

# CUNA

Your Trusted Resource For Credit Union Success™

## Southeast Management School

presents:

## Asset/Liability Management

June 16, 2016

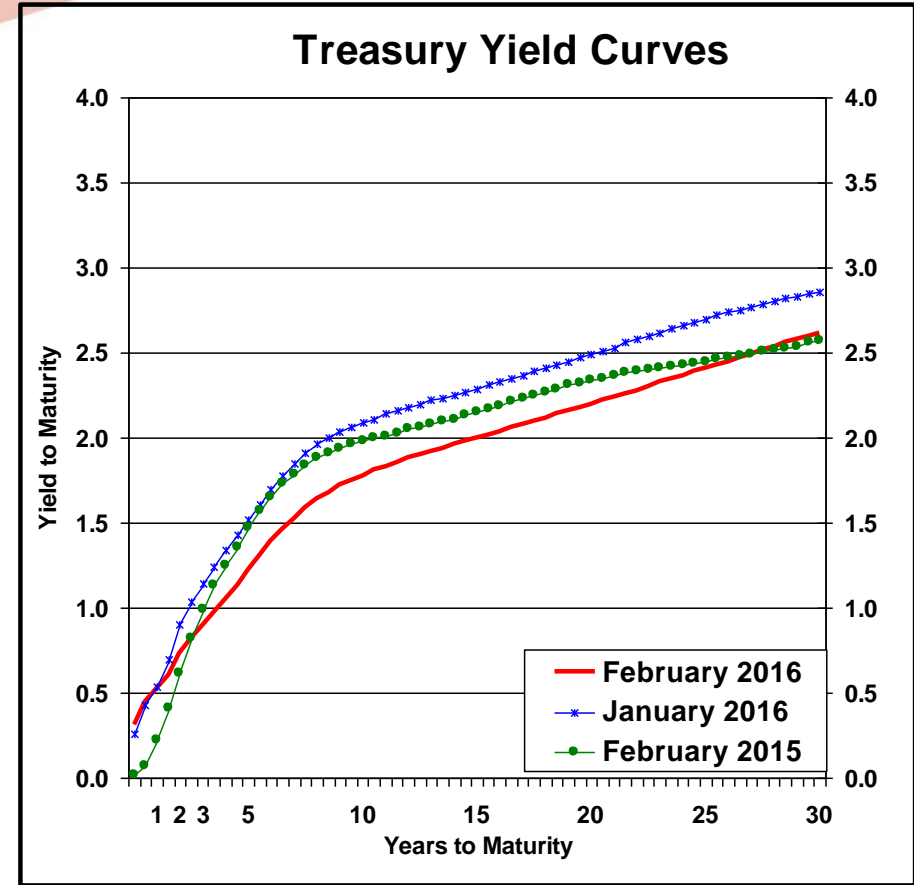
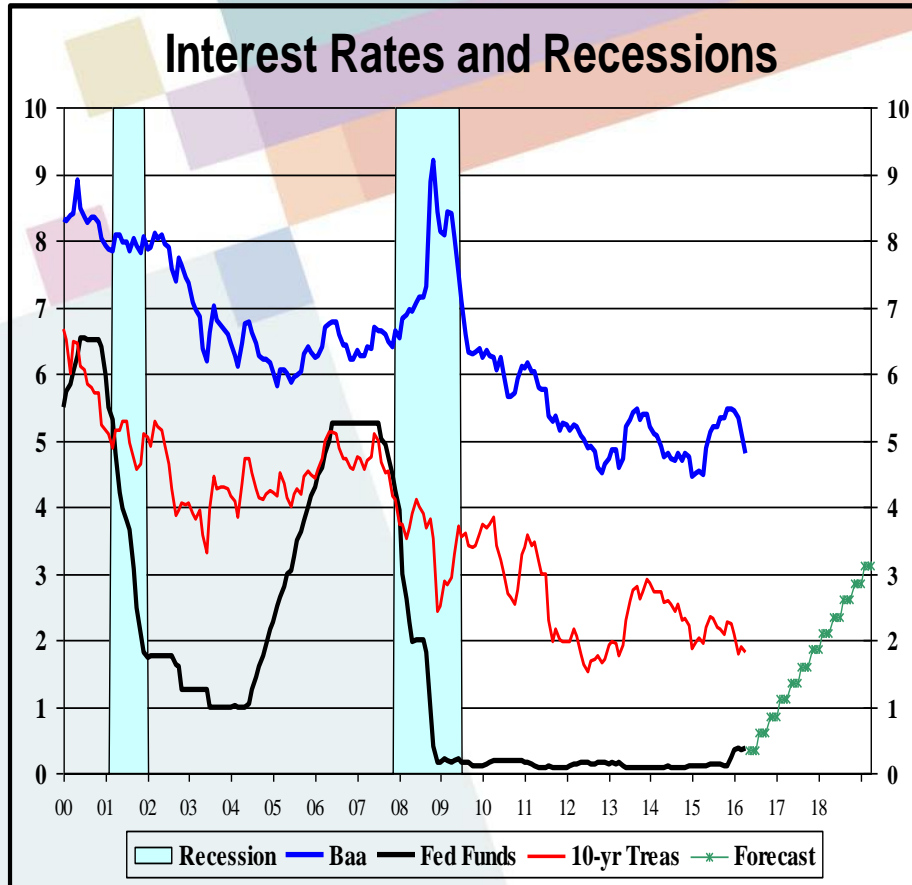
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# What do we hope to accomplish?

- Why has Interest Rate Risk (IRR) become so much of a focus
- Learn how we can apply NIS & NEV
- How do we use them as tools to measure IRR
- Which one is better suited for our credit union

# Interest Rates and Yield Curve



The Federal Reserve did not raise interest rates at their March FOMC meeting but is expected to raise rates 0.50 percentage points in 2016. The Fed believes the new **neutral fed funds rate** is 3.25%. Interest rates will “normalize” in 2018 at levels below previous plateaus due to lower real interest rates and lower expected inflation. The Fed will hold off ending its reinvestment program until 2017. By maintaining the current size of the Fed’s balance sheet and thereby depressing the term premium on long-term bonds, long-term interest rates will be slow to adjust upwards. This will cause a flattening of the yield curve over the next two years, which typically leads to downward pressure on credit union net interest margins.

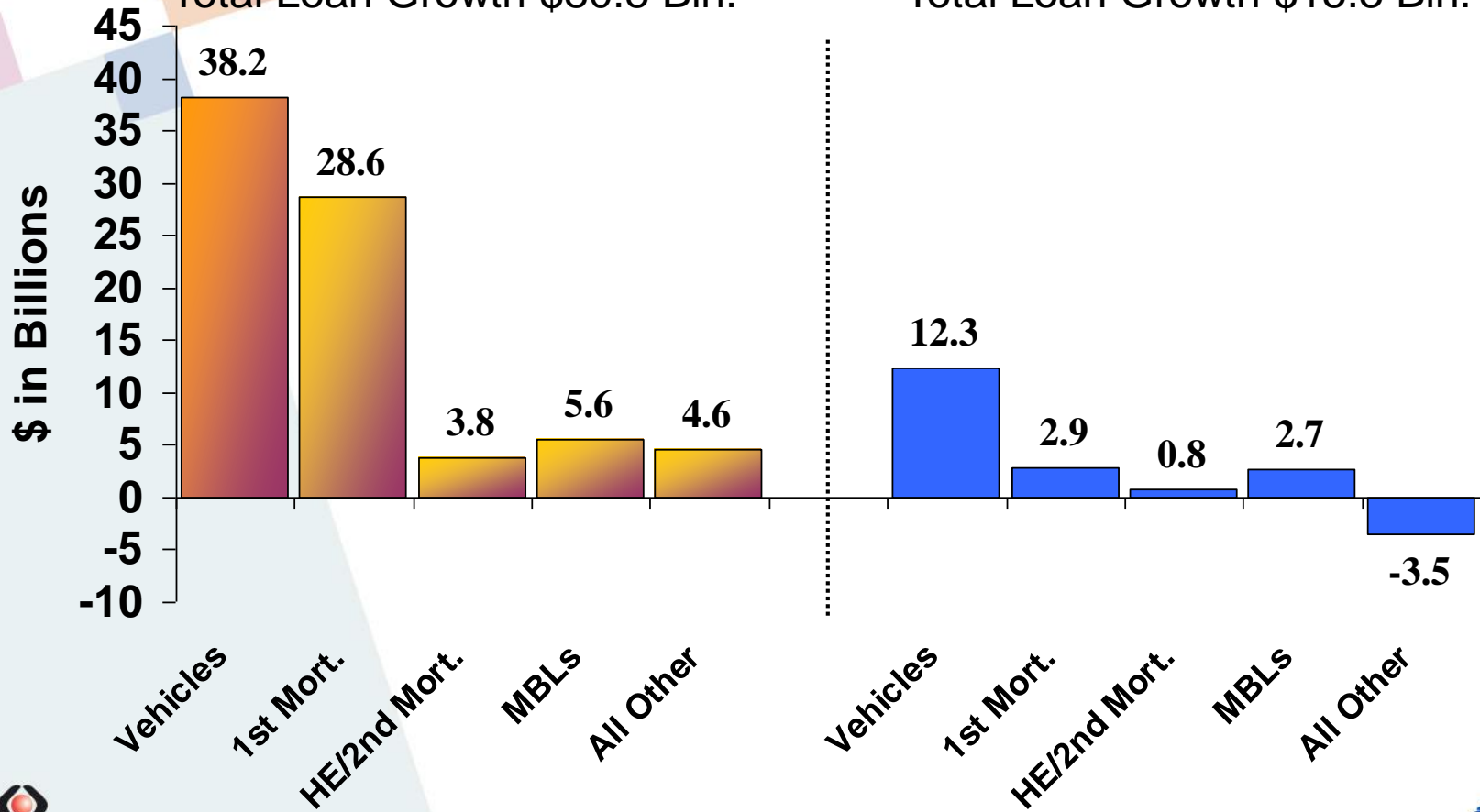
# CU Lending Related Graphics

# Sources of Loan Growth

## (\$ in Billions)

March 2015 – March 2016  
Total Loan Growth \$80.8 Bln.

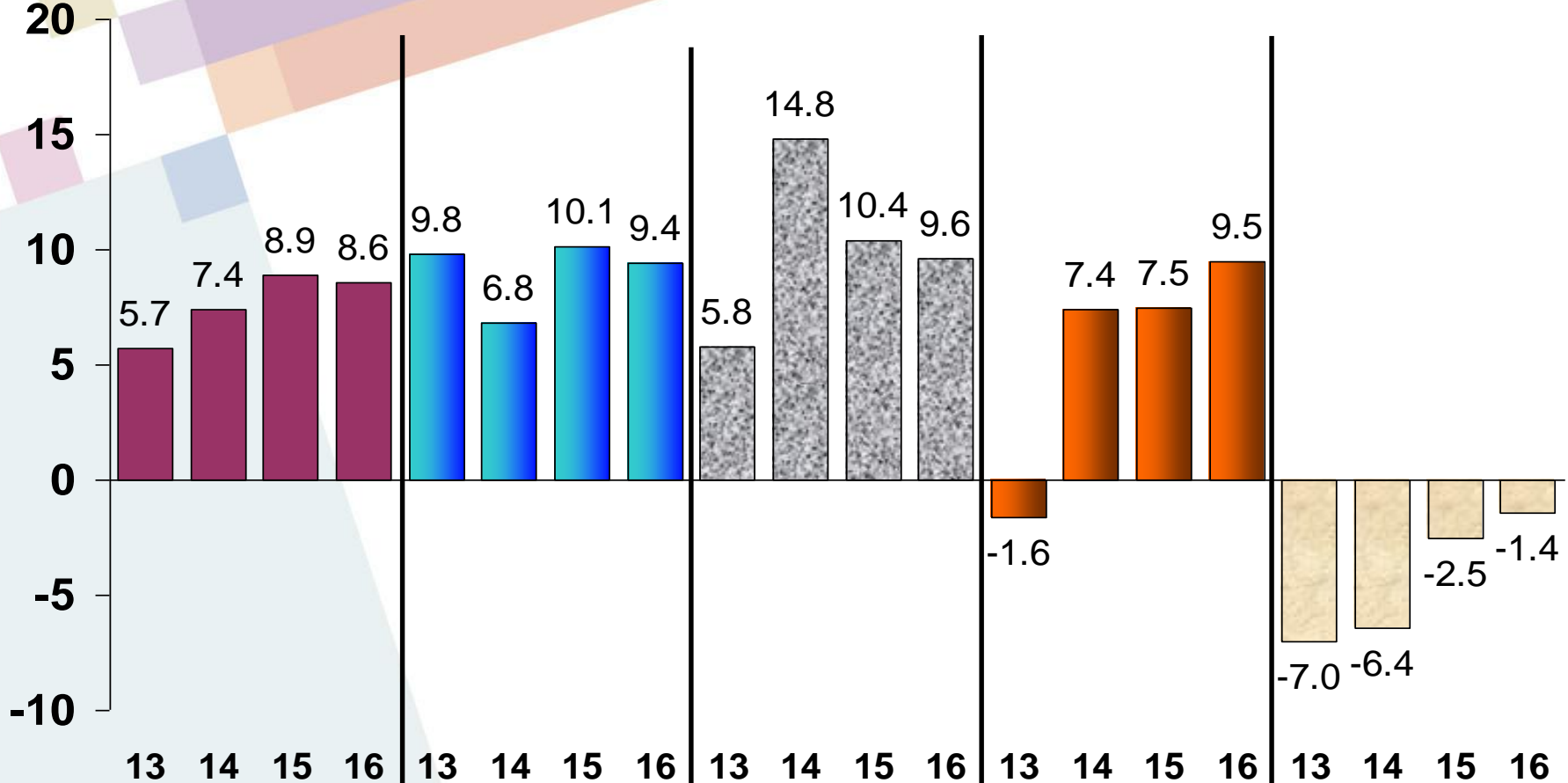
Year – to – Date March 2016  
Total Loan Growth \$15.3 Bln.



# Growth CU Real Estate Loans

2016 = March

Percent



All Real Estate Loans  
CUNA

Credit Union National Association

Fixed Rate 1st Mortgages

Adjustable Rate 1st Mortgages

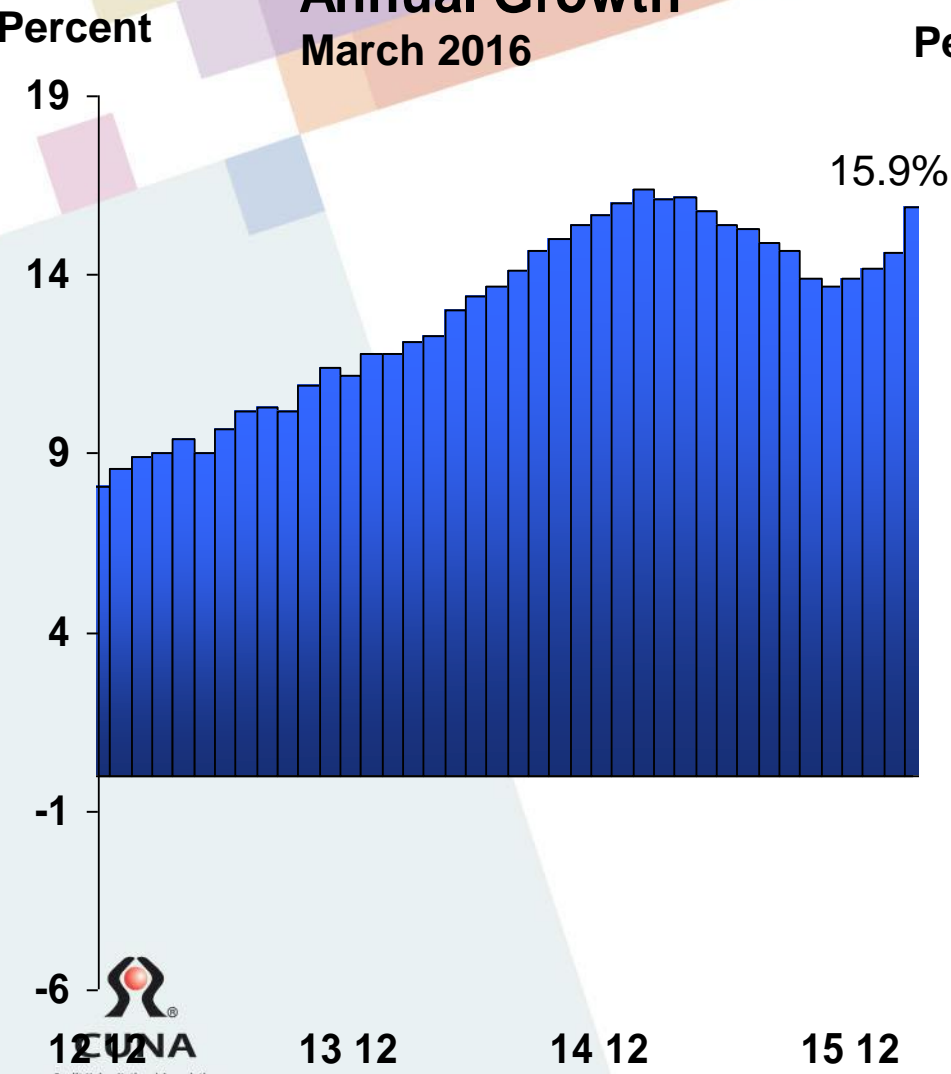
Home Equity Loans

Second Mortgages

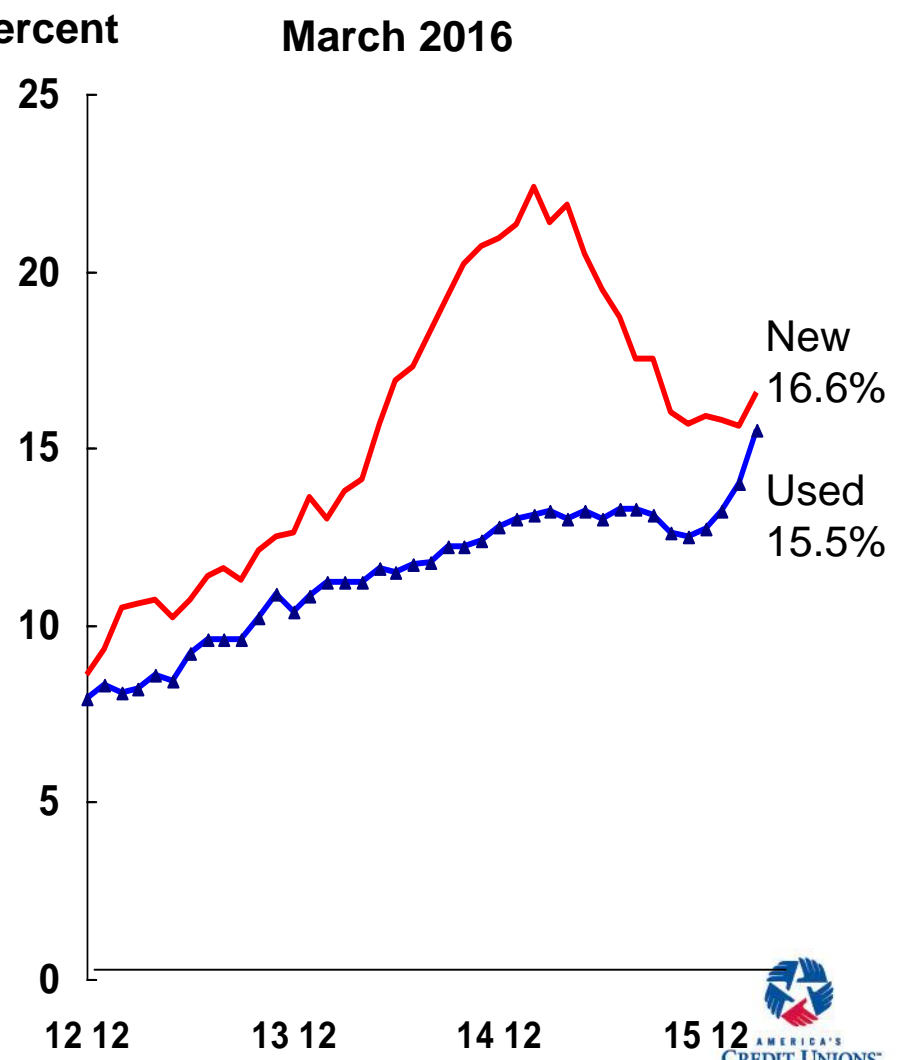


# Vehicle Lending Growth Comparisons

**Annual Growth**  
March 2016



**CU New vs. Used Vehicle**  
March 2016



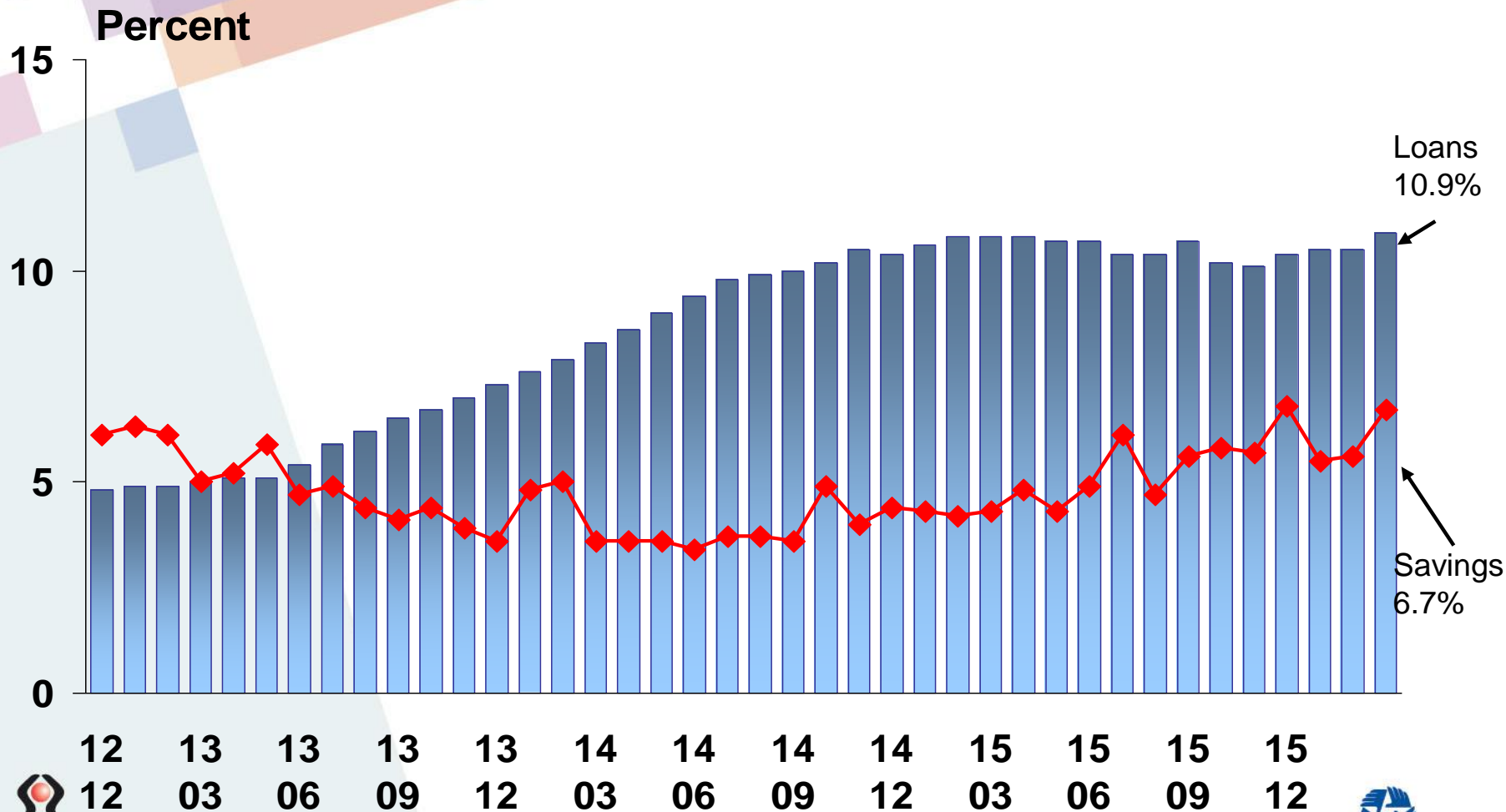
Source data: CUNA Economics & Statistics and CUNA Mutual Group - Economics

# CU Savings / Assets Related Graphics



# Growth Comparison - Loans vs. Savings

March 2016



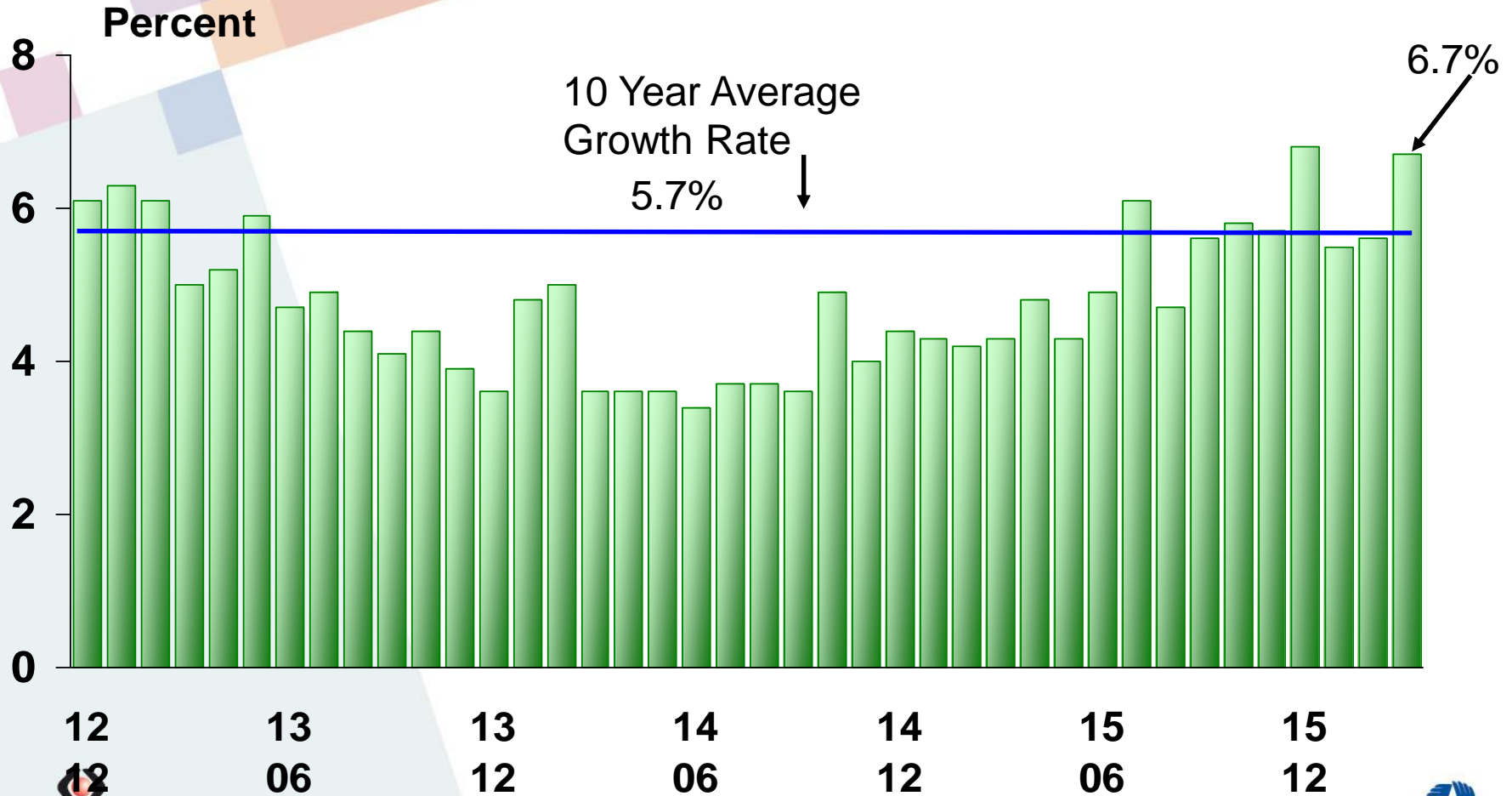
Source data: CUNA Economics & Statistics and CUNA Mutual Group - Economics

# Liquidity Ratio

# Cash + ST Invs. (<1 yr.) Average Assets

# Growth In Credit Union Savings

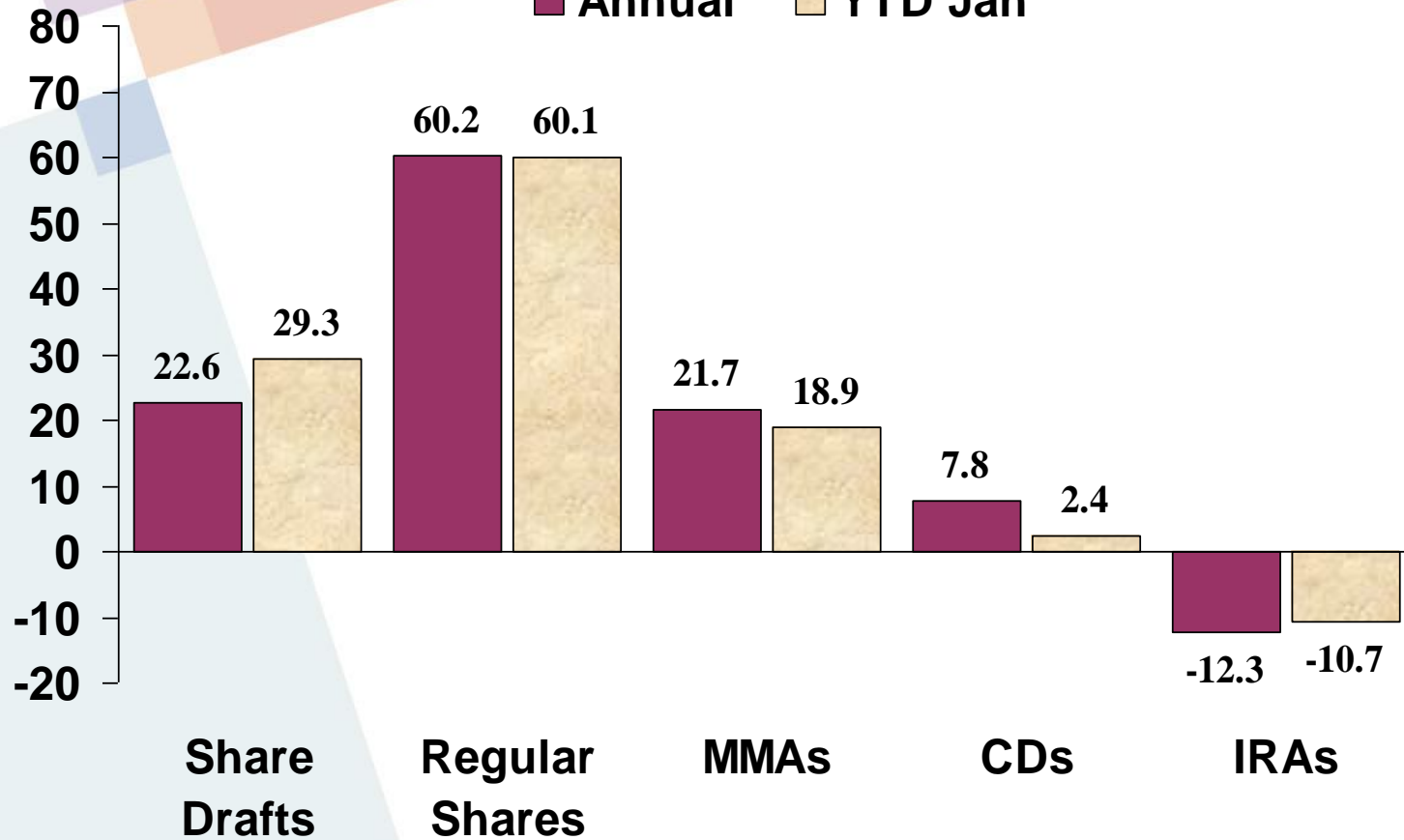
March 2016



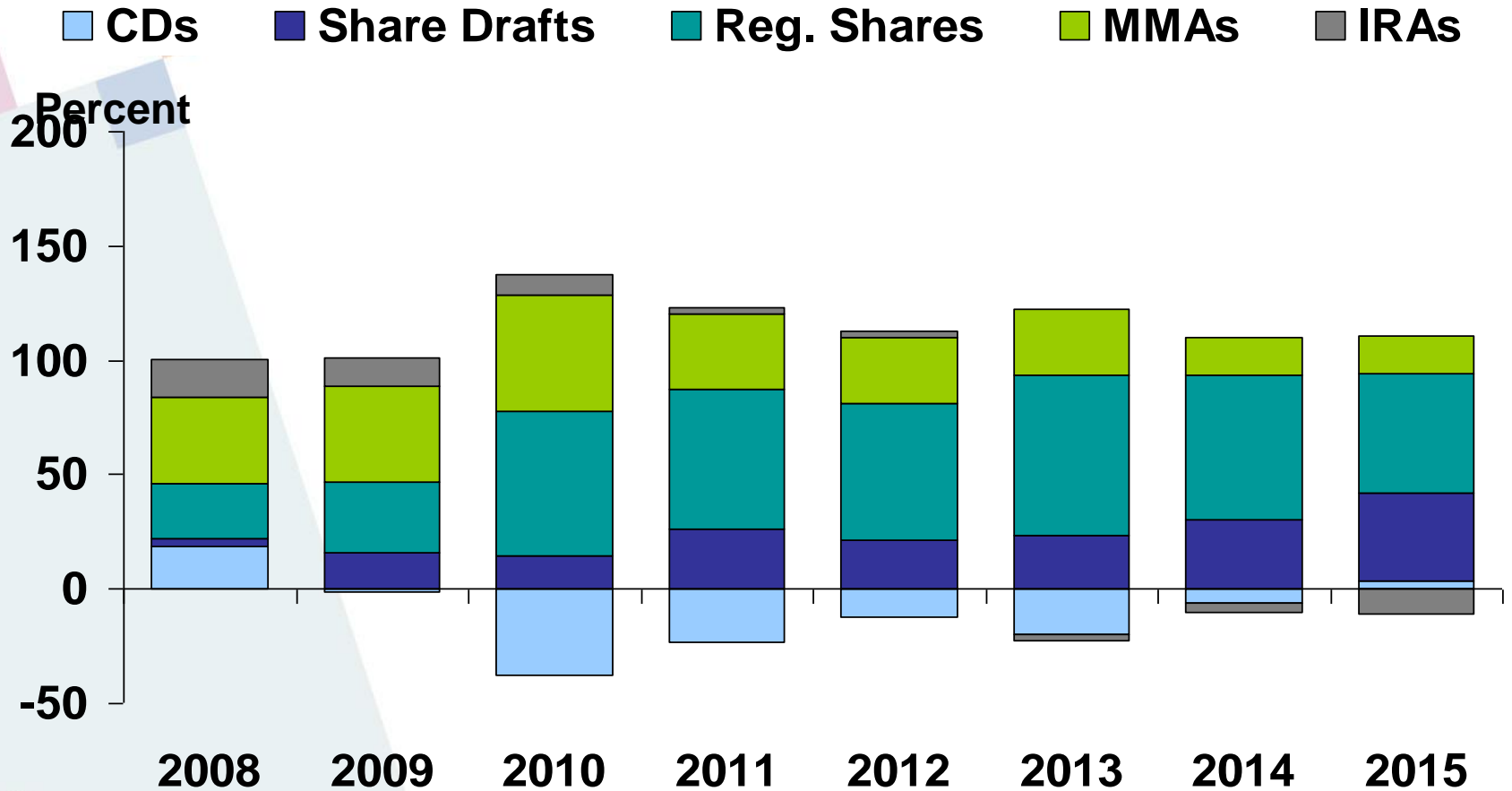
# Sources of Savings Growth

Percent

■ Annual    ■ YTD Jan



# Sources of Savings Growth

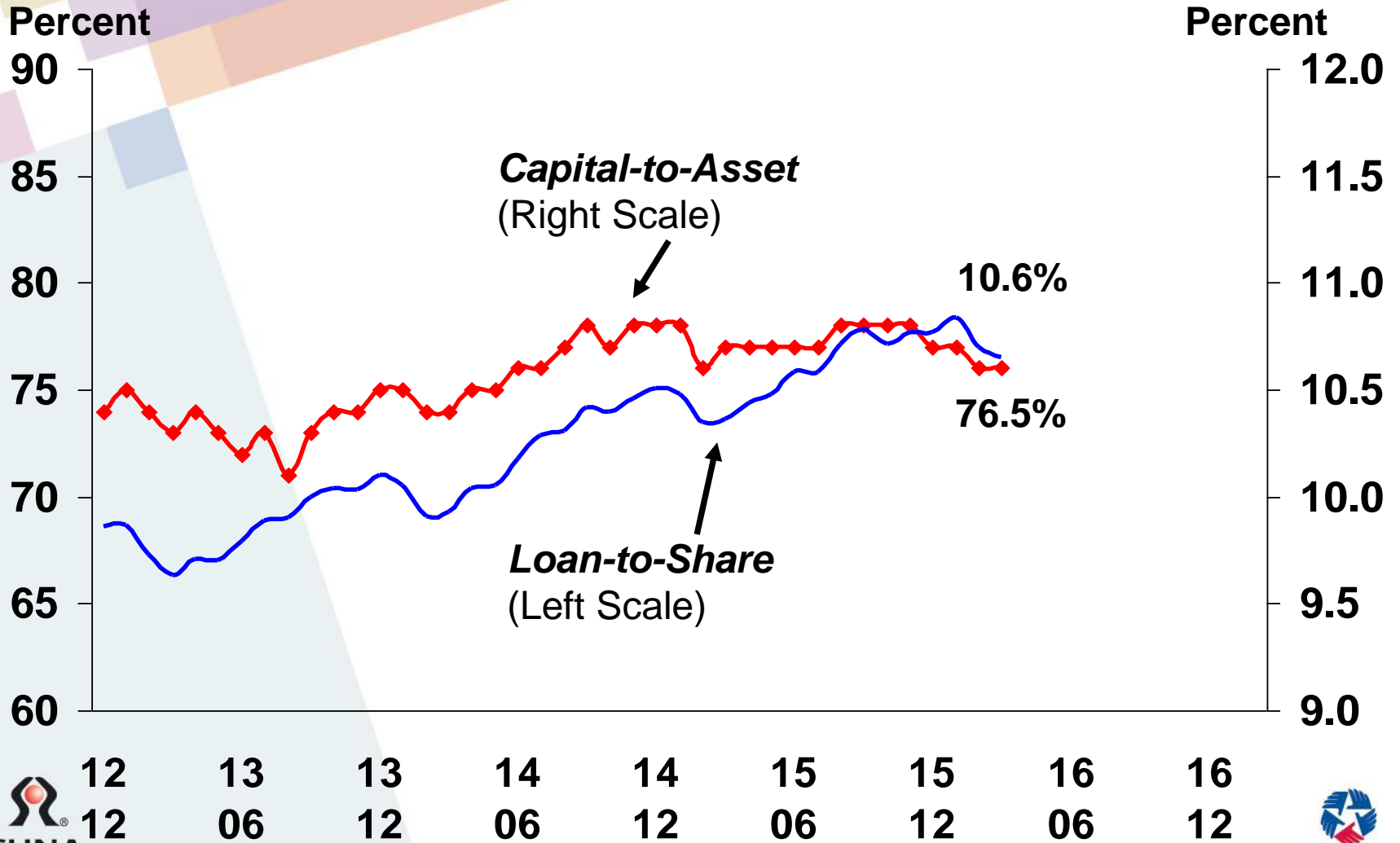


Source data: CUNA Economics & Statistics and CUNA Mutual Group - Economics

# Capital, Surplus and Key Ratios Related Graphics

# Credit Union Key Ratios

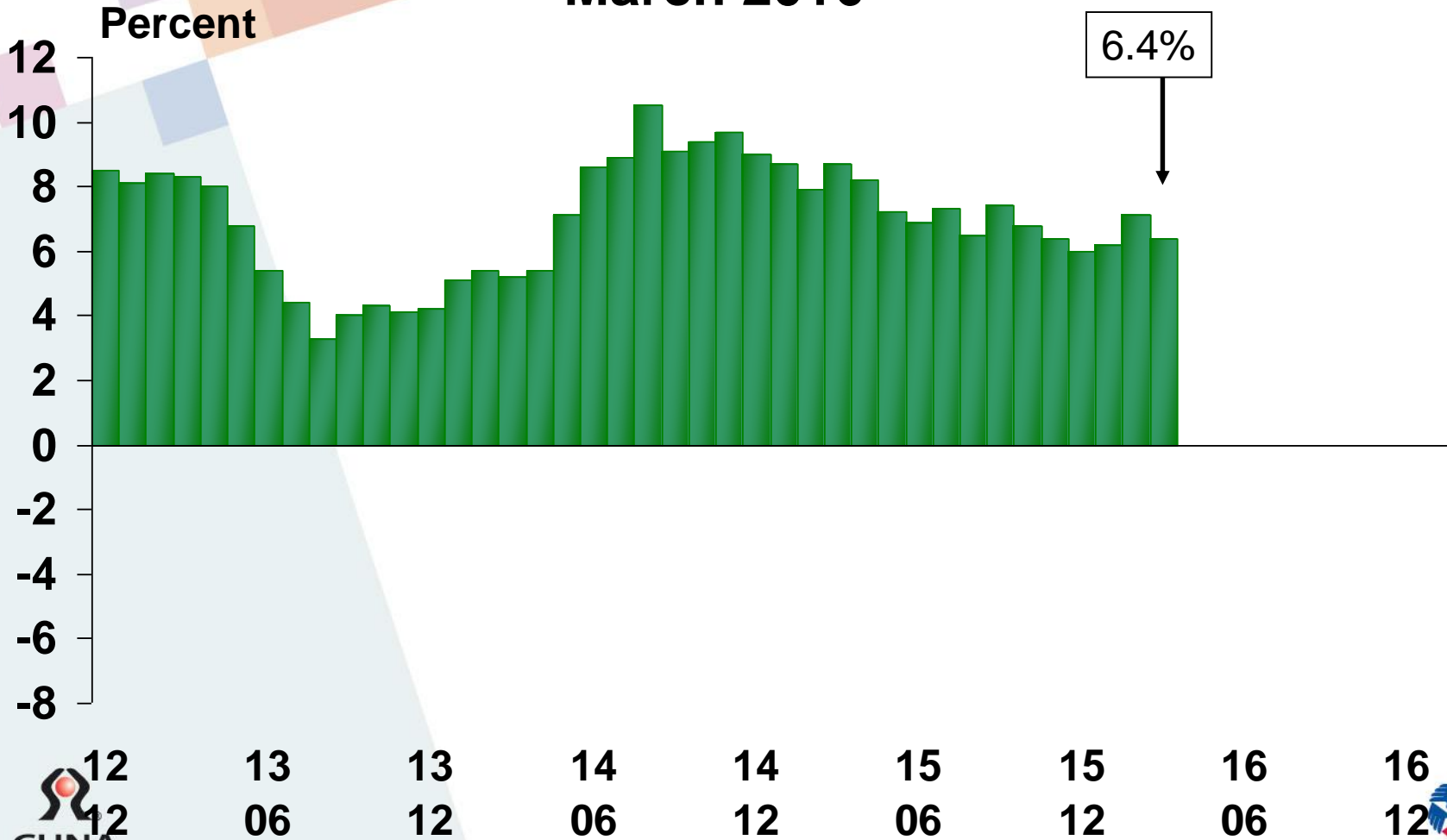
March 2016





# Capital Growth Trend

March 2016



# Credit Union

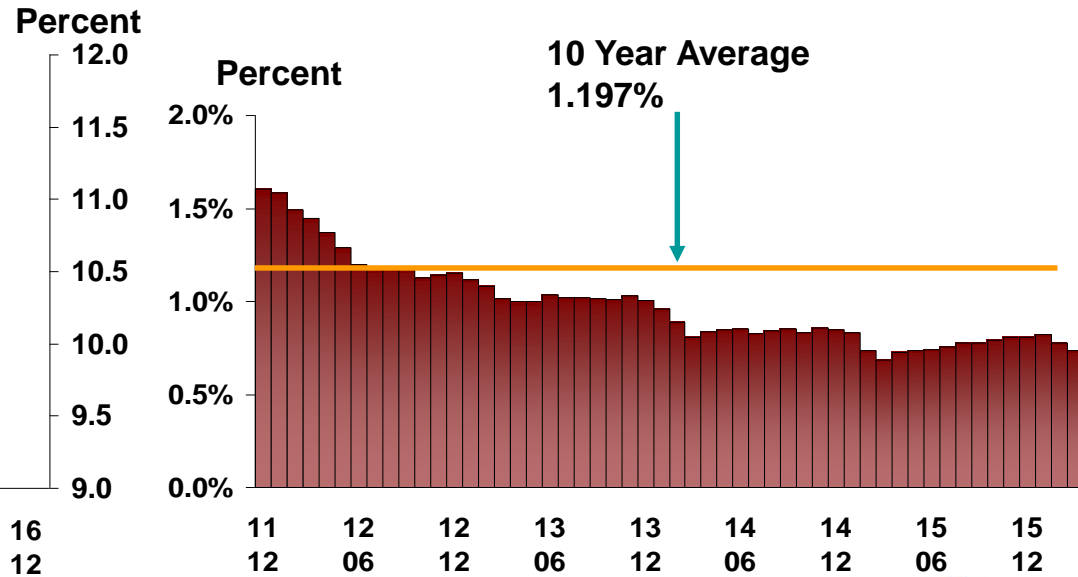
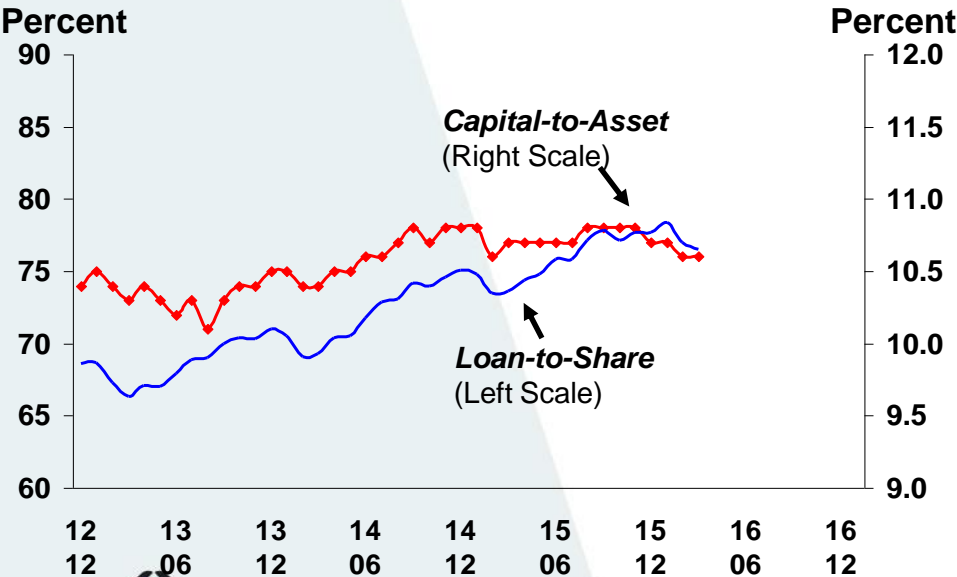
## Key Ratios and Delinquency Trends

March 2016

### Key Ratios

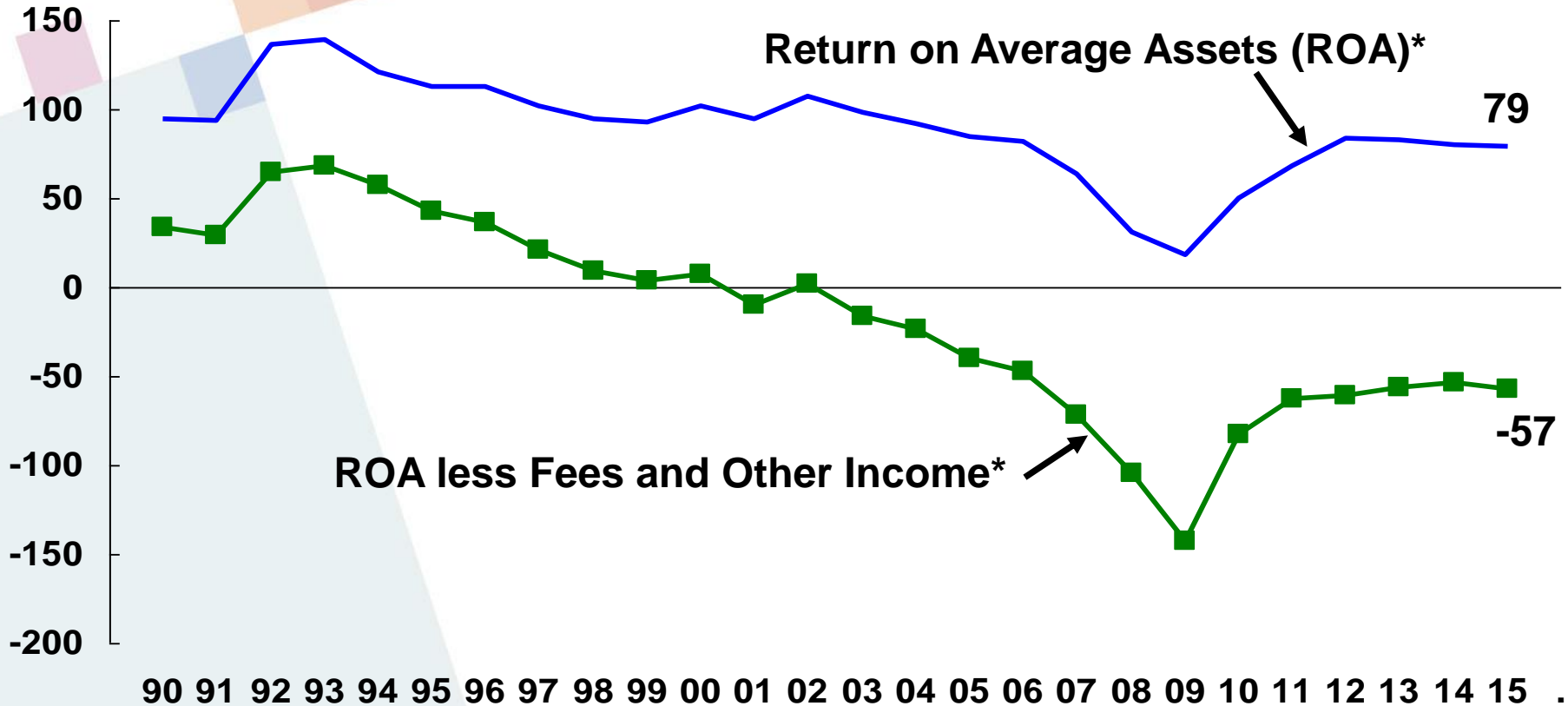
L/S = 76.5% C/A = 10.6%

Loan Delinquency Rate  
0.74%



# CUs Greatest Challenge Living on Less

Basis Points



\* Credit unions did not uniformly report stabilization expense or reversals of the expense. Therefore, some income and expense ratios are not comparable to previous periods. Use extreme caution when coming to conclusions from this data.

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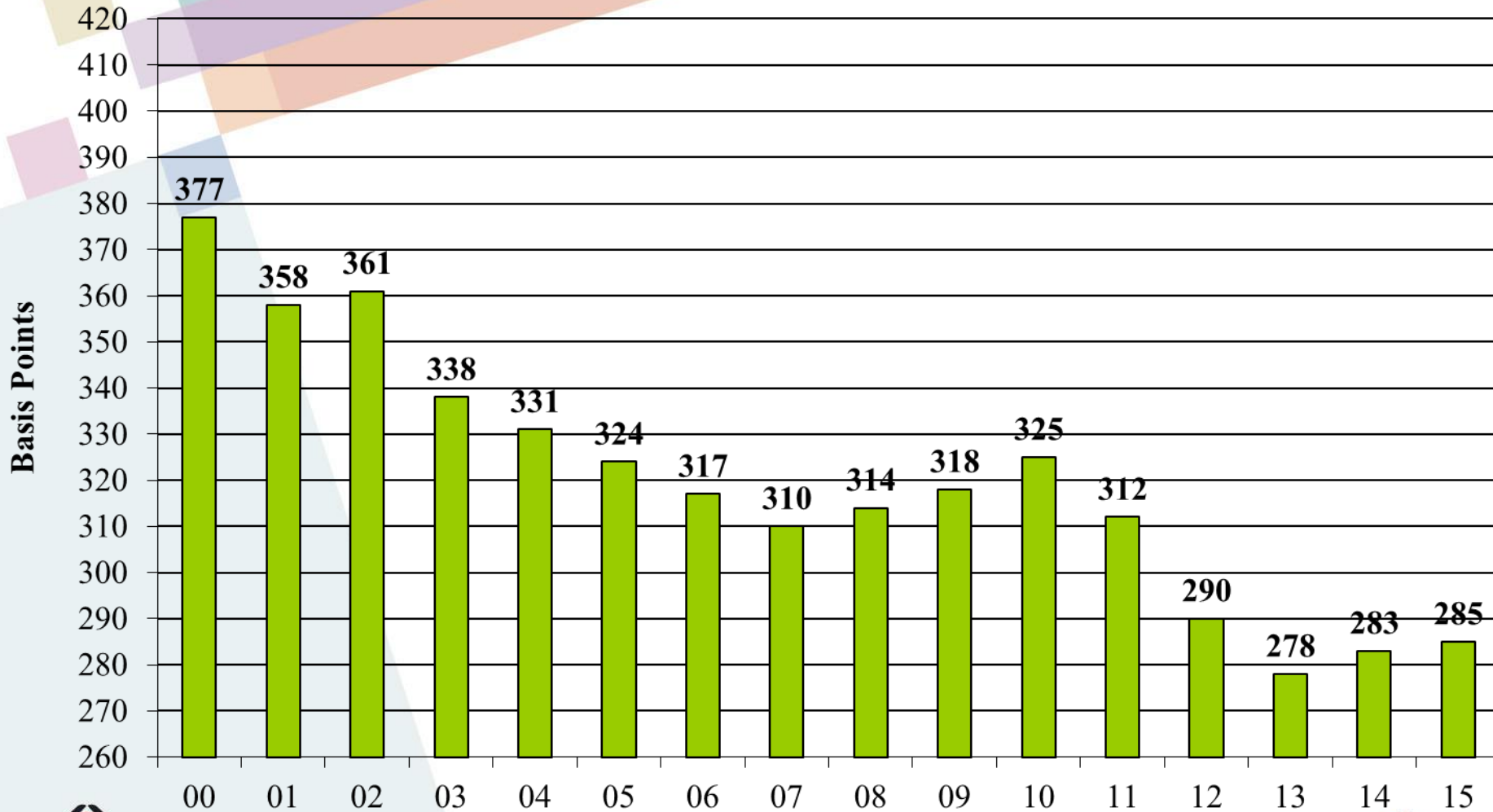
Source data: CUNA Economics & Statistics, NCUA and CUNA Mutual Group - Economics

# Net Interest Margin

# Interest Inc. – Interest Exp. Average Assets

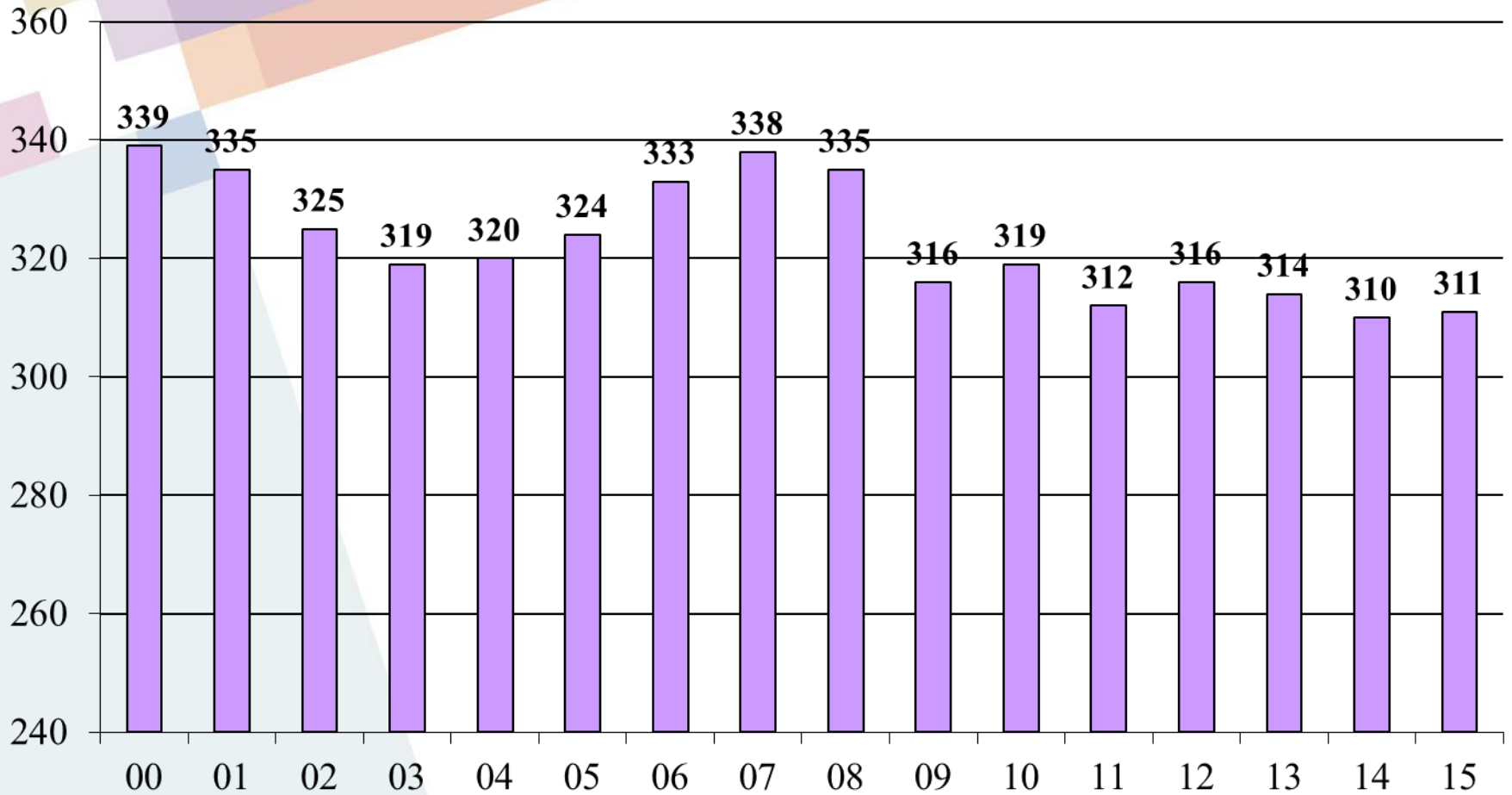
# Ratio 3

Net Interest Margin (Gross Spread)  
2000-2015



# Operating Expenses Average Assets

# Operating Expense to Average Assets



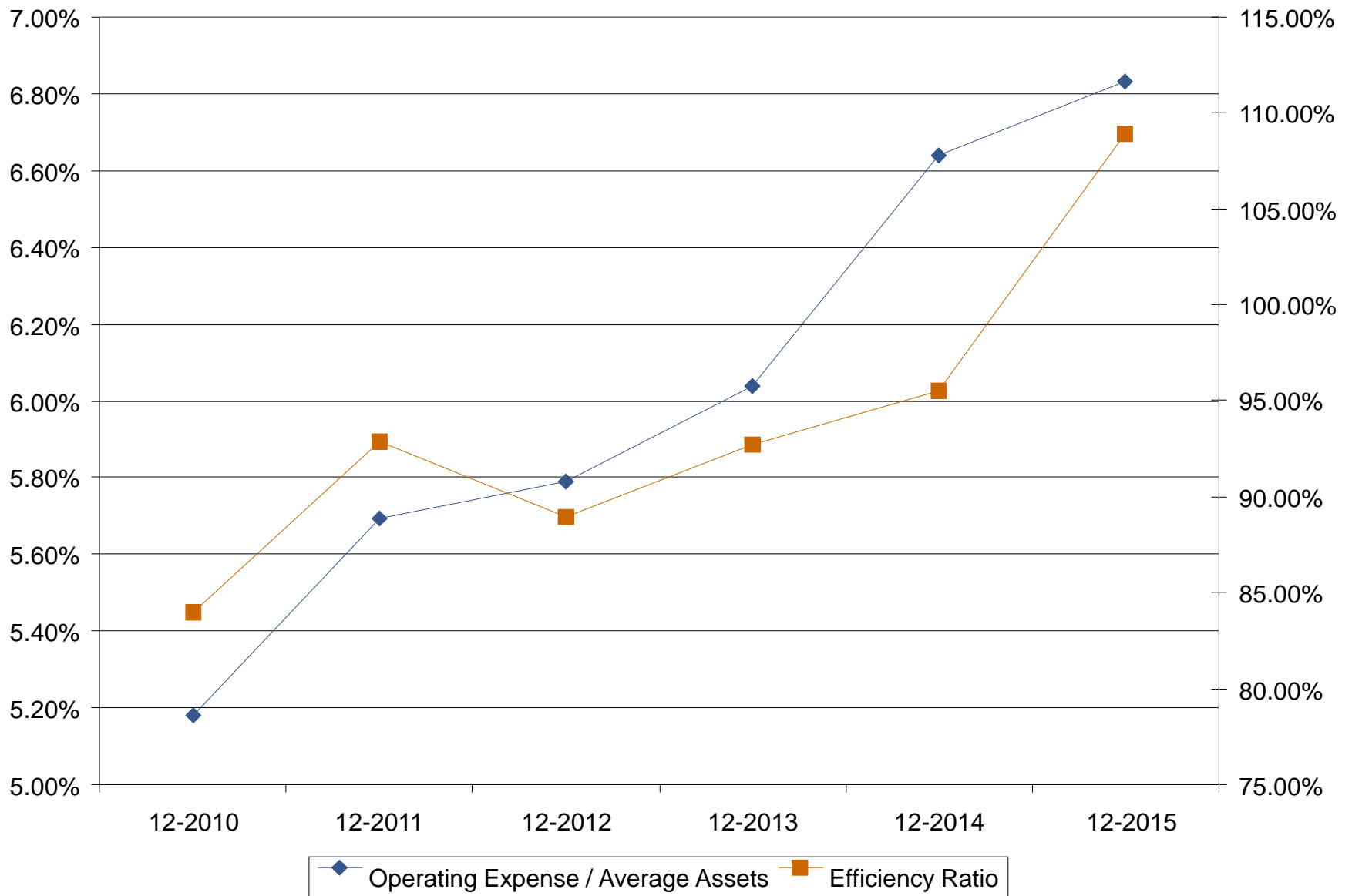


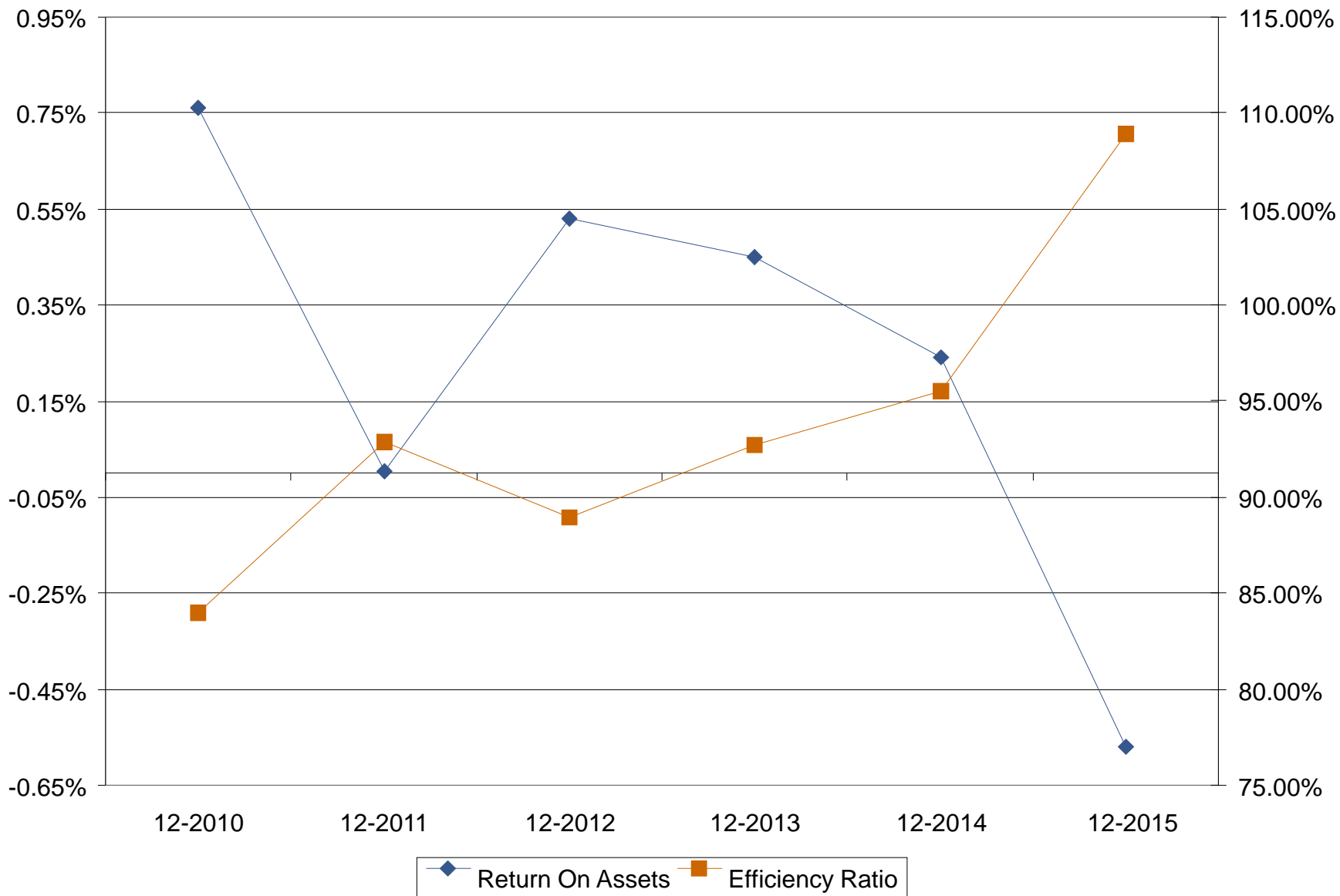
# Different ways to manage Operating Expenses

# Efficiency Ratio

- The ratio is calculated by dividing operating expenses by gross income. The ratio tells the institution how much it has spent to generate \$1 in income. If a credit unions current efficiency ratio is about 74%, that means it spends 74 cents to earn \$1.

# Operating Expenses Income – Interest Expense

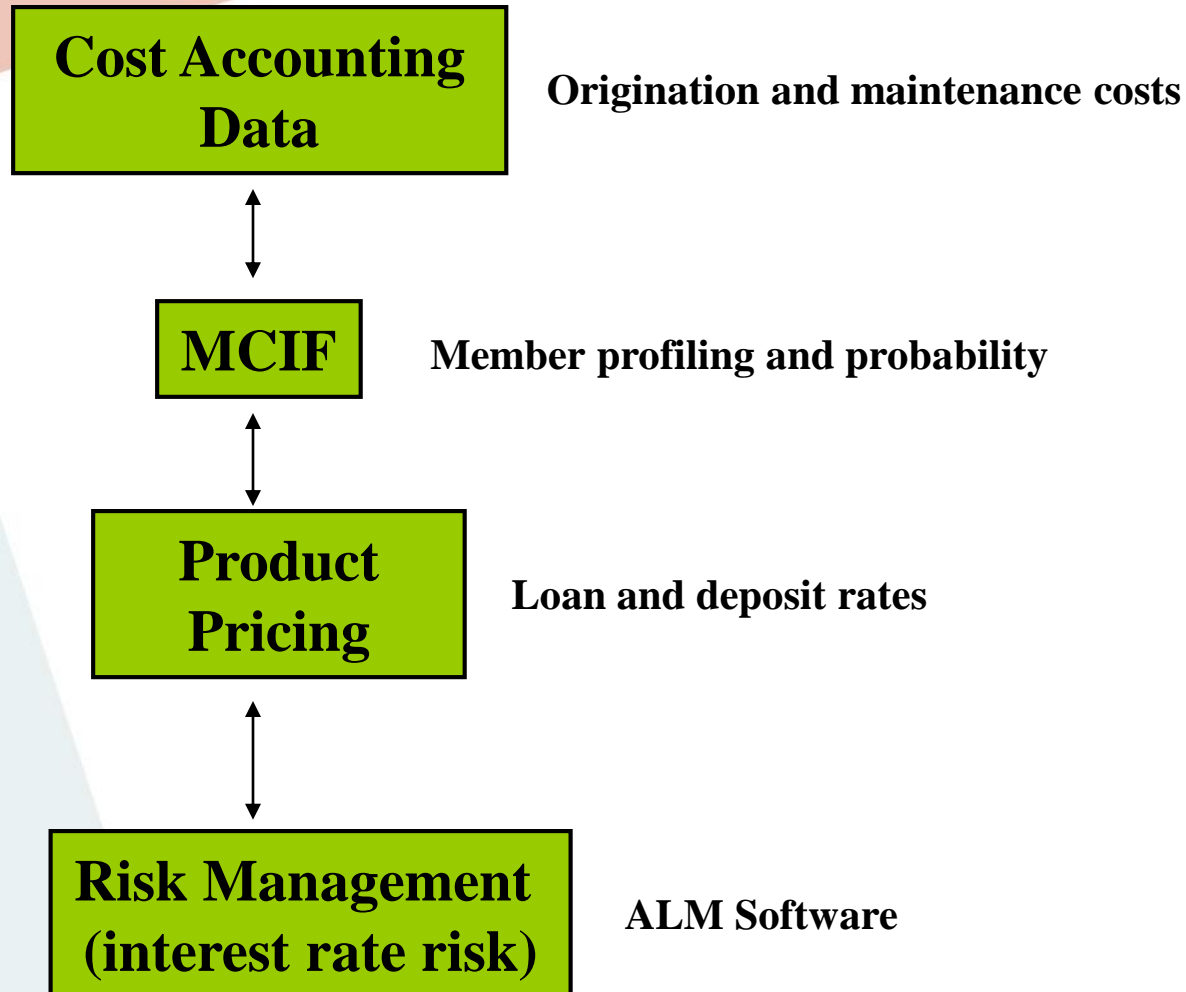




# The Two Definition's of ALM

- ALM is concerned with balancing the volume, mix, rate and maturity of assets and liabilities to maintain *consistent* interest margins despite changes in economic, legislative, competitive and membership conditions.
- Management, but not the elimination of interest rate risk, while generating returns that are commensurate with the risk taken.

# Generating consistent returns can come from many different places?



# Why are the interest rates so important?

- The Federal Reserve has shifted its preferred tool of choice
  - The Fed used to target the Federal Funds borrowing rate
  - Meant the short term rates were used to try and keep the economy in balance
  - Now monetary policy is used- increasing and decreasing the supply of money



# Why are the interest rates so important?

- The Overall rates on many loans have been decreasing
  - Many credit unions have moved away from certain types of loans ( i.e. signature, credit cards, other unsecured)
  - Competition has increased for new auto, used auto, and HELOC's
  - Many of the large finance companies use securitization to move loans
  - All of these items have driven rates on secured loans lower

# Concentration Risk is also a major concern(Assets)

- Concentration risk can be a major concern
  - Credit unions focusing on making longer duration loans
  - Many loans that credit unions want to do have increased in length, for example many car loans are now longer than 5 years
  - The one area that is a growing loan area for credit unions is Real Estate, therefore that has become the focus
  - Also facing an uphill battle with an increasing overnight account in the investment section

# Concentration Risk is also a major concern(Liabilities)

- Concentration risk can be a major concern
  - Major concentration in the liabilities in the Non-maturing deposits
  - Overall duration on liabilities has probably shortened because of the hot money
  - How much do you have in Core Deposits?
  - Even CD's concentration is short term
  - How long will CD's even be around?

# Balance Sheet is driven by Cash Flows

- Must have the ability to manage B/S effectively
  - Interest rates drive cash flows
  - Real Estate is the best example, however this flows through to consumer loans
  - Rate sensitive money will shift/leave with changing market rates
  - All embedded options are held by the member  
(This is the IRR)

# How can we begin to build a financial strategy

- Analyze the Balance Sheet (What-if scenario's)
  - Extend out your simulation runs (i.e. 2 years or more)
  - Work forecasted NEV into your decision making process
  - This will help us analyze the cash flows, and this is what creating a financial strategy is all about

# What is the Average Life of your products?

- What does the Average Life mean?
  - How long are your products really on your books
  - Example, if you make a car loan for 5 years is it on the books for 5 years?
  - Average Life of most New Auto portfolio's is 2 years

# What is the Average Life of your products?

- How can this number be calculated?

Average Daily Balances

Total Credits for month

- This can be calculated for individual accounts or entire portfolio's

# Average Life of a New Auto in '14

Dec-14	\$11,285.80	\$422.60	26.71
Nov-14	\$11,551.90	\$433.20	26.67
Oct-14	\$11,844.80	\$426.50	27.77
Sep-14	\$12,325.40	\$489.00	25.21
Aug-14	\$12,791.70	\$464.20	27.56
Jul-14	\$13,104.70	\$502.50	26.08
Jun-14	\$13,348.90	\$486.30	27.45
May-14	\$13,451.90	\$547.60	24.57
Apr-14	\$13,630.00	\$511.20	26.66
Mar-14	\$13,720.40	\$572.40	23.97
Feb-14	\$13,786.70	\$586.30	23.51
Jan-14	\$13,948.10	\$643.00	21.69
Average			25.65



# Average Life of a New Auto in '00

Dec-00	\$16,475.60	\$648.90	25.39
Nov-00	\$16,328.80	\$647.50	25.22
Oct-00	\$16,097.60	\$590.00	27.28
Sep-00	\$15,778.00	\$859.20	18.36
Aug-00	\$15,515.90	\$723.70	21.44
Jul-00	\$15,364.20	\$808.90	18.99
Jun-00	\$15,375.40	\$971.70	15.82
May-00	\$15,346.20	\$696.80	22.02
Apr-00	\$15,288.60	\$589.00	25.96
Mar-00	\$15,272.50	\$751.40	20.33
Feb-00	\$15,233.40	\$857.10	17.77
Jan-00	\$15,247.90	\$751.30	20.30
Average			21.57

# Long Term Fixed Rate Mortgage Cash Flows

Current Repricing G Mnths	1-60	5-10 Yrs	10-20 Yrs	>20 Yrs	Total Bal
(-300 bp Prepayment)					
Real Estate Ov	2,745,847	283,694	23,755	57	3,053,352
(0 bp Prepayment)					
REAL ESTATE	2,162,031	675,953	206,619	8,750	3,053,352
(+300 bp Prepayment)					
REAL ESTATE	1,361,829	857,288	683,351	150,884	3,053,352

# Interest Rate Risk

- In a low rate environment – should consider having strong guidelines
  - Duration/Average Life of Earning Assets
  - Hard dollar amount or %/Total Loans for Fixed Rate Mortgages
  - Portfolio mix of risk based paper

- Net Income Simulations

- Net Economic Value

# Why has Interest Rate Risk become so important to credit unions?

- Prompt Corrective Action (PCA)
- Letter 99-CU-12
- Letter 00-CU-10
- 17/4 Test

# Rate Shock Overview

- Define Rate Shocks
- Different types of Rate Shocks

# What exactly is a Rate Shock?

- Movement of Market Rates
- Can be viewed as short term or long term shock

# Different Types of Rate Shock?

- Immediate & Permanent (I&P)
  - Plus and Minus 300 bp
  - Examinations
- Gradual (Happens over 12 months)
  - Normally smaller movements of rates
  - Board of Directors & Upper Management



# Review

- Definition of Rate Shocks
- Different types of Rate Shocks

# Risk vs. Return

# Net Income Simulation (NIS) Overview

- When do we run NIS?
- Which parts of the financials are effected by these simulations?
- Which rate environments do we run for examiners and the board?

# When do we run NIS?

- Examinations!!!!!!!
- When looking at What-If scenarios
- Setting up budgets

# What is effected?

- Accounts that reprice on a regular basis
  - Variable Rate Accounts
  - Any accounts without defined maturities
- Any new money coming onto the books

# Which environments should NIS be run in?

- +/- 100, 200, 300
- Immediate & Permanent
- Gradual

# The Return – Net Income Simulations

	<b>-300 bp</b>	<b>Flat</b>	<b>+300bp</b>
<b>Net Income</b>	54,776	146,952	38,306
<b>Variance %</b>	-62.73%	0.00%	-73.93%
<b>ROA</b>	0.101	0.271	0.071
<b>ROE</b>	0.811	2.192	0.568

# NEV Overview

- Defining NEV
- What pieces are important
- Properly evaluating liabilities



# What is Net Economic Value?

- Net Economic Value (NEV) measures the effect of interest rate risk on capital
- NEV is a solvency measure
- NEV is also an estimate of a Balance sheet's future earnings

# What is Net Economic Value?

- Measures the sensitivity of balance sheet values in alternative rate environments
- Measures the market value of equity:  
$$MV(\text{assets}) - MV(\text{liabilities}) = MV(\text{equity})$$

# Net Economic Value Backdrop!

- 3 pieces to the puzzle
  - Coupon Rate (held constant)
  - Market Rate or Discount Rate (changes with market)
  - Cash Flows (as discount rate changes, the cash flows of various instruments will change as well)

# NEV Results – Long on Assets

	<b>Book Value</b>	<b>-300 bp</b>	<b>Flat</b>	<b>+300bp</b>
<b>Port. Equity Ratio</b>	12.794%	14.812%	15.039%	12.039%
<b>Rate Sensitivity</b>		-22.7	0.0	-300.0

# NEV Results – Long on Deposits

	Book Value	-100 bp	Flat	+300bp
<b>Capital/Assets</b>	9.85%	11.89%	13.29%	16.99%
<b>Rate Sensitivity</b>		-1.40%		3.70%

# Review

- NEV is the difference between the changing cash flow streams on the asset and liability side.
- Discount rates play a large role in all market value calculations.
- NEV is about replacement cost, which is why examiners view it as a solvency measure.

# What did we accomplish?

- Defined importance of Interest Rate Risk
- Learned difference between NIS & NEV
- How do we use them as tools to measure IRR
- Which one is better suited for our credit union
- Looked at setting limits for ALM