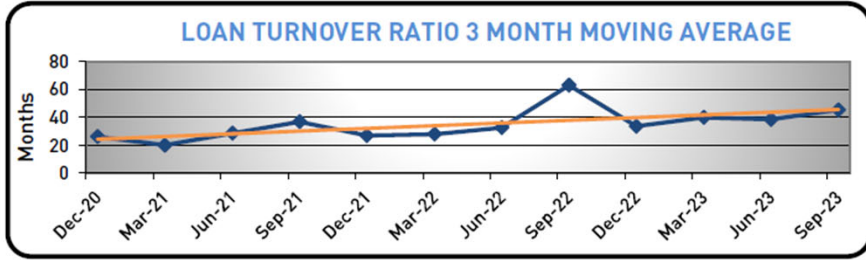
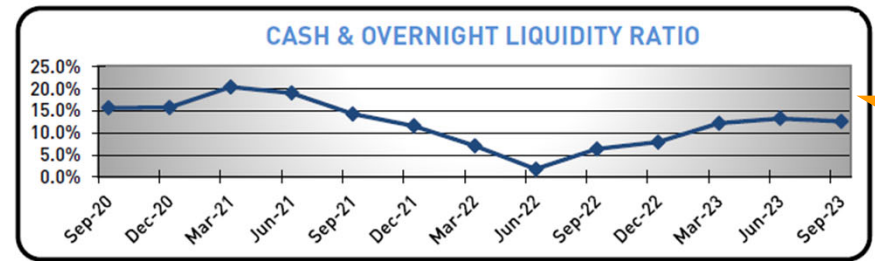
$$\text{Total Loans to Total Assets} = \frac{\text{Total Loans}}{\text{Total Assets}}$$

$$\text{Unfunded Lines of Credit to total assets} = \frac{\text{Unfunded LOC}}{\text{Total Assets}} \quad \text{Off balance sheet exposure}$$

$$\text{Borrowing + non-mem deposits To total deposits} = \frac{\text{Borrowing} + \text{non-mem deposits}}{\text{Total Deposits}}$$

LIQUIDITY TREND GRAPHS

ALMPRO REPORT PAGE 37



POLL QUESTION #1

LIQUIDITY RISK

Overall safety and soundness is adversely affected by the credit union's inability (or perceived inability) to meet its contractual obligations

Lending

Having the necessary cash flows to meet current and future lending

Shares

Having the necessary cash flow to meet share demands

Cash

To meet financial obligations like operating expenses and interest payments

INTEREST RATE RISK – INTERRELATED RISK

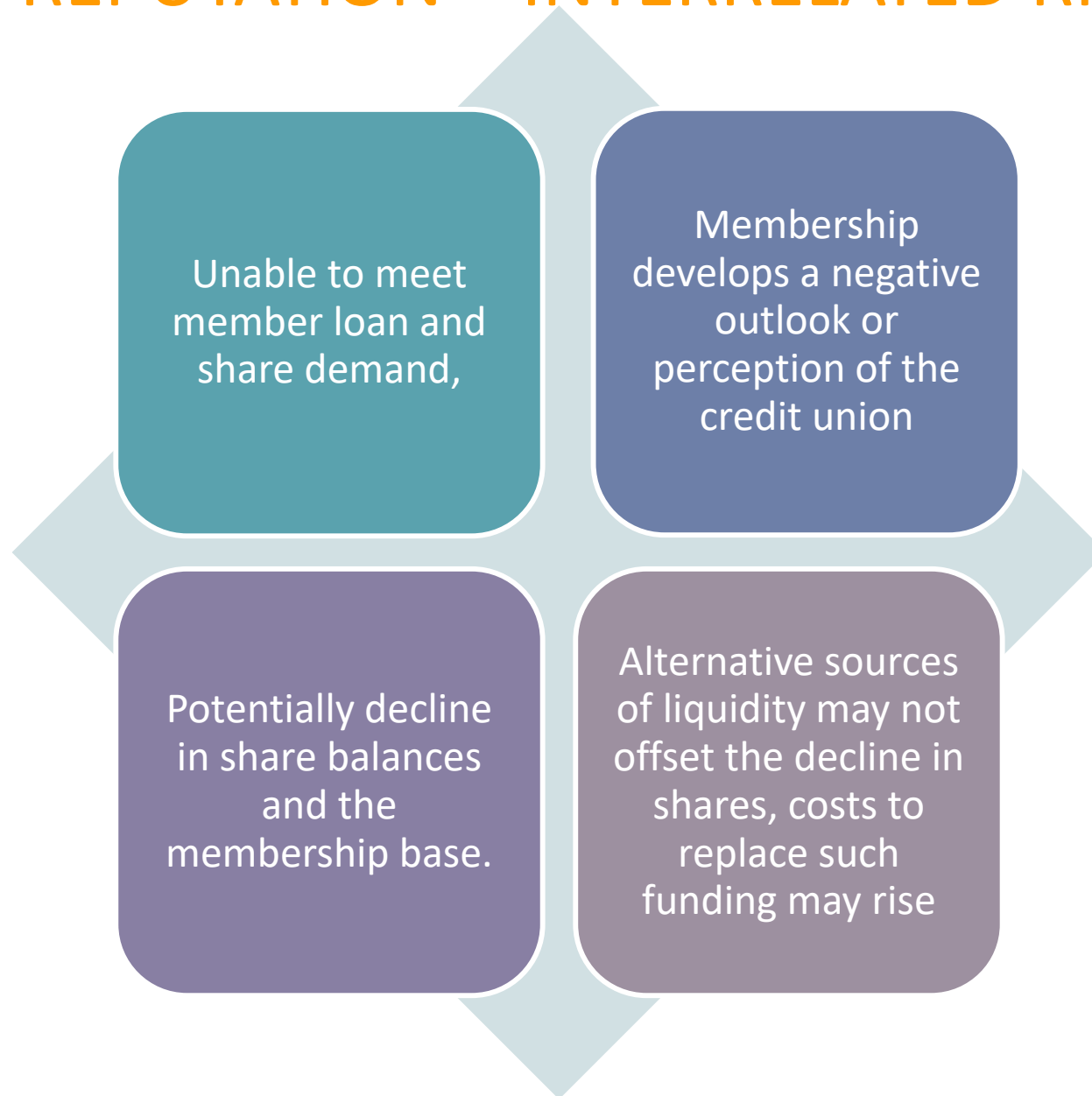
Rate changes drive share and loan cash flows

Change in market conditions are often unpredictable and severe

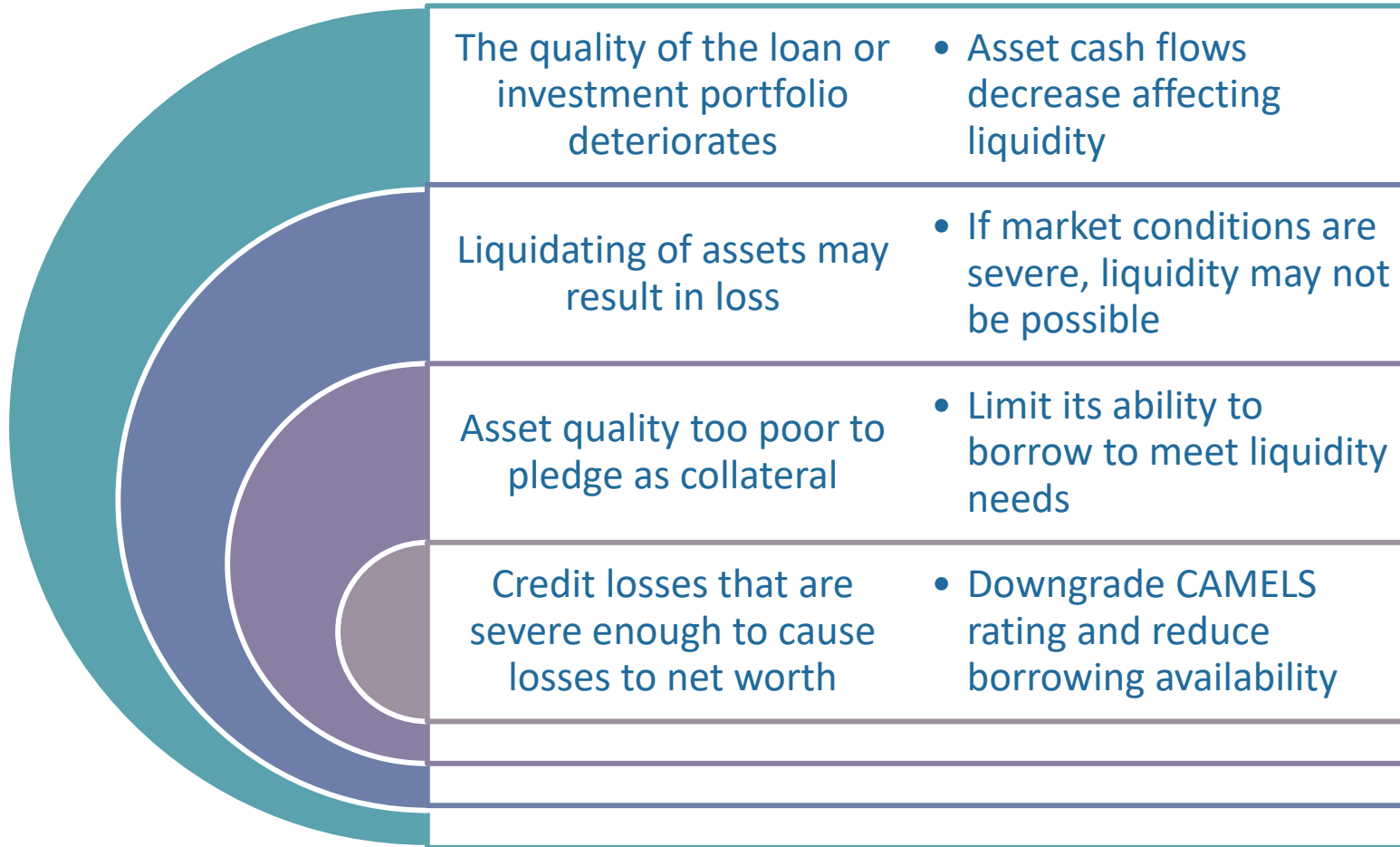
Greater interest rate risk cause greater exposure to earnings

Rate changes can make it difficult to maintain existing funding sources

REPUTATION – INTERRELATED RISK



CREDIT RISK – INTERRELATED RISK



CONCENTRATION – INTERRELATED RISK

INTERNAL FUNDING SOURCES

- LARGE SINGLE DEPOSITOR
- AGING MEMBERSHIP
- RESTRICTED FIELD OF MEMBERSHIP
- UNINSURED DEPOSITS

EXTERNAL FUNDING SOURCES

- WHOLESALE BORROWING
- MAINTAIN AND TEST CREDIT LINES
- NON-MEMBER DEPOSITS – BROKERED CDS
- PUBLIC FUNDS

CONSUMER BASED

- LIMITED COMMERCIAL RELATIONSHIPS

STRATEGIC – INTERRELATED RISK



NEW PRODUCTS OR
SERVICES



CONSIDER THE IMPACT
ON CASH FLOWS



OFF BALANCE SHEET
COMMITMENTS



INVESTMENTS
STRATEGIES

POLL QUESTION #2

NCUA LIQUIDITY RISK REGULATION

All Credit Unions per NCUA reg 741.12(a)

Must have a board-approved liquidity policy

Credit unions over \$50 million total assets per NCUA regulation 741.12(b)

Must have a Contingency Funding Plan (CFP), but suggested as sound practice for all credit unions

NCUA LIQUIDITY RISK REGULATION

**Credit unions over \$250 million total assets per
NCUA reg 741.12(c)**

Written liquidity policy & written CFP

Demonstrate access to a “contingent federal liquidity
source”

- Maintaining membership in the CLF (Central Liquidity Facility)
- Establish borrowing access at the Federal Reserve Discount Window

LIQUIDITY RISK POLICY COMPONENTS

Well-defined levels of responsibility to identify, measure, monitor, control, and report liquidity risk

Governs how the CU manages daily operating cash needs

Defines how the CU may meet forecasted liquidity shortfalls

Identifies possible responses to unforeseen liquidity events

Correlated to other credit union policies

Tailored to size, complexity and risk profile

LIQUIDITY RISK POLICY (CONTINUED)

Describes testing and methodologies

Establishes frequency or reporting

Thresholds or limits for liquidity measures

Board approved and periodic reviews and revisions as needed

Contingency Funding Plan (CFP)

ELEMENTS OF A CONTINGENCY FUNDING PLAN (CFP)

Identification and sufficiency of liquidity sources

Plans to manage stressful environments

Lines of responsibility

Clear implementation and escalation procedures

The frequency of testing and updating the plan

<https://publishedguides.ncua.gov/examiner/#ExaminersGuide/Liquidity/Liquidity.htm?TocPath=Liquidity%257C>

LIQUIDITY RATINGS –CAMELS-ARE BASED ON:

- The adequacy of liquidity sources and the ability to meet liquidity needs without adversely affecting operations or conditions; ?
- The availability of assets readily convertible to cash without undue loss; ?
- Access to sources of funding; ?
- The level of diversification of funding sources, both on- and off-balance sheet; ?
- The degree of reliance on short-term, volatile sources of funds to fund longer-term assets; ?
- The trend and stability of deposits; and ?
- The capability of management to properly identify, measure, monitor, and control the credit union's liquidity position,
 - including the effectiveness of funds management strategies,
 - liquidity policies, and contingency funding plans

POLL QUESTION #3

LIQUIDITY RISK ESTIMATES

CASH FLOW FORECAST



	LIKELY SCENARIO		MODERATE SCENARIO		SEVERE SCENARIO		SYSTEMIC SCENARIO	
	12-month cash flow totals (000)	Average growth factor	12-month cash flow totals (000)	Average Growth Factor	12-month cash flow totals (000)	Average Growth Factor	12-month cash flow totals (000)	Average Growth Factor
Cash flow from loans	\$3,032	-1.8%	(\$8,414)	5.0%	(\$16,828)	10.0%	\$0	0.0%
Cash flow from deposits and borrowings	\$49,396	18.4%	(\$13,416)	-5.0%	(\$26,832)	-10.0%	(\$26,832)	-10.0%
Off balance sheet source (uses)	\$0		\$0		\$0		\$0	
Net cash flow from loans, deposits, borrowings and off-balance sheet	\$52,428		(\$21,830)		(\$43,660)		(\$26,832)	
Investment Maturities	\$12,195		\$12,195		\$12,195		\$12,195	
Net Income	\$1,829		\$2,012		\$2,161		\$1,879	
Available cash and overnight investments	\$17,414		\$17,414		\$17,414		\$17,414	
Net Cumulative Cash Flow	\$83,867		\$9,791		(\$11,891)		\$4,656	
Operational Guidelines (000)	\$1,000		(\$1,000)		(\$3,000)		\$0	
Variance (000)	\$82,867		\$10,791		(\$8,891)		\$4,656	

12 MONTH CASH FLOW FORECAST LOANS



BEGINNING BALANCE (000)
31-Dec-21

CU SPECIFIED DRIVERS

New vehicle loans	2,026
Used vehicle loans	27,335
Indirect new vehicle	11,290
Indirect used vehicle	36,839
First mortgages greater than 15 years	42,681
First mortgages 15 years or less	14,252
Home equity open end adjustable rate	13,273
Home equity closed end adjustable rate	384
Home equity closed end fixed rate	3,739
Signature	1,401
VISA card fixed	2,526
VISA card variable	2,372
Overdraft lines of credit	238
Share secured	242
Recreational merchandise	5,381
Construction	49
Participation loans (consumer)	4,256
	0
	0
Totals	168,283

0%
0%
-22%
-21%
5%
5%
25%
-20%
-26%
-15%
11%
6%
-10%
-19%
16%
0%
25%
0%
0%
0%

12-MONTH FORECASTED CASH FLOW - LIKELY

	MONTH ENDED												TOTAL 12X	
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22		
Cash Flow from Loans:														
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(7)
	4	4	4	4	4	4	4	4	4	4	4	4	4	52
	211	211	211	211	211	211	211	211	211	211	211	211	211	2,529
	633	633	633	633	633	633	633	633	633	633	633	633	633	7,592
	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(178)	(2,134)
	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(59)	(713)
	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(273)	(3,277)
	6	6	6	6	6	6	6	6	6	6	6	6	6	76
	81	81	81	81	81	81	81	81	81	81	81	81	81	968
	18	18	18	18	18	18	18	18	18	18	18	18	18	215
	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(22)	(270)
	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(11)	(133)
	2	2	2	2	2	2	2	2	2	2	2	2	2	23
	4	4	4	4	4	4	4	4	4	4	4	4	4	45
	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(72)	(870)
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(89)	(1,064)
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	253	253	253	253	253	253	253	253	253	253	253	253	253	3,032

12-MONTH CASH FLOW FORECAST DEPOSITS

Notes payable	0
Regular shares \$0 to \$100,000	75,855
Regular shares greater than \$100,000	36,375
Share drafts	48,086
IRA accounts	478
Member certificates	42,015
Escrow shares	97
Money markets \$0 to \$9,999.99	2,074
Money markets \$10,000 to \$19,999.99	3,379
Money markets \$20,000 to \$49,999.99	11,042
Money markets \$50,000 to \$99,999.99	14,532
Money markets \$100,000 and over	34,388
	0
	0
Totals	268,321

15%
65%
11%
-4%
-9%
0%
0%
-5%
10%
28%
22%
0%
0%

Cash Flow from Deposits & Borrowings:												
(0)	0	0	0	0	0	0	0	0	0	0	0	(0)
960	960	960	960	960	960	960	960	960	960	960	960	11,524
1,979	1,979	1,979	1,979	1,979	1,979	1,979	1,979	1,979	1,979	1,979	1,979	23,753
449	449	449	449	449	449	449	449	449	449	449	449	5,382
(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(17)
(322)	(322)	(322)	(322)	(322)	(322)	(322)	(322)	(322)	(322)	(322)	(322)	(3,870)
0	0	0	0	0	0	0	0	0	0	0	0	0
(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(4)
(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(172)
89	89	89	89	89	89	89	89	89	89	89	89	1,069
339	339	339	339	339	339	339	339	339	339	339	339	4,067
639	639	639	639	639	639	639	639	639	639	639	639	7,664
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
4,116	4,116	4,116	4,116	4,116	4,116	4,116	4,116	4,116	4,116	4,116	4,116	49,396

12-MONTH CASH FLOW FORECAST NET

OFF BALANCE SHEET CASH SOURCE (NEEDS)
NET CASH FLOW FROM LOANS, DEPOSITS & BORROWINGS

0	0	0	0	0	0	0	0	0	0	0	0	0	0
4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	4,369	52,428

12-MONTH CASH FLOW FORECAST INVESTMENTS AND NET INCOME AND CASH ON HAND

Alloya/FHLB DDA/clearing accounts	***
	0
Investment CDs noncallable	40,128
Investment CDs callable	1,992
Investment CDs step/callable	0
Securities noncallable	0
Securities callable	44,933
Securities step/callable	2,000
	0
	0
FHLB stock	313
Membership cap shares	741
Totals	90,107

Net Income (excluding PLL)	
-----------------------------------	--

Cash on Deposit
Scheduled
Scheduled
Scheduled
Scheduled
Scheduled
Scheduled
Scheduled
Not Available
Not Available

CASH FLOW FORECAST INVESTMENTS													
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,245	1,245	896	1,591	996	249	498	1,494	996	745	995	1,245	12,195	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1,245	1,245	896	1,591	996	249	498	1,494	996	745	995	1,245	12,195	0
168	165	162	159	156	153	151	150	147	142	139	137	1,829	0

Cash on hand	1,892
Cash on deposit ***	15,522
Total Cash Coverage	17,414

Net Cumulative Cash Flow with Cash Coverage	
--	--

Cash Available for Coverage:													
1,892	0	0	0	0	0	0	0	0	0	0	0	0	1,892
15,522	0	0	0	0	0	0	0	0	0	0	0	0	15,522
17,414	0	0	0	0	0	0	0	0	0	0	0	0	17,414
23,196	28,975	34,402	40,521	46,042	50,813	55,832	61,844	67,356	72,612	78,115	83,867	83,867	0

LIQUIDITY RISK ESTIMATES

CASH FLOW FORECAST



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Net Income	\$1,829		\$2,012		\$2,161		\$1,879	
Available cash and overnight investments	\$17,414		\$17,414		\$17,414		\$17,414	
Net Cumulative Cash Flow	\$83,867		\$9,791		(\$11,891)		\$4,656	
Operational Guidelines (000)	\$1,000		(\$1,000)		(\$3,000)		\$0	
Variance (000)	\$82,867		\$10,791		(\$8,891)		\$4,656	

CASH FLOW FORECAST – STRESS TEST

Net Periodic Cash Flow	
Net Cumulative Cash Flow	
Cash on hand	1,892
Cash on deposit ***	15,522
Total Cash Coverage	17,414
Net Cumulative Cash Flow with Cash Coverage	
Line of Credit at Corp Credit Union	25,000
Other Lines of Credit	43,833
Sell transferrable certificates of deposit	0
Sell Government Agency Bonds	0
	0
Total Wholesale Funding	68,833
NET FORECASTED CASH FLOW	

(2,226)	(2,223)	(2,570)	(1,873)	(2,466)	(8,210)	(2,959)	(1,960)	(2,455)	(2,707)	(2,454)	(2,202)	(29,305)
(2,226)	(4,449)	(7,018)	(8,892)	(11,358)	(15,568)	(17,526)	(19,486)	(21,941)	(24,649)	(27,103)	(29,305)	(29,305)
Cash Available for Coverage:												
1,892	0	0	0	0	0	0	0	0	0	0	0	1,892
15,522	0	0	0	0	0	0	0	0	0	0	0	15,522
17,414	0	0	0	0	0	0	0	0	0	0	0	17,414
15,188	12,965	10,396	8,523	6,056	2,846	(112)	(2,072)	(4,527)	(7,235)	(9,689)	(11,891)	(11,891)
Wholesale Funding Preferences to be designated by Client:												Total
												0
												0
												0
												0
0	0	0	0	0	0	0	0	0	0	0	0	0
15,188	12,965	10,396	8,523	6,056	2,846	(112)	(2,072)	(4,527)	(7,235)	(9,689)	(11,891)	(11,891)

Discuss when cash flows are inadequate
 Use contingency funding plan as a guide
 Review options and advantages/disadvantages

- Borrowing
- Promote new deposits
- Non-member CDs
- Sell investments
- Slow lending

STRESS TESTING

- Provides forward-looking assessments of risk
- Supports planning
- Aids in setting risk limits
- Facilitates CFP

NCUA LETTER NO. 10-CU-14

Established a process and system

Well documented

Cash flow projections-plans for changes in liquidity under a variety of conditions and economic scenarios

Maintain an adequate cushion

Stress testing

Diversified funding sources-tested

Failure to maintain an adequate liquidity risk management process is considered an unsafe and unsound practice



Mark H. Smith
I N C O R P O R A T E D

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