FIRST EMPIRE SECURITIES
Member FINRA/SIPC

ALM Strategies
In the Current Economic Environment

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Asset Liability Management

is the process of

Measuring, Monitoring and Managing

four areas of balance sheet risk:

- **Earnings**
- **Liquidity**
- **Capital Utilization and**
- **Interest Rate Risk**

Please Note: This presentation is intended as an introduction to concepts, methodologies and terminology related to Asset Liability Management for credit unions. ALM can be a very complex process involving potentially thousands of inputs, assumptions, variables and analyses. Each institution should use procedures and processes commensurate with the complexity of their balance sheet to appropriately measure monitor and manage its unique balance sheet risk.

SECTION

1 Earnings Management

Earnings Management

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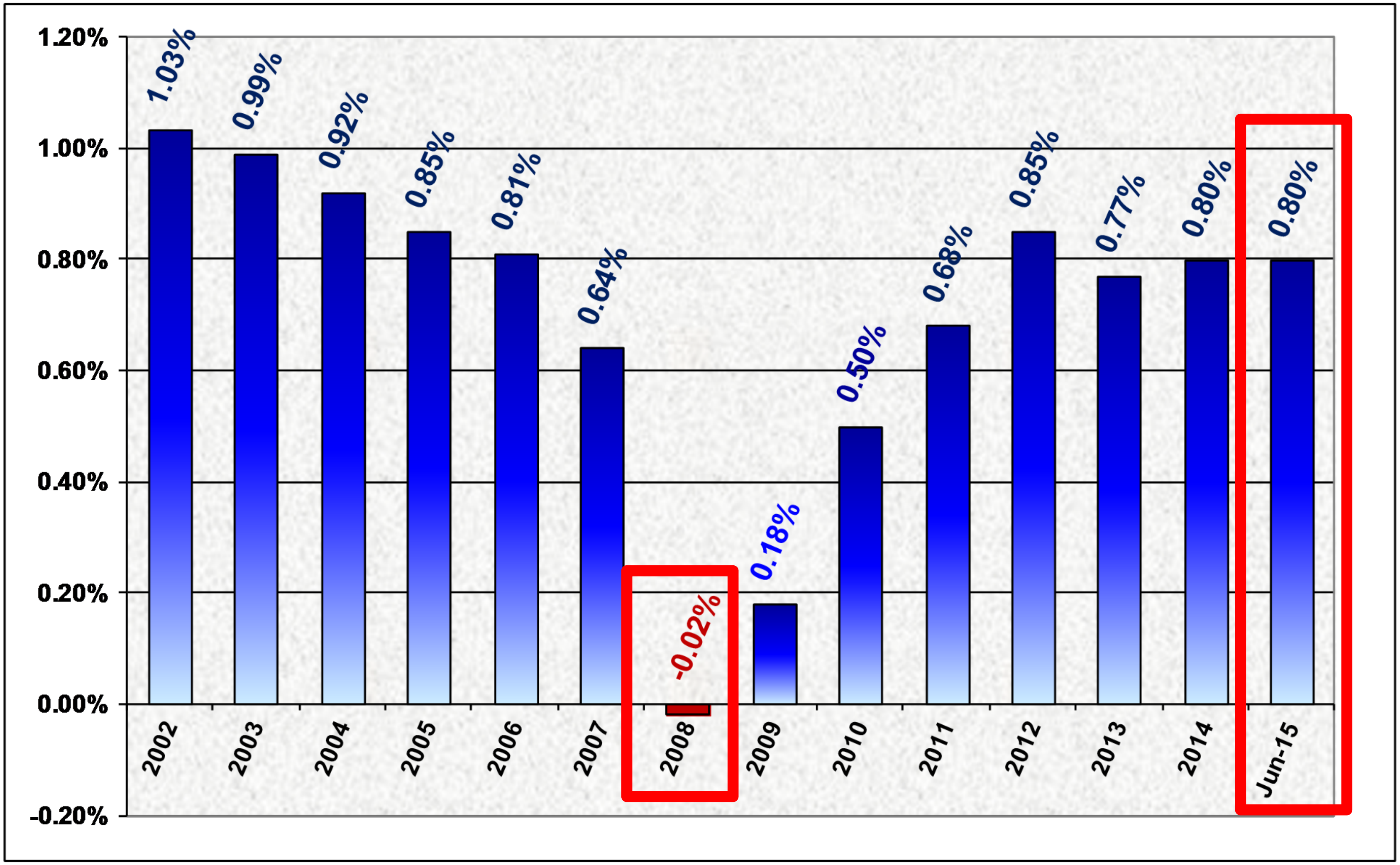
Natural Person Credit Union
Return on Average Assets (ROA)



Source for Data: NCUA FOIA Call Report Data Files www.ncua.gov

Credit Unions over $500 Million Lead System Growth

Federally insured credit unions with more than $500 million in assets paced the system's growth in most performance measures in the second quarter of 2015.

With $827.8 billion in combined assets, these 467 credit unions held more than seven out of ten dollars of total system assets at the end of the quarter. This group of credit unions also reported the strongest growth in loans and membership and the highest return on average assets.

Credit unions with assets of less than $10 million recorded positive loan growth, and had a higher net worth ratio than other peer groups, but membership declined in the first half of 2015.

	More than $500 million	$100 million to $500 million	$10 million to $100 million	Less than $10 million
Number of Credit Unions	467	1,046	2,754	1,892
Net Worth Ratio Net Worth Growth	10.8 percent ⬆ 9.3 percent	10.9 percent ⬆ 6.1 percent	11.8 percent ⬆ 3 percent	14.7 percent ⬆ 1.3 percent
Loan Growth	⬆ 11 percent	⬆ 7.1 percent	⬆ 4 percent	⬆ 0.3 percent
Membership Growth	⬆ 6 percent	⬆ 2.5 percent	⬆ 0.4 percent	⬇ 2 percent
Return on Average Assets	93 basis points	59 basis points	32 basis points	13 basis points

http://www.ncua.gov/News/Pages/NW20150903PACAFacts.aspx

Earnings Management

There are nine components of a credit union's earnings:

1) Loan Income
(originating the right loan to the right member at the right rate)

2) Investment Income
(managing safety, liquidity, interest rate risk and yield)

3) Non-Interest Income
(fees, service charges, interchange income and other non-interest income)

4) Cost-of-Funds
(interest expense on shares, deposits and borrowings)

5) Non-Interest Expenses
(operating expenses, employee salaries and benefits, etc.)

6) Credit Losses
(loan losses, investment OTTI, NCUA Assessments, etc.)

7) Gain (or Loss) on Asset Sales
(loan sales, investment sales, fixed asset sales, etc.)

8) Asset Allocation
(getting more loans out the door, not leaving excess liquidity in overnights)

9) Improve Capital Utilization
(maximizing asset growth without sacrificing safety and soundness)

Earnings Management

Natural Person Credit Unions: Quarterly Operating and Income Ratios

	CU Industry Quarterly Operating and Income Ratios	Jun-14	Sep-14	Dec-14	Mar-15	Jun-15	
1	Quarterly Average Loan Yield	4.82%	4.81%	4.76%	4.67%	**4.64%**	1
2	Quarterly Average Loan Rebate	0.00%	0.00%	0.03%	0.00%	**0.00%**	
3	Quarterly Average Investment Yield	1.18%	1.19%	1.23%	1.18%	**1.21%**	2
4	Quarterly Average Yield on Earning Assets	3.49%	3.55%	3.56%	3.50%	**3.49%**	
5	Quarterly Average Cost of Shares and Deposits	0.53%	0.53%	0.58%	0.52%	**0.52%**	4
6	Quarterly Average Cost of Borrowings	2.27%	2.10%	2.01%	1.99%	**1.84%**	
7	Quarterly Average Cost of Funds	0.59%	0.59%	0.64%	0.57%	**0.57%**	
8	Quarterly Non-Interest Income to Average Assets	1.29%	1.34%	1.34%	1.26%	**1.36%**	3
9	Quarterly Net Other Op Inc.(Exp.) to Average Assets	0.02%	0.01%	-0.01%	0.02%	**0.02%**	
10	Quarterly Gain (Loss) on Sale of Assets to Avg Assets	0.02%	0.01%	0.05%	0.03%	**0.02%**	7
11	Quarterly Gain (Loss) on Merger to Avg Assets	0.01%	0.01%	0.01%	0.00%	**0.00%**	
12	Quarterly OTTI Expense on Inv. to Average Assets	0.00%	0.00%	0.00%	0.00%	**0.00%**	6
13	Quarterly Non-Interest Expense to Average Assets	3.06%	3.09%	3.18%	3.08%	**3.09%**	5
14	Quarterly Loan Loss Provision to Average Assets	0.25%	0.28%	0.32%	0.28%	**0.30%**	6
15	Quarterly Net Interest Margin	2.94%	3.01%	2.99%	2.97%	**2.96%**	
16	Quarterly Return on Avg Assets Before NCUSIF	0.84%	0.85%	0.71%	0.78%	**0.83%**	
17	Q Net NCUA Stabilization Exp. (Inc.) to Avg Assets	0.00%	0.00%	-0.01%	0.00%	**0.00%**	6
18	**Quarterly Return on Average Assets (ROA)**	**0.84%**	**0.85%**	**0.72%**	**0.78%**	**0.82%**	
19	Quarterly Return on Average Equity (ROE)	7.95%	8.00%	6.68%	7.23%	**7.70%**	
20	Period-Ending Loan to Asset Ratio	61.26%	62.98%	63.68%	62.58%	**64.09%**	8
21	Period-Ending Investment to Asset Ratio	33.91%	32.11%	31.39%	32.57%	**31.01%**	
22	Period-Ending Loan to Share Ratio	71.84%	74.25%	75.11%	73.61%	**75.83%**	
23	**Period-Ending Net Worth to Assets Ratio**	10.77%	10.93%	10.97%	10.81%	**10.92%**	9

Source for Data: NCUA FOIA Call Report Data Files www.ncua.gov

Earnings Management

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Potential to Improve Earnings Through Better Capital Utilization

"Asset Growth" provides the potential to increase earnings through additional net interest income (the spread between the yield on earning assets and the cost of funding that growth).

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	Average	Q YTD	Sep-15	Dec-15	[illegible]ar-16	Jun-16	Sep-16	Dec-16	[illegible]	Jun-17
[illegible]	Quarterly Growth		$81,895	$87,56[illegible]	$93,631	$100,114	$107,047	$114,460	$12[illegible]	$130,862
2	Cumulative Growth		$81,895	$169,462	$263,092	$363,207	$470,254	$584,714	$70[illegible]	$837,963
3	Period Ending Total Assets	$1,182,603	$1,264,499	$1,352,065	$1,445,696	$1,545,810	$1,652,857	$1,767,318	$1,889,705	$2,020,567
4	Q Net Interest Income	$8,219	$8,555	$8,914	$9,298	$9,709	$10,148	$10,618	$11,120	$11,656
5	Q Non-Interest Income	$3,829	$3,829	$3,829	$3,829	$3,829	$3,829	$3,829	$3,829	$3,829
6	Q Non-Operating Inc(Exp)	$59	$59	$59	$59	$59	$59	$59	$59	$59
7	Q Non-Interest Expenses	$8,988	$[illegible],988	$8,988	[illegible],988	$8,988	$8,988	$8,988	[illegible]8,988	$8,988
8	Q Loan Loss Provision	$848	[illegible]848	$848	$848	$848	$848	$848	[illegible]48	$900
9	Q NCUSIF Stabilization Exp(Inc)	$2	$0	$0	$0	$0	$0	$0	[illegible]	$0
10	Quarterly Net Income	$2,340	[illegible]607	$2,966	$3,351	$3,761	$4,200	$4,670	[illegible]	$5,657
11	Annualized Net Income	$9,359	[illegible]10,429	$11,866	[illegible]3,402	$15,045	$16,801	$18,680	[illegible]	$22,629
12	Annualized ROA	0.80%	0.85%	0.91%	[illegible]6%	1.01%	1.05%	1.09%	[illegible]	1.16%
13	Net Worth	$129,167	$131,774	$134,741	[illegible]38,091	$141,852	$146,053	$150,723	$155[illegible]	$161,552
14	Net Worth Ratio	10.92%	10.42%	9.97%	[illegible]5%	9.18%	8.84%	8.53%	8.[illegible]%	8.00%
15	Net Worth Classification	Well	Well	Well	Well	Well	Well	Well	Well	Well
16	Risk-Weighted Assets	$65,115	$69,501	$74,250	$79,386	$84,936	$90,930	$97,397	$104,371	$111,835
17	RBNW Requirement Ratio	5.51%	5.50%	5.49%	5.49%	5.49%	5.50%	5.51%	5.52%	5.53%
18	Is the CU Complex ?	No	No	No	No	No	No	No	No	No
19	Final NCUA Classification	Well	Well	Well	Well	Well	Well	Well	Well	Well

The average credit union could:

- increase assets by as much as 70% in the next two years,
- potentially more than double net income,
- improve ROA by as much as 44% and
- still be 100 basis points over the minimum 7.00% Net Worth Ratio required to be "well capitalized" under the current PCA regulation.

Quarterly Net Income   Annualized ROA

Source for Data: BSMS ALM Analysis Sample Credit Union

SECTION

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Liquidity Management

Federal Financial Institutions Examination Council
Interagency Policy Statement on Funding and Liquidity Risk Management

"**Liquidity** is a financial institution's capacity to meet its cash and collateral obligations at a reasonable cost."

"**Liquidity risk** is the risk that an institution's financial condition or overall safety and soundness is adversely affected by an inability (or perceived inability) to meet its obligations."

In particular, the guidance re-emphasizes the importance of the primary tools for measuring and managing liquidity risk:

1. **Cash flow projections**
2. **Diversified funding sources**
3. **Stress testing**
4. **A cushion of liquid assets**
5. **A formal well-developed contingency funding plan (CFP)**

"Failure to maintain an adequate liquidity risk management process will be considered an unsafe and unsound practice."

Source: FFIEC Interagency Policy Statement on Funding and Liquidity Risk Management (March 2010)
http://www.ncua.gov/Resources/Documents/LCU2010-14Encl.pdf

Liquidity Management

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Comprehensive liquidity risk measurement and monitoring systems (including assessments of the current and prospective cash flows or sources and uses of funds) that are commensurate with the complexity and business activities of the institution.

SOURCES OF FUNDS	USES OF FUNDS
New Shares and Deposits	Share and Deposit Withdrawals
Loan Principal Payments and Cashflow	New Loan Originations
Investment Maturities and Cashflows	Dividends on Shares and Deposits
Interest Income	Interest Expense on Borrowings
Non-interest Income	Operating Expenses
Corp CU Overnights or Fed Funds Sold	NCUSIF Deposit & Assessments
Sales of Securities, Loans, Other Assets	Pay-off of Existing Borrowings
Sale of Loan Participations	Fixed Asset Purchases or Expenditures
Early Withdrawal of Investment CDs	Investment Purchases
Non-member Deposits or Brokered CDs	Purchase of Loans or Loan Participations
Corp CU Lines of Credit	
FHLB Advances	
Repurchase Agreements (Repo of Securities)	
Other Lines of Credit (Correspondent Banks)	
Federal Reserve Advances	
Central Liquidity Facility	

The Federal Credit Union Act, Paragraph 107.9 permits a Federal CU to borrow an amount up to 50% of member shares + undivided earnings.
http://www.ncua.gov/RegulationsOpinionsLaws/fcu_act/fcu_act.pdf

THE FEDERAL CREDIT UNION ACT
Chapter 14 of Title 12 of the United States Code

§ 1757 § 107 Powers - A federal credit union shall have succession in its corporate name during its existence and shall have power:

(9) to borrow in accordance with such rules and regulations as may be prescribed by the Board, from any source, in **an aggregate amount not exceeding, except as authorized by the Board in carrying out the provisions of title III, 50 per centum of its paid-in and unimpaired capital and surplus**:§ 1795a § 302

Definitions.-As used in this title, the term-
(3) *"paid-in and unimpaired capital and surplus"* means the balance of the paid-in share accounts and deposits…plus… the undivided earnings account as of a given date…

NCUA Rules and Regulations Part 701.32(a) allows a Federal CU to accept deposits from other credit unions or municipal entities in an amount not to exceed 20% of member shares. http://www.ncua.gov/RegulationsOpinionsLaws/rules_and_regs/rules_and_regs.html

NCUA RULES AND REGULATIONS
Part 701: Organization and Operations of Federal Credit Unions
§ 701.32 Payment on shares by public units and nonmembers

(a) *Authority.* A Federal credit union may, to the extent permitted under Section 107(6) of the Act And this section, receive payments on shares, (regular shares, share certificates, and share draft accounts) from public units and political subdivisions thereof (as those terms are defined in § 745.1**) and nonmember credit unions, and to the extent permitted under the Act, this section and § 701.34, receive payments on shares (regular shares, share certificates, and share draft accounts) from other nonmembers.**

(b) *Limitations. (1)* Unless a greater amount has been approved by the Regional Director, the maximum amount of all public unit and nonmember shares shall not, at any given time, exceed 20% of the total shares of the FCU or $1.5 million, whichever is greater.

Contingent Liquidity and Contingent Liabilities

Current Contingent Liquidity:	As of: Dec-14	
Overnight Funds, Cash Equivalents, Cash, Coin and Currency	$87,248,766	*(1)*
Net Available Securities Collateral for Liquidation or Borrowings	$172,852,303	*(2)*
Investment CDs Net of 6-mo Early Withdrawal Penalty	$48,594,848	*(3)*
Available Lines of Credit	$159,052,982	*(1)*
Available Net Non-Member Deposits	$186,717,267	*(4)*
Estimated Total Available Contingent Liquidity	$654,466,166	
As a % of Total Assets:	57.61%	

Contingent Liabilities:	As of: Dec-14	
Total Unfunded Loan Commitments	$178,327,853	*(1)*
Pending Bond Claims	$14,526	*(1)*
Loans Transferred with Recourse	$4,071,994	*(1)*
Other Contingent Liabilities	$71,752	*(1)*
Total Contingent Liabilities	$182,486,126	
As a % of Total Assets:	16.06%	

(1) Source for Data: NCUA Call Report

(2) Securities market value appraisal from Bloomberg LP

(3) Source for Data: CU provided listing of investment CDs

(4) Source for Data: NCUA Reg 70132(b) - Max 20% of Member Shares

Federal Financial Institutions Examination Council Interagency Policy Statement on Funding and Liquidity Risk Management

- **A critical element of a contingency funding plan is the quantitative projection and evaluation of expected funding needs.**
- **Measuring liquidity risk should include robust methods for comprehensively projecting cash flows arising from assets, liabilities, and off-balance-sheet items over an appropriate set of time horizons.**
  - **Cash flow projections can range from simple spreadsheets to very detailed reports depending upon the complexity and sophistication of the institution and its liquidity risk profile.**

Source: FFIEC Interagency Policy Statement on Funding and Liquidity Risk Management (March 2010)
http://www.ncua.gov/Resources/Documents/LCU2010-14Encl.pdf

Historical Net "Core Cashflow" Liquidity

	SHARES AND DEPOSITS		LOANS		NET LIQUIDITY		
Year Ending	Period Ending Balance	Net Share & Deposit Growth	Period Ending Balance	Net Loan Growth	Annualized Excess (Needed) Funding	Avg. Monthly Excess (Needed) Funding	Annualized Net Liquidity as a % of Total Assets
Dec-99	$356,918,613		$271,538,145				
Dec-00	$379,240,583	$22,321,970	$301,335,556	$29,797,411	($7,475,440)	($622,953)	-1.82%
Dec-01	$437,009,915	$57,769,332	$322,339,765	$21,004,209	$36,765,123	$3,063,760	8.39%
Dec-02	$484,195,318	$47,185,403	$344,608,343	$22,268,578	$24,916,825	$2,076,402	4.97%
Dec-03	$538,282,139	$54,086,820	$383,812,814	$39,204,471	$14,882,349	$1,240,196	2.67%
Dec-04	$567,453,973	$29,171,834	$423,479,114	$39,666,299	($10,494,465)	($874,539)	-1.69%
Dec-05	$589,177,564	$21,723,590	$468,678,608	$45,199,494	($23,475,904)	($1,956,325)	-3.56%
Dec-06	$615,303,070	$26,125,506	$506,686,445	$38,007,837	($11,882,331)	($990,194)	-1.72%
Dec-07	$646,819,665	$31,516,596	$539,545,694	$32,859,249	($1,342,653)	($111,888)	-0.18%
Dec-08	$691,766,240	$44,946,574	$575,814,366	$36,268,672	$8,677,902	$723,159	1.13%
Dec-09	$763,341,587	$71,575,348	$582,791,344	$6,976,978	$64,598,370	$5,383,197	7.84%
Dec-10	$797,303,427	$33,961,840	$575,664,231	($7,127,114)	$41,088,953	$3,424,079	4.58%
Dec-11	$838,505,580	$41,202,153	$582,287,640	$6,623,409	$34,578,743	$2,881,562	3.73%
Dec-12	$889,579,460	$51,073,880	$610,290,341	$28,002,701	$23,071,179	$1,922,598	2.37%
Dec-13	$922,033,767	$32,454,307	$655,006,161	$44,715,820	($12,261,513)	($1,021,793)	-1.18%
Dec-14	*$963,116,398*	*$41,082,631*	*$723,431,574*	*$68,425,414*	*($27,342,783)*	*($2,278,565)*	-2.54%
	TOTAL/AVG.	$606,197,785	TOTAL/AVG.	$451,893,429	$9,570,996	$797,583	1.53%

Net Liquidity as % Total Assets	-1.18%	-2.54%	-3.56%
Dec 2014 Total Assets	$1,136,1[illegible]486	$1,136,122,486	$1,136,122,486
Potential Annual Liquidity Needed:	$13,46[illegible]	$28,889,008	$40,413,399
10% worse	$14,8[illegible]	$31,777,909	$44,454,739
20% worse	$16,15[illegible]	$34,666,809	$48,496,079
30% worse	$17,499,5[illegible]	$37,555,710	$52,537,419

Cash Flow Forecasting

Current Environment

Scenario Assumptions: Current Environment		
Interest Rate Scenario (Inv Cashflows & Reinvestment Yields, etc)	Flat Rate Scenario	
Annualized Net Non-Certificate Share Growth	$30,526,236	4.27% or the Equivalent of the Avg Annualized Growth % in Deposits in the Last 12-months
Annualized Net Certificate of Deposit Growth	$10,388,676	4.27% or the Equivalent of the Avg Annualized Growth % in Deposits in the Last 12-months
Resulting Assumed Annualized Net Total Share Growth	3.74%	$40,914,912 over the next 12-months.
Average Volume of Monthly Loan Originations & Purchases	$35,817,035	Which is the Equivalent of the Average Monthly Loan Originations & Purchases of the Last 12-months
Monthly New Loans Assumed to be Sold in Secondary Market	$3,656,919	10.21% or the Equivalent of the Avg % of Loan Originations Sold in the Last 12-months
Resulting Assumed Annualized Net Loan Growth	10.96%	$79,319,472 over the next 12-months.
Assume the Roll-over of Maturing Investments?	No. Assume maturing investments are rolled into over-night funds.	
Assume the Roll-over of Maturing Borrowings?	Yes	
Assumed 1% NCUSIF Deposit +	0 Bps Special Assessment	
Non-interest Income, Non-interest Expense, Provision for Loan Loss etc.	Avg of Last 12-months	

Source: BSMS Sample Credit Union Liquidity and Funding Risk Analysis

Liquidity Management

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Forecast Cashflow Liquidity: Current Environment

Liquidity Forecast:	Dec-14	90-days	12-months	24-months
Projected Loan (P+I) Cashflow in		$81,415,524	$338,603,135	$375,358,131
Projected Investment (P+I) Cashflow in		$20,855,936	$74,324,293	$58,164,111
Projected Net Member Share Growth		$10,228,728	$40,914,912	$42,661,980
Projected Roll-over of Maturing Borrowings		$7,716,478	$16,897,414	$5,651,972
Projected Loan Sales		$10,546,522	[illegible]	$48,694,515
Non-interest Income		$3,792,522	[illegible]	$15,170,088
Assumed New Borrowings, Non-member Deposits/ LPs Sold		$0	$0	$0
Forecast Cashflow In		**$134,555,709**	**$529,792,873**	**$545,700,797**
Projected Loan Originations & Purchases		$103,295,999	$429,804,424	$476,929,628
Assumed Investment Purchases		$0	$0	$0
Projected Net Member Share Withdrawals		$0	$0	$0
Maturing Borrowings		$7,716,478	[illegible]	$5,651,972
Projected Dividend and Interest Expense		$1,685,421	[illegible]	$6,652,060
Operating Expenses, NCUSIF, Other Cashflow Out		[illegible]	[illegible]	$36,322,295
Forecast Cashflow Out		**[illegible]**	**[illegible]**	**$525,555,955**
Net Cashflow Liquidity (Cashflow In - Cashflow Out)		**$12,875,314**	**$40,229,696**	**$20,144,842**
Cash, Coin, Currency & Cash Equivalent Investments	**$87,248,766**	**[illegible]**	**$127,478,462**	**$147,623,303**
Total Lines of Credit	$198,050,038	[illegible]	$198,050,038	$198,050,038
Less Outstanding Borrowings	$38,997,056	$38,997,056	$38,997,056	$38,997,056
Net Available Lines of Credit	**$159,052,982**	**[illegible]**	**$159,052,982**	**$159,052,982**
Securities (Net of Forecast Cashflows) at 94% Current Market Value	$211,849,359	[illegible]	$164,838,621	$125,641,114
LESS Outstanding Borrowings	$38,997,056	[illegible]	$38,997,056	$38,997,056
Net Available Securities Collateral for Liquidation or Borrowings	$172,852,303	[illegible]	$125,841,565	$86,644,058
Investment CDs Net of 6-month Early Withdrawal Penalty	$48,594,848	$42,497,745	$27,728,838	$13,968,642
Net Available Non-member Deposits	$186,717,267	$188,081,097	$194,218,334	$202,721,612
Additional Sources of Funds	**$408,164,418**	**[illegible]**	**[illegible]**	**[illegible]**
Contingent Liquidity (Available LOC+ Add Sources)	**$567,217,399**	**[illegible]**	**[illegible]**	**[illegible]**
Gross Liquidity (Cashflow In + Cash + Contingent)	**$654,466,166**	**[illegible]**	**[illegible]**	**[illegible]**
Net Liquidity (Net Cashflow + Contingent)	**$654,466,166**	**$649,606,847**	**$634,320,181**	**$610,010,596**

Source: BSMS Sample Credit Union Liquidity and Funding Risk Analysis

SECTION

2 | Interest Rate Risk Management

Interest Rate Risk ("IRR") is the risk to a credit union's earnings and capital from changes in interest rates.

The three common methods of measuring interest rate risk are:

- Income Simulation ("Earnings at Risk")
- Net Economic Value ("Market Value Risk")
- Static GAP Analysis

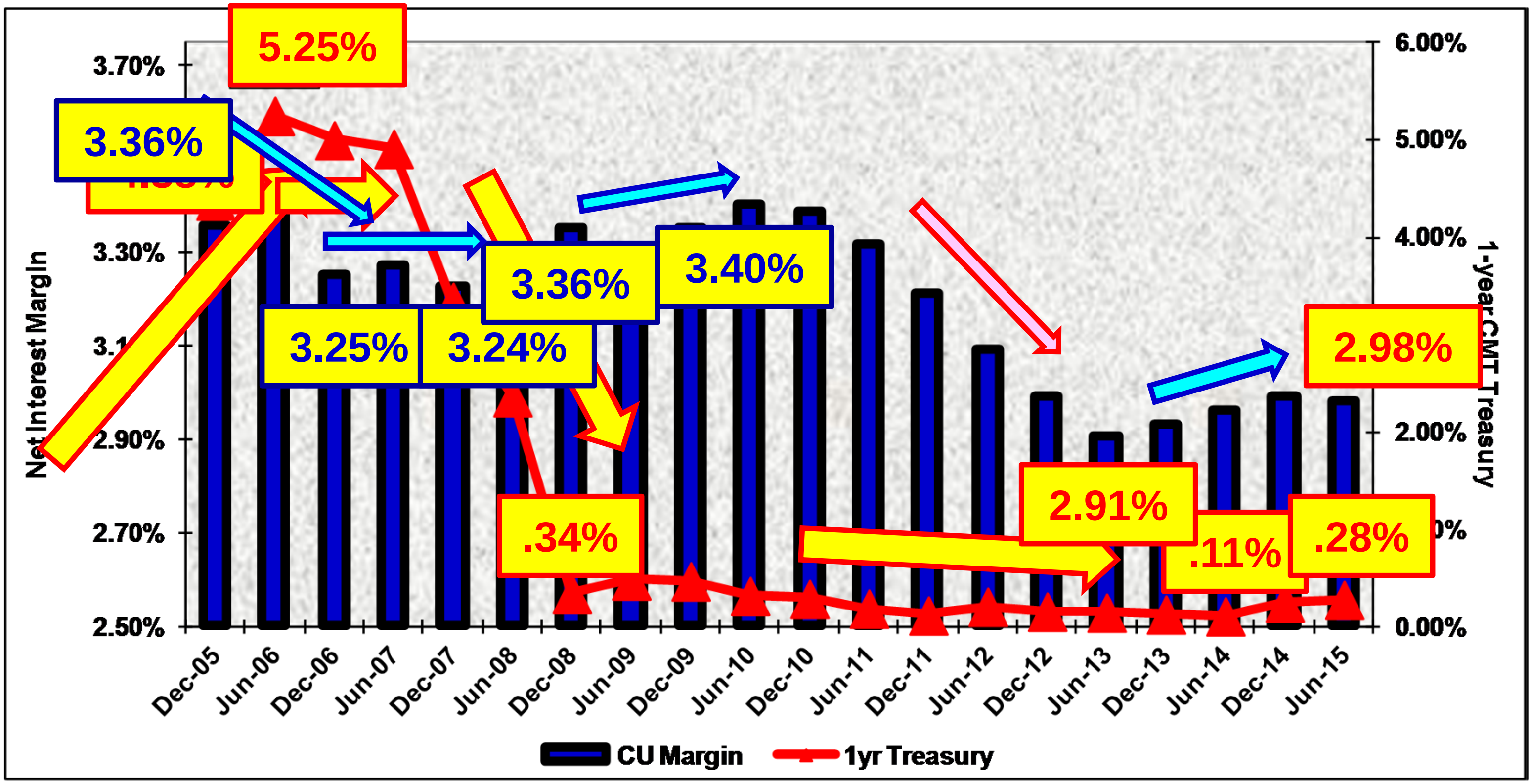
The process of measuring and monitoring IRR involves:

- Modeling the current balance sheet.
- Making assumptions about potential future member and management behavior.
- Running a series of "what-if" forecasts under multiple interest rate scenarios using multiple sets of assumptions and measuring the various possible outcomes.

Net Interest Margin

Net Interest margin is a ratio that represents the “spread” between the yield on earning assets (interest income on loans and investments) and the cost of funding those assets (dividend and interest expense on shares, deposits and borrowings). As the general level of interest rates change, what is the impact on Net Interest Income ($) and Net Interest Margin (%)?

	Dec-05	Jun-06	Dec-06	Jun-07	Dec-07	Jun-08	Dec-08	Jun-09	Dec-09	Jun-10	Dec-10	Jun-11	Dec-11	Jun-12	Dec-12	Jun-13	Dec-13	Jun-14	Dec-14	Jun-15
Loan Yield	6.21%	6.33%	6.60%	6.65%	6.85%	6.63%	6.59%	6.27%	6.24%	6.08%	6.03%	5.81%	5.72%	5.48%	5.33%	5.07%	4.98%	4.80%	4.80%	4.64%
Inv Yield	3.27%	3.85%	4.15%	4.66%	4.54%	4.05%	3.46%	2.77%	2.29%	2.05%	1.80%	1.69%	1.48%	1.33%	1.15%	1.08%	1.14%	1.21%	1.20%	1.22%
Cost of Funds	2.13%	2.42%	2.90%	3.07%	3.24%	2.90%	2.56%	2.11%	1.76%	1.44%	1.27%	1.08%	0.99%	0.85%	0.77%	0.67%	0.65%	0.60%	[illegible]	0.58%
CU Margin	3.36%	3.39%	3.25%	3.28%	3.23%	3.24%	3.36%	3.30%	3.35%	3.40%	3.39%	3.32%	3.21%	3.09%	2.99%	2.91%	[illegible]	[illegible]	[illegible]	2.98%
1yr Treasury	4.38%	5.25%	5.00%	4.91%	3.34%	2.36%	0.34%	0.48%	0.47%	0.32%	0.29%	0.19%	0.12%	0.21%	0.16%	0.15%	0.13%	0.11%	[illegible]	0.28%



Source for Data: NCUA FOIA Call Report Data Files www.ncua.gov

Net Interest Income Simulation – Summary Results (Example #1)

Net Interest In	Year 1	Year 2	Year 3
% Change from Fla	4.40%	5.85%	10.36%
+300bps Shock	$33,534	$33,580	$34,684
Flat Rate Sc	*$32,121*	*$31,724*	*$31,427*
-300bps Shoc	$31,024	$30,158	$29,036
% Change from Flat	-3.42%	-4.94%	-7.61%

+300bps Shock	YEAR 1	YEAR 2	YEAR 3
Net Interest Income	$33,534	$33,580	$34,684
Net Interest Margin	3.16%	3.17%	3.27%
Net Income	$10,627	$10,673	$11,777
Projected ROA	0.93%	0.93%	1.01%
Projected Net Worth	$135,230	$145,903	$157,680
Projected Net Worth Ratio	11.84%	12.66%	13.54%

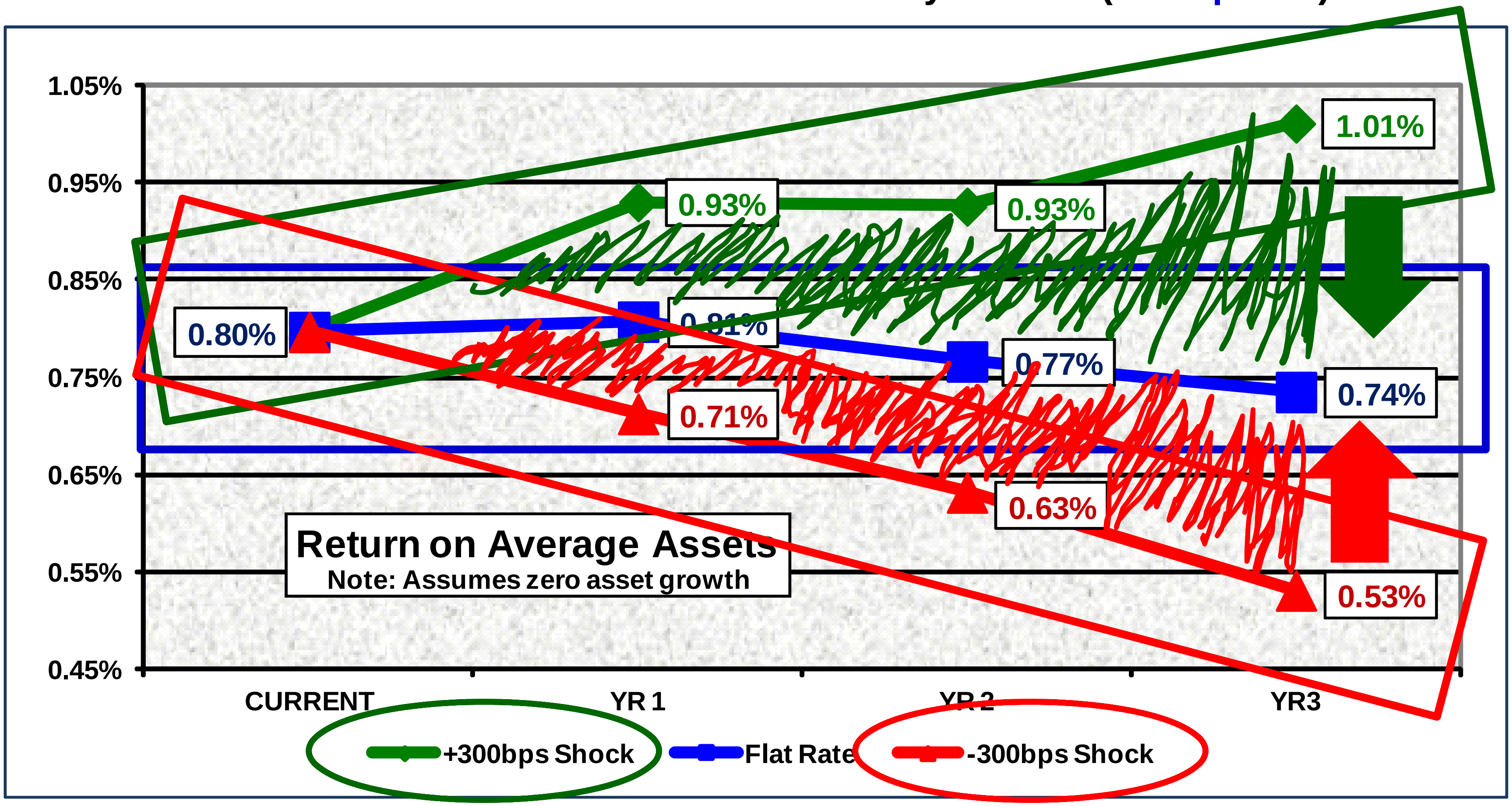
Flat Rate Scenario	*YEAR 1*	*YEAR 2*	*YEAR 3*
Net Interest Income	$32,121	$31,724	$31,427
Net Interest Margin	2.96%	2.90%	2.85%
Net Income	$9,214	$8,817	$8,520
Projected ROA	0.81%	0.77%	0.74%
Projected Net Worth	$133,818	$142,634	$151,154
Projected Net Worth Ratio	11.68%	12.36%	13.00%

-300bps Shock	YEAR 1	YEAR 2	YEAR 3
Net Interest Income	$31,024	$30,158	$29,036
Net Interest Margin	2.93%	2.85%	2.75%
Net Income	$8,117	$7,250	$6,128
Projected ROA	0.71%	0.63%	0.53%
Projected Net Worth	$132,720	$139,971	$146,099
Projected Net Worth Ratio	11.65%	12.20%	12.67%

Interest Rate Risk Management

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Net Interest Income Simulation – Summary Results (Example #1)



In this example, the institution makes more margin and income in the rising rate environment, and margins and earnings are hurt by a low rate environment. This profile is generally referred to as "asset sensitive."

Source for Data: BSMS ALM Analysis Sample Credit Union

Balance sheet strategies if the institution is "asset sensitive":

Generally speaking, you want to extend the duration of the asset portfolio (go longer term, buy more fixed-rate investments, originate more fixed-rate loans and reduce near-term cashflow)

1) Buy longer term non-callable "bullet" investments – US Treasuries, Agency Notes, Certificates of Deposit, Bank Notes, Corporate Bonds, and Municipal Bonds.
   - If you do buy callable bonds, avoid near-term call dates (generally, minimum 1 year or longer to the next call date, but preferably even longer), deep discount price preferred.
2) Buy 15-, 20- and/or 30-year mortgage-backed securities (MBS).
   - Look for high coupon, very seasoned MBS (factor of .20 or lower) to take advantage of "prepayment burn-out" (statistically, 20% of homeowners are unlikely to refinance, regardless of the interest rate environment).
3) Buy DUS balloon MBSs (DUS balloons have a prepayment penalty that reduces the risk of prepayments).
4) Buy Agency Collateralized Mortgage Obligations (CMOs) with "lock-out" (CMOs that pay interest only for several years, then pay principal and interest in the later cashflow years).
5) If you are buying variable-rate investments (floaters or ARMs) look for "hybrids" with a 7/1, 5/1, 3/1 type of structure. Always check to ensure "evenly distributed" or "laddered" re-set dates in the variable-rate portfolio.
6) If SBA pools, generally fixed-rate securities preferred.

Generally speaking, discount paper preferred (if rates fall, margin gets squeezed, bonds get called/prepaid so the discount will be amortized over a shorter duration, producing a higher yield and helping to hedge the asset sensitivity).

Balance sheet strategies if the institution is “asset sensitive”:

Generally speaking, you want to extend the duration of the asset portfolio (go longer term, buy more fixed-rate investments, originate more fixed-rate loans and reduce near-term cashflow)

7) Originate more fixed-rate mortgage loans (20 and 30 year preferred).

8) Don’t sell your longer-term mortgage loans.

9) Buy longer-term fixed-rate loan participations.

10) Sell shorter-term and/or variable rate loans (sell loan participations).

11) Aggressively price fixed-rate second mortgages.

12) If you have demand for adjustable-rate loans, more aggressively price the “hybrid” loans with a 7/1, 5/1, 3/1 type of structure.

Interest Rate Risk Management

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Net Interest Income Simulation – Summary Results (Example #2)

Net Interest Income	Year 1	Year 2	Year 3
% Change from Flat	-3.42%	-4.94%	-7.61%
+300bps Shock	$31,024	$30,158	$29,036
Flat Rate Scenario	*$32,121*	*$31,724*	*$31,427*
-300bps Shock	$33,534	$33,580	$34,684
% Change from Flat	4.40%	4.40%	4.40%

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Net Interest Margin	2.96%	2.90%	2.85%
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Projected ROA	0.81%	0.77%	0.74%
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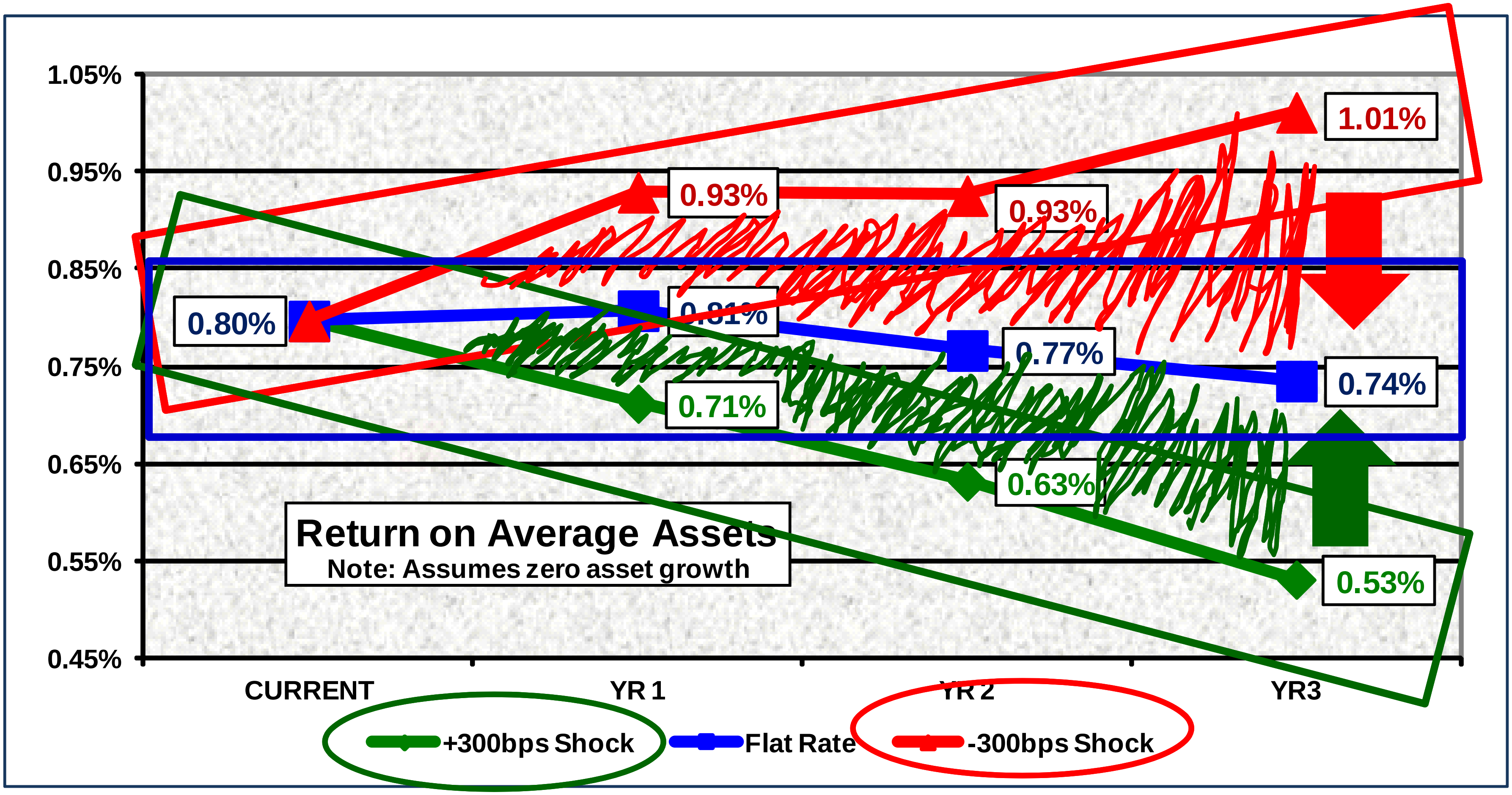
Source for Data: BSMS ALM Analysis Sample Credit Union

Interest Rate Risk Management

Net Interest Income Simulation – Summary Results (Example #2)



In this example, the institution makes more margin and income in the falling rate environment, and margins and earnings are hurt by a higher rate environment. This profile is generally referred to as "liability sensitive."

Balance sheet strategies if the institution is "liability sensitive":

Generally speaking, you want to shorten the duration of the investment portfolio (go shorter term, buy more variable-rate investments, originate more variable-rate loans and increase near-term cashflow, and/or extend the duration of your liabilities.)

1) Sell out of longer-term investments, especially non-callable "bullet" investments.
2) Build a solid ladder of short-term bullets & callable bonds.
    - If you are buying callable bonds, near-term call dates preferred, premium price 'cushion bonds" preferred.
    - Buy step-up securities, preferably with near-term step dates.
3) Buy "seasoned" 10 & 15 year mortgage-backed securities (MBS), (premium price is preferred) to add up-front cashflow.
4) Buy Relocation Loan MBS (RELOs).
5) Buy current principal pay Agency Collateralized Mortgage Obligations (CMOs).
    - Also in the an "up interest rate shock" scenario, you want CMOs that have limited extension risk. The more stable and predictable the cashflows the better.)
6) If you are buying variable-rate investments (floaters or ARMs) look for investments that reset in one-year or less (monthly, quarterly, semi-annual or annual". Always check to ensure "evenly distributed" or "laddered" re-set dates in the variable-rate portfolio.
7) If SBA pools, generally variable-rate securities preferred.

Generally speaking, premium paper preferred (if rates rise, margin gets squeezed, bonds are not called/prepaid as quickly so premiums will be amortized over a longer duration producing a higher yield and help to hedge the liability sensitivity).

Balance sheet strategies if the institution is "liability sensitive":

Generally speaking, you want to shorten the duration of the investment portfolio (go shorter term, buy more variable-rate investments, originate more variable-rate loans and increase near-term cashflow, and/or extend the duration of your liabilities.)

7) Sell longer-term (20 and 30 year) mortgage loans.
8) More aggressively price 15-year or shorter mortgage loans.
9) Sell longer-term fixed-rate loan participations (sell loan participations).
10) Buy shorter-term and/or variable rate loans (buy loan participations).
11) More aggressively price variable-rate second mortgages.
12) If you have demand for adjustable-rate loans, more aggressively price the "traditional" loans with a 1/1 type of structure.
13) More aggressively price longer-term time deposits (member CDs and IRA CDs).
14) Borrow from the FHLB with longer-term maturities.

Federal Financial Institutions Examination Council

Interagency Advisory on Interest Rate Risk Management - Frequently Asked Questions

Question 11:

"Can an institution use industry estimates for non-maturity-deposit (NMD) decay rates?"

Answer: **"Institutions should use assumptions that reflect the institution's profile and activities and generally avoid reliance on industry estimates or default vendor assumptions."**

"Some institutions, however, have difficultly measuring decay rates on NMDs because of limitations on their systems' ability to provide necessary data, acquisitions or mergers, or possibly a lack of technical expertise. Industry averages provide an approximation but may not be a suitable estimate in every case. For example, customer types and behaviors are inconsistent across geographic areas and are likely to produce very different deposit decay rates from one institution to another. Industry estimates should be a starting point until sufficient internal data sets can be developed. An institution can contract with an outside vendor to assist with this process if necessary. For any key assumptions, back-testing should be performed to determine whether assumption estimates are reasonable."

Source: FFIEC Interagency Advisory on Interest Rate Risk – Frequently Asked Questions (January 2012)

It is critical the decay rate assumptions on Non-maturity Deposits be reasonable, supportable and conservative. Per the FFIEC guidance, these assumptions should be based on the institution's profile and activities and <u>not</u> industry estimates or default vendor assumptions.

The Federal Deposit Insurance Corporation (FDIC) has a “You Tube Channel” with over one hundred education videos for both management and directors of community banks. Their video “Interest Rate Risk – Deposit Assumptions” describes what the FDIC considers to be “best practices” in developing non-maturity deposit assumptions.

Watch this video: https://www.youtube.com/watch?v=rzEKVOuqFFc

Source for Data: https://www.youtube.com/playlist?list=PLKjunAD4uy3h7jQ1LmSHZ8thSvzdTfjTw

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Deposit Price Sensitivity (Beta)

- Measures deposit rate changes relative to market rate changes
- Beta = $\dfrac{\text{Change in Product Rate}}{\text{Change in Market Rate}} = \dfrac{\text{40 bps}}{\text{100 bps}} = 40\%$
- Betas can differ in falling and rising rate scenarios

FEDERAL DEPOSIT INSURANCE CORPORATION

Source for Data: https://www.youtube.com/playlist?list=PLKjunAD4uy3h7jQ1LmSHZ8thSvzdTfjTw

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Developing Weighted Average Life & Decay Rate Assumptions

- **Track individual account openings & closings**
  - Insufficient because changes in dollar volume are not addressed
- **Track balances at product / account level**
  - Determine level of non-rate sensitive vs. rate sensitive balances
  - Decay Rate = Run-off ÷ Total Deposits
  - Determine decay rates and average life
- **Adjust for Qualitative Factors**

FEDERAL DEPOSIT INSURANCE CORPORATION

Source for Data: https://www.youtube.com/playlist?list=PLKjunAD4uy3h7jQ1LmSHZ8thSvzdTfjTw

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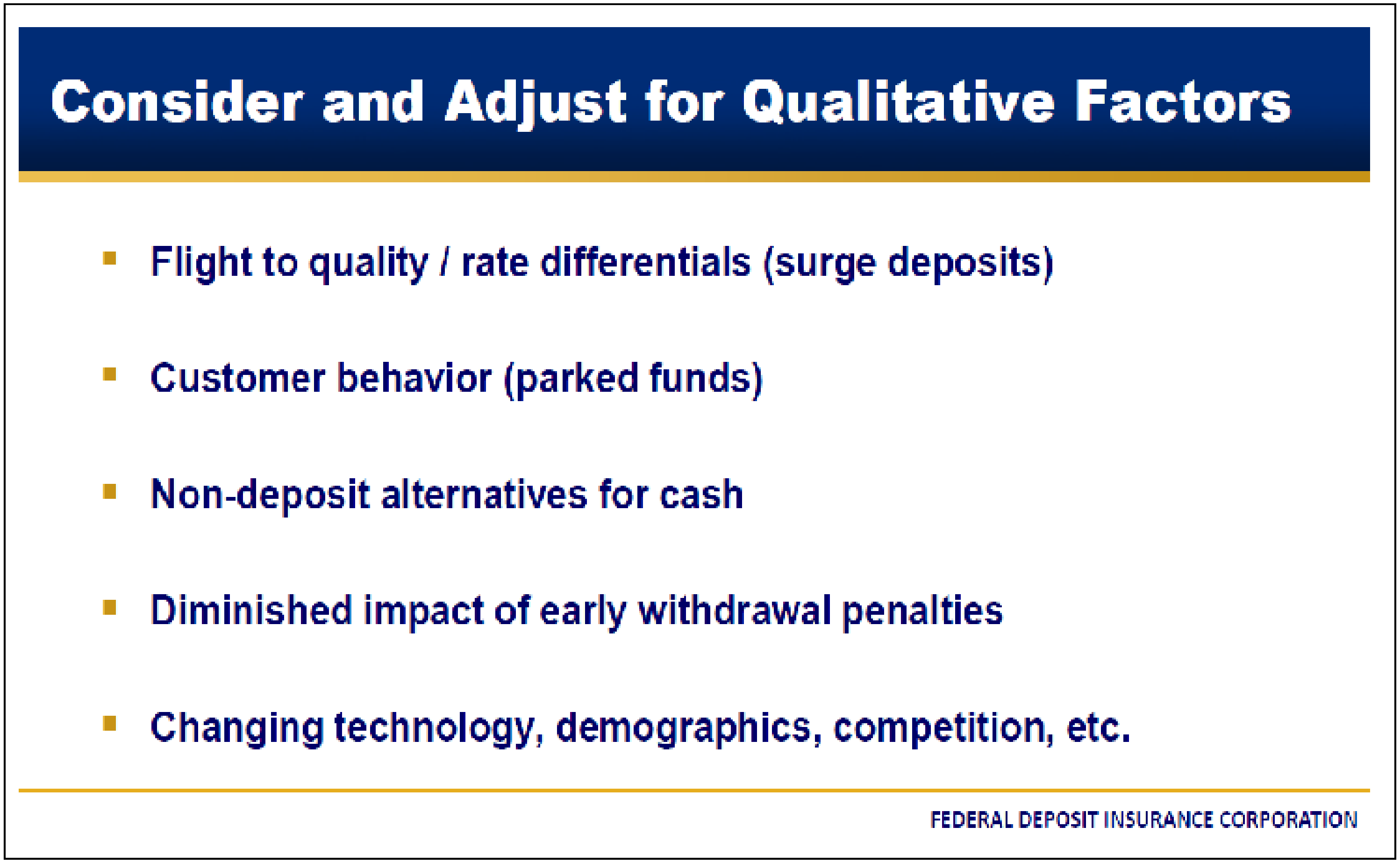


Source for Data: https://www.youtube.com/playlist?list=PLKjunAD4uy3h7jQ1LmSHZ8thSvzdTfjTw

Historical Non-maturity Deposit Withdrawal Analysis: Savings Accounts

Deposit Type:	Savings Accounts							
Date	Period Ending Balance	$ Growth	Annualized Growth Rate	Annualized Growth Rate (Negative Periods Only)	Interest Rate	Change	Fed Fund Target Rate	Change
Dec-02	$165,417,526	$2,337,020	2.87%		1.27%	-0.21%	1.25%	-0.50%
Mar-03	$179,028,764	$13,611,238	32.91%		1.08%	-0.19%	1.25%	0.00%
Jun-03	$185,892,363	$6,863,599	15.34%		1.01%	-0.07%	1.00%	-0.25%
Sep-03	$198,383,247	[illegible]2,490,884	26.88%		0.94%	-0.07%	1.00%	0.00%
Dec-03	$188,099,027	[illegible]84,220	[illegible]	-20.74%	[illegible]	-0.07%	1.00%	0.00%
Mar-04	$198,271,944	[illegible]0,172,918	[illegible]			-0.02%	1.00%	0.00%
Jun-04	$199,419,058	$1,147,113	[illegible].31%		[illegible]	0.01%	1.25%	0.25%
Sep-04	$206,735,823	$7,316,765	[illegible]4.68%			0.02%	1.75%	0.50%
Dec-04	$196,039,605	-$10,696,218	-20.70%	-20.70%	[illegible]	0.02%	2.25%	0.50%
Mar-05	$209,611,088	$13,571,482	27.69%			-0.02%	2.75%	0.50%
Jun-05								
Sep-05								
Dec-05								
Mar-06								
Jun-06								
Sep-06								
Dec-06								
Mar-07								
Jun-07								
Sep-07								
Dec-07								
Mar-08								
Jun-08								
Sep-08								
Dec-08								
Mar-09	$190,199,172	$13,262,882	29.98%		[illegible]	-0.20%	0.25%	0.00%
Jun-09	$198,900,974	$8,701,801	18.30%			-0.10%	0.25%	0.00%
Sep-09	$190,354,178	-$8,546,795	-17.19%	-17.19%	[illegible]	-0.12%	0.25%	0.00%
Jun-14	[illegible]	[illegible]	[illegible]		[illegible]0.19%	-0.03%	0.25%	0.00%
	TOTAL/AVG.	$139,775,847	5.90%	-19.95%				

When there have been net withdrawals from the savings accounts, on average it has been at a 19.95% annualized withdrawal rate. This is the historical average decay rate for savings accounts.

Fed lowers Fed Funds a cumulative 325 Bps between Mar 2001 and Jun 2003

"The Bottom" in Interest Rates: Jun 2003 - Fed Funds at 1.00%

Fed raises rates 25Bps. The first of seventeen +25 Bps increases over the next two years.

Last Fed Increase. Fed Funds peak at 5.25%. Cumulative +425 Bps increase in rates sine June 2004.

From June 2007 thru Dec 2008 as the housing bubble burst and we entered "The Great Recession" the Fed lowered Fed Funds by -500 Bps over 18-months.

Since Mar 2009 the Fed has held the target rate for Fed Funds at between zero and 25Bps. Also implemented QE1, QE2, QE3 & "Operation Twist"

Historical NMD Decay Rate Analysis (example)

2 - Avg. Decay Rate Jun-03 - Jun-07				Regular Shares
Date	Period Ending Balance	$ Grow	Annualized Growth Rate	Negative Periods Only
Jun-0	$185,892,			
Sep-03	$195,633,24	$9,740,88	20.96%	
Dec-03	$185,099,027	**-$10,534,220**	**-21.54%**	**-21.54%**
Mar-04	$198,171,944	$13,072,918	28.25%	
Jun-04	$199,419,058	$1,247,113	2.52%	
Sep-04	$199,835,823	$416,765	0.84%	
Dec-04	$193,039,605	**-$6,796,218**	**-13.60%**	**-13.60%**
Mar-05	$202,911,088	$9,871,482	20.45	
Jun-05	$203,358,797	$447,710	0.88%	
Sep-05	$196,039,239	**-$7,319,558**	**-14.40%**	**-14.40%**
Dec-05	$188,495,713	**-$7,543,526**	**-15.39**	**-15.39%**
Mar-06	$197,964,925	$9,469,212	20.09%	
Jun-06	$193,263,131	**-$4,701,794**	**-9.50%**	**-9.50%**
Sep-06	$183,507,987	**-$9,755,143**	**-20.19%**	**-20.19%**
Dec-06	$177,789,263	**-$5,718,724**	**-12.4**	**-12.47%**
Mar-07	$183,976,382	$6,187,119	13.92%	
Jun-07	$181,499,712	**-$2,476,670**	**-5.38%**	**-5.38%**
	TOTAL/AVG.	**-$4,392,651**	**-0.29%**	**-14.06%**

3 - Historical Worst 12-month Period		Mar-06	Mar-07	-7.07%
		$197,964,925	$183,976,382	-$13,988,542

5 - Average of the 4 Worst Quarters				-19.24%
Worst Q	Q4 - 2003	Sep-2003	Dec-2003	-21.54%
Second Worst Q	Q3 - 2006	Jun-2006	Sep-2006	-20.19%
Third Worst Q	Q4 - 2007	Sep-2007	Dec-2007	-18.97%
Fourth Worst Q	Q3 - 2007	Jun-2007	Sep-2007	-16.25%

Economic Value – NMD Sensitivity Analysis Summary

EV Analysis	Decay Rate Methodology	Weighted Avg Life of Liabilities
#1	FASB Topic #825: Decay Rates = 12-year Historical Avg	4.93yrs
#2	FASB Topic #825: Decay Rates = Avg Jun'03-Jun'07	4.81yrs
#3	FASB Topic #825: Decay Rates = Historical Worst 12-month Period	4.40yrs
#4	FASB Topic #825: Decay Rates = Avg. of 12-yr Avg & Worst Q (#1 & #6)	3.99yrs
#5	FASB Topic #825: Decay Rates = Avg.of the Four Worst Quarters	3.88yrs
#6	FASB Topic #825: Decay Rates = Historical Worst Quarter	3.43yrs
#7	FDICIA 305 "Proposed Avg Life"	2.42yrs
#8	NERA: Decay Rates = NCUA "Proposed Safe-harbor" Avg Life	1.95yrs
#9	NMDs at PAR: Decay Rates = 1200%	0.51yrs

Source for Data: BSMS ALM Analysis Sample Credit Union

Interest Rate Risk Management

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Net Economic Value	Current Balance	Wtd Yield	Discount Rate	Average Life (Yrs) +300Bps	Average Life (Yrs) Flat Rate	Average Life (Yrs) -300Bps	Present Value +300Bps	Present Value Flat Rate	Present Value -300Bps
Treasuries & Agencies	**$103,919**	1.08%	1.67%	4.18	2.74	1.62	$90,114	$102,983	$104,904
Muni, Corporates, Bk Notes	**$27,824**	1.37%	1.64%	3.25	3.25	3.25	$25,766	$28,063	$28,760
CDs and Other Deposits	**$53,498**	0.85%	0.58%	1.93	1.93	1.93	$50,967	$53,862	$54,097
Fixed-rate MBS & CMOs	**$99,493**	1.87%	1.99%	4.64	3.54	2.45	$86,679	$99,254	$100,518
Variable-rate Securities	**$14,637**	1.56%	0.98%	7.58	4.26	2.90	$13,066	$14,502	$14,720
Other Investments	**$3,949**	4.39%	4.39%	2.17	2.17	2.17	$3,725	$3,949	$3,982
Cash Equivalents	**$91,620**	0.18%	0.18%	0.04	0.04	0.04	$91,391	$91,620	$91,633
Unreal G/L AFS+Balance Adj.	**-$628**	n/a	n/a	n/a	n/a	n/a	$0	$0	$0
Total Investments:	**$394,311**	**1.07%**	**1.22%**	**2.96**	**2.29**	[illegible]	**$361,709**	**$394,233**	**$398,614**
Credit Card	**$40,007**	9.11%	9.11%	1.39	1.39	1.39	$38,557	$39,999	$41,548
Other Loans	**$62,088**	8.60%	8.18%	1.51	1.42	1.34	$59,983	$62,412	$64,735
Vehicle - New	**$66,976**	4.14%	2.98%	1.28	1.20	1.12	$65,492	$67,882	$67,826
Vehicle - Used	**$122,487**	4.87%	3.19%	1.23	1.17	1.12	$120,605	$124,826	$124,981
Mtg - 1st Fixed >15 yr	**$85,323**	4.62%	4.54%	9.18	6.13	3.82	$71,180	$85,625	$89,963
Mtg - 1st Fixed <15 yr	**$73,864**	3.91%	3.63%	5.33	4.55	3.63	$65,671	$74,688	$76,676
Mtg - Other Fixed rate	**$35,412**	4.93%	4.96%	3.82	3.22	2.50	$32,191	$35,322	$36,950
Mtg - Balloon/Hybrid >5yr	**$23,558**	4.50%	3.68%	8.92	6.17	4.02	$20,602	$24,181	$24,514
Mtg - Balloon/Hybrid <5yr	**$36,093**	4.14%	3.58%	8.36	5.48	3.50	$31,244	$36,545	$36,898
Mtg - 1st ARM <1 yr Reset	**$7,579**	3.16%	2.79%	7.40	4.69	3.01	$7,274	$7,600	$7,601
Mtg - 1st ARM >1 yr Reset	**$29,713**	3.38%	3.21%	8.03	5.29	3.43	$28,002	$29,781	$29,851
Home Equity LOC HELOC	**$42,205**	3.74%	4.19%	2.94	2.45	[illegible]	$40,867	$42,139	$42,342
Total Loans:	**$625,304**	**5.06**	[illegible]	[illegible]	**3.16**	[illegible]	**$581,667**	**$631,000**	**$643,887**
Other Assets	$49,899						$49,899	$49,899	$49,899
Total Assets:	**$1,069,515**	**3.52%**	[illegible]	[illegible]	**2.83**	[illegible]	**$993,275**	**$1,075,132**	**$1,092,400**
Share Drafts	**$120,882**	0.23%	1.19%	[illegible]	3.00	[illegible]	$111,356	$121,568	$121,651
Regular Shares	**$309,697**	0.32%	0.99%	[illegible]	2.50	[illegible]	$289,909	$311,902	$312,078
Money Market Shares	**$211,503**	0.38%	0.42%	1.00	1.00	[illegible]	$206,082	$212,216	$212,265
IRA Shares	**$27,151**	0.54%	0.79%	[illegible]	2.00	2.00	$25,867	$27,425	$27,437
Share & IRA CDs	**$252,275**	1.27%	0.67%	[illegible]	1.34	1.34	$245,829	$255,652	$257,918
Borrowings	**$26,615**	2.81%	1.34%	[illegible]	3.32	[illegible]	$25,537	[illegible]	[illegible]
Total Deposits & Funding	**$948,123**	**0.65%**	**0.24%**				**$904,579**	[illegible]	[illegible]
Other Liabilities	$12,168						[illegible]	[illegible]	$12,168
Total Deposits\Liabilities:	**$960,291**						[illegible]	[illegible]	**$972,284**
Equity Capital:	**$109,224**				**Net Economic Value:**		**$76,528**	**$106,328**	**$120,116**
Capital Ratio	**10.21%**				**NEV Capital Ratio:**		**7.70%**	**9.89%**	**11.00%**
					% Change in NEV from Flat Rate Scenario		**-28.03%**	n/a	**12.97%**

1

2

3.62 yr

1.93 yr

Source for Data: BSMS ALM Analysis Sample Credit Union

[illegible].645.5424 | www.1empire.com

Interest Rate Risk Management

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Net Economic Value	Current Balance	Wtd Yield	Discount Rate	Average Life (Yrs) +300Bps	Average Life (Yrs) Flat Rate	Average Life (Yrs) -300Bps	Present Value +300Bps	Present Value Flat Rate	Present Value -300Bps
Treasuries & Agencies	$103,919	1.08%	1.67%	4.18	2.74	1.62	$90,114	$102,983	$104,904
Muni, Corporates, Bk Notes	$27,824	1.37%	1.64%	3.25	3.25	3.25	$25,766	$28,063	$28,760
CDs and Other Deposits	$53,498	0.85%	0.58%	1.93	1.93	1.93	$50,967	$53,862	$54,097
Fixed-rate MBS & CMOs	$99,493	1.87%	1.99%	4.64	3.54	2.45	$86,679	$99,254	$100,518
Variable-rate Securities	$14,637	1.56%	0.98%	7.58	4.26	2.90	$13,066	$14,502	$14,720
Other Investments	$3,949	4.39%	4.39%	2.17	2.17	2.17	$3,725	$3,949	$3,982
Cash Equivalents	$91,620	0.18%	0.18%	0.04	0.04	0.04	$91,391	$91,620	$91,633
Unreal G/L AFS+Balance Adj.	-$628	n/a	n/a	n/a	n/a	n/a	$0	$0	$0
Total Investments:	**$394,311**	**1.07%**	**1.22%**	**2.96**	**2.29**	[illegible]	**$361,709**	**$394,233**	**$398,614**
Credit Card	$40,007	9.11%	9.11%	1.39	1.39	1.39	$38,557	$39,999	$41,548
Other Loans	$62,088	8.60%	8.18%	1.51	1.42	1.34	$59,983	$62,412	$64,735
Vehicle - New	$66,976	4.14%	2.98%	1.28	1.20	1.12	$65,492	$67,882	$67,826
Vehicle - Used	$122,487	4.87%	3.19%	1.23	1.17	1.12	$120,605	$124,826	$124,981
Mtg - 1st Fixed >15 yr	$85,323	4.62%	4.54%	9.18	6.13	3.82	$71,180	$85,625	$89,963
Mtg - 1st Fixed <15 yr	$73,864	3.91%	3.63%	5.33	4.55	3.63	$65,671	$74,688	$76,676
Mtg - Other Fixed rate	$35,412	4.93%	4.96%	3.82	3.22	2.50	$32,191	$35,322	$36,950
Mtg - Balloon/Hybrid >5yr	$23,558	4.50%	3.68%	8.92	6.17	4.02	$20,602	$24,181	$24,514
Mtg - Balloon/Hybrid <5yr	$36,093	4.14%	3.58%	8.36	5.48	3.50	$31,244	$36,545	$36,898
Mtg - 1st ARM <1 yr Reset	$7,579	3.16%	2.79%	7.40	4.69	3.01	$7,274	$7,600	$7,601
Mtg - 1st ARM >1 yr Reset	$29,713	3.38%	3.21%	8.03	5.29	3.43	$28,002	$29,781	$29,851
Home Equity LOC HELOC	$42,205	3.74%	4.19%	2.94	2.45	[illegible]	$40,867	$42,139	$42,342
Total Loans:	**$625,304**	**5.06** [illegible]	[illegible]	[illegible]	**3.16**	[illegible]	**$581,667**	**$631,000**	**$643,887**
Other Assets	$49,899						$49,899	$49,899	$49,899
Total Assets:	**$1,069,515**	**3.52%**	[illegible]	[illegible]	**2.83**	[illegible]	**$993,275**	**$1,075,132**	**$1,092,400**
Share Drafts	$120,882	2.03%	2.89%	[illegible]	7.00	[illegible]	$94,701	$114,384	$124,868
Regular Shares	$309,697	1.71%	2.08%	[illegible]	5.00	[illegible]	$265,092	$304,554	$320,887
Money Market Shares	$211,503	1.24%	0.79%	2.00	2.00	[illegible]	$201,326	$213,342	$214,551
IRA Shares	$27,151	1.93%	3.62%	[illegible]	10.00	[illegible]	$18,045	$23,384	$26,585
Share & IRA CDs	$252,275	1.27%	0.67%	[illegible]	1.34	1.34	$245,829	$255,652	$257,918
Borrowings	$26,615	2.81%	1.34%	[illegible]	3.32	3.32	$25,537	[illegible]	[illegible]
Total Deposits & Funding	**$948,123**	**1.57%**	**1.54%**	[illegible]	[illegible]	[illegible]	**$850,530**	[illegible]	[illegible]
Other Liabilities	$12,168						[illegible]	[illegible]	$12,168
Total Deposits\Liabilities:	**$960,291**						[illegible]	[illegible]	**$985,745**
Equity Capital:	**$109,224**				**Net Economic Value:**		**$130,577**	**$123,775**	**$106,656**
Capital Ratio	**10.21%**				**NEV Capital Ratio:**		**13.15%**	**11.51%**	**9.76%**
					% Change in NEV from Flat Rate Scenario		**5.49%**	n/a	**-13.83%**

1

2

3.62 yr

3.63 yr

Source for Data: BSMS ALM Analysis Sample Credit Union

SECTION

5

Other Considerations

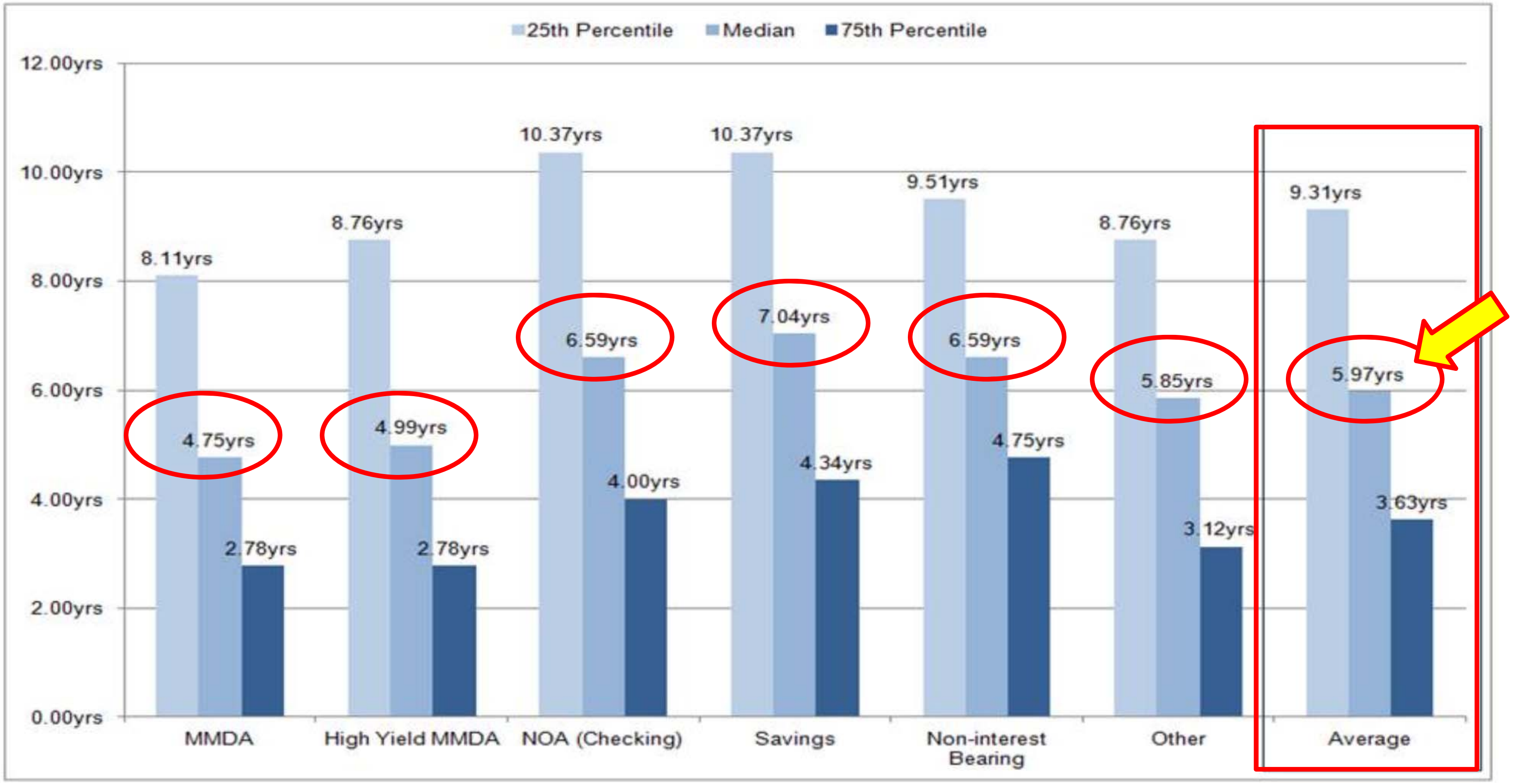
Office of the Comptroller of the Currency

Semiannual Risk Perspectives: Fall 2014

5.97yrs = median average life for all NMDs

(1500 banks in the survey, translating the decay rates into a forecast average life, and averaging the data)

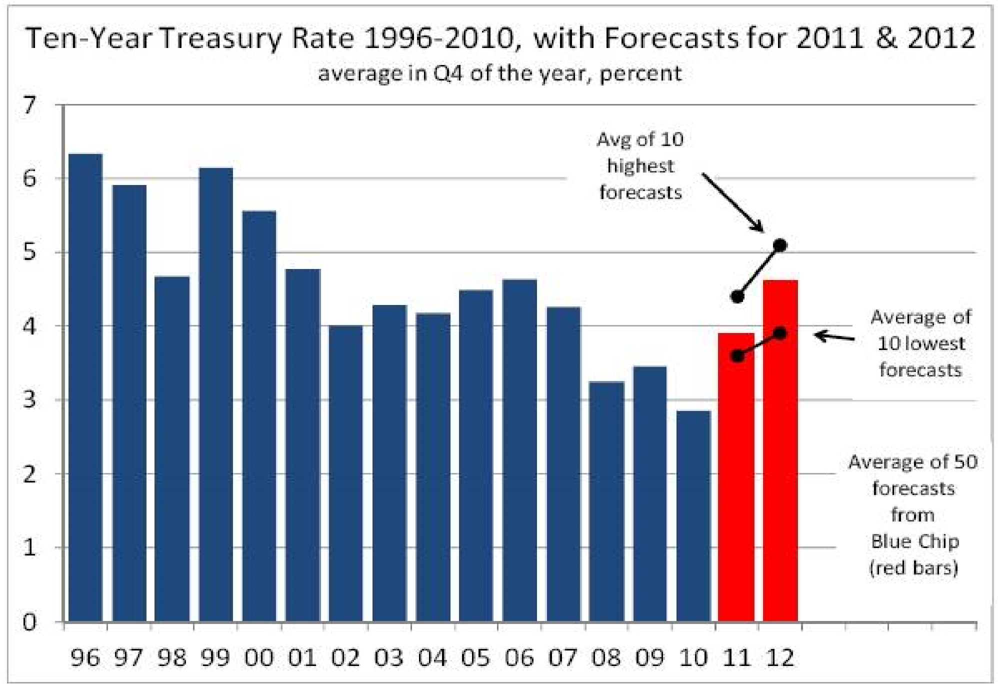
Average Life Assumptions for Bank NMDs



Source for Data: http://www.occ.gov/publications/publications-by-type/other-publications-reports/semiannual-risk-perspective/semiannual-risk-perspective-fall-2014.pdf

Interest Rates Will Rise April 2011

- 10-year Treasury rate is likely to average almost 4% in 4th Quarter 2011.
- Some see rates at 5% in mid-2012.
- Surprise increase in inflation could push rates up faster than consensus forecast.



Source: U.S. Treasury, Blue Chip Economic Indicators

Office of the Chief Economist 10

Source: April 2011 NCUA Economic Overview; Chairman Matz at NAFCU CEO Conference

Remarks of Debbie Matz, NCUA Board Chair,
at the Defense Credit Union Council's Overseas Subcouncil
May 5, 2015

"…interest rate risk is now higher than it was before the crisis.
While most credit unions managed through interest rate hikes in the past, not every credit union is as well positioned today. Net long-term assets have risen from 25 percent of assets ten years ago to 35 percent of assets today. This is a concern because credit unions now have less flexibility to adjust to rising rates."

Source: http://www.ncua.gov/News/Pages/SP20150505MatzSpeech.aspx

Interest Rate Spikes Led to Unrealized Losses

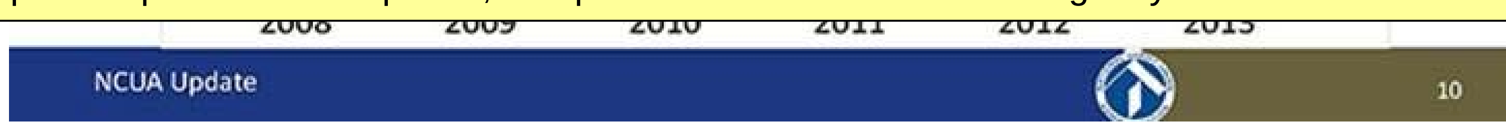
Remarks of Debbie Matz, NCUA Board Chair,
at the Defense Credit Union Council's Overseas Subcouncil
May 5, 2015

"Let's look at the different effects on credit unions during the last two cycles in which interest rates rose.

You can see that a spike in long-term interest rates in 2008 caused credit unions to book unrealized losses of nearly $1 billion. But when long-term rates rose during the period from 2012 to 2013, the unrealized losses became much steeper. With the most recent rise in long-term interest rates, unrealized gains of $2.7 billion swung to unrealized losses of $2.4 billion. That's more than a $5 billion swing from positive to negative.

Seeing this slide was an "a-ha" moment for me, and I hope it is for you. These unrealized losses could foreshadow actual losses if future rate hikes compress net interest margins.

While no one knows exactly when and by how much rates will rise, the Federal Reserve's Federal Open Market Committee forecast anticipates that by 2017, the Fed Funds rate will rise by 300 basis points. NCUA examiners are urging credit unions to shock their balance sheets with interest rate hike assumptions up to 300 basis points, and plan well ahead for that contingency."



Source: http://www.ncua.gov/News/Pages/SP20150505MatzSpeech.aspx

Natural Person Credit Union
Investment Portfolio Average Life Distribution

As of June 30, 2015

	Average Life Distribution	Jun-1	Jun-15	As % Current Investments	Y over Y Change	Annualized Growth Last 12 Months
20	Cash Equivalent Investments	$84,31	**$84,434,377**	**23.02%**	**+$122,386**	**+ 0.15%**
21	< 1-Year Average Life or Repricing	$69,749,	**$69,321,906**	**18.90**	**-$427,888**	**-0.61%**
22	1-3 Year Average Life or Repricing	$94,278,714	**$109,871,727**	**29.96%**	**+$15,593,013**	**+ 16.54%**
23	3-5 Year Average Life or Repricing	$86,697,341	**$70,368,554**	**19.19%**	**-$16,328,787**	**-18.83%**
24	5-10Year Average Life or Repricing	$36,818,452	**$27,880,778**	**7.60%**	**-$8,937,674**	**-24.27%**
25	> 10-Year Average Life or Repricing	$7,008,175	**$4,850,896**	**1.32%**	**-$2,157,280**	**-30.78%**
26	**TOTAL INVESTMENTS**	**$378,864,468**	**$366,728,238**	**102.83%**	**-$12,136,230**	**-3.20%**

"Exposure to interest rate risk (IRR) remains a primary concern for all federal financial institution regulators, due to continued uncertainty about monetary policy and the direction of short-term interest rates. While most credit unions managed through interest rate hikes in the past, some credit unions may not be as well positioned this year due to higher concentrations of net long-term assets and unrealized losses."

NCUA Chair Debbie Matz Letter to Credit Unions 2015-01 (Jan2015)

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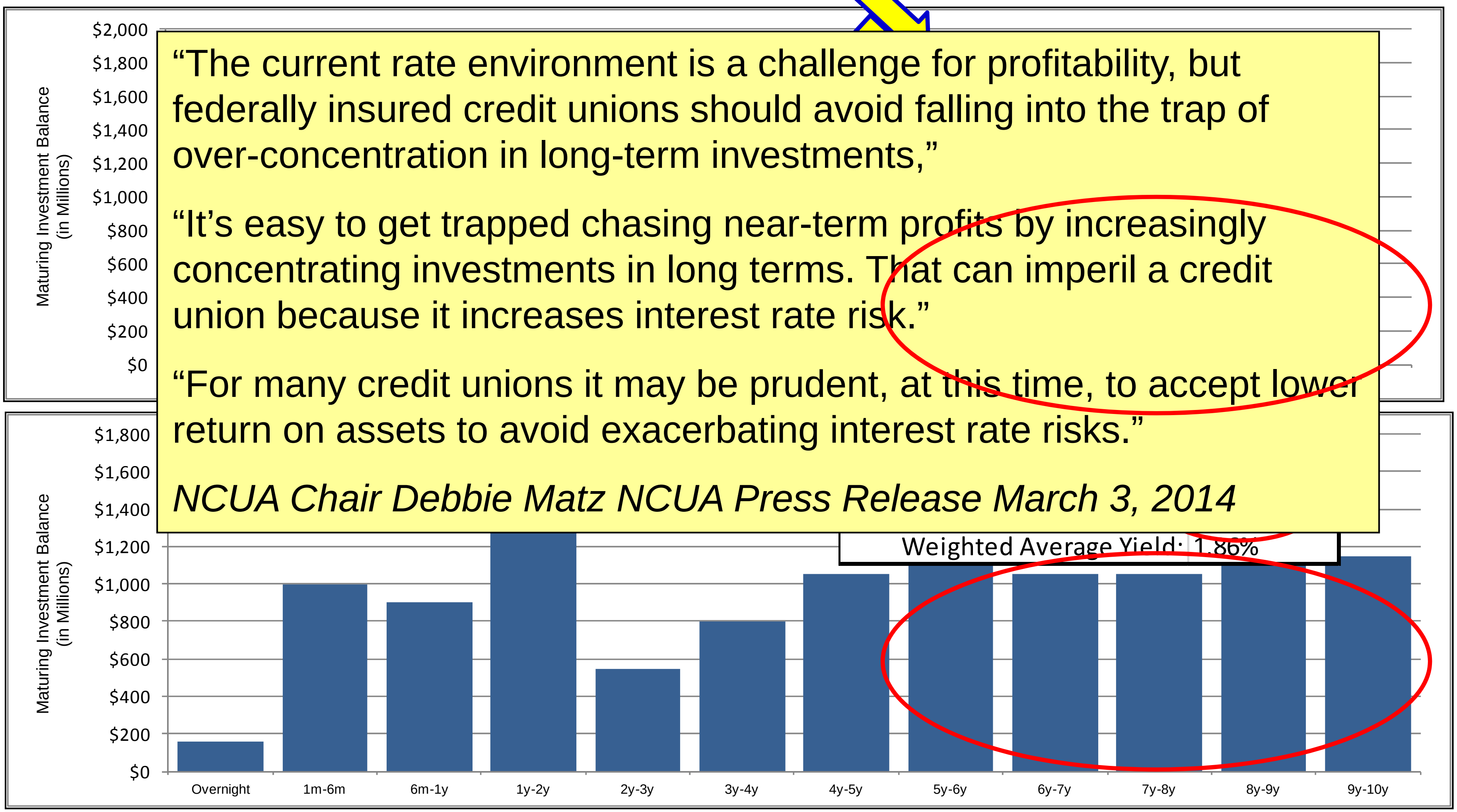
NCUSIF Share Insurance Fund
Investment Portfolio Average Life Distribution
March 2008 vs. June 2015



"The current rate environment is a challenge for profitability, but federally insured credit unions should avoid falling into the trap of over-concentration in long-term investments,"

"It's easy to get trapped chasing near-term profits by increasingly concentrating investments in long terms. That can imperil a credit union because it increases interest rate risk."

"For many credit unions it may be prudent, at this time, to accept lower return on assets to avoid exacerbating interest rate risks."

NCUA Chair Debbie Matz NCUA Press Release March 3, 2014

http://www.ncua.gov/about/Documents/Agenda%20Items/AG20150723Item1a.pdf

Source for Data: NCUA FOIA Call Report Data Files www.ncua.gov

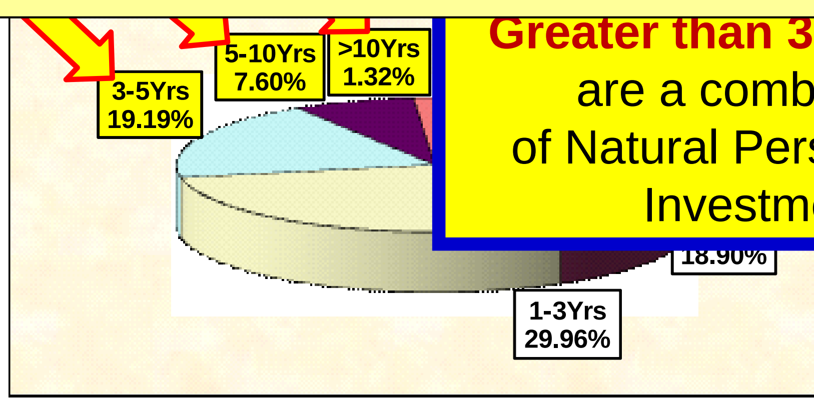
NCUSIF Share Insurance Fund
Investment Portfolio Average Life Distribution
As of June 30, 2015

Maturing Investment Balance (in Millions)

"the slight decrease in long-term investments as a share of assets over the past quarter is not enough to alleviate interest-rate risk. Long-term fixed-rate assets remain elevated, and interest-rate risk continues to be a key concern and a supervisory priority for NCUA."

"The industry's net long-term asset ratio remained high—35.4 percent—so interest-rate risk remains a serious threat."

NCUA Chair Debbie Matz NCUA Press Release (Sep 2014)



Greater than 3-year Investments are a combined **28.11%** of of Natural Person Credit Union's Investment Portfolio

http://www.ncua.gov/about/Documents/Agenda%20Items/AG20150723Item1a.pdf

Net Long-Term Asset Ratio (NLTA)

- The NLTA is a “crude gauge” and “not a precise measure of interest rate risk.”
- The NLTA is a helpful “off-site scoping mechanism.”
- Credit unions with high ratios “are not automatically a problem.”
- **The NCUA is “not going to tell you to manage to NLTA.”**
- **The NLTA “should not show up in your DORs.”**

Larry Fazio – NCUA Director of the Office of Examination and Insurance

NCUA Listening Session, July 2014

https://www.youtube.com/watch?v=N0YtRkCbFpo&feature=youtu.be

Other Considerations: NEV Premium to Book Equity

FIRST EMPIRE SECURITIES
Member FINRA/SIPC

Deal Statistics for Banking
By Month
Announce Date- 1/1/2014 - 8/21/2015
All States
Completed/Pending Transactions
Whole Deals
Includes private equity deals

Month	Aggregate Total Assets ($000)	Median Deal Value/ Common Equity (%)	Median Deal Value/ Tangible Common Equity (%)	Number of Deals
Jan 2014	11,878,068	143.7	153.8	23
Feb 2014	3,611,239	108.9	118.9	13
Mar 2014	5,152,882	147.9	147.9	20
Apr 2014	6,403,449	143.5	143.5	25
May 2014	8,360,788	126.2	130.7	24
Jun 2014	15,854,273	156.4	156.4	27
Jul 2014	31,260,443	120.7	122.2	33
Aug 2014	3,613,876	111.1	113.6	16
Sep 2014	9,741,090	110.2	121.8	18
Oct 2014	10,217,380	138.8	142.0	37
Nov 2014	31,438,881	126.2	132.2	22
Dec 2014	9,764,048	152.9	160.4	30
Jan 2015	36,843,730	136.6	140.8	21
Feb 2015	3,447,790	117.2	119.6	23
Mar 2015	9,503,689	148.0	148.3	24
Apr 2015	5,417,657	163.5	167.1	25
May 2015	6,466,656	130.0	136.1	23
Jun 2015	5,194,188	127.5	129.1	25
Jul 2015	5,248,163	112.0	112.0	26
Aug 2015	15,165,852	165.9	179.1	11

Deal Valuations are as of Agreement Date.
Source: SNL Financial

TABLE 8
Characteristics of large bank mergers during the 1990s

	Acquiring bank	Total assets of target ($ bil.)	Book value premium	Standardized excess return	Year
Targets with assets >$10 billion					
Manufacturers Hanover Corporation	Chemical Banking Corporation	61.5	0.70	7.57	1991
C&S/Sovran Corporation	NCNB Corporation	51.4	1.49	4.62	1991
Security Pacific Corporation	BankAmerica Corporation	88.0	1.17	11.50	1991
Ameritrust Corporation	Society Corporation	11.0	1.99	0.65	1991
Manufacturers National Corporation	Comerica Inc.	12.1	1.34	6.46	1991
MNC Financial Inc.	NationsBank Corporation	17.5	1.33	–1.55	1992
Continental Bank Corporation	BankAmerica Corporation	22.5	1.35	10.20	1994
Michigan National Corporation	National Australia Bank Ltd.	10.2	1.69	10.03	1995
Shawmut National Corporation	Fleet Financial Group Inc.	31.3	1.79	9.18	1995
First Fidelity Bancorporation	First Union Corporation	36.2	1.92	13.82	1995
Midlantic Corporation	PNC Bank Corporation	13.3	2.12	6.54	1995
Integra Financial Corporation	National City	13.7	1.97	4.87	1995
Meridian Bancorp Inc.	Corestates Financial Corporation	15.0	2.17	5.71	1995
First Interstate Bancorp	Wells Fargo & Company	55.8	3.35	18.16	1995
BayBanks	Bank of Boston Corporation	10.8	2.22	5.40	1995
Boatmen's Bancshares	NationsBank Corporation	33.7	2.71	14.35	1996
Standard Fed Bancorp	ABN-AMRO Holding NV	13.3	2.05	–2.76	1996
US Bancorp	First Bank System	31.9	3.38	9.76	1997
Central Fidelity Banks Inc.	Wachovia Corporation	10.6	2.81	[illegible]	1997
Signet Banking Corporation	First Union Corporation	11.7	3.46	[illegible]	1997
Barnett Banks	NationsBank Corporation	41.4	4.05	[illegible]	1997
Corestates Financial Corporation	First Union Corporation	45.6	5.39	[illegible]	1997
First of American Bank	National City	22.1	3.84	[illegible]	1997
Average		28.7	2.36	8.17	
Mergers of equals					
KeyCorp, Albany, NY	Society Corporation	25.5	1.82	—	1993
BB&T Financial Corporation	Southern National	9.2	2.32	2.29	1994
First Chicago Corporation	NBD Bancorp	65.9	1.30	1.87	1995
Chase Manhattan Corporation	Chemical Banking Corporation	114.0	1.38	3.76	1995
First Chicago NBD Corporation	Banc One Corporation	114.1	3.68	[illegible]	1998
BankAmerica Corporation	NationsBank Corporation	260.0	3.06	[illegible]	1998
Wells Fargo & Company	Norwest Corporation	97.5	2.70	2.13	1998
Average		98.0	2.32	1.30	

Source for Data: Federal Reserve Bank of Chicago: Economic Perspectives Feb2000

Source for Data: http://www.snl.com/

SECTION

6 Regulatory Guidance

ALM Regulatory Guidance

FIRST EMPIRE SECURITIES
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1. **NCUA Rules and Regulation Part 741.3 (effective September 30, 2012 – revised Jan 2013):**
   http://www.ncua.gov/Legal/Documents/Regulations/FIR20120126InterestRateRiskProg.pdf
2. **NCUA's AIRES Examination Questionnaire:**
   Worksheets IRR-Part A, Part B, Part C, and Part D have a list of ALM related questions an examiner may ask during the exam. Embedded in many of the cells/questions is guidance from NCUA to the examiner detailing the issue, offering "red flags" to look for as well as best practices to recommend. This can be helpful in preparing for an upcoming examination.
   http://www.ncua.gov/DataApps/Documents/AIRES/question.zip
3. **FFIEC Advisory on Interest Rate Risk Management (Jan 2010):**
   http://www.ncua.gov/News/Press/NW20100106AdvisoryonInterestRate.pdf
4. **FFIEC (Jan 2012) Frequently Asked Questions about the FFIEC Advisory on Interest Rate Risk Management (Jan 2012)**: http://www.ncua.gov/News/Press/NW20120112FFIEC-Encl1.pdf
5. **The National Economic Research Associates ("NERA") "Evaluation of Non-maturity Deposits":**
   (Commissioned and published by NCUA this study details various methods for the treatment of Non-maturity Deposits in the calculation of Net Economic Value
   http://www.ncua.gov/Resources/Documents/ALM/ALMNMDeposits.pdf
6. **NCUA's "Asset Valuation Workbook":**
   This excel workbook is updated quarterly by NCUA and contains several "Estimated Interest Rate Risk Calculators", including the "Gross 17-4 Test" based on Call Report data and the more advanced version of the "17-4 Test", the "Asset Valuation" calculator which uses market prices as a proxy for estimating the market value of the credit union's mortgage loan portfolio..
   http://www.ncua.gov/Resources/Documents/ALM/AssetValuationWorkbook.zip

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ALM Regulatory Guidance

FIRST EMPIRE SECURITIES
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Each of the *"Letter to Credit Unions*" relating to Asset Liability Management:
(Note: In the descriptions below, the first two digits represent the year the letter was issued, the last two digits represent the number of the Letter in that year)

7. **99-CU-12, August 1999, "Real Estate Lending and Balance Sheet Management"**
   http://www.ncua.gov/Resources/Documents/LCU1999-12.pdf

8. **00-CU-10, November 2000, "Asset Liability Management Examination Procedures"**
   http://www.ncua.gov/Resources/Documents/LCU2000-10.pdf

9. **00-CU-13, December 2000, "Liquidity and Balance Sheet Risk Management"**
   http://www.ncua.gov/Resources/Documents/LCU2000-13.pdf

10. **01-CU-08, July 2001, "Liability Management - Highly Rate Sensitive and Volatile Funding Sources"**
    http://www.ncua.gov/Resources/Documents/LCU2001-08.pdf

11. **01-CU-19, October 2001 "Managing Share Inflows in Uncertain Times"**
    http://www.ncua.gov/Resources/Documents/LCU2001-19.pdf

12. **03-CU-11, July 2003, "Non-Maturity Shares and Balance Sheet Risk"**
    http://www.ncua.gov/Resources/Documents/LCU2003-11.pdf

13. **03-CU-15, September 2003, "Real Estate Concentrations and Interest Rate Risk Management"**
    http://www.ncua.gov/Resources/Documents/LCU2003-15.pdf

ALM Regulatory Guidance

FIRST EMPIRE SECURITIES
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14. **NCUA's Examiner's Guide (Chapter 13 - ALM)**
    http://www.ncua.gov/Legal/GuidesEtc/ExaminerGuide/chapter13.pdf

15. **NCUA's Financial Performance Report ("FPR") User's Guide and FPR Ratios formula guide**
    http://www.ncua.gov/Legal/GuidesEtc/FPRGuides/UsersGuideFPR.pdf

NCUA's published Guidance on Liquidity Management:

16. **NCUA" Letter to Credit Unions 10-CU-14 Strengthening Funding and Liquidity Risk Management**: http://www.ncua.gov/Resources/Pages/LCU2010-14.aspx

17. **FFIEC Interagency Policy Statement on Funding and Liquidity Risk Management (Mar 2010):**
    http://www.ncua.gov/Resources/Documents/LCU2010-14Encl.pdf

18. **Letter to Credit Unions No. 02-CU-05, *Examination Program Liquidity Questionnaire***:
    http://www.ncua.gov/Resources/Documents/LCU2002-05.pdf,

NCUA's published Guidance on Concentration Risk Management:

19. **NCUA Supervisory Letter on Concentration Risk (Mar 2010):**
    http://www.ncua.gov/Resources/Documents/LCU2010-03Encl.pdf

Balance Sheet Management Services, Inc. *

Office of Regulatory Affairs

- Policy Review, Revision, and Creation
  - Interest Rate Risk / Asset Liability Management Policy
  - Liquidity Management and Contingency Funding Policy
  - Concentration Risk Policy
  - Investment Policy
- Assist in Establishing Risk Limits and ALCO Reporting
- Examination Support and Concern Resolution

Asset Liability Management Services

- Offering comprehensive balance sheet analytics, consultation and education that helps identify, measure, monitor, and control Interest Rate and Liquidity Risk.

*** These services are offered through Balance Sheet Management Services (BSMS), an affiliate of First Empire Securities. BSMS is not a member of FINRA/SIPC. First Empire Securities is solely a member of FINRA/SIPC.**

Risk Disclosures:

When executing a sell-buy transaction, the sale may result in a capital gain or loss. Once the replacement security has been purchased, the subsequent sale of that security prior to its maturity may cause an additional capital gain or loss, and may influence performance and total return of the transaction. Before executing any transaction, the investor should understand all of the relevant risks associated with the transaction. Investing in securities contains risks, including but not limited to market risk, interest rate risk, prepayment/extension risk, and credit risk. For all types of debt securities, the sale prior to maturity may cause a principal gain or loss.

Interest Rate Risk/Market Risk:

The market price of the securities may move higher or lower depending on the prevailing market conditions and interest rates. The market value of debt securities will be inversely affected by movements in interest rates. When interest rates increase, market prices of existing securities will fall as these securities become less attractive to investors when compared to higher coupon new issues. When interest rates decrease, market prices on existing securities tend to increase because these securities become more attractive when compared to newly issued bonds with lower coupon rates. Sale of the bonds prior to maturity may cause a principal gain or loss.

Credit Risk:

Credit Risk is the ability or perceived ability of the issuer of a debt security to make all principal and interest payments, in full, and on time. In addition, changes in the law or regulations or the upgrade or downgrade of the issuer's credit rating or other financial disclosures may have an impact on the market price of the bonds in the market. Sale of the bonds prior to maturity may cause a principal gain or loss.

Prepayment Risk:

For securities purchased at a premium (e.g. the price paid for the security was higher than the principal value), the risk that the principal will be paid back to the investor faster than expected which will result in a yield to maturity lower than expected. For amortizing investments:

- o If actual prepayment speeds are faster than projected prepayment speeds, there will be a shorter average life and a decrease in the yield to maturity.
- o If actual prepayment speeds are slower than projected prepayment speeds, there will be a longer average life and an increase in the yield to maturity.

Generally, prepayment speeds on amortizing securities tend to accelerate in a declining interest rate environment. The payment of principal before it is expected may cause the reinvestment into a lower interest rate environment.

Extension Risk:

For securities purchased at a discount (e.g. the price paid for the security was lower than the principal value), the risk that the principal will be paid back to the investor slower than expected which will result in a yield to maturity lower than expected. For amortizing investments:

- o If actual prepayment speeds are faster than projected prepayment speeds, there will be a shorter average life and an increase in the yield to maturity.
- o If actual prepayment speeds are slower than projected prepayment speeds, there will be a longer average life and a decrease in the yield to maturity.

Generally, prepayment speeds on amortizing securities tend to decelerate in a rising interest rate environment. The payment of principal later than expected may reduce the opportunity for reinvestment into a higher interest rate environment.

For additional information detailing these risks please go to www.1empire.com/disclosures.html
A Glossary of financial terms can be found here: http://www.finra.org/investors/investmentchoices/bonds/smartbondinvesting/glossary/

Office of Regulatory Affairs

- ALM Regulatory Educational Consultation
- Subscription Service for ALM Regulatory Support
  - Regulatory Help Desk
- Examination Support and Concern Resolution
- ALM Regulatory Consultation with Policy Review, Revision and Creation
  - Liquidity Management Policy and Contingency Funding Plan
  - Interest Rate Risk / Asset Liability Management Policy
  - Investment Policy
  - Concentration Risk Policy
  - Loan Participation Policy
- Quarterly ALCO Summary with Detailed Risk Metrics
  - Includes IRR Policy Compliance for all primary risk ratios
- Hourly Consultation/Research Services on most any Regulatory Topic

*These services are offered through Balance Sheet Management Services (BSMS), an affiliate of First Empire Securities. BSMS is not a member of FINRA/SIPC. First Empire Securities is solely a member of FINRA/SIPC.

- Comprehensive ALM Analysis
  - 3-year income simulation under eight rate –shocked scenarios
  - Net economic value analysis under eight rate-shock scenarios
  - Historical loan prepayment analysis
  - 12-year historical non-maturity deposit decay rate analysis (a “core deposit study”)
  - NEV-NMD sensitivity analysis - nine additional NEV calculations using different NMD assumptions
  - Full assumptions documentation and disclosure
  - Liquidity risk analysis including detailed cashflow forecasting and stress testing
  - User friendly documentation and executive summary
  - Follow-up conference call and web-ex at no additional charge
- Budget and Strategic Planning Analysis
  - Detail 1-year budget analysis
  - 3-year strategic planning forecast
  - Additional rate-shocks and “what-if” scenarios
- Investment Portfolio Analysis and Stress Testing
  - Detailed Investment Analytics and Stress testing
  - Real-time transaction analysis estimating impact on portfolio performance
  - Real-time what-if analysis forecast over time using the Dynamic Portfolio Analysis

*These services are offered through Balance Sheet Management Services (BSMS), an affiliate of First Empire Securities. BSMS is not a member of FINRA/SIPC. First Empire Securities is solely a member of FINRA/SIPC.

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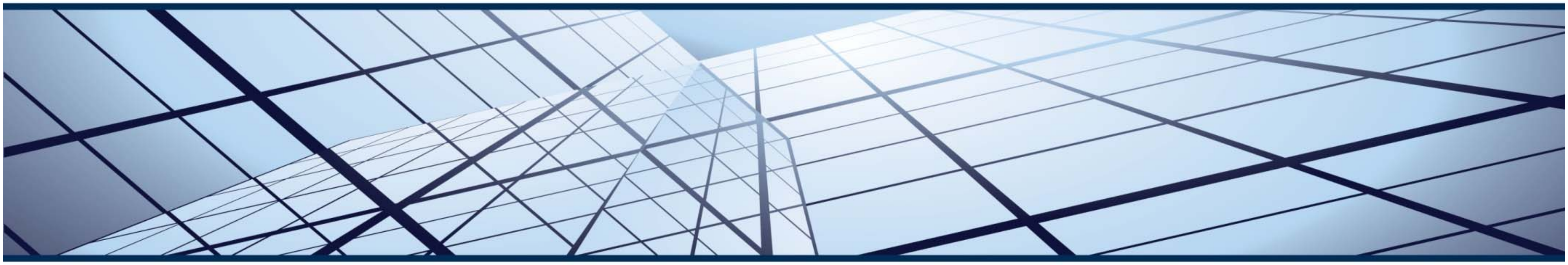

Thank You!

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Accounting Standards Update

Presented by:

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Partner, Audit Services Group

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Accounting Standards Background

Financial Accounting Foundation (FAF)

- Established 1972
- Mission: improve financial accounting and reporting standards

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Accounting Standards Background

Financial Accounting Foundation cont.

- Oversight of the following
  - Financial Accounting Standards Board (FASB)
  - Private Company Council (PCC)
  - Government Auditing Standards Board (GASB)
- FAF is funded mainly by fees from public companies

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Accounting Standards Background

Financial Accounting Standards Board (FASB)

- Established 1973
- SEC has statutory authority – relies on FASB to establish financial accounting and reporting standards
- Mission - establish and improve standards of financial reporting for nongovernmental entities
- Independent of all businesses and organizations
- Seven board members

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Accounting Standards Background

Private Company Council (PCC)

- Established to improve the process for setting accounting standards for private companies
- Two primary responsibilities
  1. Utilizing the private company decision-making framework, determine exceptions or modifications to existing GAAP
  2. Primary advisory body to FASB on appropriate treatment for private companies for items under active consideration by FASB

Accounting Standards Background

Private Company Decision Making Framework

- In December 2011, the FASB and the PCC issued the final *Private Company Decision Making Framework: A Guide for Evaluating Financial Accounting and Reporting for Private Companies*

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Accounting Standards Background

Private Company Decision Making Framework cont.

- Intended to be a guide to help the FASB and the PCC identify:
  - Differences between informational needs of public company and private company financial statement users
  - Opportunities to reduce cost and complexity of preparing US GAAP financial statements

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Accounting Standards Background

Private Company Decision Making Framework cont.

- Public business entities, not-for-profit entities and employee benefit plans are not in the scope of the framework and therefore may not elect private company alternatives

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Accounting Standards Background

Private Company Decision Making Framework cont. – Differential factors

- Number of primary financial statement users and access to management
- Investment strategies of primary investors
- Ownership and capital structures
- Accounting resources
- Manner in which preparers learn about new financial reporting guidance

Accounting Standards Background

Private Company Decision Making Framework cont. – Areas guidance may differ for public & private companies

- Recognition and measurement
- Disclosures
- Display (presentation)
- Effective dates
- Transition method

Accounting Standards Background

Private Company Council Achievements

- Identifiable intangible assets in a business combination
- Applying valuable interest entity guidance to common control leasing arrangements
- Goodwill
- Certain receive-variable, pay-fixed interest rate swaps

Accounting Standards Background

Government Accounting Standards Board (GASB)

- Established in 1984
- Establishes standards of accounting and reporting for state and local governments
- Seven board members

Accounting Standards Background

IFRS Foundation

- Established in 2001
- Oversees:
  - International Accounting Standards Board (IASB)
  - International Financial Reporting Standards (IFRS)

Accounting Standards Background

International Accounting Standards Board (IASB)

- Established 2001
- Sets international accounting standards
- 15 members including the United States
- Based in London

Accounting Standards Background

International Financial Reporting Standards (IFRS)

- Set of accounting standards developed by IASB
- 120 nations follow IFRS
- Becoming the international standard

GAAP & IFRS

Adoption vs. convergence:

- Adoption – SEC sets a timeframe for US compliance
- Convergence – prospectively FASB & IASB working to establish high quality and compatible standards
  - Last ten years FASB & IASB have worked together and released standards as both GAAP & IFRS

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Recently Issued Standards

ASU 2014-04 - Reclassification of Residential Real Estate Collateralized Consumer Mortgage Loans Upon Foreclosure

- Addresses when a creditor is considered to have obtained physical possession of residential real estate property collateralizing a consumer mortgage loan
- A creditor is considered to have obtained physical possession of residential real estate when:
  - The creditor obtains legal title to the residential real estate upon foreclosure completion, or
  - The borrower conveys all interest in the residential real estate to the creditor to satisfy that loan via a deed in lieu of foreclosure or similar agreement

Recently Issued Standards

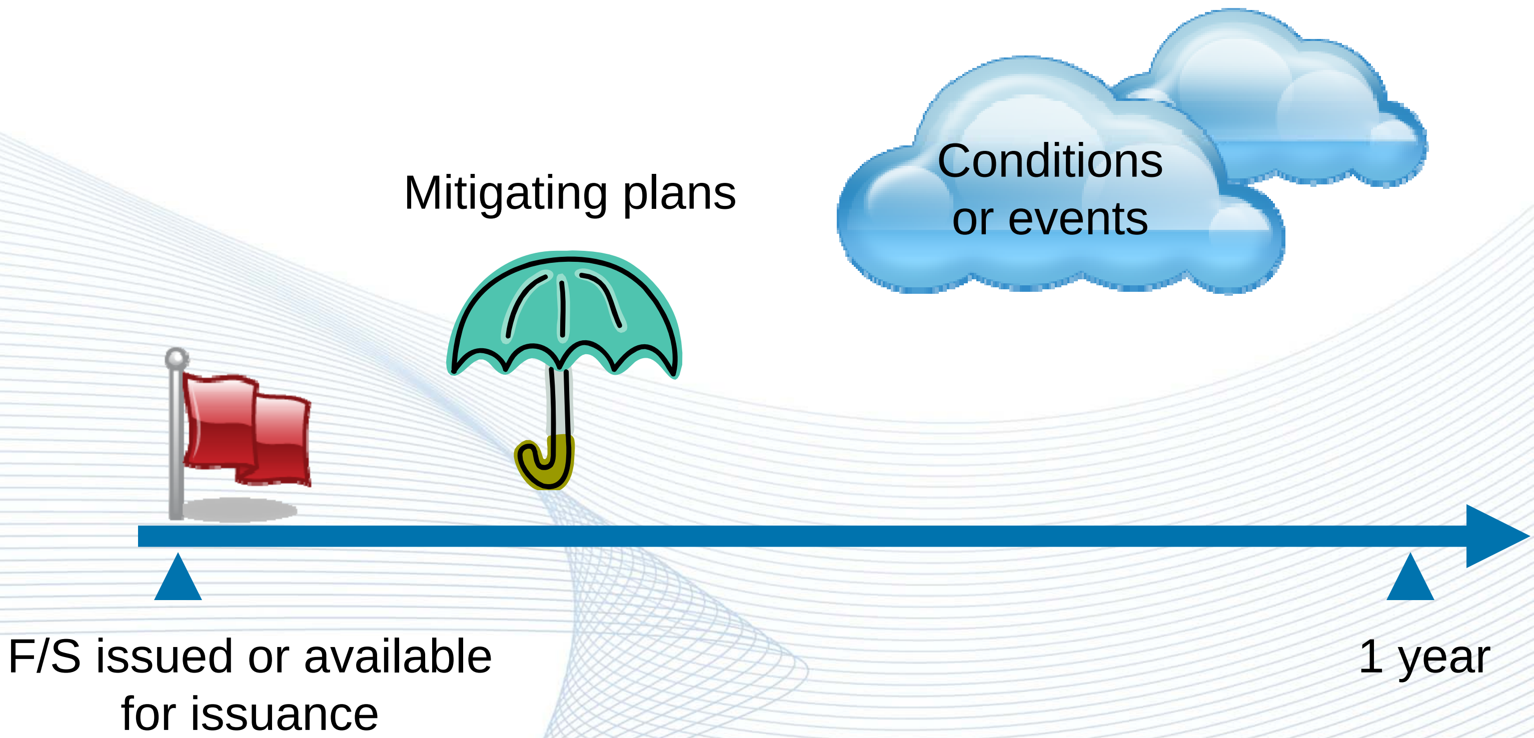
Key Standards issued in 2014: ASU 2014-04 cont.

- When physical possession is obtained, the related loan should be derecognized and the real estate recognized
- Requires disclosure of the amount of foreclosed residential real estate properties held by the creditor and the recorded investment in consumer mortgage loans secured by residential real estate properties that are in the process of foreclosure

Effective date and transition
Effective for public business entities for annual periods beginning after **December 15, 2014.**

Recently Issued Standards

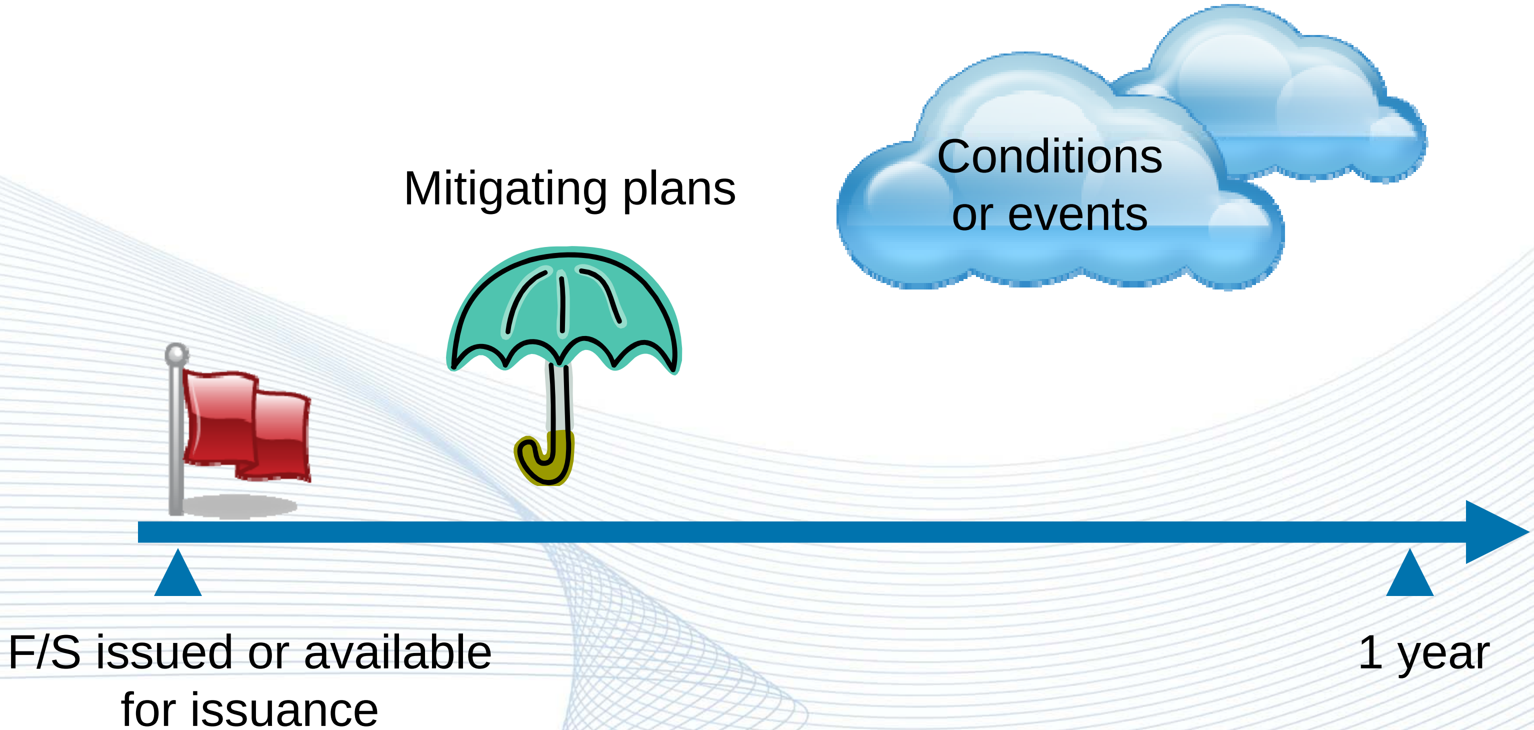
Key Standards issued in 2014: ASU 2014-15 – Disclosure of uncertainties about an entity's ability to continue as a going concern



Management must formally document going concern ability.

Recently Issued Standards

Key Standards issued in 2014: ASU 2014-15 cont.



Disclose:

- Principal conditions or events
- Management's evaluation
- Management's plans

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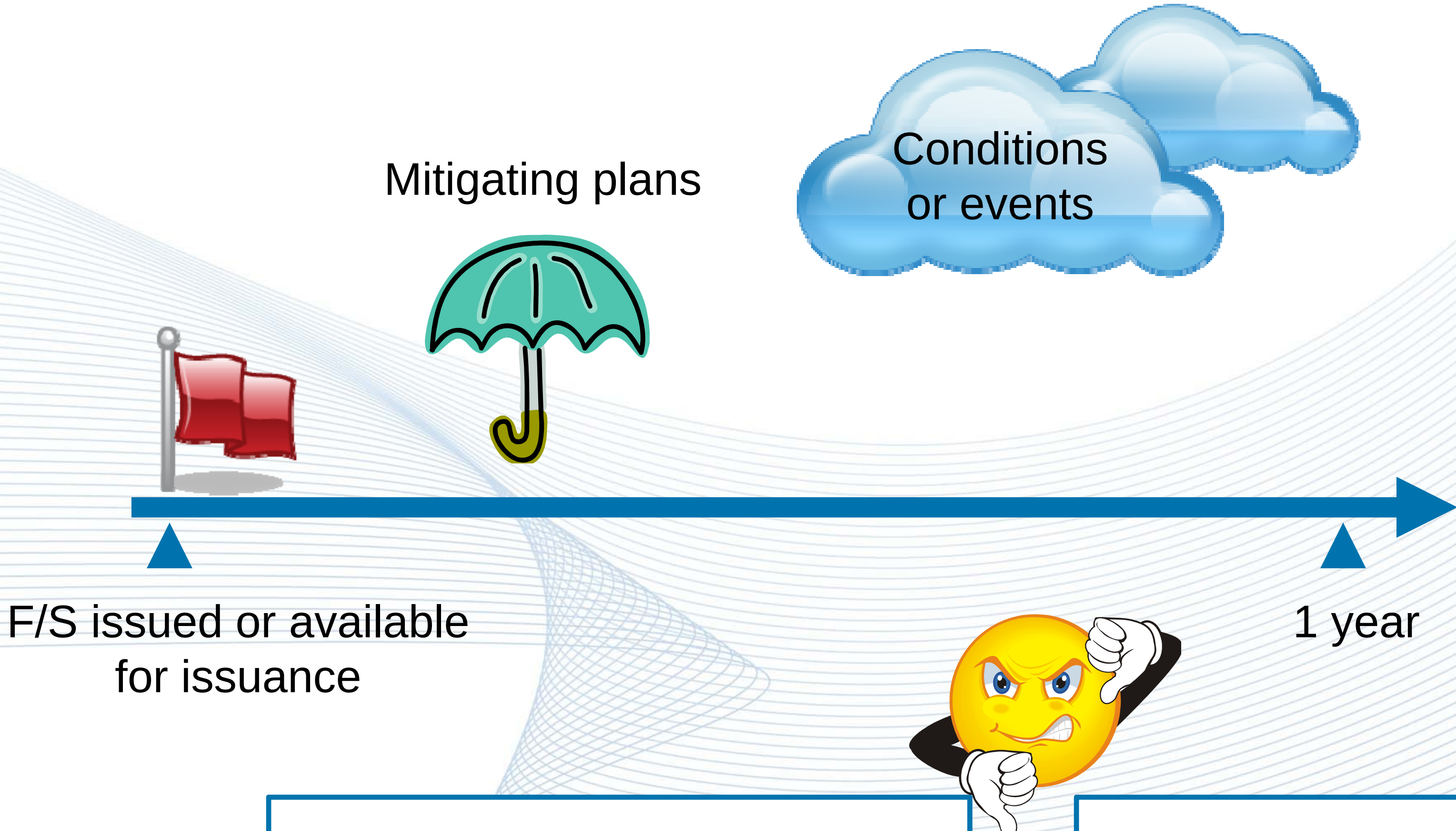
Recently Issued Standards

Key Standards issued in 2014: ASU 2014-15 cont.



Disclose:
- Principal conditions or events
- Management’s evaluation
- Management’s plans

\+

Footnote: There is substantial doubt about the entity’s ability to continue as a going concern.

Recently Issued Standards

Key Standards issued in 2014: ASU 2014-15 cont.

Effective date for calendar year ends

Permitted		Required
2014	2015	2016

Effective annual periods ending after December 15, 2016

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Recently Issued Standards

ASU 2014-09 – Revenue from Contracts with Customers

- FASB/IASB joint project on revenue recognition completed in May resulting in substantially converged standards
- FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*
- Single revenue recognition model for contracts with customers that will impact almost all entities
- Principle based!

Recently Issued Standards

Revenue Recognition Core Principle: Recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services

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Recently Issued Standards

- Not expected to have a great impact on financial institutions
- Effective for years beginning after December 15, 2018

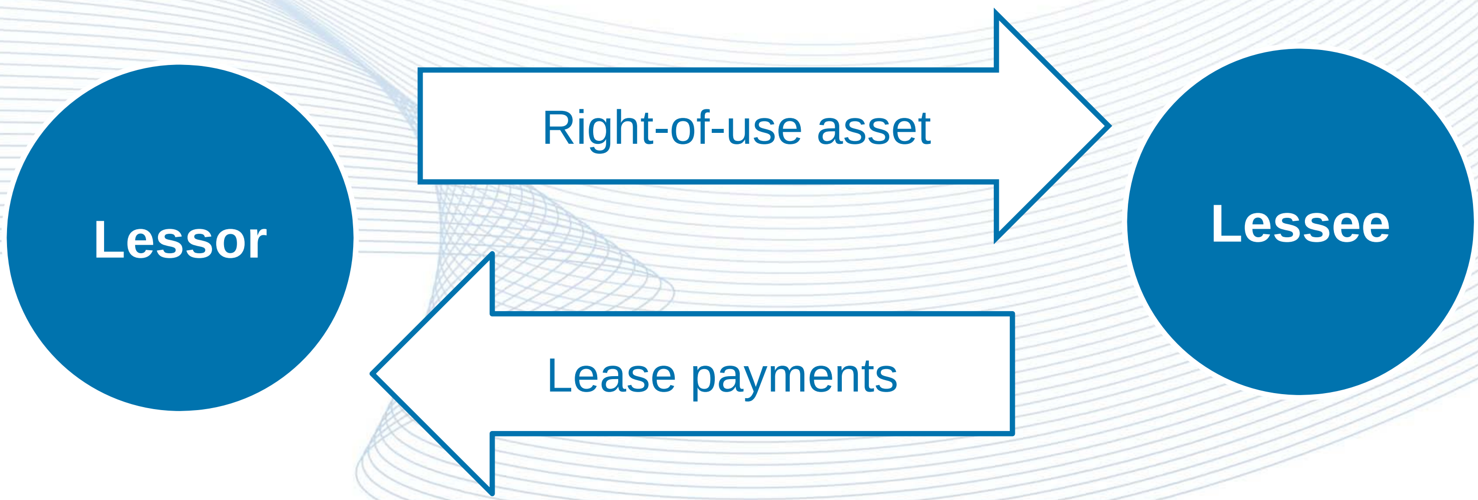
Why a Leases Project?

- Lessee
  - Most lease assets and liabilities are off-balance sheet
  - Limited information about operating leases
- Lessor
  - Lack of transparency about residual values
  - Consistency with lessee proposal and revenue recognition proposal

$1.25 trillion of off-balance sheet operating lease commitments for SEC registrants according to 2005 SEC report of off-balance sheet activities

Proposed Right – of – Use Model

A lease contract conveys the right to use an asset (the underlying asset for a period of time in exchange for consideration)



Short-Term Leases Exemptions

Recognition and Measurement Exemption for Lessees	
For leases with a term of 12 months or less	No longer based on maximum possible term, now aligned with definition of lease terms

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Lessee Model Approaches

All leases (more than 12 months) are recognized on the lessee's balance sheet

Current U.S. GAAP (IFRS)	IASB	FASB
Capital (Finance) Leases	Type A	Type A
Operating Leases	Type A	Type B

All leases are the same.

Not all leases are the same. Classification is based on existing U.S. GAAP/IFRS.

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Lessee Accounting Overview

	Balance Sheet	Income Statement	Cash Flow Statement
Type **A**	Lease asset Lease liability	Amortization expense Interest expense	Cash paid for principal and interest payments
Type **B**	Right-of-use asset Lease liability	Single lease expense on a straight line bases	Cash paid for lease payments

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Preparing for FASB's Current Expected Credit Loss (CECL) Model.

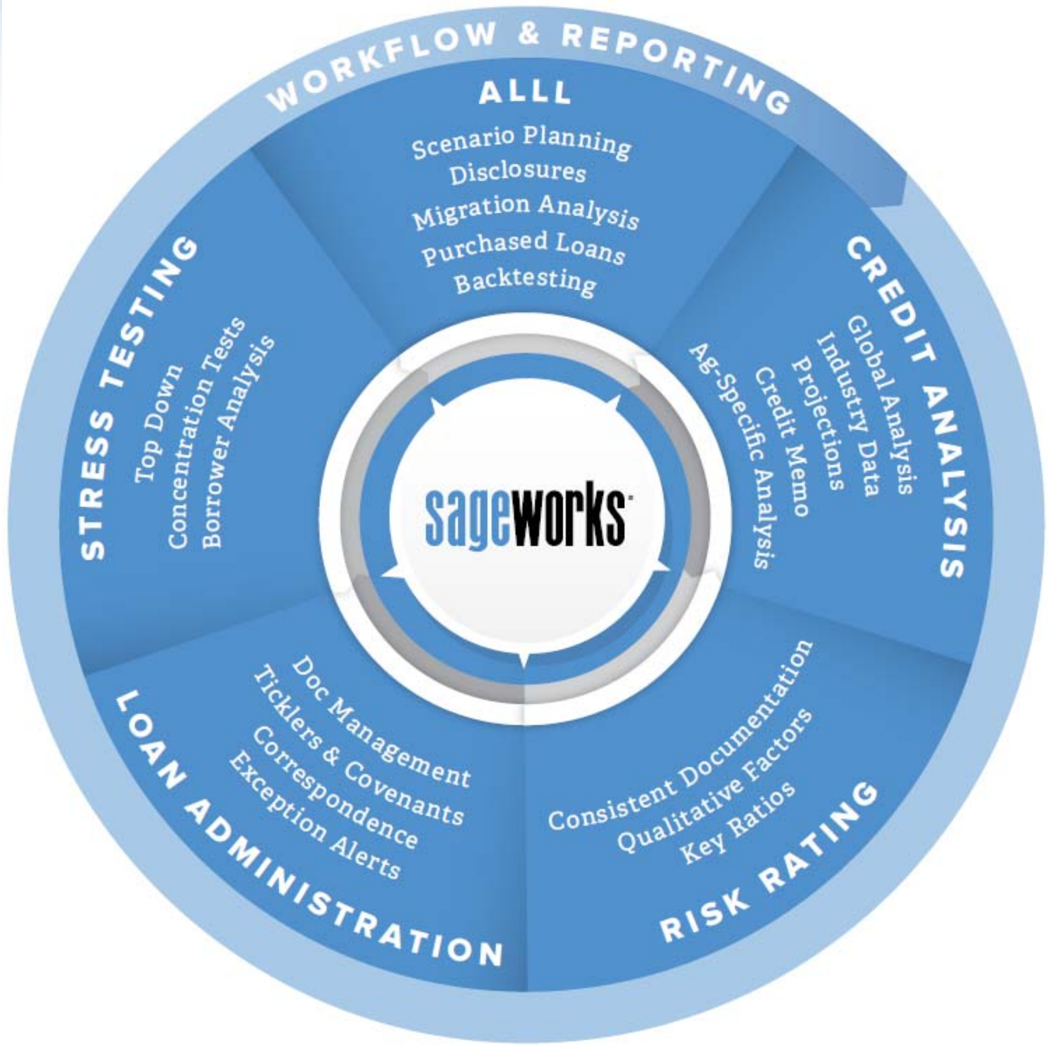
October 28, 2015

PRESENTED BY

Ed Bayer
Vice President
Sageworks

About Sageworks.

- Privately held company in Raleigh, NC
- Founded in 1998
- Provider of credit and risk management solutions to more than 900 banks and credit unions across the US



Agenda.

- Summary of CECL so far
- Estimated Impact on ALLL
- Concerns About the Expected Loss Model
- What Not to Do Now
- Ways to Prepare Now
- Loan-level detail: Benefits
- Timeframes
- Questions

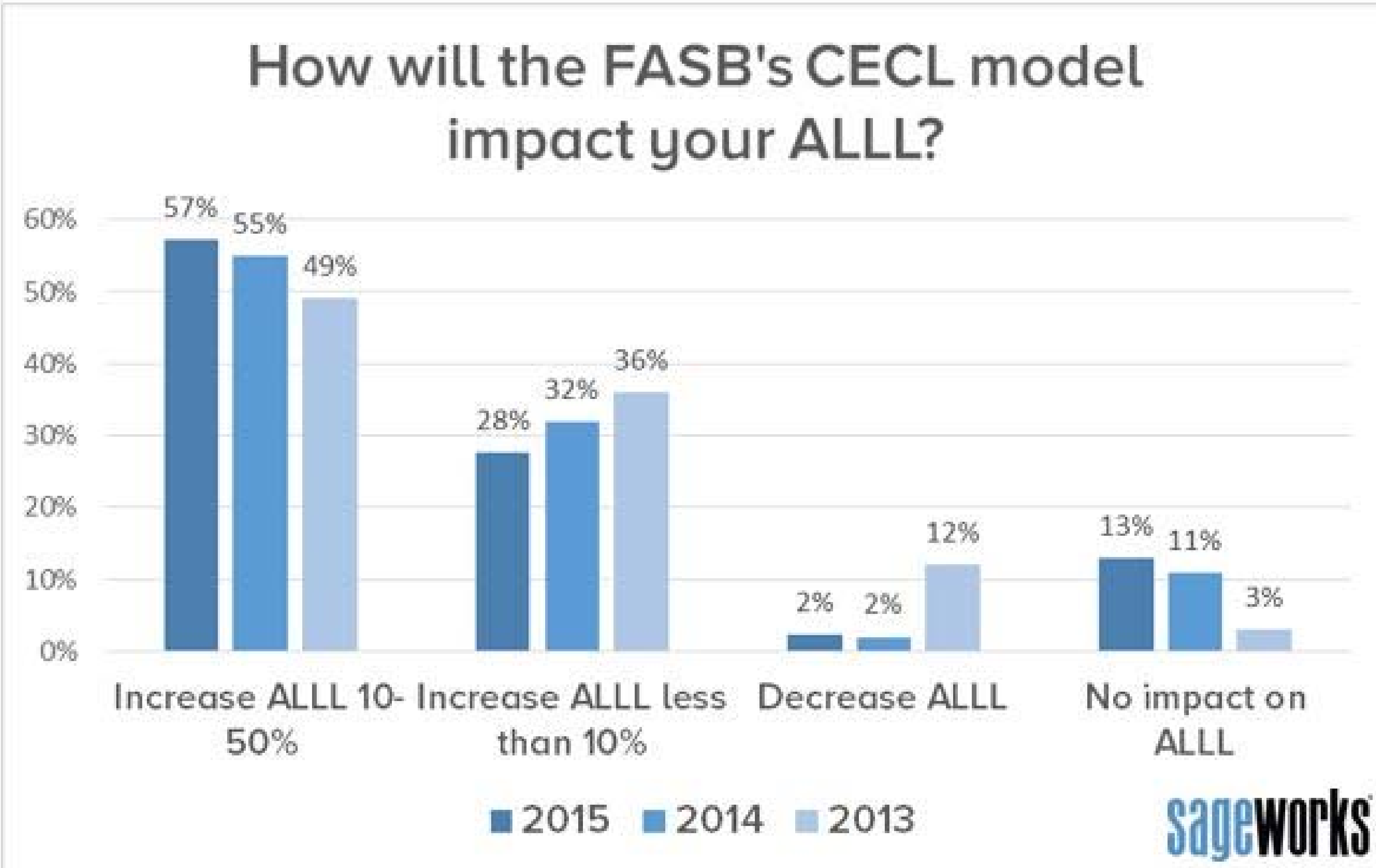
Summary of Expected Loss Model.

- FASB released proposal December 2012
- What's changed from Incurred Loss Model?
  - » Forward-looking requirements
  - » "Probable" threshold removed
  - » Longer loss horizon
  - » Makes ALLL more institution-wide calculation
- OCC's Thomas Curry expects allowance levels to increase by 30-50%
- The Pennsylvania Credit Union Association Regulatory Review Committee found potential for 35-40% increase in ALLL expectancies
  - » Amount of data required "would take years to obtain"

Comment Letter Themes

- "No evidence that current system is not working well for smaller institutions, including credit unions." - CUNA
- FASB should "recognize the differences between credit unions and other providers, particularly the largest banks who actively participated in activities that contributed to the financial crisis." - CUNA
- "The FASB's proposal…is the most critical regulatory concern credit unions have faced in quite some time." - CUNA
- Could take 4-5 years to obtain necessary data - CUNA
  - » For smaller institutions, could take additional four years to become comfortable with required modeling
- Credit unions were the only federally insured financial institutions to increase lending throughout the recent economic downtown - NCUA
  - » Impact of CECL could discourage institutions from making loans

Impact on ALLL.



CECL Concerns.

- How are future, life-of-loan losses reasonably predicted?
- Even more subjective judgment is required
- Greater regulatory scrutiny
- Insufficient IT capabilities
- Lack/inaccessibility of data, especially for small institutions
- Need to know where we are in the economic cycle

CECL Concerns (cont'd.)

- Implies we can identify when a downturn/recovery starts
- Implies we can predict the severity of a downturn
- Interaction with Basel III / Capital constraints
- Discourages longer-term lending
- Qualitative factors – Will need to consider both current and future conditions
- Requires more collaboration between Credit/Finance

Credit Risk in the ALLL Under CECL

- Data inputs will come from credit
  - » Accuracy/timeliness of risk ratings
  - » Validity of internal credit risk assessments and controls

- Reasonable and supportable forecasts
  - » Requires knowledge of the portfolio – what are drivers of credit health
  - » How do drivers correlate to actual loss
  - » All data used for CECL will be subject to audit scrutiny

Change in Capital Requirements.

- One-time adjustment to reserve will be a **CAPITAL** adjustment, NOT provision expense
  - » Strategic planning
  - » Provision correct amounts now, don't provision for the adjustment
  - » What-if tool to test multiple scenarios

Capital Adjustment.

- Institutions must plan to ensure capital adequacy
  - » If your institution is managing capital "efficiently," not planning for the adjustment can have drastic implications
  - » Build scenarios / run parallel calculation
  - » Time between release date and implementation date of new guidance intended to provide institutions with planning period for necessary adjustment
  - » Capital planning for ALLL will also be impacted by capital planning for DFAST & Basel III over same time period

What Not to Do Now.

- Panic
- Incorporate expected losses now through methodology changes
- Try to inflate your ALLL anticipating a bump from CECL
- Keep your board in the dark
- Nothing at all

Ways to Prepare Now.

- Minimize risk in loans you're underwriting today
- Capture, archive and incorporate loan-level detail into the ALLL calculation
- Reduce dependency on spreadsheets
- Consider move to more robust calculation – migration analysis, PD/LGD
- Start cross-department conversation now, including Credit and Finance

Ways to Prepare Now.

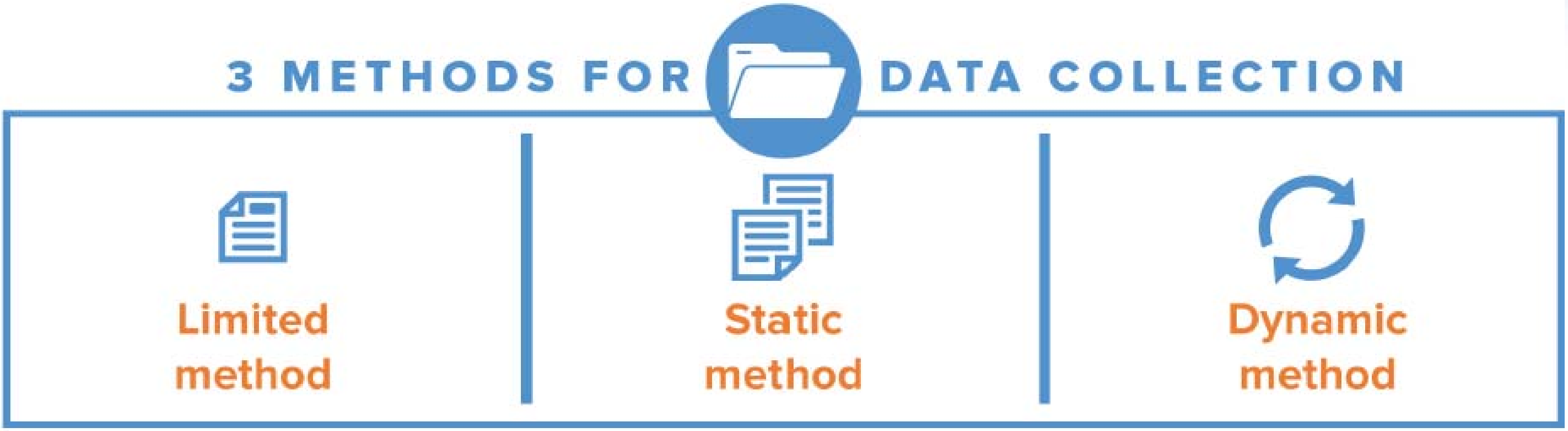
- Review/strengthen risk rating procedures at the credit union
- Improve data processes
- Increase data integrity
- Be proactive rather than reactive

Necessary Data Points.

- Data points suggested by CECL proposal:
  - » Risk rating by individual loan
  - » Loan duration
  - » Individual loan balance
  - » Individual loan charge-offs and recoveries (partial + full)
  - » Individual loan segmentation

- Look at current system(s)
  - » "Can I extract data points? Dynamically available for reporting?"

Ways to Capture Loan-Level Data.



Limited method: Use your institution's core to capture detailed data. Most cores go back to an approximate max of 13 months.

Static method: Begin storing core archives in a data warehouse. If you don't have the internal IT resources, some core providers offer storage, or you can seek out a third party vendor.

Dynamic method: Use an automated solution to capture and store data for your institution automatically. It will also make the data accessible for reporting purposes.

Loan-Level Detail: Benefits.

Migration Analysis – A Proxy?

- Data required for CECL model also required for migration analysis
- Often considered a more "robust" form of analysis
  - » Should result in more accurate allowance than historical loss
  - » More insight into sub-segmented pools (credit quality/deterioration)
  - » Less prone to examiner criticism if performed correctly
  - » More effectively justify decrease in provisions, if merited
- Adjusts ALLL provision to reflect the conditions of the current portfolio
- Can drive pro forma projections

How Scenario Planning Can Help.

- Displays impact of individual factors on overall analysis
  - » What if just "X" changed?
  - » What would it do to my calculation?
  - » Ex: If I adopted migration analysis, would it change my reserve?
  - » Ex: If CRE took a hit, how much would I have to provision?
  - » Ex: If I changed my look-back period, how would ALLL change?
  - » Ex: If I began lending in a new segment, what losses would peer groups reflect?

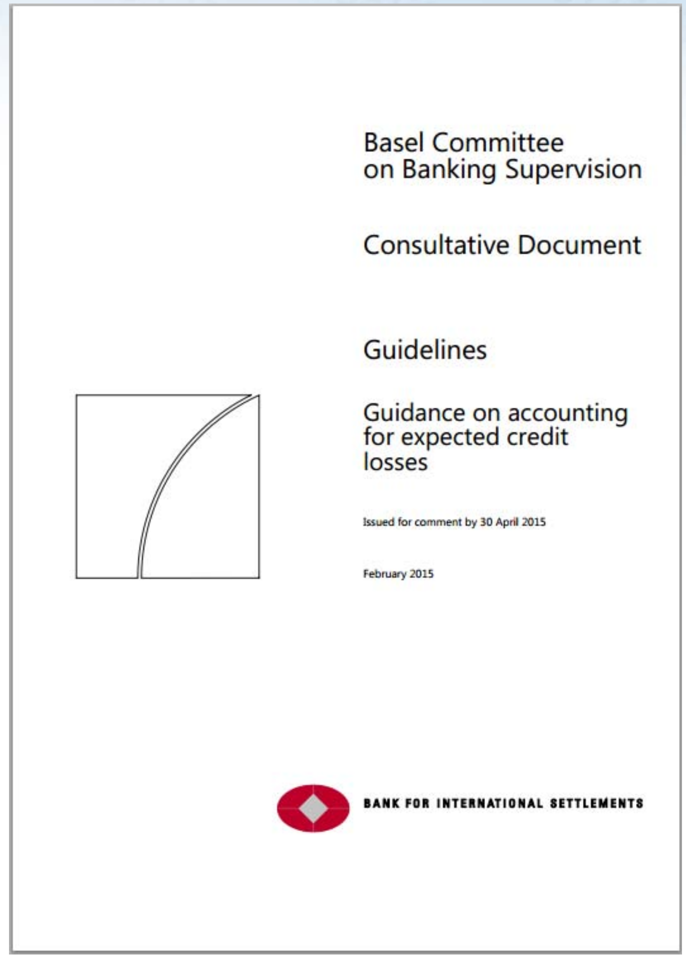
- Helps show range for the reserve

Recent Developments.

- Basel releases "Guidance on accounting for expected credit losses" – Feb. 2015

- What is Basel?

- "The objective of this paper is to set out supervisory requirements on sound credit risk practices associated with the implementation and ongoing application of expected credit loss (ECL) accounting models."



Basel Committee
on Banking Supervision

Consultative Document

Guidelines

Guidance on accounting for expected credit losses

Issued for comment by 30 April 2015

February 2015

BANK FOR INTERNATIONAL SETTLEMENTS

Recent Developments.

- “In addition to historical information and current conditions, **forward-looking information and macroeconomic factors are also critical** when estimating future cash shortfalls.”
- “An institution should demonstrate and document how ECL estimates would fluctuate **with changes in scenarios**…scenarios may be internally developed or, for less sophisticated institutions, may be vendor-defined…Robust methodologies and parameters **should consider different potential scenarios** and not rely purely on subjective, biased or overly optimistic considerations.”
- “**Backtesting should be performed** to ensure that appropriate factors are considered and incorporated, in light of historical experience.”
- “Methodologies for the determination of the cash flow shortfalls may start with simple averages of an institution’s net loss experience on loans with shared credit risk characteristics over a relevant credit cycle, progressing to more complex techniques, **such as migration analysis** or models that estimate ECL.”

Recent Developments.

- As of 10/5/15, CECL now expected to be released in Q1 2016
- Draft standard recently reviewed by 29 external reviewers
  - » 1,000 comments received
- Reconsidering changes to accounting for TDRs

CECL Timeline.

December 20, 2012
FASB Proposes CECL Model

May 31, 2013
Comment period ends

July 24, 2014
IASB's IFRS 9 Financial Instruments

February 2015
Basel ECL guidance released

Q1 2016
Expected release of FASB's CECL model

- Implementation Timeframe?

Steps to Take Now.

- Begin / accelerate data gathering process
- Strategic planning and collaboration with Credit/Finance
- Consider scenario building

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- Whitepapers, webinars, etc.

CUNA
Credit Union National Association

RKL's 2015
Credit Union Seminar
Phoenixville, PA

Rich Meade
Chief Operating Officer &
Chief of Staff to Jim Nussle

Political Inventory

6,200 credit unions

6,200 credit union CEOs

80,000 credit union volunteers

250,000 credit union employees

103,000,000 credit union members

Key Success Factors

Strong Member, League and Partner Engagement

Strategic Communications Excellence

Superior Service to Enhance Member Loyalty

Bold Leadership and 1CUNA Management

Our Shared Agenda

CUNA drives system vision:
Americans choose credit unions as their best financial partner

Removing Barriers	Creating Awareness	Fostering Service Excellence

Strategic Priorities

360-degree advocacy to advance the charter and enhance the operating environment for credit unions to serve their members	Public relations to communicate the credit union difference to policymakers, the media and business influencers	A nationwide awareness effort to drive consumer-demand and increase credit union wallet share	A clear and well-communicated CUNA-League value proposition to inspire credit union engagement	Innovative thought leader and service provider to foster credit union service excellence

CUNA Performance Indicators

Unprecedented achievements:

- 93%-plus credit union affiliation rate (85%) and 94%-plus credit union membership affiliation rate (83.7%)
- 50% very satisfied credit union rating (43%)
- 3.25 overall employee satisfaction rating (3.0)
- Grow revenues to $63 million ($55.7) and achieve unrestricted net assets of $15 million ($13.9)

(current measurement)

System Performance Indicators

By 2023, credit union system achieves:

- 60 million PFI (49.7)
- $20 billion total financial benefit to consumers ($9.3)
- 10% market share (6.7%)
- Credit union familiarity index of 60 or higher (49.4)
- Remain the ACSI customer satisfaction leader with an index of 85 or higher (85)

(as of December 2014)

2015 – 2017 CUNA Strategic Plan

CUNA
Credit Union National Association

KEY SUCCESS FACTORS

- **Strong Member, League and Partner Engagement**
- **Strategic Communications Excellence**
- **Superior Service to Enhance Member Loyalty**
- **Bold Leadership and 1CUNA Management**

CUNA drives system vision: Americans choose credit unions as their best financial partner

Removing Barriers	Creating Awareness	Fostering Service Excellence

Strategic Priorities

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Performance Indicators

CUNA

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SYSTEM by 2023

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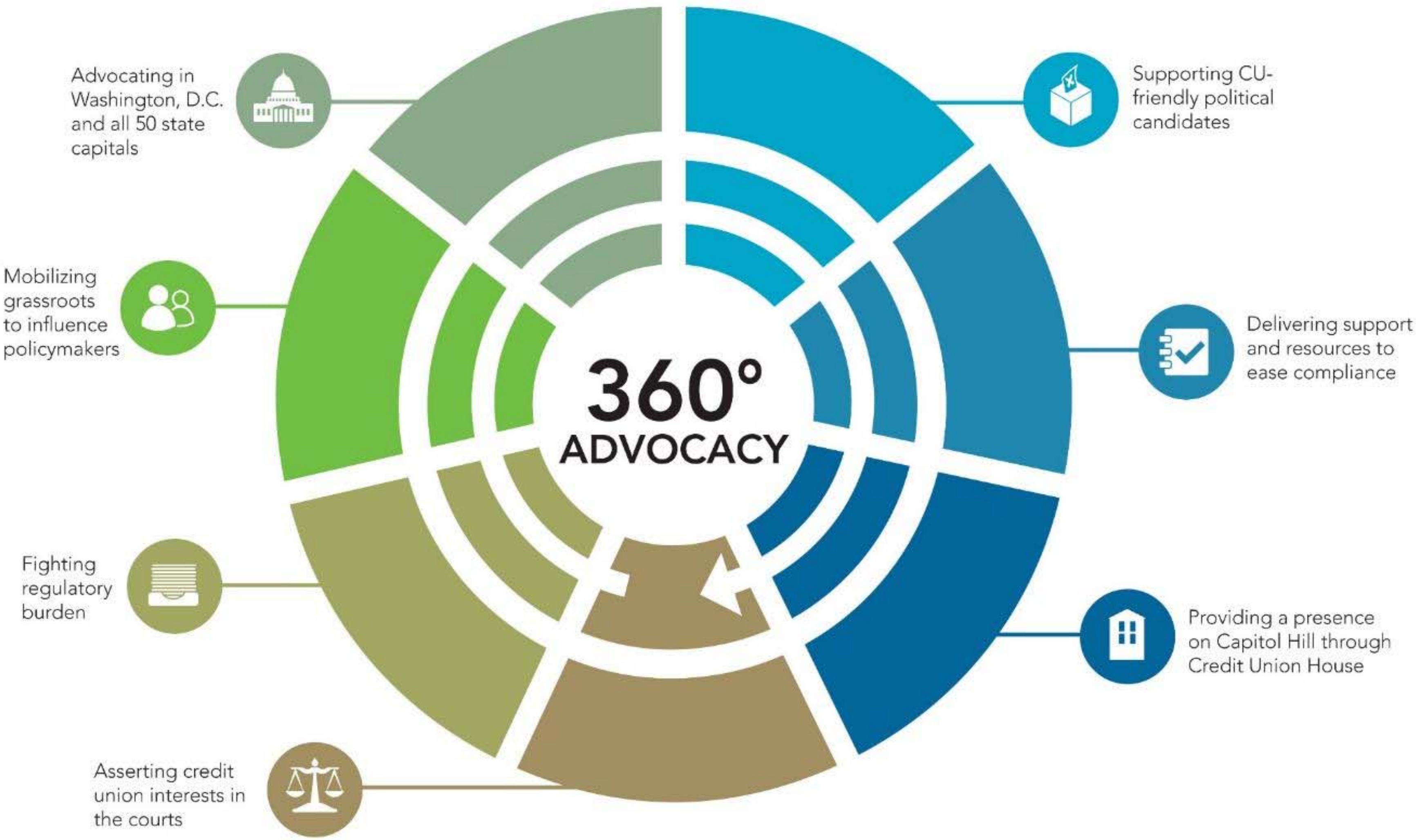
(as of December 2014)

Removing Barriers



CUNA Regulatory Burden Survey

- Senate Banking Hearing in January Revealed No Trade Association or Financial Institution Could Quantify Cost of Regulatory Burden.

- CUNA Engaged Cornerstone Advisors to assist in preparing an in depth analysis of the cost of regulatory burden.

CUNA Regulatory Burden Study

- Cornerstone Advisers Conducting Two Phase Study
  - Phase I: Deep dive analysis of three CU's
  - Phase II: In depth survey/data collection from 53 volunteer CU's from 28 states
- Three main areas of impact
  - Incremental expenses
  - Lost revenues
  - Opportunity Cost

CUNA Regulatory Burden Study

- Preliminary results have indicated significant hard costs of regulatory burden excluding opportunity costs.
- CEOs indicate that if those costs can be recovered through regulatory relief they would use for the following priorities
  - Build capital
  - Better rates (deposits & loans)
  - Business development
  - Employee development

Credit Union Agenda: Removing Barriers

- Senator Shelby's regulatory reform bill with 3 specific credit union provisions and 12 others benefiting credit unions
  - Bill included in Financial Services & General Government Appropriations bill
- Removal of 1099 tax requirement from trade bill
- Second Risk-Based Capital rule greatly improved from first
- H.R. 1266 – Replacing the CFPB Director with a 5 person board

Credit Union Agenda: Removing Barriers

- Blocked Senator Warren's attempt to provide NCUA with 3rd party vendor authority
- Called for congressional hearing on Department of Labor's Fiduciary rule
- Commented on Department of Labor's overtime rule
- Filed amicus brief in a lawsuit against the Federal Communications Commission over robocall order
- House passed TILA/RESPA Safe Harbor Bill

Credit Union Agenda: Stop the Data Breaches

- House and Senate bills to hold merchants to same Gramm-Leach-Bliley standard as credit unions
- Only national trade association in a class action lawsuit against a merchant that allowed data breaches to happen
- 60 credit unions sent messages to 1.7 million members about the stop the data breach campaign

CUNA

MAP

MEMBER ACTIVATION PROGRAM

Questions and Comments

Thank YOU!

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