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**2013 Annual Meeting and Conference**  
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# **U.S. Economic Outlook & Its Impact on Financial Institutions**

**Steven W. Rick**  
Senior Economist  
**Credit Union National Association**  
PO Box 431  
Madison, Wis. 53701, USA  
Telephone: 608-231-4285 Facsimile: 608-231-4924  
E-Mail: [srick@cuna.com](mailto:srick@cuna.com)

## Investment Factors:

1. The Federal Reserve announced that interest rates will remain low until the unemployment rate falls below 6.5% and/or 2-year inflation expectations rise above 2.5%. This is forcing a reevaluation of the duration of investments.
2. Rising loan growth will reduce investment portfolio growth in 2013.
3. Financial institutions are sitting on record levels of excess reserves (\$1.6 trillion) earning 0.25%.
4. Excess liquidity is punishing earnings with short-term investment yields lower than deposit interest rates.
5. The U.S. is overbanked (14,000 banks and credit unions) who have low loan-to-savings ratios. This excess liquidity will lead to hyper competition to loan out the surplus funds driving down interest margins

## Deposit Factors:

1. The expiry of the payroll tax holiday will decrease disposable income 1% and reduce savings growth.
2. Economic uncertainty and members' preference for liquid funds will buoy deposits.
3. Large interest rate differentials between loans and savings will encourage households to pay down debt rather than save any surplus funds.
4. Households using existing savings balances to pay down debt will reduce the size of balance sheet.
5. Rising oil prices will reduce savings balances.
6. Inflation rates higher than deposit rates will produce negative returns on savings deposits.
7. The national savings rate is back to the level in the late 1990s.
8. Rising home prices will discourage thrift.

## CU Balance Sheet

(% of 2012 Assets)

### Assets

### Liabilities + NW

#### Investments (37%)

##### Annual Growth Rates

08	09	10	11	12	13
9.1	30.0	12.5	12.3	8.9	7.5

#### Deposits (86%)

##### Annual Growth Rates

08	09	10	11	12	13
6.9	10.3	4.4	5.2	6.4	5.0

#### Loans (59%)

##### Annual Growth Rates

08	09	10	11	12	13
6.7	1.2	-1.2	1.2	4.5	5.0

#### Net Worth (10.4%)

##### Annual Growth Rates

08	09	10	11	12	13
3.2	-1.2	5.0	7.6	8.7	8.5

## Loan Factors:

1. Economic recovery and accompanying job growth will encourage borrowing in 2013.
2. Rising consumer confidence will encourage spending.
3. A 3% increase in home prices in 2013 (5% in 2012) should increase demand for second mortgages and home equity loans.
4. Rising stock prices will produce a "wealth effect" fostering increased consumption.
5. Households have accelerated loan payments and payoffs which has outpaced originations and reduced loan balances. But deleveraging should fade in 2013.
6. Low spending in 2009-2011 has created much pent-up demand for durable goods. Auto loans, credit card loans and purchase mortgage loans will be strong growth areas.
7. The recession has created a large pool of potential borrowers with sub-prime credit scores.
8. Rising auto sales to over 15 million in 2013 may reduce 0% financing offers and boost new auto loans.

## Net Worth Factors:

1. Rising return on asset ratios in 2013 will raise return-on-equity ratios.
2. Capital contributions will outpace asset growth raising net worth-to-asset ratios.
3. BASEL III will be an impetus for Congress and NCUA for capital reform.
4. Alternative capital (subordinated debt) is a top CU legislative priority.
5. Credit unions are building their capital levels and ratios today in case they lose their tax exempt status sometime in the future. Its easier to build capital with pretax rather than post tax earnings.
6. CUs are unable to lower deposit rates further and therefore are unable to discourage an excessive surge in deposits which would result in lower capital ratios. So CUs are building a capital cushion well above the "well capitalized" threshold.

## Yield on Assets

08	09	10	11	12	13
5.56	4.91	4.46	4.05	3.66	3.40

1. The Federal Reserve's QE-3 program (print money to buy \$40 bil of MBS and \$45 bil of Treasury bonds per month) will keep long-term interest rates low through 2013.
2. Banks/CUs are weighing the marginal risk (**credit/interest rate**) versus marginal return (additional YOA) of alternative assets to boost NIMs.
3. Aggressive **loan pricing** will lower YOAs.
4. **Repricing** of maturing loans will lower YOAs.
5. **Rising loan growth** will raise YOAs.
6. **Rising short-term interest rates** in 2015 will raise yields on short-term investments.

## - Cost of Funds

08	09	10	11	12	13
2.41	1.73	1.21	0.92	0.73	0.60

1. **Rising short-term interest rates** in 2015 will increase COFs.
2. Continued repricing of maturing CDs is lowering COFs today.
3. Excess liquidity will allow Bank/CU **deposit rates to lag increases in market rates** in 2015.
4. Ultra-low market interest rates are preventing the **pricing of deposits below market**, reducing earnings opportunities.

## = NIM

08	09	10	11	12	13
3.15	3.18	3.25	3.12	2.93	2.80

1. NIM expected to rise in 2015 as **YOA rise faster than COFs**.
2. A **steeper yield curve** in the second half of 2013 will put upward pressure on NIMs by making ST borrowing and LT lending more lucrative.
3. Banks/CUs are reevaluating their "GAP" strategy due to changing interest rate forecasts.

## + Fee/Other Income

08	09	10	11	12	13
1.36	1.23	1.33	1.31	1.41	1.35

1. The mortgage refinance boom will boost loan origination fees and "gains on sale" of mortgages through the first half of 2013.
2. The **interchange fee cap rule** (October 1, 2011) capped the maximum fee charged per debit card transaction to 21 cents (plus an additional 2-3 cents for fraud prevention) for institutions greater than \$10 billion.
3. **Interchange income** may decline in 2013 if interchange rates fall more than the increase in card transactions. Merchants have incentives to move customers to new alternate low-cost payment systems, reducing the market power of the card networks and banking industry.

## - Operating Expenses

08	09	10	11	12	13
3.35	3.16	3.30	3.26	3.14	3.05

1. Rising compliance costs for new Dodd-Frank Act regulations and new Consumer Financial Protection Bureau rules.
2. **NCUSIF premiums** expected to be 0-5 bps in 2013. Zero bps is more likely due to a build up of reserves for insurance losses and fewer CU failures.
3. **Corporate stabilization assessments** were 9.5 bps of insured shares in 2012 and expected to be 8-11 bps in 2013.
4. **Asset growth of over 6%** will lower operating expense ratios and improve economies of scale and efficiency.

## - Provision for loan losses

08	09	10	11	12	13
0.85	1.11	0.78	0.50	0.35	0.30

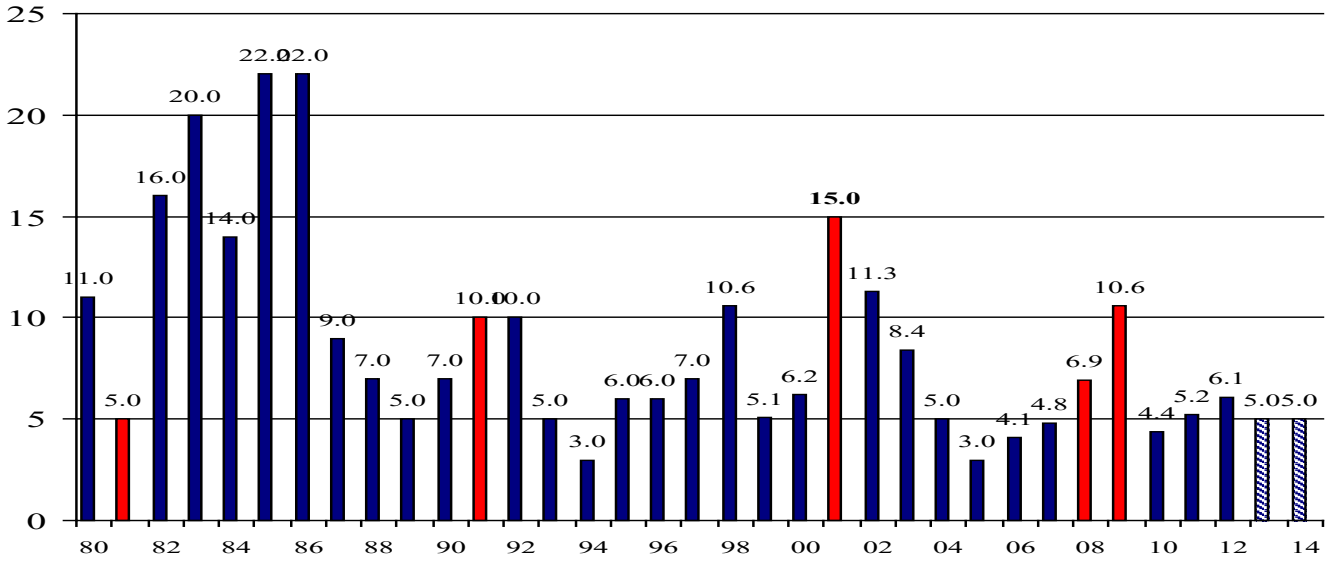
1. Many banks/CUs have over funded **allowance for loan losses**, leading to provisions lower than net chargeoffs.
2. Job growth will improve **credit quality** and lower provisions.
3. **Home prices** are expected increase 3% in 2013, reducing the number of mortgages at risk of foreclosure.

## = Net Income

08	09	10	11	12	13
0.31	0.18	0.50	0.68	0.85	0.80

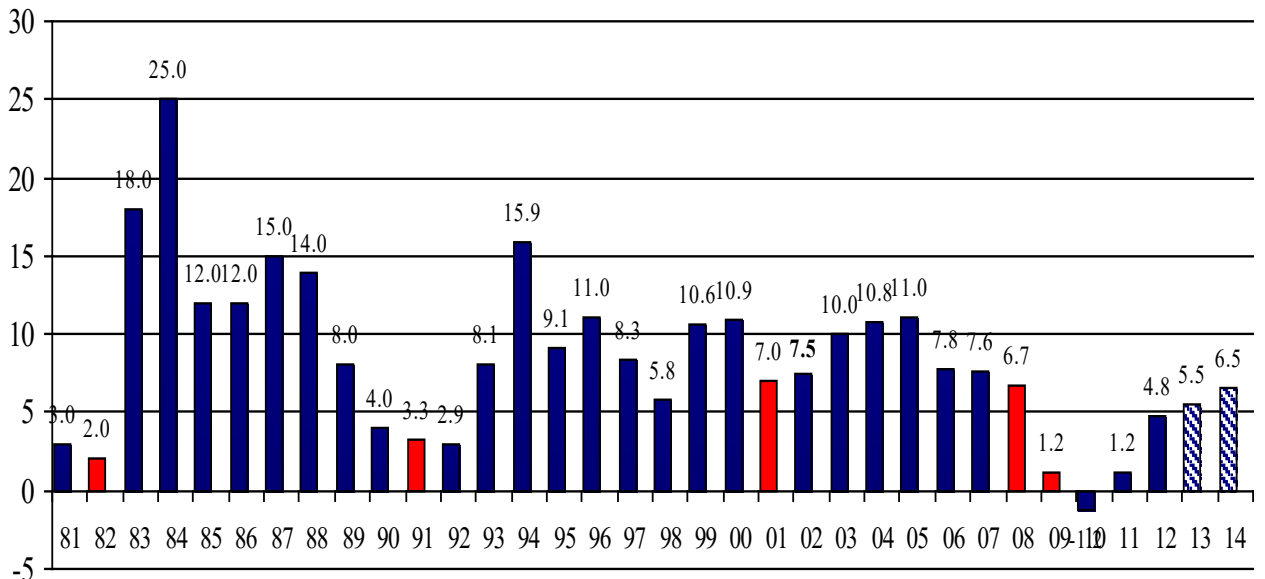
1. It is difficult to generate adequate earnings without adversely increasing interest rate and liquidity risk.
2. Deficit reduction talks threaten the CU taxation exemption (and other tax expenditures) which would lower CU earnings and therefore asset growth.
3. ROA remains below its long-run average and questions remain whether this will be the **"new normal"**.

## Credit Union Savings Growth (Annual Percent Growth)



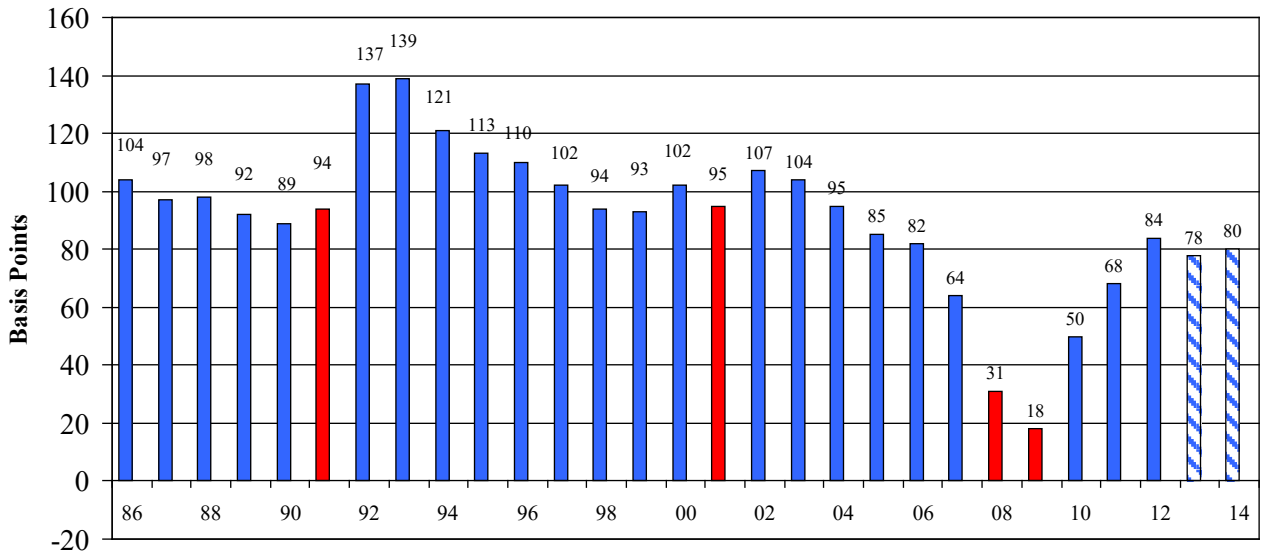
A slow economic recovery over the next year will make balance sheet growth difficult. CUs need to focus on sales management and programs designed to increase deposits. For individual CUs, mergers may be a viable strategy for growth. New regulations will pressure smaller CUs to merge. Mergers can produce cost efficiencies in the long run. Large banks are driving customers to CUs.

## Credit Union Loan Growth (Annual Percent Growth)



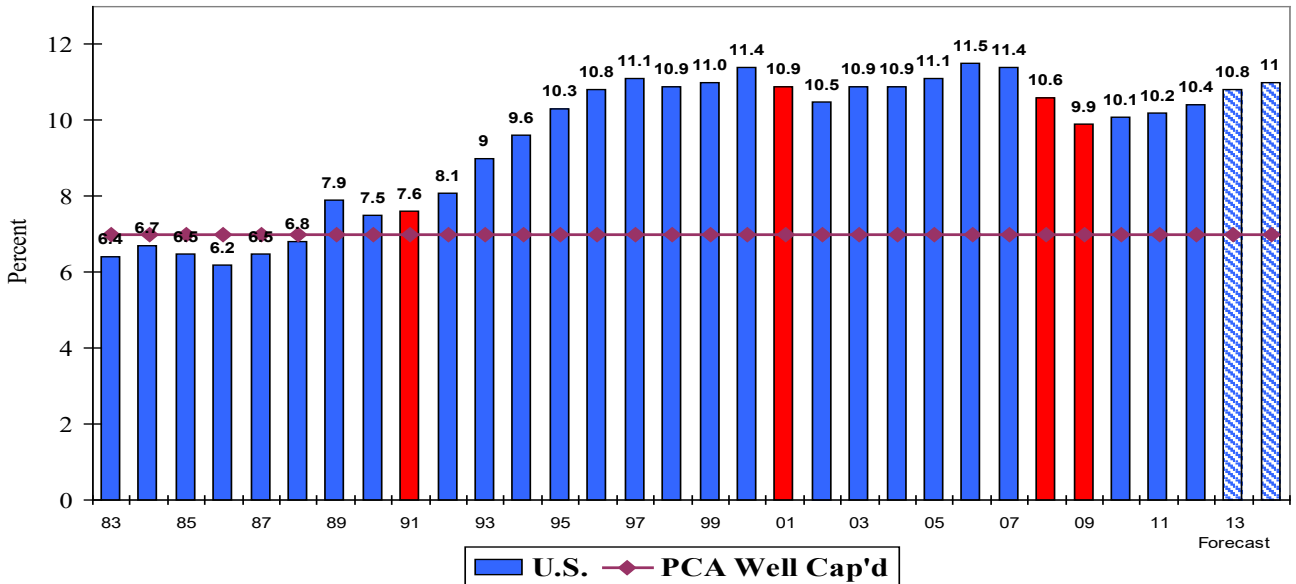
Members' preference for deleveraging and a weak economy will keep loan growth below its long-run trend for the next few years. Balance sheet strength will be a high priority over the next few years, outweighing balance sheet growth. <sup>4</sup>

## Net Income to Average Assets



**High-performing CUs are doing the following:** clearly articulating the member value proposition for each demographic segment, transforming the cost base, improving the credit portfolio, attracting more core deposits, increasing fee income, improving the risk management culture and process, aligning the operations to the strategy, improving methods to retain human capital.

## Net Capital to Assets

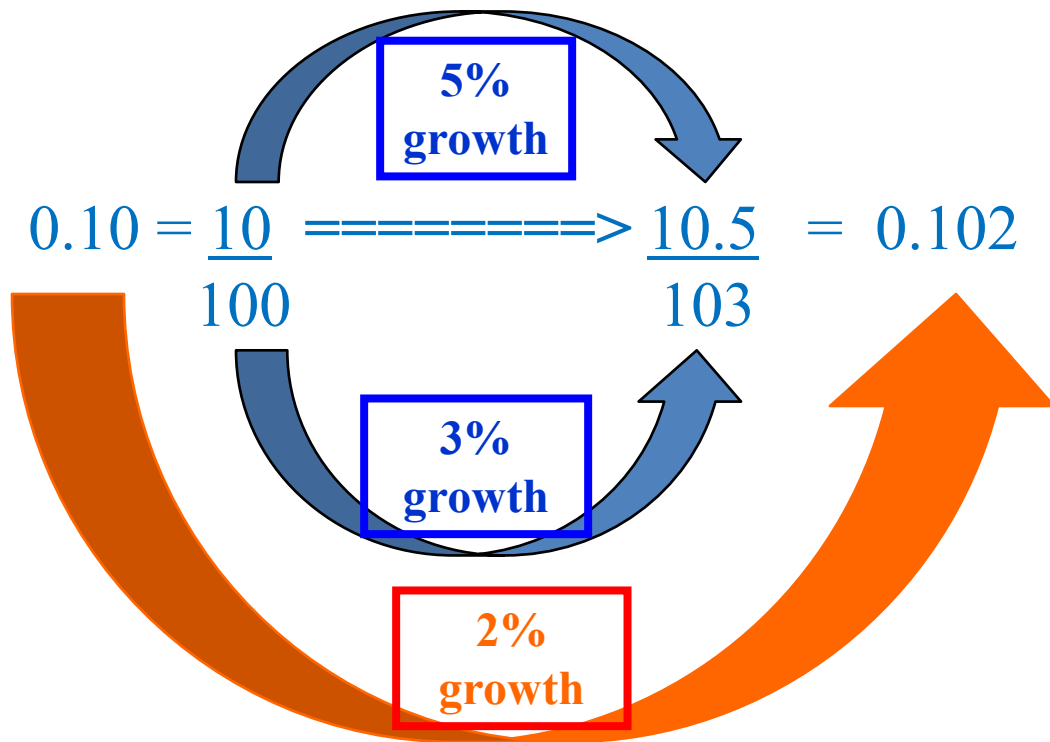


**CUs are increasing their capital-to-asset ratios to absorb potential loan or asset losses.** This will reduce leverage ratios (asset-to-capital) and therefore reduce return on equity ratios for any given return-on-asset ratio. This will reduce how fast CU assets can grow. Higher interest rates in “mid 2015” will reduce the value of investments and long-term loans and will cause other troubled assets to appear. This will have a negative impact on capital ratios.

## Capital-to-Assets Growth Rate Analysis

The growth rate of a ratio is the difference between numerator and denominator growth rates, (for small growth rates).

$$\% \Delta (C/A) = \Delta C/C - \Delta A/A$$



$$2\% = 5\% - 3\%$$

If (ROE)  $\Delta C/C = \Delta A/A$

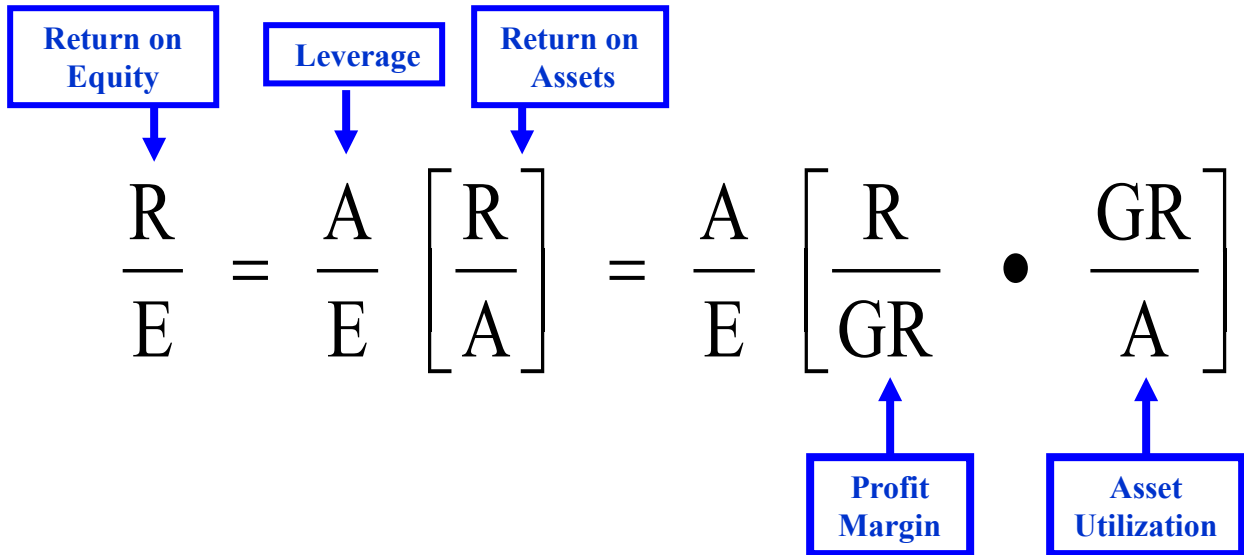
Then  $\% \Delta (C/A) = 0$

If  $\Delta C/C = \Delta A/A$  (multiply both sides by  $C/A$ )

Then  $ROA = \Delta A/A \times C/A$

# Return on Equity Decomposition

ROE = Asset Growth Speed Limit  
(given a constant Capital-to-Asset ratio)

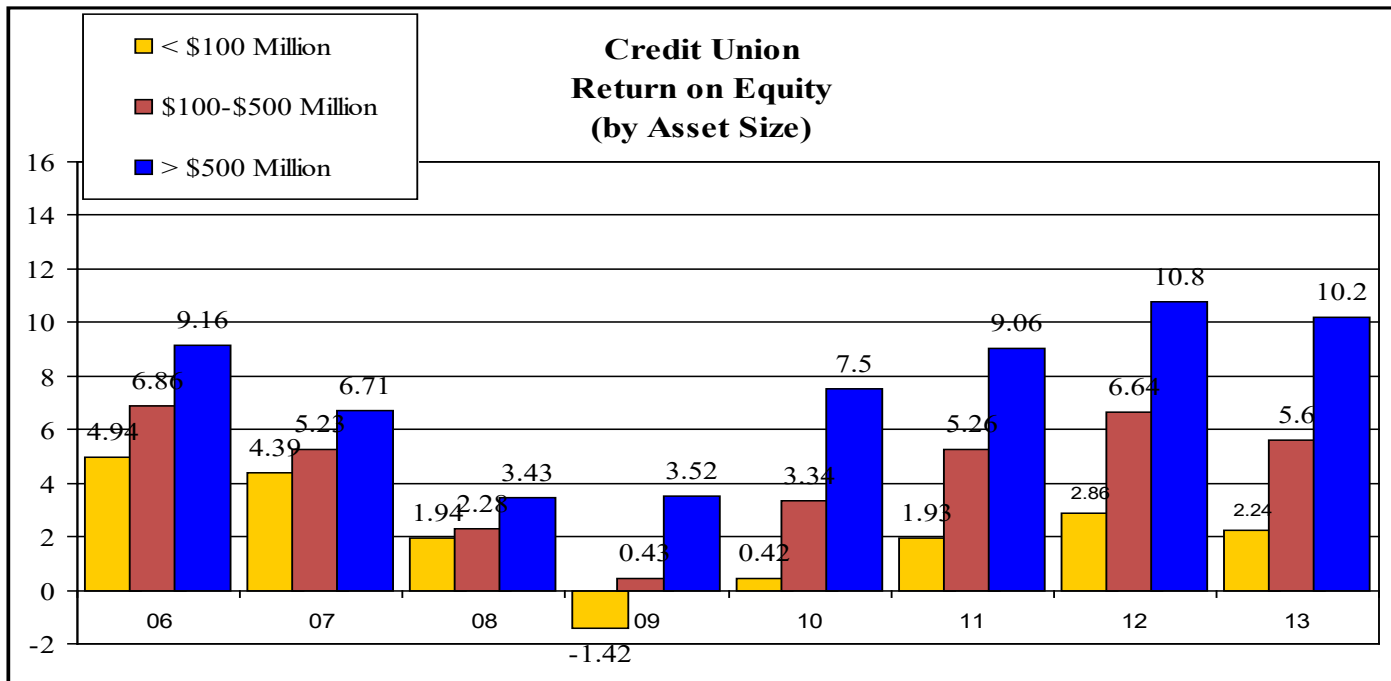


**R** = Return (net income)

**E** = Equity (reserves + undivided earnings) (beginning of period)

**A** = Assets (beginning of period)

**GR** = Gross Revenues (interest revenue + noninterest revenue)

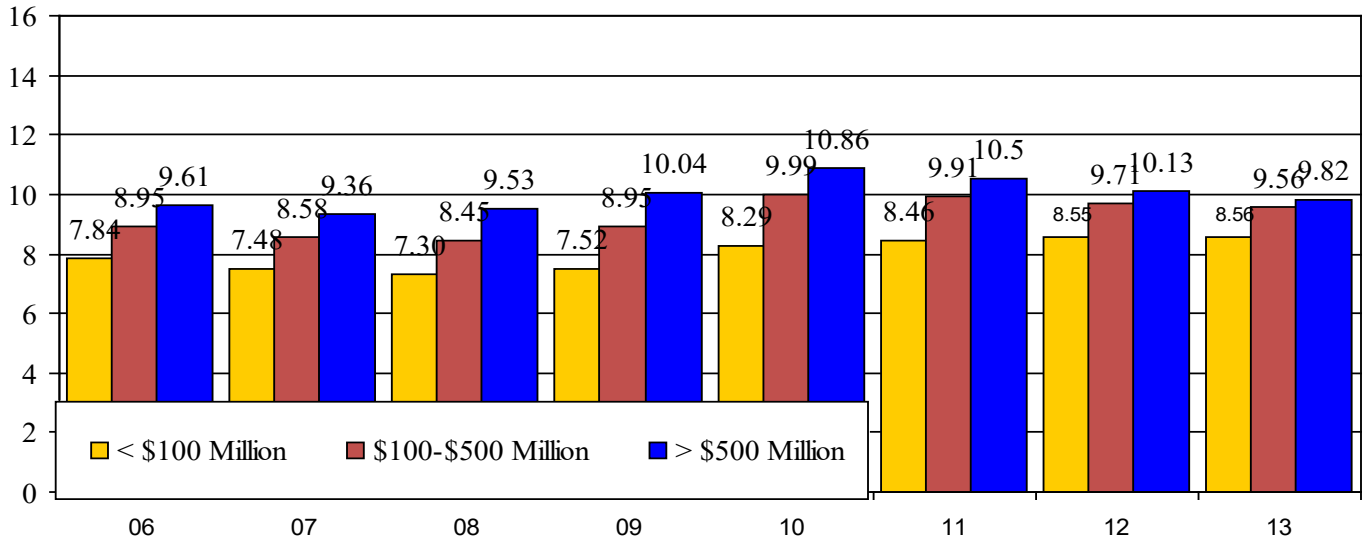


Aphorism #1: If your financial institution is not growing, its dying.

Aphorism #2: ROE disparity is the current separating small and large financial institutions.

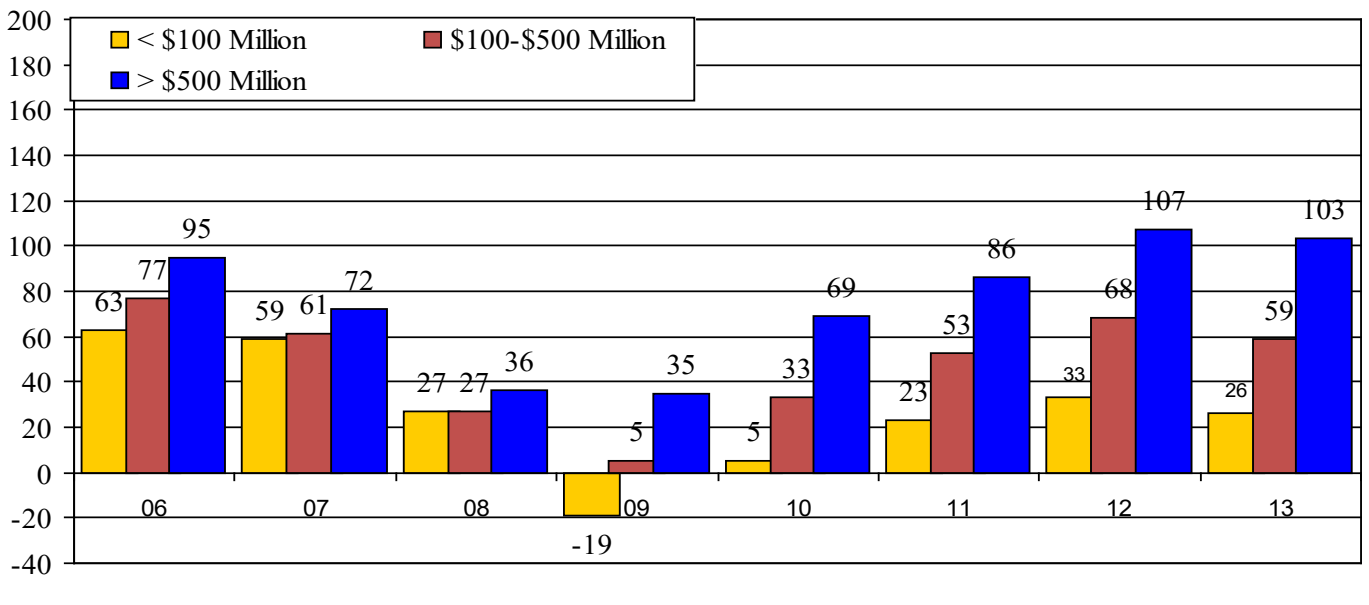
Economic Paradox: Recessions are good for an economy. The recession has removed hundreds of zombie financial institutions (they're dead but just don't know it yet)

**Credit Union  
Equity Multiplier (Leverage)  
(Assets to Equity)  
(by Asset Size)**



NCUA 7% well capitalized requirement limits the maximum equity multiplier to 14.3.  
Other Capital-to-Asset and Leverage combinations: 8% 12.5, 9% 11.1, 10% 10, 11% 9.1, 12% 8.3.

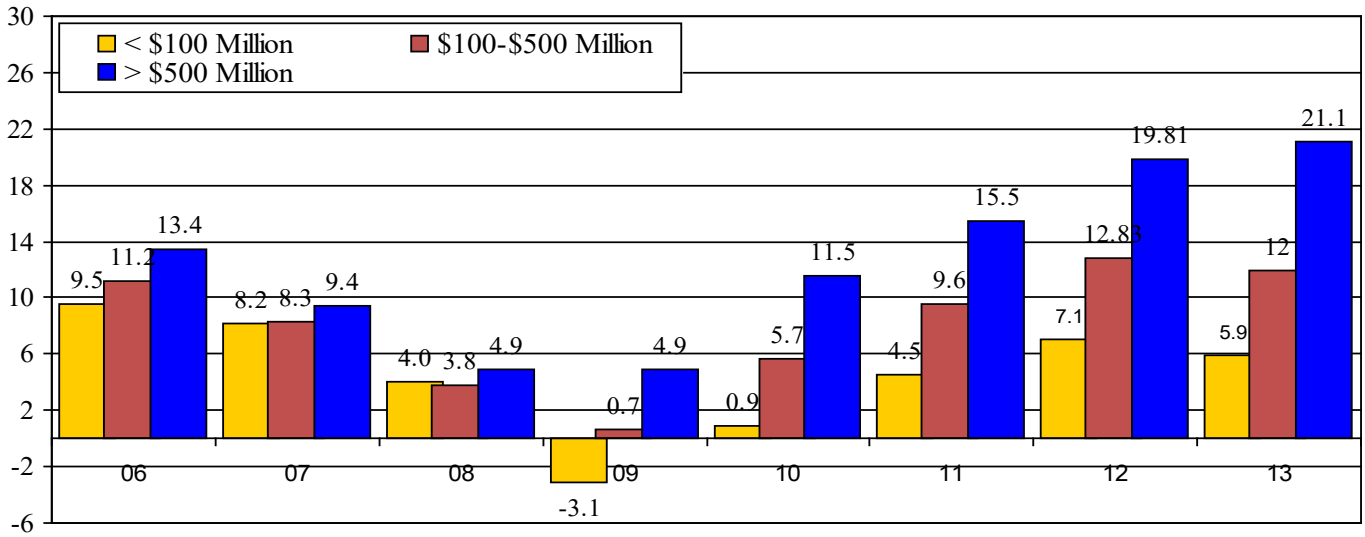
**Credit Union  
Return on Assets (basis points)  
(by Asset Size)**



ROA is rising as loan loss provisions fall. This leads to faster capital growth which allows for organic loan and savings growth. Additional capital allows for expanded in-market branch networks to control market share. Credit unions can boost returns by better managing costs especially the ever rising technology<sup>8</sup> costs. CUs are shifting more of their focus to online products and services as member preferences evolve.

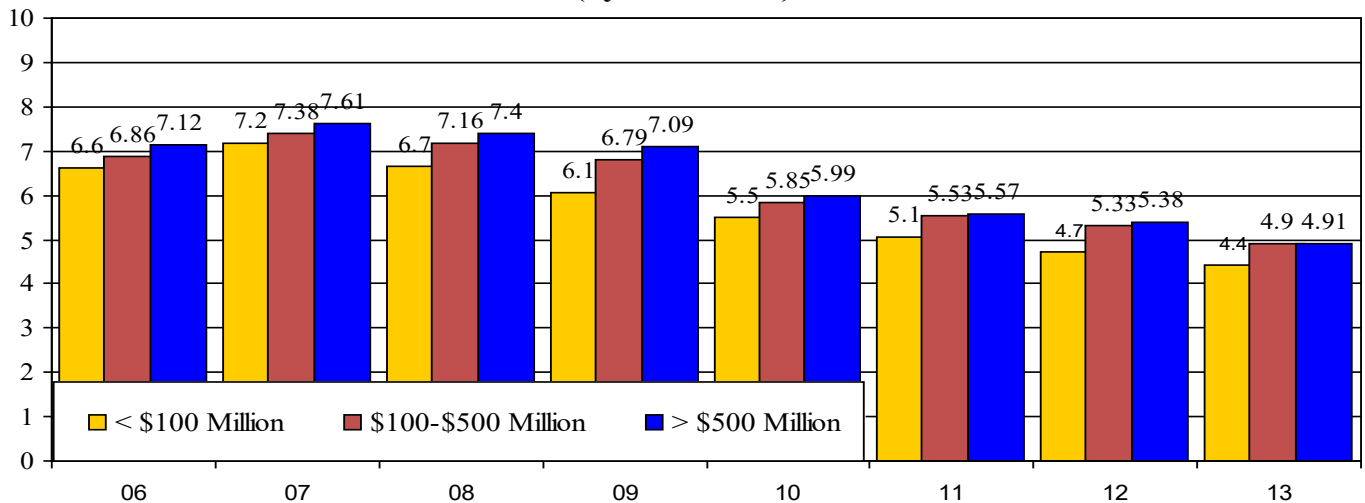


**Credit Union  
Profit Margin  
(Net Income to Gross Revenues)  
(by Asset Size)**



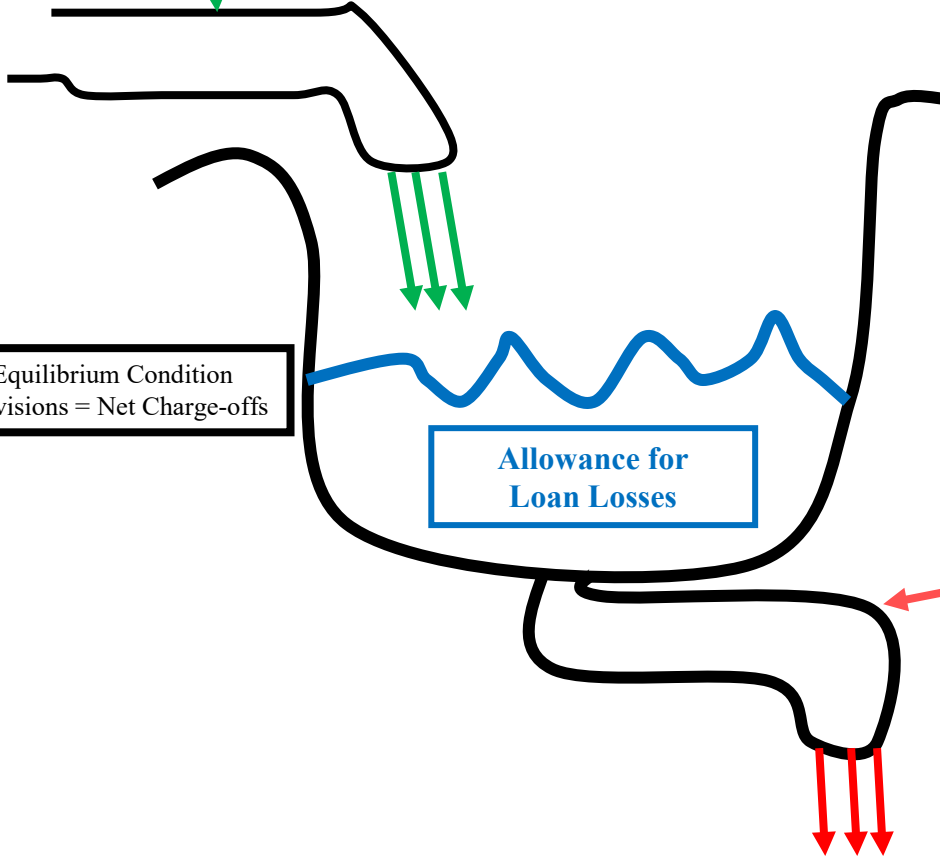
Profit margin is a measure/proxy for efficiency. Greater risk taking (asset utilization) may reduce profit margins. This highlights the trade offs of any business decision. The Great Recession is analogous to a forest fire; it eliminated the weak, inefficient and low profitability firms, just like a fire consumes the small weak underbrush. Those firms and trees that survive are more prosperous than before the recession or fire.

**Credit Union  
Asset Utilization  
(Gross Revenues to Assets)  
(by Asset Size)**



Asset utilization is a measure/proxy for the degree of risk taking (credit, interest rate and liquidity risk). Utilization is down because of lower interest rates, higher delinquent loans, lower loan-to-savings ratios, higher risk aversion, and lower fee income.

Provisions for loan Losses

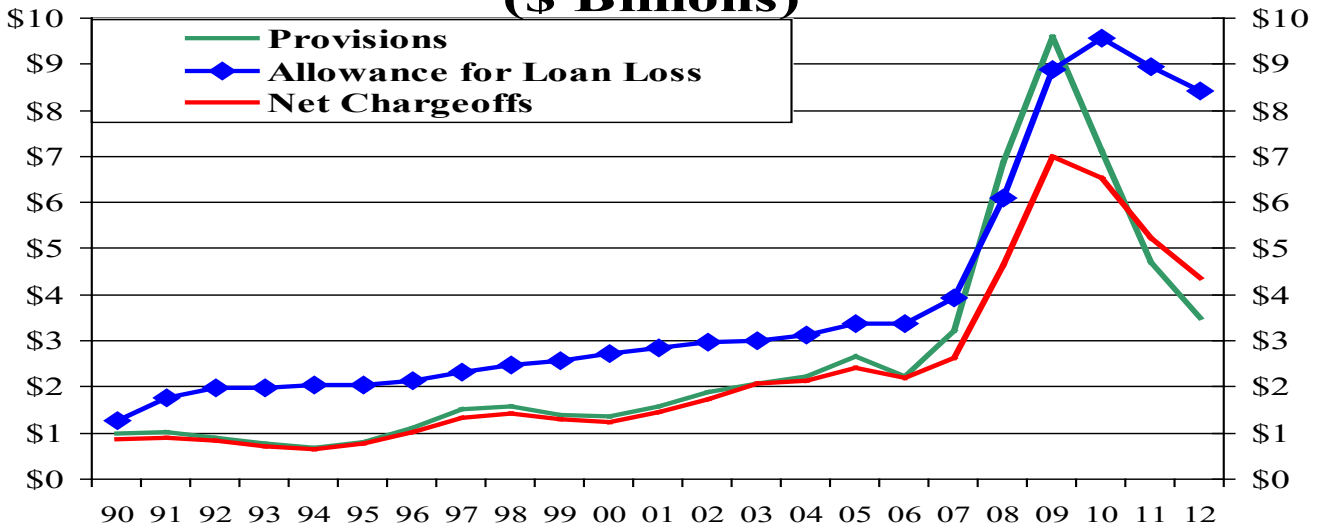


Equilibrium Condition  
Provisions = Net Charge-offs

Allowance for  
Loan Losses

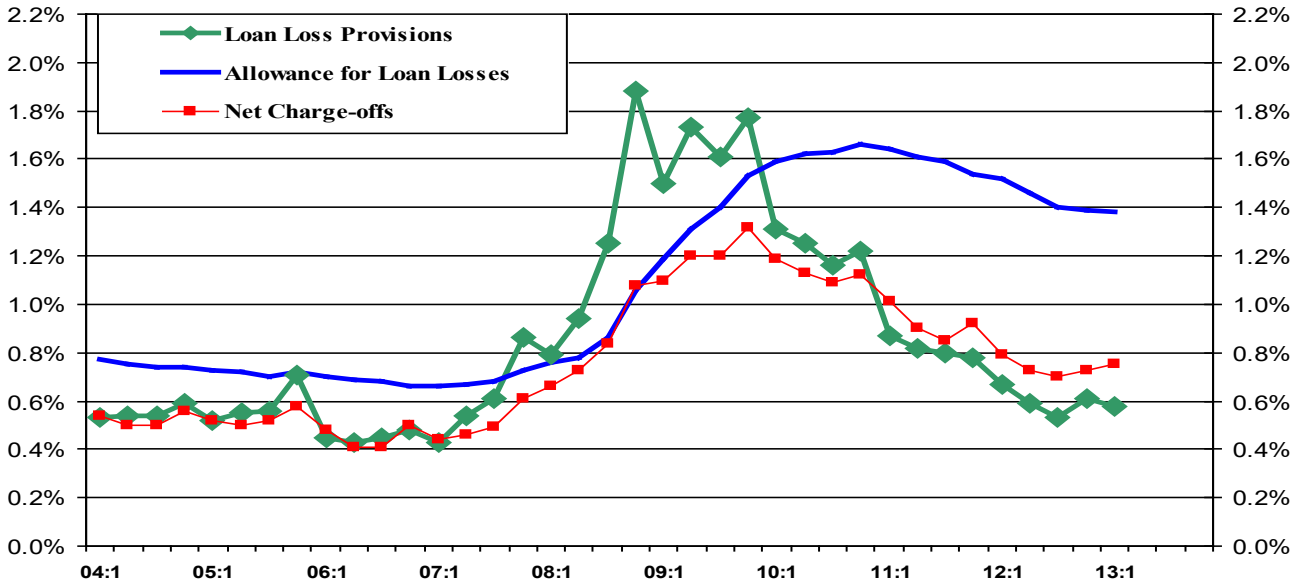
Net Charge-offs

### CU Provisions, Allowances & Net Chargeoffs (\$ Billions)



The allowance for loan loss (ALL) account is a credit union's estimate of the dollar amount of bad loans currently held on the balance sheet. Credit unions are reducing the ALL account by reducing loan loss provisions below the rate of net chargeoffs.

## Credit Union Credit Quality (As a % of Loans)

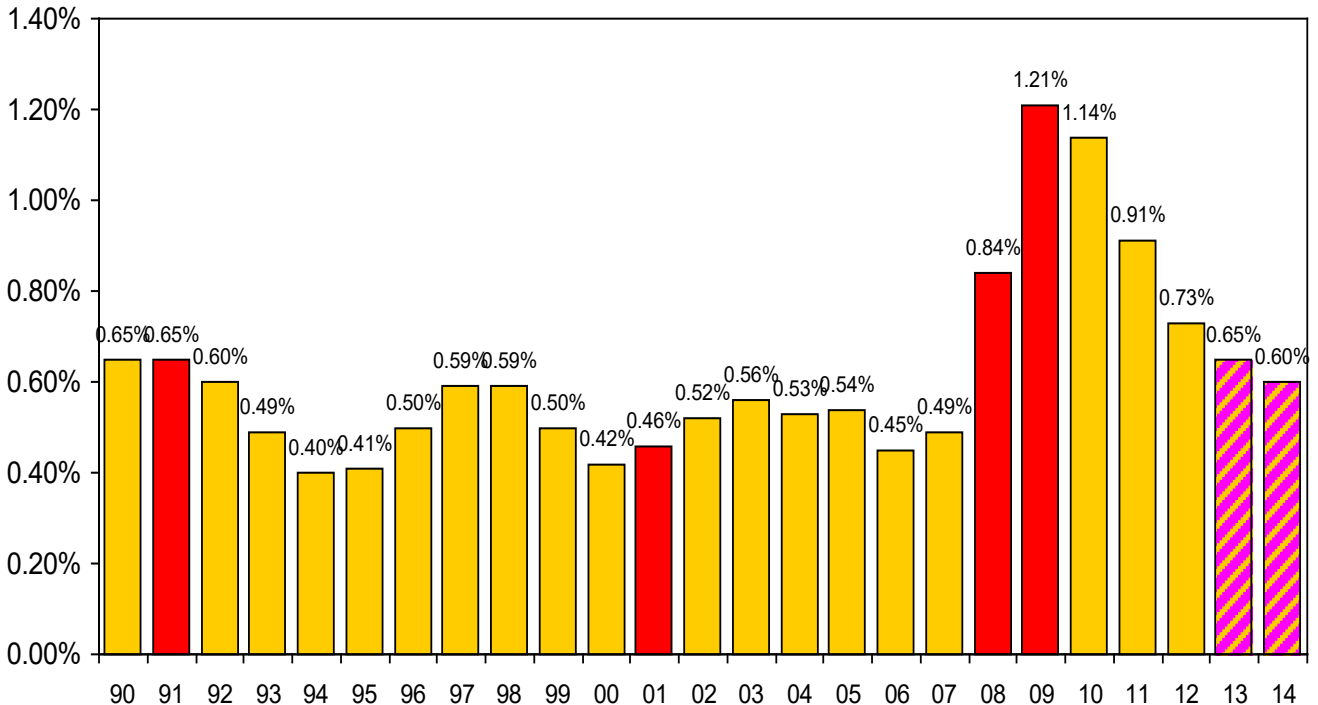


Source: NCUA

The **coverage ratio** (allowance for loan losses divided by net charge offs) averaged 1.43 during the 4 years before the great recession . Today the coverage ratio is 1.8. The ALL-to-Loan ratio is a function of loan composition, inherent loss rate, the state of the economy, loan age, etc.

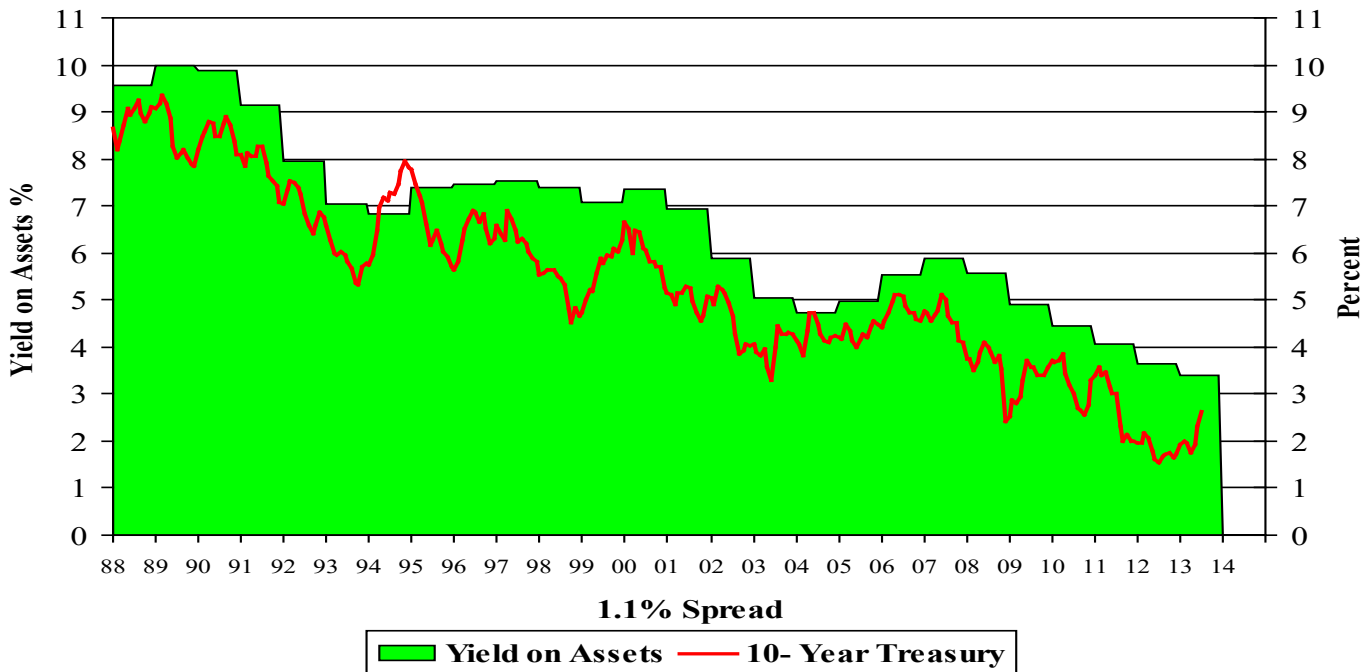
## CU Net Chargeoff Rates

(Loans Charged Off Net of Recoveries as a Percent of Average Loans)



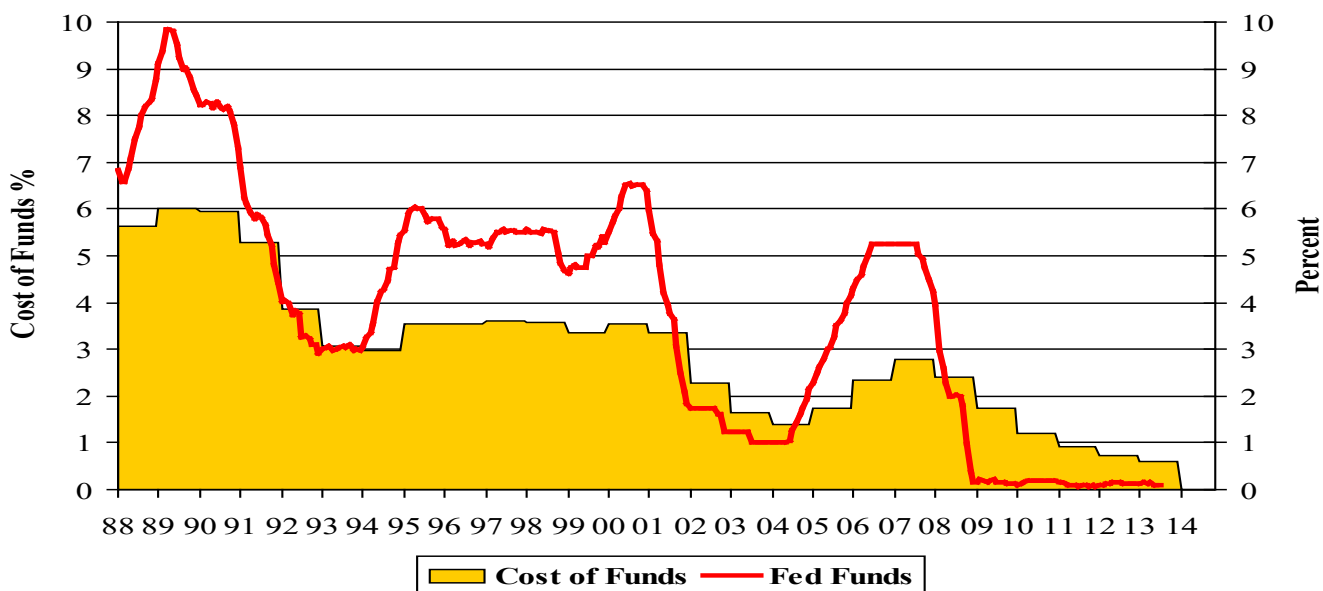
The CU net charge off ratio averaged 0.52% in the 18 years prior to the Great Recession. Expect the charge off ratio to fall to 0.65% in 2013, 13 basis points above its long run average.

# YOA vs 10-year Treasury Rate 1988-2013



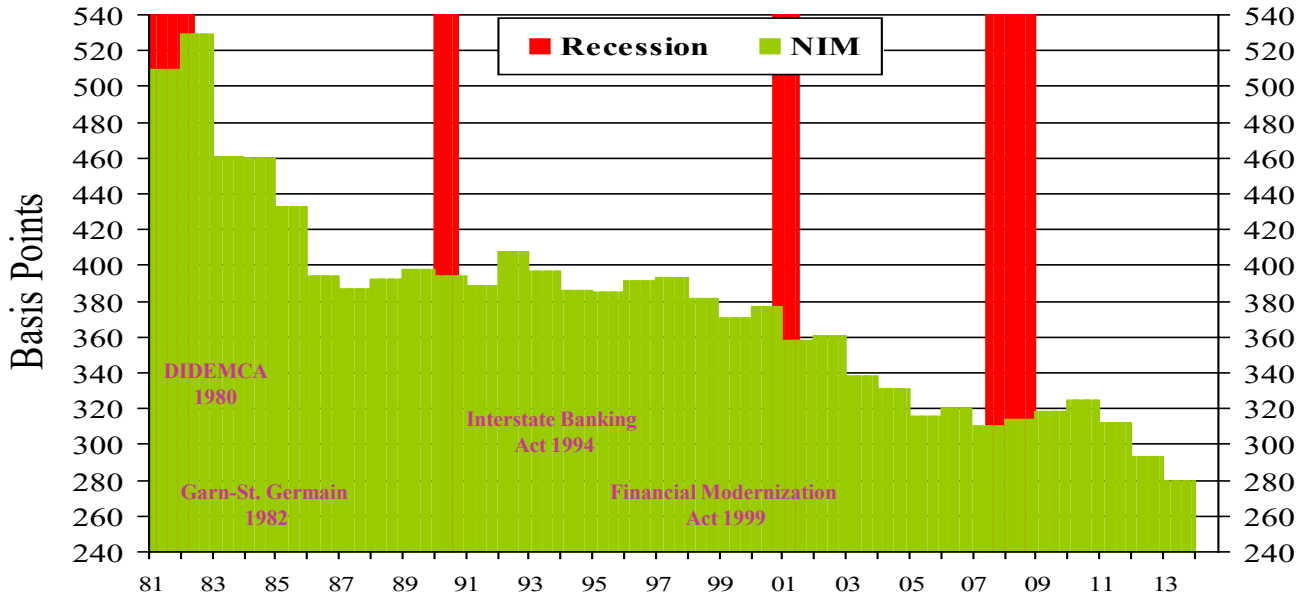
Falling YOA to record low levels is due to: historically low interest rates, price competition for good loans, excess liquidity, weak loan demand, low investment replacement yields, deleveraging, debt aversion and abnormally high risk aversion. Returns for mortgages and other loans tied to dollar-based LIBOR were depressed because rates had been suppressed by banks manipulating LIBOR. Repositioning of assets towards unsecured loans should help offset the downward pressure on YOA.

# COF vs Fed Funds Rate 1988-2013



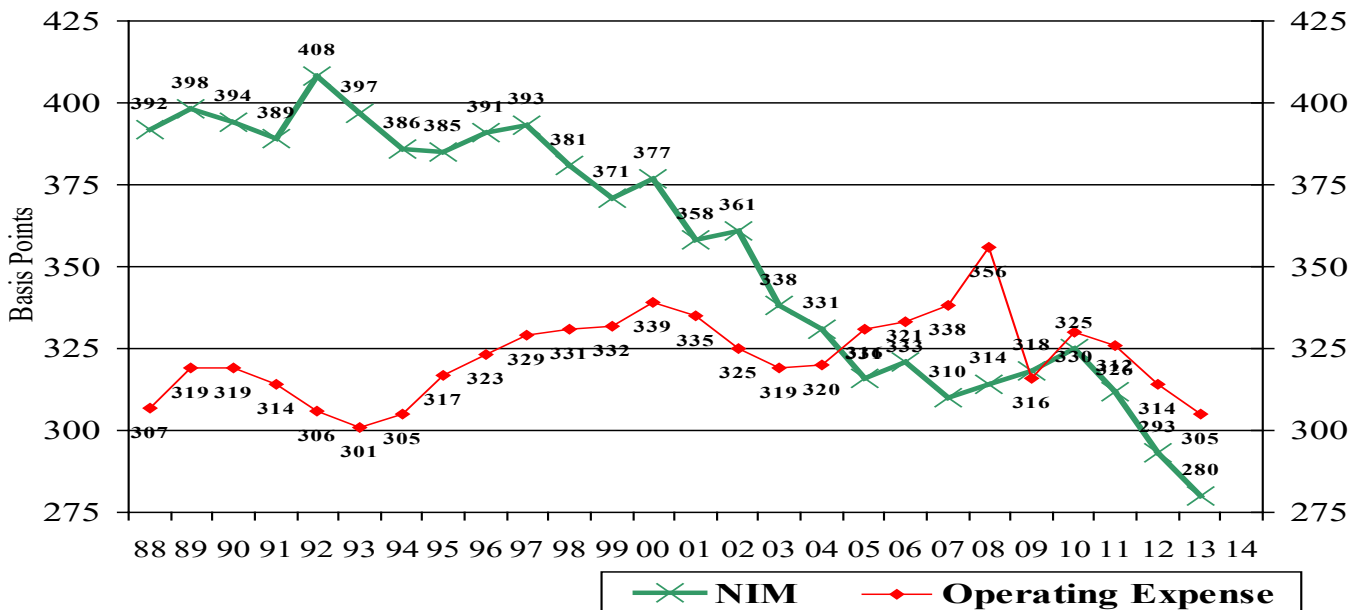
The Federal Reserve's "exceptionally low interest rates for an extended period" is causing CU cost of funds, COF, to asymptotically approach 0%. Focusing on core deposits and the stickiness of deposits will increase the opportunity for higher interest margins when short-term interest rates begin to rise in 2015.

# CU Net Interest Margin 1981-2012



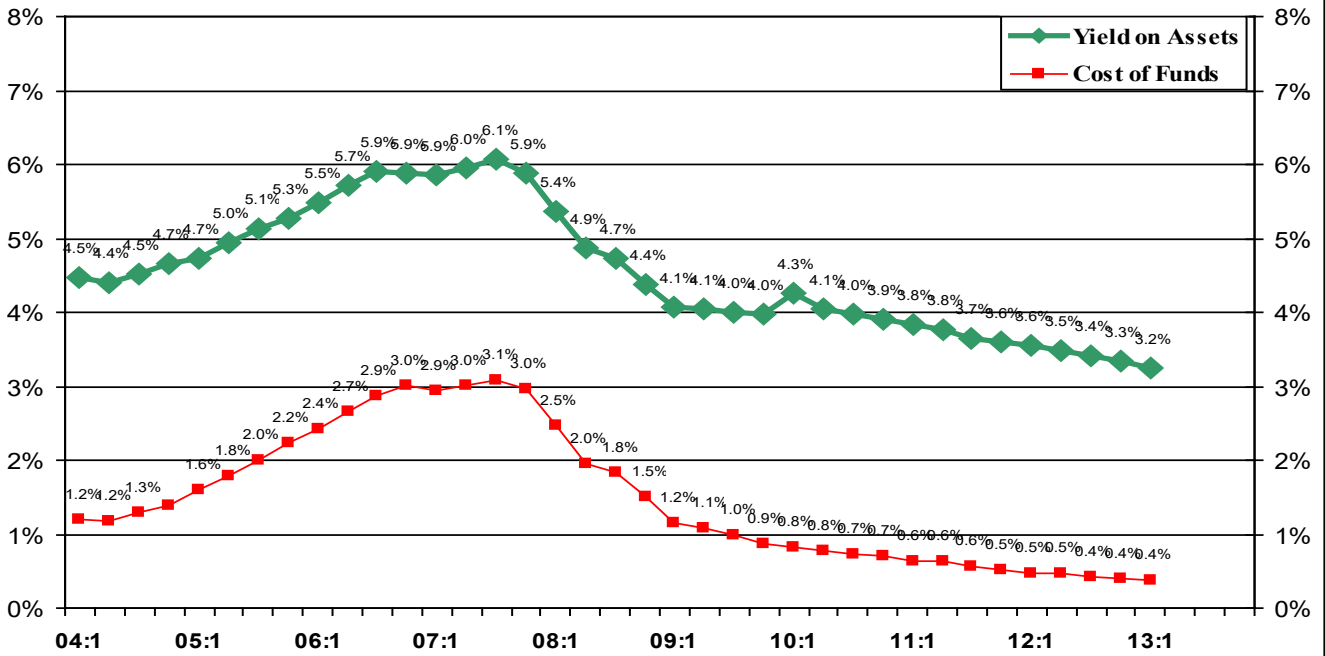
Deregulation over the last 30 years has increased competition in the financial services arena, resulting in lower net interest margins. Banking competition will increase as survivors of the Great Recession reduce their risk aversion. For an individual CU, margins will also be determined by local market demographics: population growth, median household income, local industry, age trends. Margin compression is forcing credit union to boost efficiency and productivity.

## Net Interest Margin vs Operating Expense to Average Assets



Net interest margins are falling as YOAs fall faster than COFs. Credit unions have been “underwater” for the last 8 years as operating expenses have been greater than net interest margins. Mergers will accelerate as a means to reduce operating expense ratios. Cost containment and reorganization efforts are also a high priority: enhance the distribution system, evaluate the product menu, optimize business processes, improve vendor relationships.

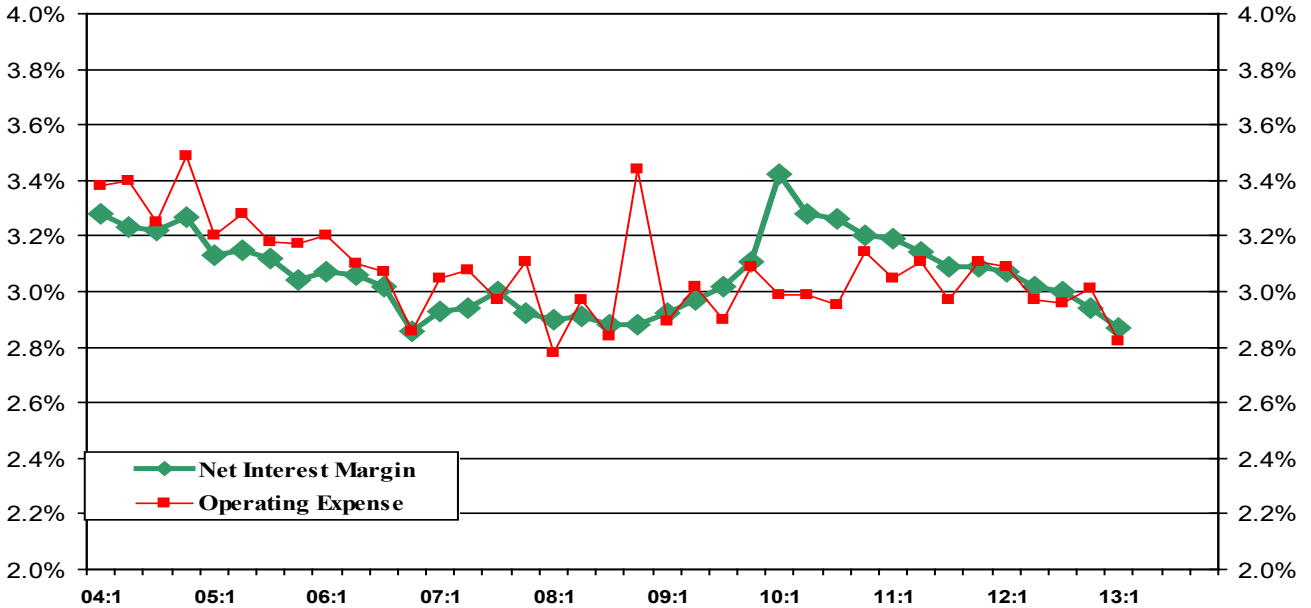
## Commercial Bank Yield on Assets & Cost of Funds



Source: FDIC

YOA is at record low levels due to: historically low interest rates, price competition for good loans, excess liquidity, weak loan demand, low investment yields and abnormally high risk aversion.

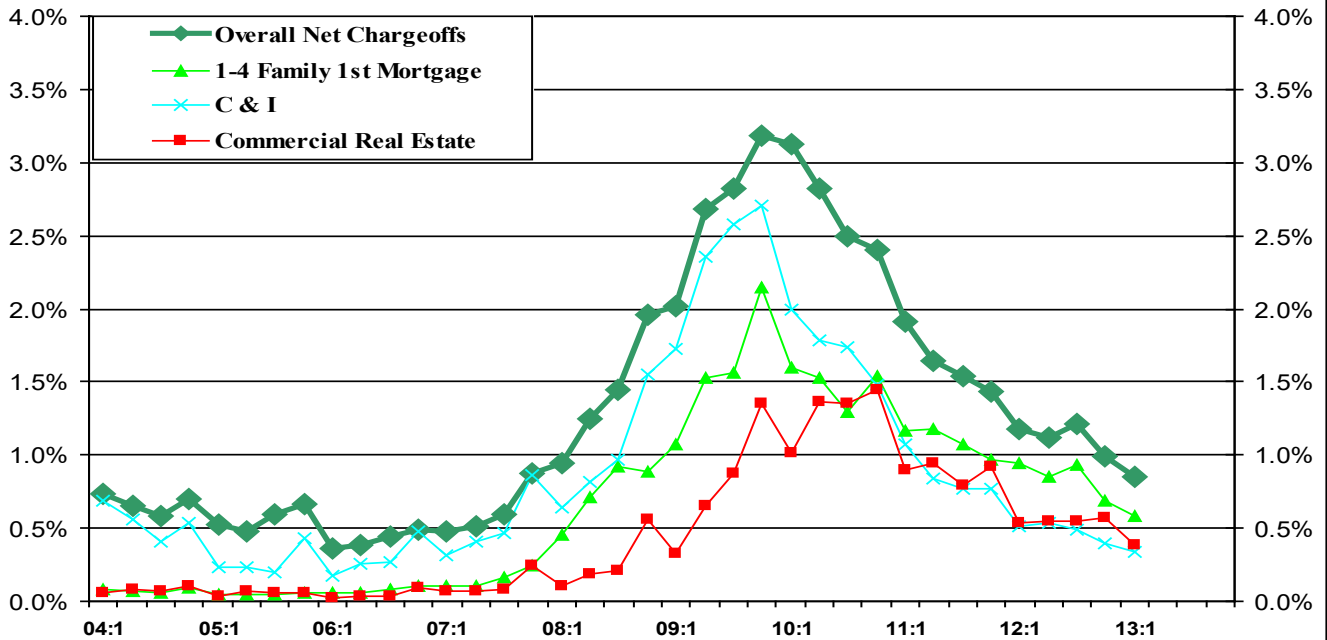
## Commercial Bank Net Interest Margin vs Operating Expense



Source: FDIC

Net interest margins are falling as YOAs fall faster than COFs. COFs are asymptotically approaching 0%. The Great Recession led to over 400 bank failures which reduced capacity and improved margins in an overcrowded market. Banking woes include anemic economic growth, piles of new regulation, waves of housing related litigation and exposure to European banks and the Euro-zone debt crisis.

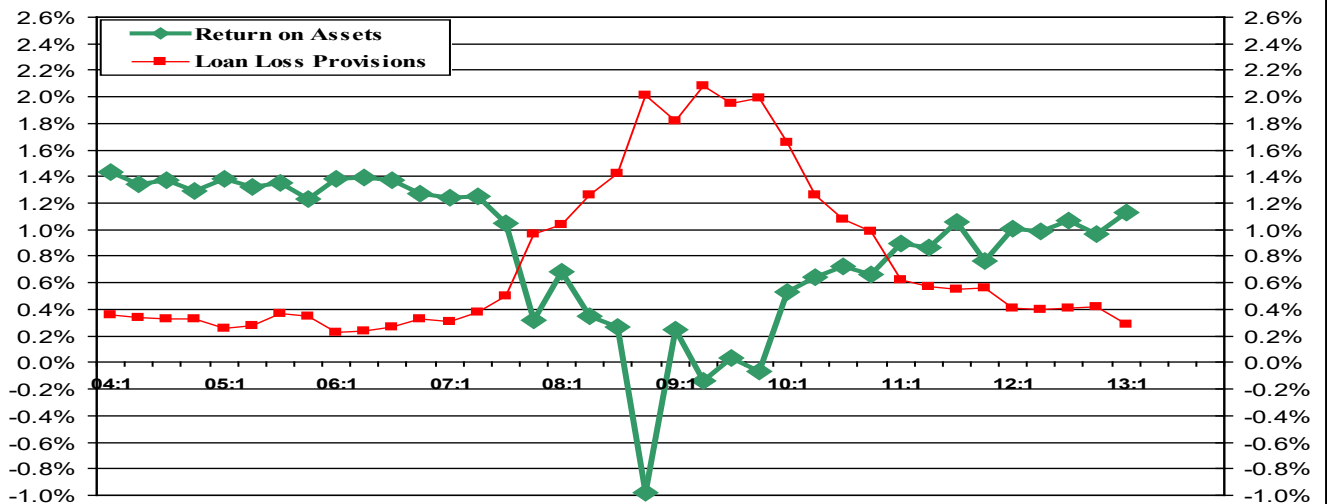
## Commercial Bank Loan Net Chargeoffs



Source: FDIC

High unemployment and falling property prices levied a heavy toll of bad debts. Credit quality has improved leading to easier lending standards. Banks need to deal with the large amounts of distressed assets that remain on their balance sheets.

## Commercial Bank Loan Loss Provision & ROA



Source: FDIC

Falling provisions for loan loss has led to bank return on assets, ROA, to climb above 1% in 2012. Bank capital ratios are now some of the highest in the world over 10%.

During the boom many banks boosted earnings simply by leveraging up, masking poor returns on assets with the magic of debt.

New banking rules (BASEL 3) require banks to hold more capital (against potential losses) and bigger pools of liquid assets and more long-term debt (if funding markets dry up) which will depress returns on equity. New bank regulation will make banks safer at the cost of decreased supply of credit at a higher interest rate. Dodd Frank Act compliance costs will increase operating expenses.

**2013 Economic Growth = 2.5%**

**2014 Economic Growth = 3.0-3.5%**

1. Housing market recovery (25% growth)
2. Rising home prices (7-9%)
3. Rising auto manufacturing (15 million units)
4. Rising business investment spending
5. Strong energy sector
6. Strong medical care sector
7. Easing credit conditions
8. Rising consumer confidence
9. End of deleveraging
10. Less imported oil will reduce current-account deficit

**Is there a recession in our future?**

Are there excesses or imbalances in any sector?

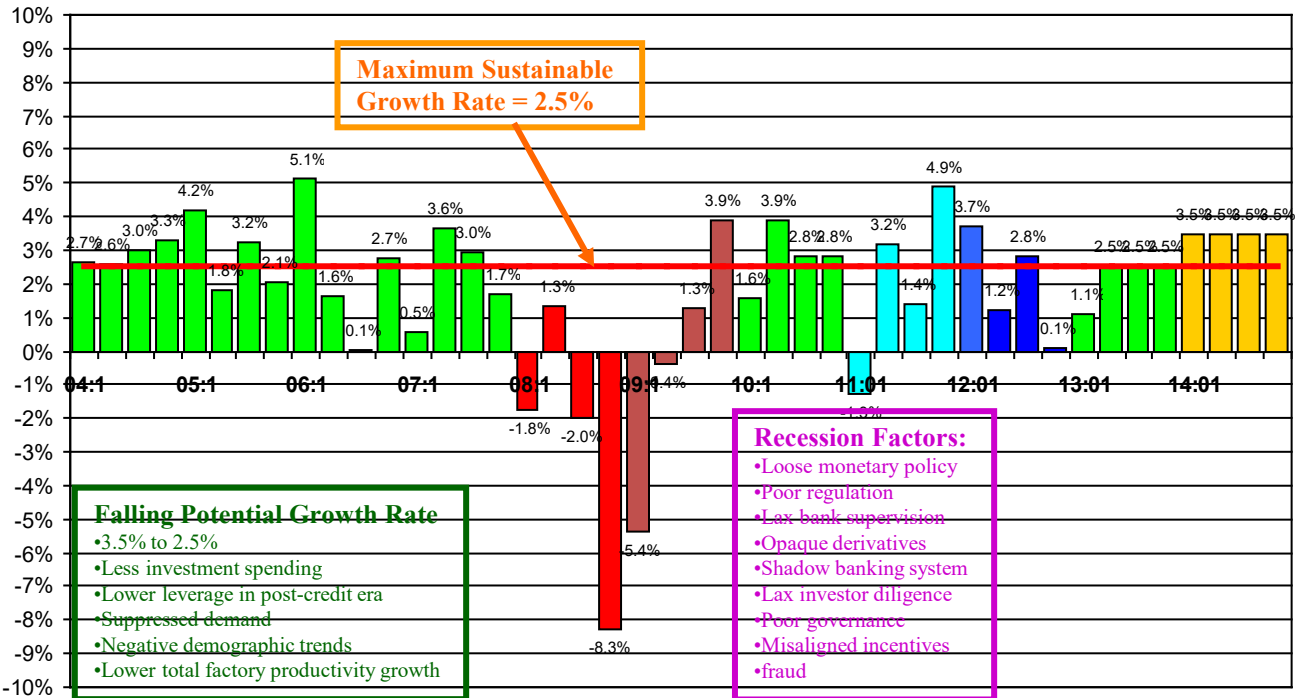
- 1. Farm land prices?**
- 2. Stock prices?**
- 3. Bond prices?**
- 4. Political?**

**Fiscal Policy Uncertainty**

- Debt Ceiling (mid-October)
- Continuing resolution to fund federal government (Sept. 30)
- Republicans attempting to defund 'Obama-care' (Sept./Oct.)



## Quarterly % Change in U.S. Economic Output (Real GDP - Chainweighted 2005\$)



Source: Department of Commerce.

The output of goods and services produced by labor and property located in the U.S rose 2.5% in Q2. Positive contributions came from personal consumption expenditures, private inventory investment, exports, nonresidential fixed investment and residential fixed investment. Negative contributions came from federal government spending.

Final sales of domestic product – GDP minus change in inventories – grew 1.9% annualized. Inventories added 0.6% to growth as firms increased the pace of inventory accumulation. Stronger aggregate demand will lead to job growth, rising confidence and further spending (a self-sustaining expansion).

A “balance sheet recession” is the process whereby households and companies pay down debts rather than embark on new spending. The lack of demand for loans is due to the debt-strapped private sector.

Economic growth during 2002-08 relied too much on consumption spending and house buying, both financed by foreign savings channeled through an undercapitalized financial system. Today’s sluggishness stems from pre-crisis excesses and the misshaped economy it created. Recoveries from debt-driven busts always take years as households repair balance sheets.

## 2nd Quarter 2013 GDP

$$\text{Spending} = C + I + G + X - M$$

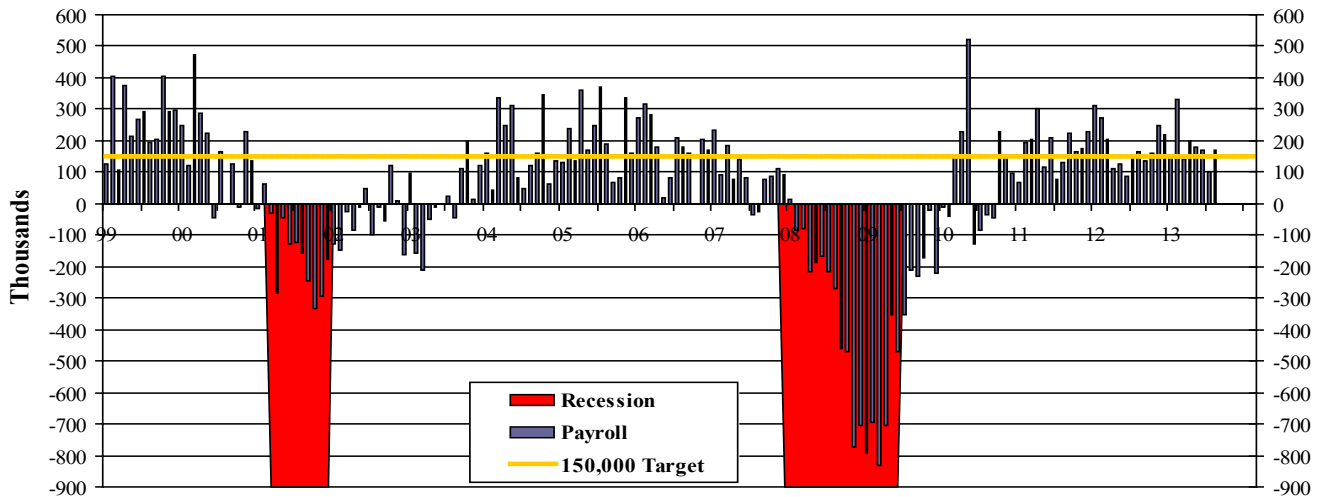
$$\% \text{ of total} = (70.6) \quad (14.0) \quad (18.5) \quad (13.4) \quad (-16.4)$$

$$\text{Growth rate} = \underline{(1.8)} \quad \underline{(9.9)} \quad \underline{(-0.9)} \quad \underline{(8.6)} \quad \underline{(7.0)}$$

$$\text{Contribution} = (1.2) + (1.5) + (-0.2) + (1.1) + (-1.1) = 2.5\%$$

$$(1+0.025)^{1/4} - 1 = 0.0062 = 0.62\% \text{ (non-annualized quarter growth rate)}$$

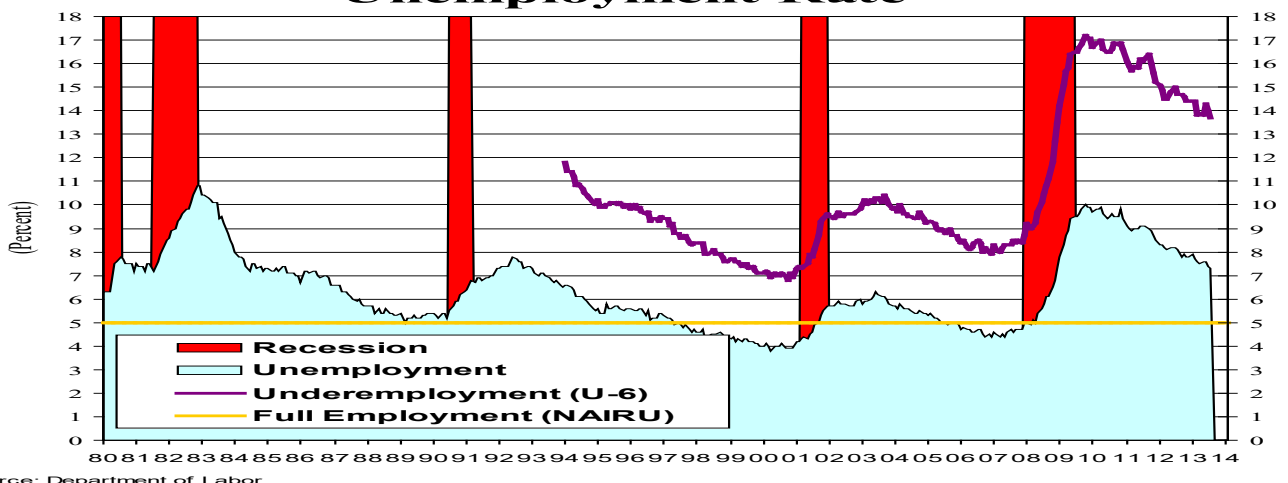
## US Payroll Employment Monthly Changes SA



Payroll employment grew 169,000 in August, above the 150,000 long-run target and below the 200,000 needed to meaningfully lower the unemployment rate (private payrolls rose 152,000, government payrolls rose 7,000). Housing-related employment, directly and indirectly, will account for 2/3 of all private sector job gains during the next few years. Improved consumer balance sheets will also stimulate job creation in 2013. But higher payroll and income tax rates will dampen consumer spending and job creation. Government spending cuts will affect employment through furloughs, hiring freezes and delayed expansion plans.

Average workweek remained at 34.5 hours. A stable workweek but more payrolls lead to 0.2% rise in total hours worked. Average hourly earnings (\$23.82) rose by 0.4% m/m and 2.2% y/y, indicating little evidence of wage pressures and slightly above the 1.7 inflation rate. Forward looking indicators (temp hiring and average weekly hours) suggests additional hiring in coming months.

## Unemployment Rate



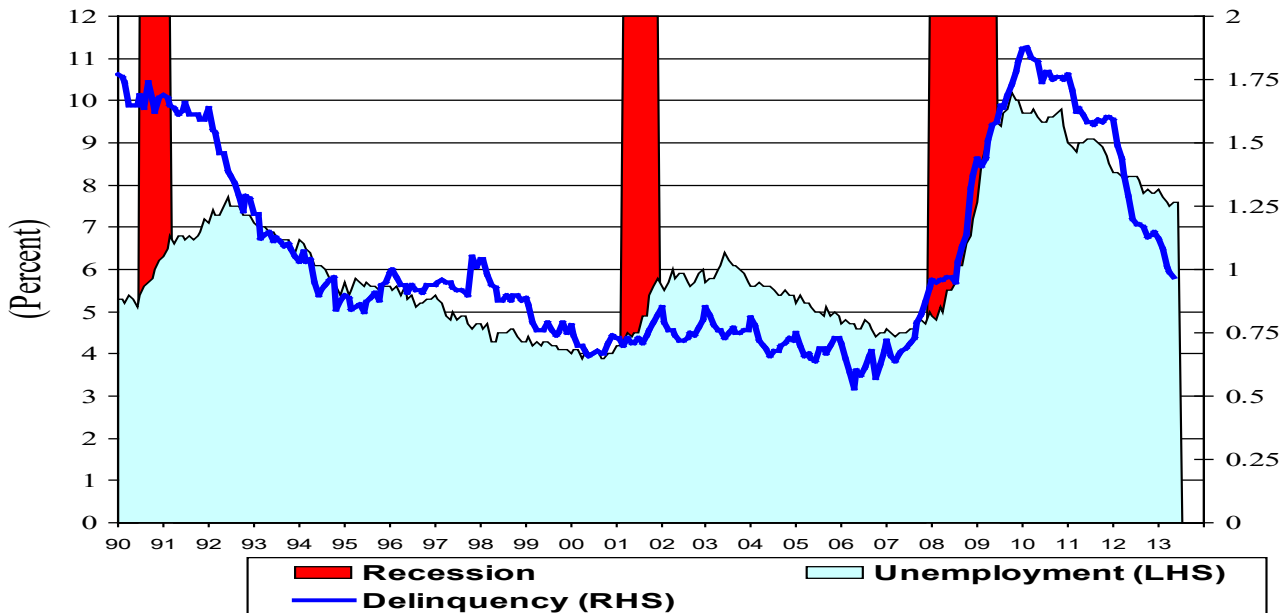
Source: Department of Labor.

The **unemployment rate** fell to 7.3% in August, which corresponds to 11.7 million unemployed workers of which 4.6 million have been unemployed for more than 26 weeks. Underemployment fell to 13.7%. The labor force participation rate fell to 63.2%. Employment-to-population ratio fell to 58.6%.

The **labor force** fell -312,000: employed fell -115,000, unemployed fell -197,000.

**Structural Unemployment Disease:** Joblessness is becoming chronic with the average unemployment at 40 weeks. Long-term unemployment is harder to cure because workers' skills atrophy (human capital degradation) and they become detached from the work force. High long-term unemployment decreases future economic growth, raises future deficits and decreases social order. the theory of *hysteresis* argues that a recession can permanently affect the labor force, leading to an increase in long-term unemployment.

## Unemployment Rate Vs CU Delinquency Rate

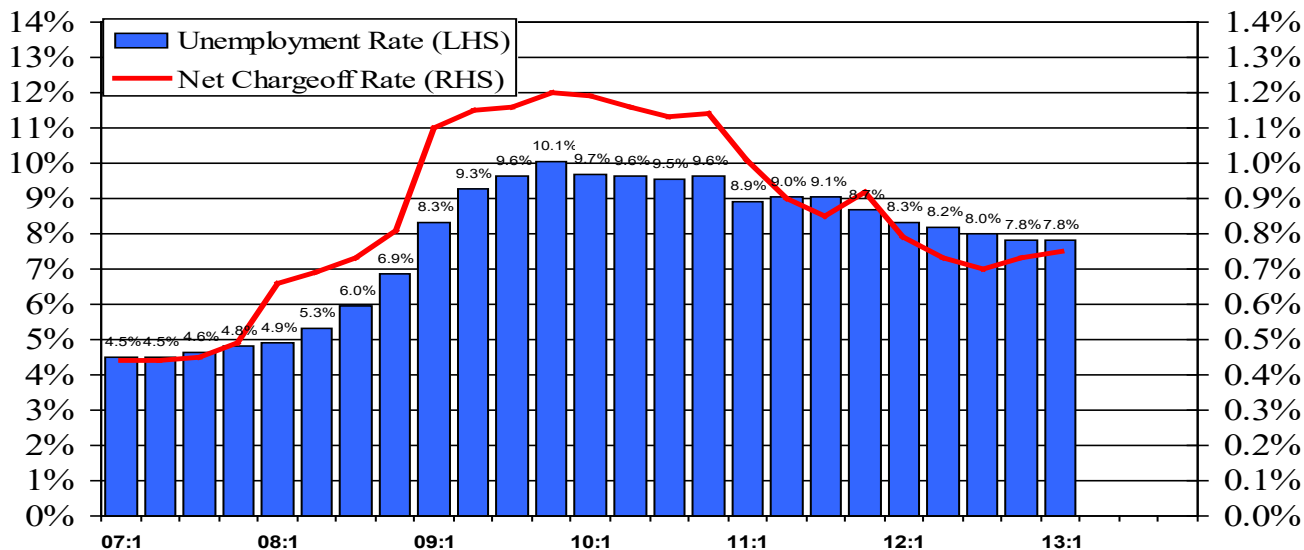


Every 1 percentage point change in U.R => 0.19 change in delinquency rate

### Credit Risk (2 types)

1. Default Risk – borrowers’ willingness and ability to repay debt (unemployment rate)
2. Collateral Risk – market value decline of the asset securing the loan. (home price changes)

## Unemployment Rate Versus CU Net Chargeoff Rate



Source: Department of Labor, NCUA, CUNA

Every 1 percentage point change in U.R => 0.12 change in NCO

# Asset-Liability Management Issues

## Interest Rate Risk

Interest rate risk is the potential impact of interest rate movements on an institution's net interest income and capital level. It focuses on the repricing speed of the institution's assets relative to liabilities.

### Issues:

- Historically low interest rates
- Relatively steep yield curves will put upward pressure on net interest margins if loan can be made. Cost structure adjustments will boost net income.
- Can only increase asset yields by taking substantial risk.
- Large holdings of mortgages with a possibility of higher inflation and interest rates in the future.
- Rapid deposit growth has lowered loan-to-savings ratios.
- Changing asset mix from loans to investments.
- Must align asset growth to earnings growth to maintain capital ratio.
- Capital limitations will restrict pace of asset growth.
- Optimal deposit pricing key to performance as financial institutions compete for deposits.

## Credit Risk

Credit risk is the oldest of all financial risks. It is the danger that a borrower will simply fail to meet interest payments or repay a debt.

### Issues:

- High unemployment and falling home prices have elevated loan charge-offs.
- With 20% of homeowners underwater with their mortgages, foreclosures will remain high through 2013. Mortgage modifications is mainly delaying rather than preventing foreclosures.
- Financial institutions rapidly increased their allowance for loan loss account. They have moved from a building to a maintenance to a reduction phase.
- Lower loan loss provisions will boost net income.
- Total loan growth will outpace delinquent loan growth, decreasing delinquency ratios.

## Liquidity Risk

Liquidity risk is concerned with maintaining an adequate availability of funds for loan demand, deposit outflows, and expense payments in changing interest rate environments.

### Issues:

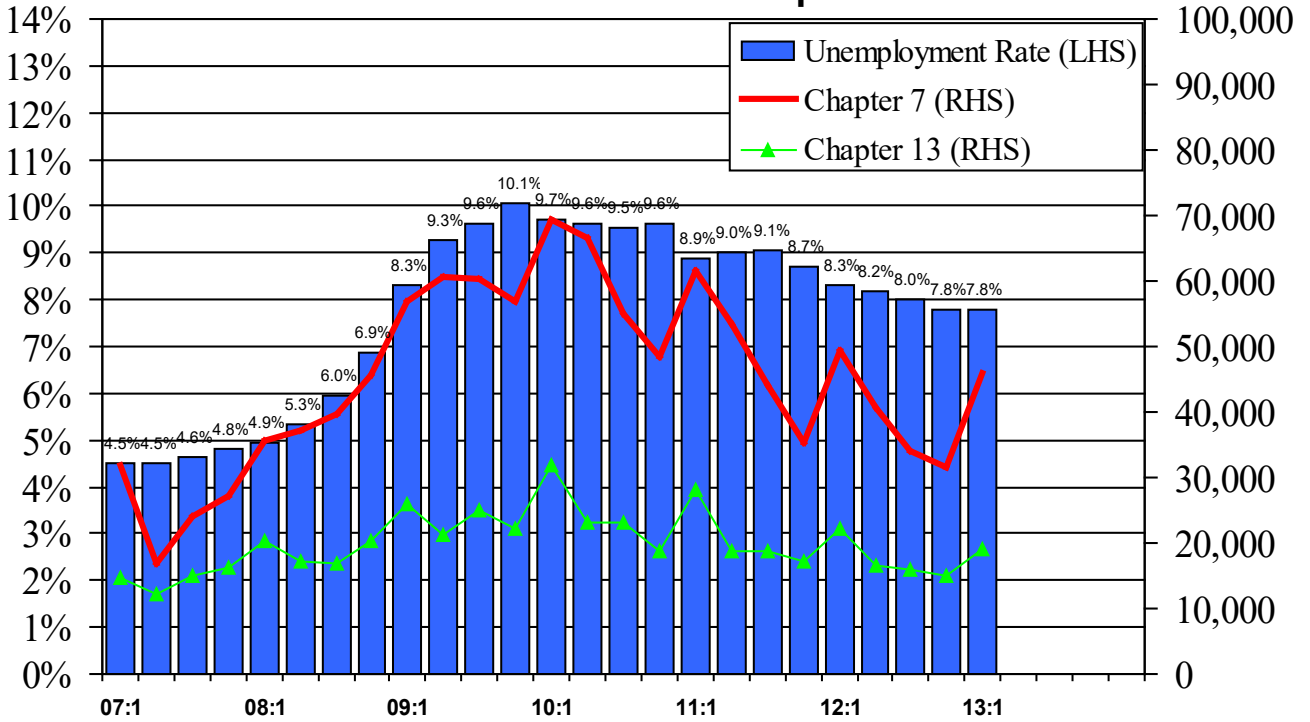
Financial institutions are flush with low-rate excess reserves.

Deposit growth will outpace loan growth through 2013.

Rising investment-to-asset ratios will put downward pressure on asset yields.

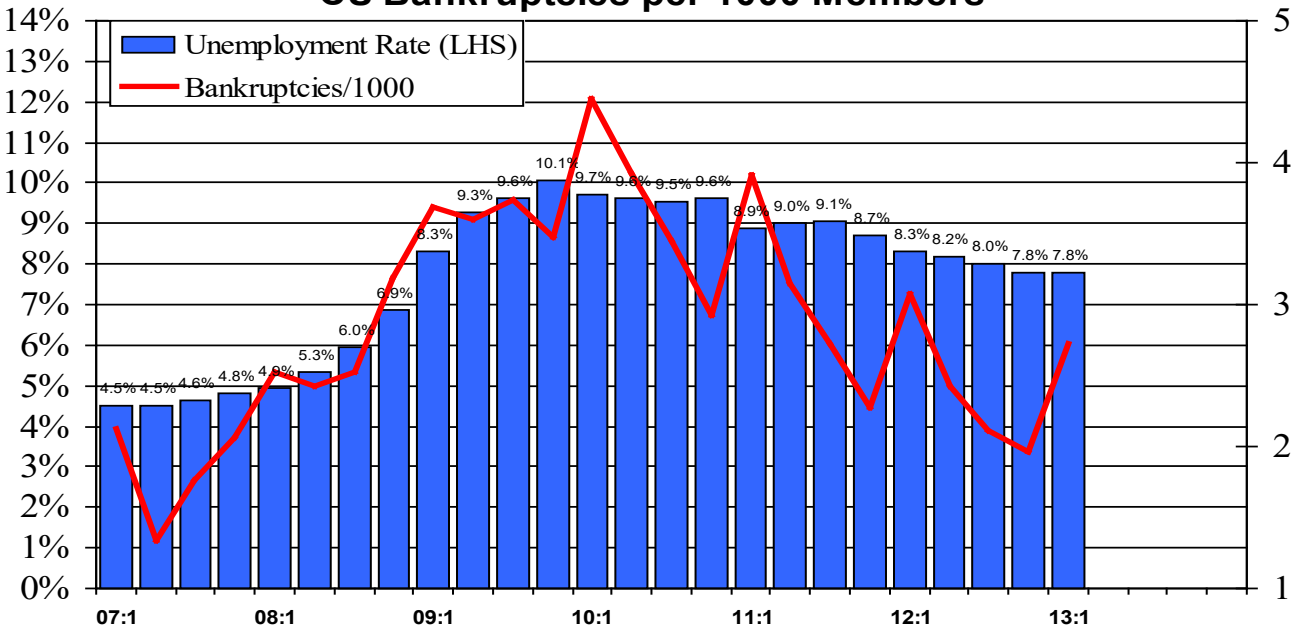
Households will maintain high savings rates and deleveraging will end in 2013.

## Unemployment Rate Versus Number of CU Bankruptcies



Source: Department of Labor, NCUA, CUNA

## Unemployment Rate Versus CU Bankruptcies per 1000 Members

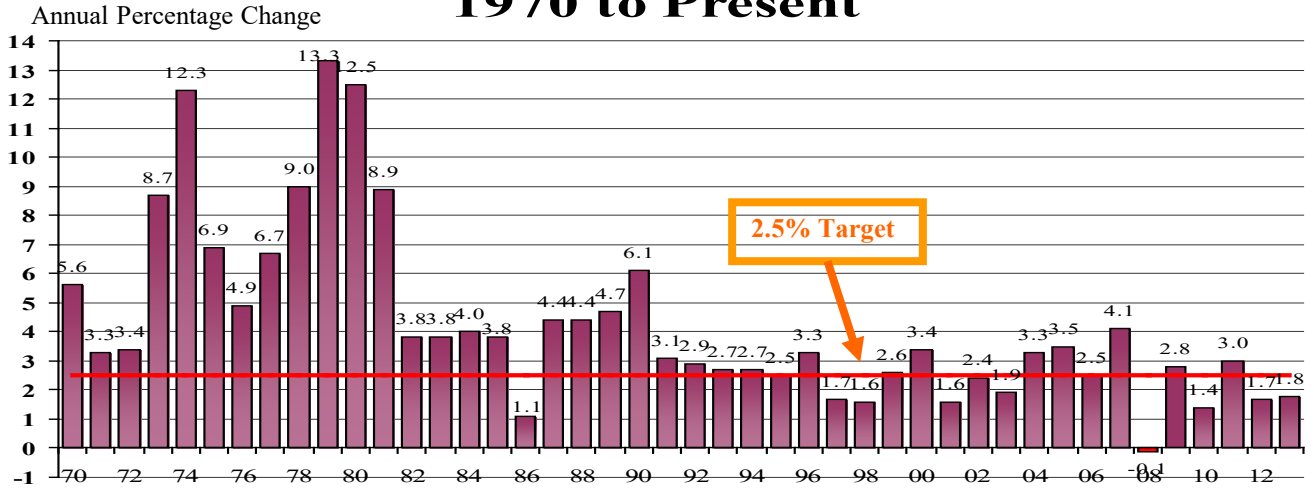


Source: Department of Labor, NCUA, CUNA

## Consumer Price Index (July 2013)

<i>Expenditure Components</i>	<i>Share of Total</i>	<i>Growth</i>	
		<i>m/m</i>	<i>y/y</i>
<b>All Items</b>	<b>100%</b>	<b>0.2</b>	<b>2.0</b>
<b>Food</b>	<b>14</b>	<b>0.1</b>	<b>1.4</b>
Meat, poultry, fish, eggs	2	0.2	2.0
Fruits, vegetables	1	1.5	2.7
<b>Energy</b>	<b>10</b>	<b>0.2</b>	<b>4.7</b>
Motor fuel	6	1.0	5.1
Electricity service	3	-0.3	3.1
<b>All Items (less food &amp; energy)</b>	<b>76%</b>	<b>0.2</b>	<b>1.7</b>
<b>Commodities (less food/energy)</b>	<b>19</b>	<b>0.0</b>	<b>-0.2</b>
Apparel	4	0.6	1.6
New Vehicles	3	0.1	1.2
Used Vehicles	2	-0.4	-2.1
<b>Services (less energy)</b>	<b>56</b>	<b>0.2</b>	<b>2.4</b>
Shelter	32	0.2	2.3
Rent	8	0.2	2.8
Owners' Equivalent Rent	24	0.1	2.2
Medical Care	5	0.1	2.6
Transportation	6	0.4	3.0

# Consumer Price Index 1970 to Present



**July Inflation = 0.2% m/m, 2.0% y/y, (rising energy and food prices)**

**Core inflation = 0.2% m/m, 1.7% y/y, (slightly below Federal Reserve's target)**

The modest economic recovery will keep inflationary pressures under control though 2014. We expect the Consumer Price Index, CPI, to rise 1.5% in 2013 and 2.0% in 2014. This is close to the Federal Reserve's explicit target of 2%. With the inflation rate higher than many interest rates today, the majority of savers and investors are earning a negative real interest rate on their money. This has created a generational income redistribution from rich baby boomers to the younger generation. Lower real interest rates benefit young borrowers at the expense of old savers/borrowers.

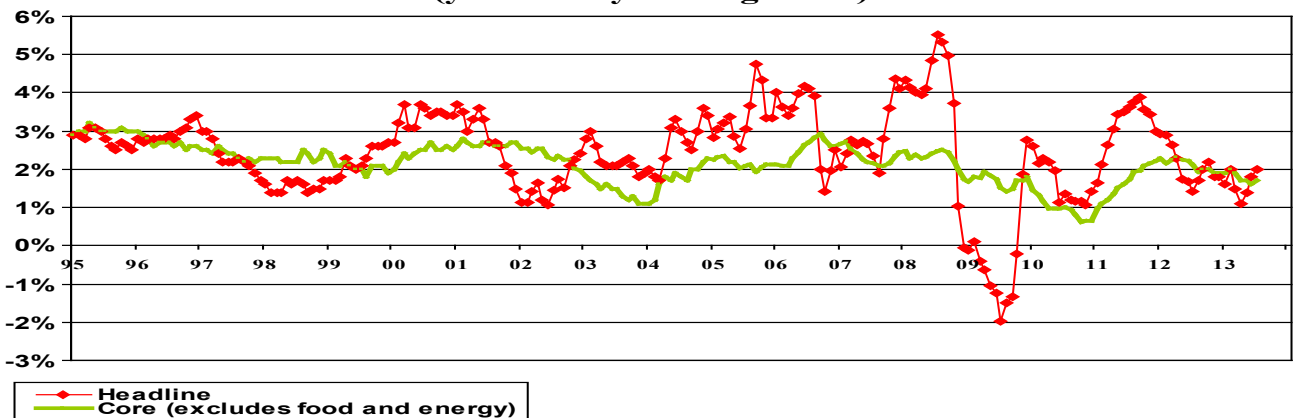
**Expect lower inflation in 2013 due to:**

1. lack of broad pricing power
2. subdued economic recovery

**Lower inflation will boost real disposable income growth rates.**

**Low inflation => Federal Reserve "QE-3" (print money to buy assets)**

## Inflation (CPI) (year over year % growth)



Lower input and headline prices point to slower underlying inflation in the months ahead.

Fed doesn't need to head for the exit yet (raise interest rates).

Fed needs to talk tough on inflation to keep expectations anchored.

Bond markets are not pricing in higher inflation. (Nominal - TIPS rates)

Surging import prices could dislodge inflation expectations.

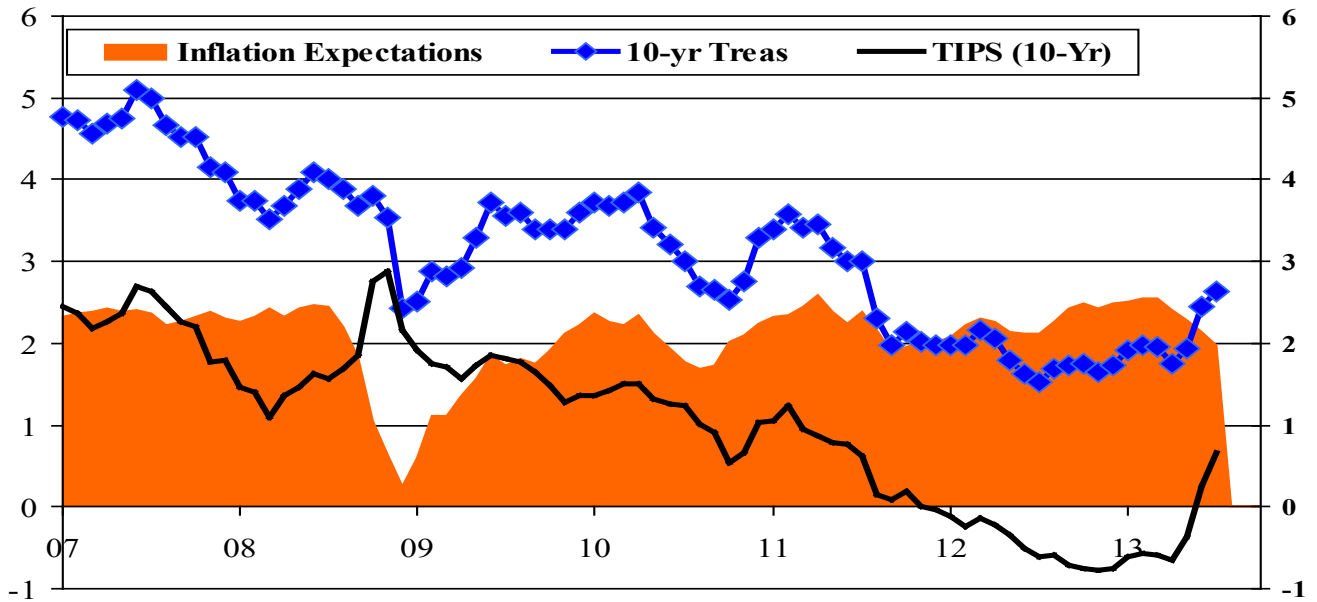
Business are starting to pass through some input costs to the consumer.

Normally inflation is a welcome sign of a strong economy, but most of the inflation is cost push and not demand pull 23

Dollar appreciated over last year => lagged impact on import prices

# Forecasting Interest Rates

## Nominal Interest Rates, Real Interest Rates and Inflation Expectations



Source: Federal Reserve

Nominal interest rates are composed of two components, real interest rates and expected future inflation.

This is known as the *Fisher Equation*:

$$\text{Nominal Interest Rate} = \text{Real Interest Rate} + \text{Expected Future Inflation}$$

**Real interest rate.** This is determined by the supply and demand for money. *Supply of money* is a function of societies willingness to save out of current income today for future consumption tomorrow. It is also a function of the inflow of foreign financial capital and the Federal Reserve's monetary policy and banks' willingness to lend. *Demand for money* is determined by the need for credit by households, businesses and government.

**Expected future inflation.** This is determined by the state of the economy, the tightness of labor markets and various expected price (supply) shocks like rising oil prices and rising imports.



# Factors Pushing up Real Interest Rates

1. Federal Reserve chairman Ben Bernanke's press conference raised bond investors' concerns that the Fed may reduce their pace of bond buying (quantitative easing) in the second half of 2013 if economic growth accelerates. This will increase Treasury yields and reduce bond prices. In anticipation of this policy change, investors' demand for longer-term bonds declined, pushing up interest rates.
2. The recent slowdown in foreign investors' purchase of Treasury bonds. For example, China, which is the largest foreign holder of U.S. Treasuries, decreased its net holdings of U.S. Treasuries in March by \$1.4 billion. In aggregate, net purchases of Treasury debt by foreigners fell from \$32.3 billion in January to \$5.3 billion in March because of increased risk appetite among investors.
3. Money rotating out of bonds into riskier stocks will increase real interest rates.

## Factors Determining Inflation

### **Inflation is determined by:**

1. Expected Inflation
2. Economy's output gap
3. Price (supply) shocks.

### **Inflation will rise one-for-one with any increase in expected inflation.**

*Workers and firms care about real wages. If workers expect higher inflation in the future, they will demand higher wages to maintain real wages. Because labor costs typically make up 70% of a firm's costs, businesses will increase prices to maintain profit margins.*

### **Output gap is the difference between aggregate economic output and potential output.**

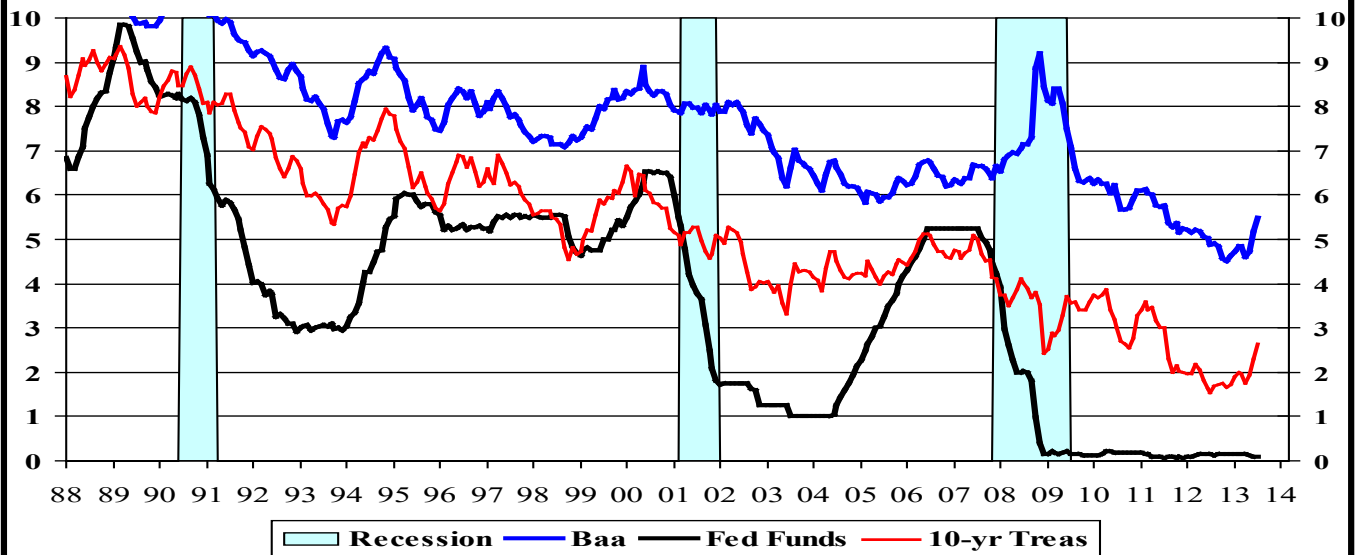
*If economy is operating **below potential**, then there is lots of slack in the economy, workers accept smaller increases in wages, and firms need to lower prices to sell their goods => lower inflation*

*If economy is operating **above potential**, then there is little slack in the economy, labor markets get tight, workers demand higher wages, and firms take opportunity to increase prices => higher inflation*

### **Price (Supply) Shocks – occur when there is a shock to the supply of goods and services produced in the economy.**

*Examples: Oil supply restrictions, developing countries rising demand for commodities, a falling exchange rate pushing up import prices, workers pushing for wage gains higher than productivity gains (Cost-push Inflation).*

# Interest Rates and Recessions 1988-2013



Interest rates (price of money) balance the desire for savings with the demand for investment. Savers are cautious and investors are reluctant to invest in new projects. The Federal Reserve has pushed down interest rates to discourage savings and boost consumer demand and to encourage business borrowing, investment and employment. The Fed has forced the 10-year Treasury interest rate to the lowest in history because of the incredibly weak economy. The low interest rate is a sign from the bond market that they expect years of stagnation and deflation or are terrified of imminent danger.

### Federal Reserve Policies:

1. **Open market operations** to increase banking system reserves and lower the fed funds interest rate to 0.0-0.25%.
2. **QE (quantitative easing)** creation of money to buy assets. This “credit easing” unclogs credit channels (ex. MBS) by boosting liquidity and decreasing interest rates. Investors sell securities to the Fed and then invest proceeds in other assets (portfolio rebalancing) which raises their prices. Lower interest rates increase borrowing and investment and therefore economic growth. Rising stock prices increase consumption spending. Higher liquidity boosts foreign asset prices, lowers the dollar’s value and increases exports. Lower interest rates decrease government borrowing costs and the future taxation burden.
3. **Intent** – the Fed announced that it plans to keep short-term interest rates “exceptionally low for an extended period”. According to the Expectations Theory of interest rates, this intent will bring down long-term interest rates.
4. **Excess reserves** interest rate is lowered to 0.25%.
5. **Operation twist** – selling short-term debt (less than 3 year maturity) to fund the purchase of long-term debt (greater than 6 year maturity). This gives investors cash for long-term debt which should prompt them to invest more money in other assets. Fed announced in the fall of 2011 they would sell \$400 billion, and in June 2012 they would sell an additional \$267 billion. Operation twist ended in December 2012 when short-term bonds were gone.

### Federal Reserve Concerns:

**Cost benefit analysis** – do the uncertain risks of uncertain magnitude outweigh the benefits of doing more.

**Diminishing returns** – additional QE will have smaller effects on the real economy.

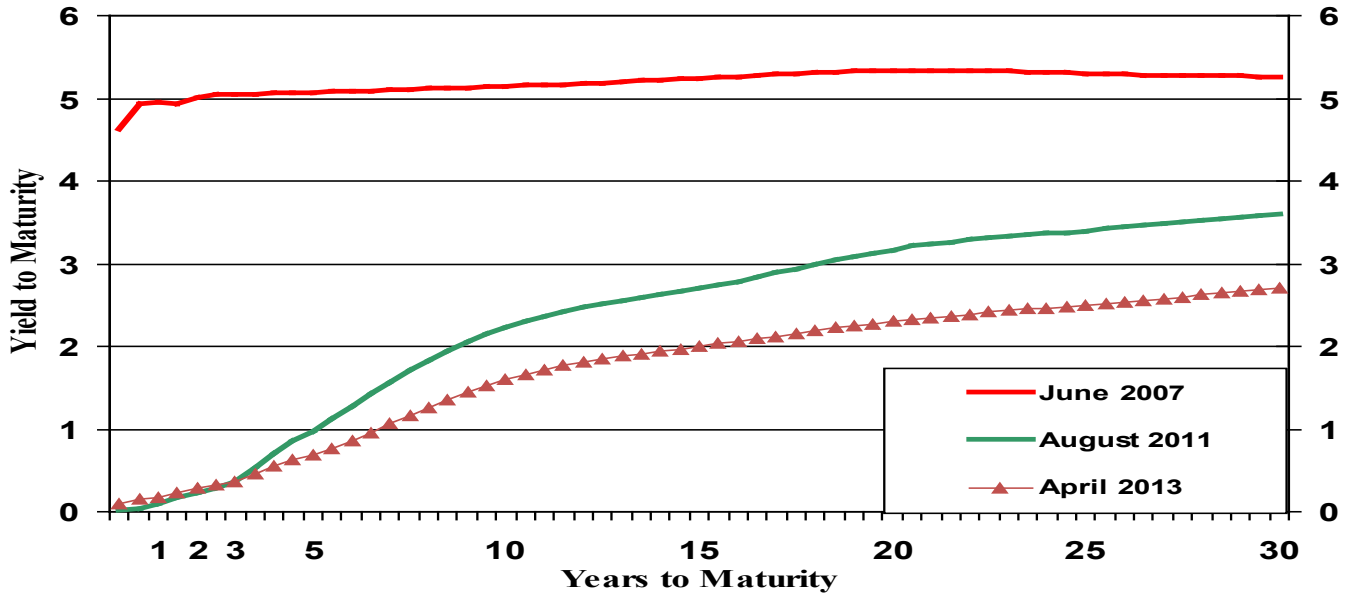
**QE effects on the real economy** - \$600 billion of asset purchases => decline in long-term interest rates of 20 basis points. This effect is equivalent to a 75 basis point reduction in the fed funds interest rate. This lowers the unemployment rate by 1.5 percentage point and raises economic growth by 0.3% versus the counterfactual.

**Asset-Shortage Theory:** U.S. Government bond yields are low because of a worldwide shortage of safe assets (MBSs and PIIGS sovereign debt are no longer considered safe assets) and a glut of global savings (business parking surplus cash and consumers savings more). Is the savings glut temporary? We could go from fretting about scarce assets to about scarce capital and the accompanying rising interest rates.

Bond yields today are not a true “market price” since central banks are such big players in the market.

Asian central banks are helping to keep interest rates low as they recycle their foreign exchange reserves into government bonds.

# Treasury Yield Curves



## Interest rate are low today because of:

- QE-3, Fed buying \$40 b of MBS and \$45 b of Treasury bonds each month.
- Eurozone debt crisis
- Corporate sector excess cash
- Financial institutions' large surplus funds

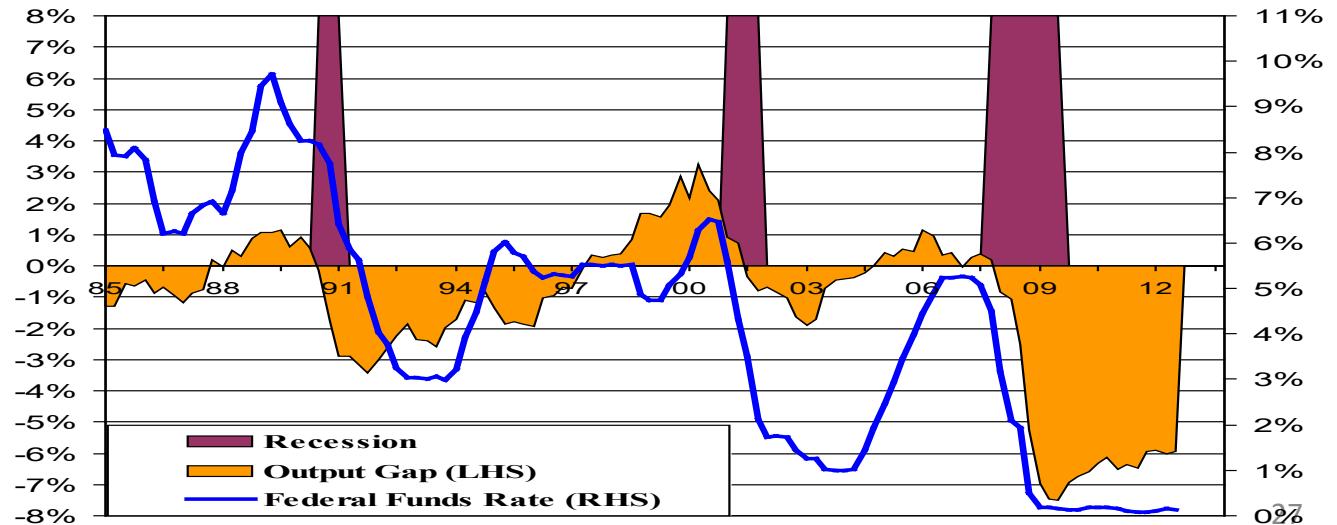
## Investors will adjust their portfolios in expectation of when the Fed will tighten monetary policy.

Fed may reduce pace of bond buying in second half of 2013 if economic growth accelerates. This will increase Treasury yields and reduce bond prices. So investor demand for longer-term bonds will decline, pushing up interest rates.

Markets expect Fed to end ZIRP in first quarter of 2015. Fed will raise fed funds rate when the unemployment rate falls below 6.5% and 2-year inflation expectations rise above 2.5%.

Credit unions are decreasing interest rate risk by investing short term.

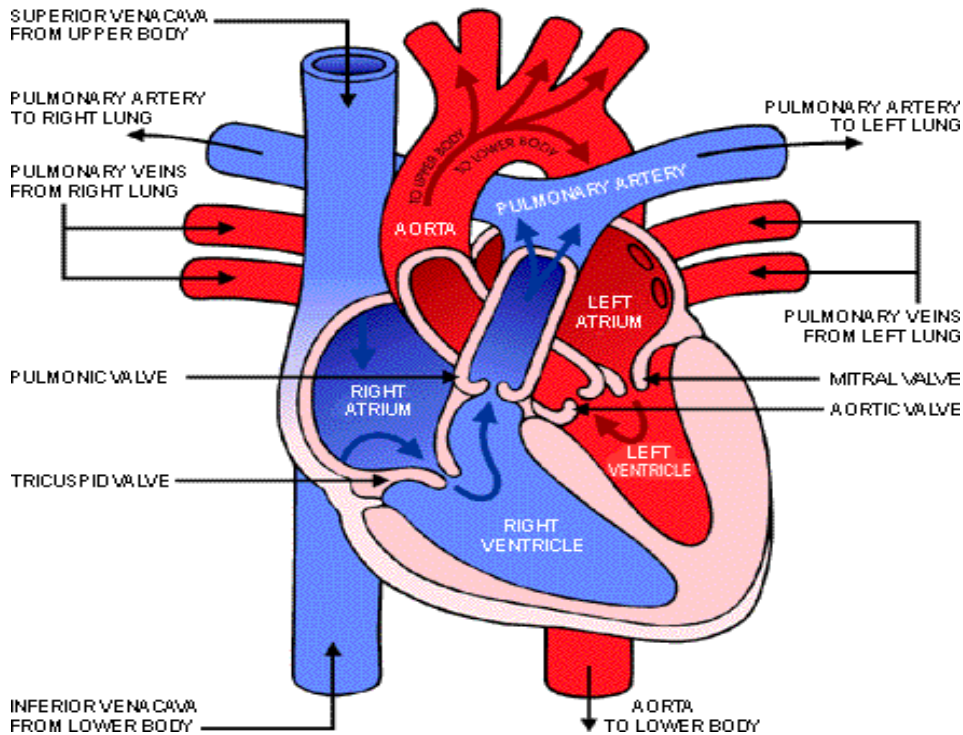
# GDP Output Gap vs. Federal Funds Rate



# The Heart Vs Bank Analogy

## How the Heart Works: Blood Flow Diagram

### How Blood Flows Through a Healthy Heart.



**Banks/CUs are to the economy  
what the heart is to the body**

**Money ⇔ Blood**

**Deposits ⇔ Deoxygenated (blue) Blood**

**Loans ⇔ Oxygenated (red) blood**

**(Loans like blood lead to productive outcomes)**

**Loan departments collect information ⇔ Lungs collect oxygen**

**Capital ⇔ Heart Muscle**

**Toxic Assets/Loans (MBS) ⇔ Plaque**

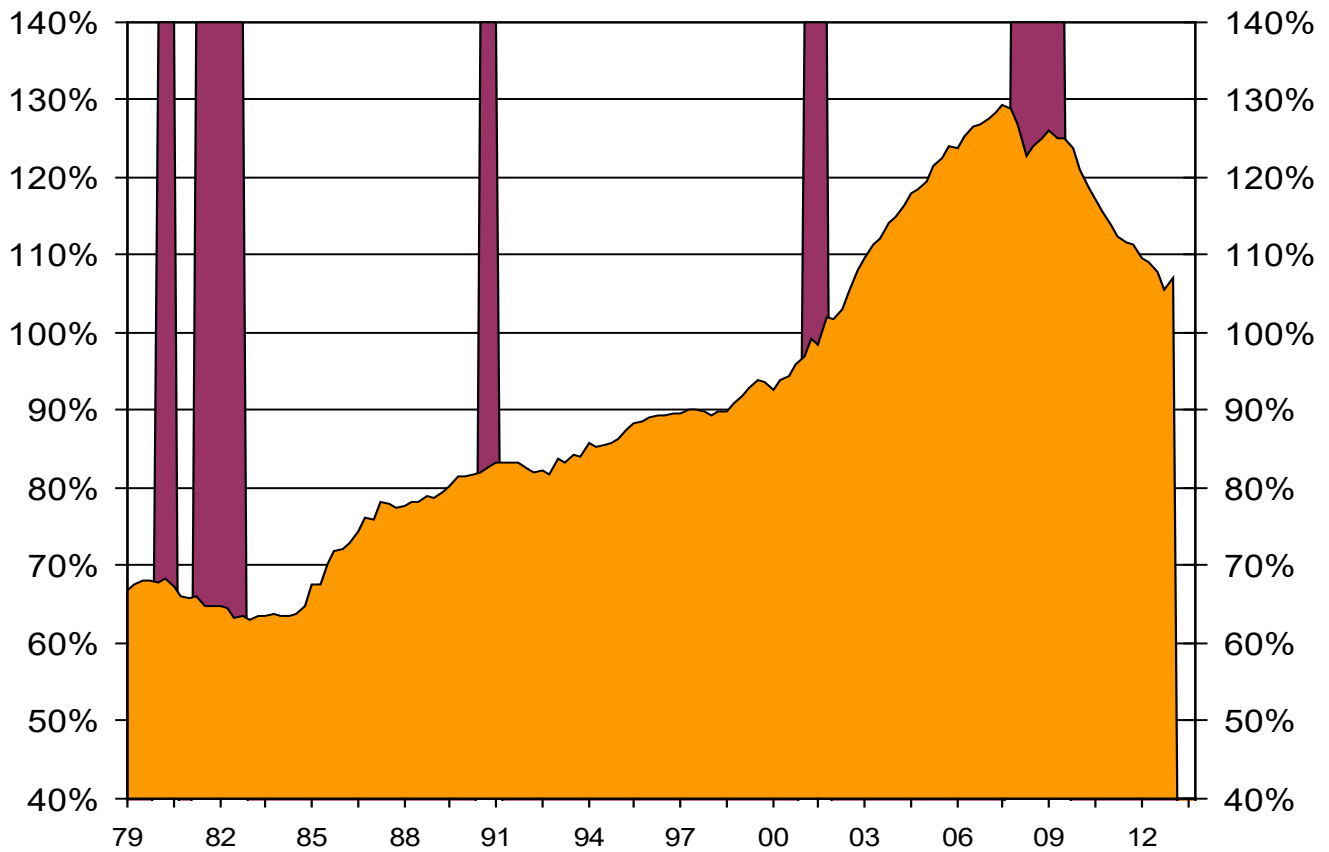
**(Mortgage Backed Securities)**

**Banking Crisis ⇔ Heart Attack**

**Government Intervention ⇔ Defibrillator**

# Household Debt

(As a Percent of Disposable Household Income)



Source: BEA & Federal Reserve.

The debt-to-income ratio fell over the last 5 years because a lot of mortgage debt has been written off and new debt is hard to get. Consumers are also deleveraging to work off this mountain of debt. The debt-to-income ratio reached 1.05% in Q4, 2012, down from 1.29% in Q3 2007. The debt ratio rose to 1.07 in Q1 2013 as disposable income fell faster than debt. Economists believe a ratio of 100% is sustainable in the long run.

**Rising debt ratios:** Households using future income to fund current consumption.

**Falling debt ratios:** Households using current income to pay for past consumption.

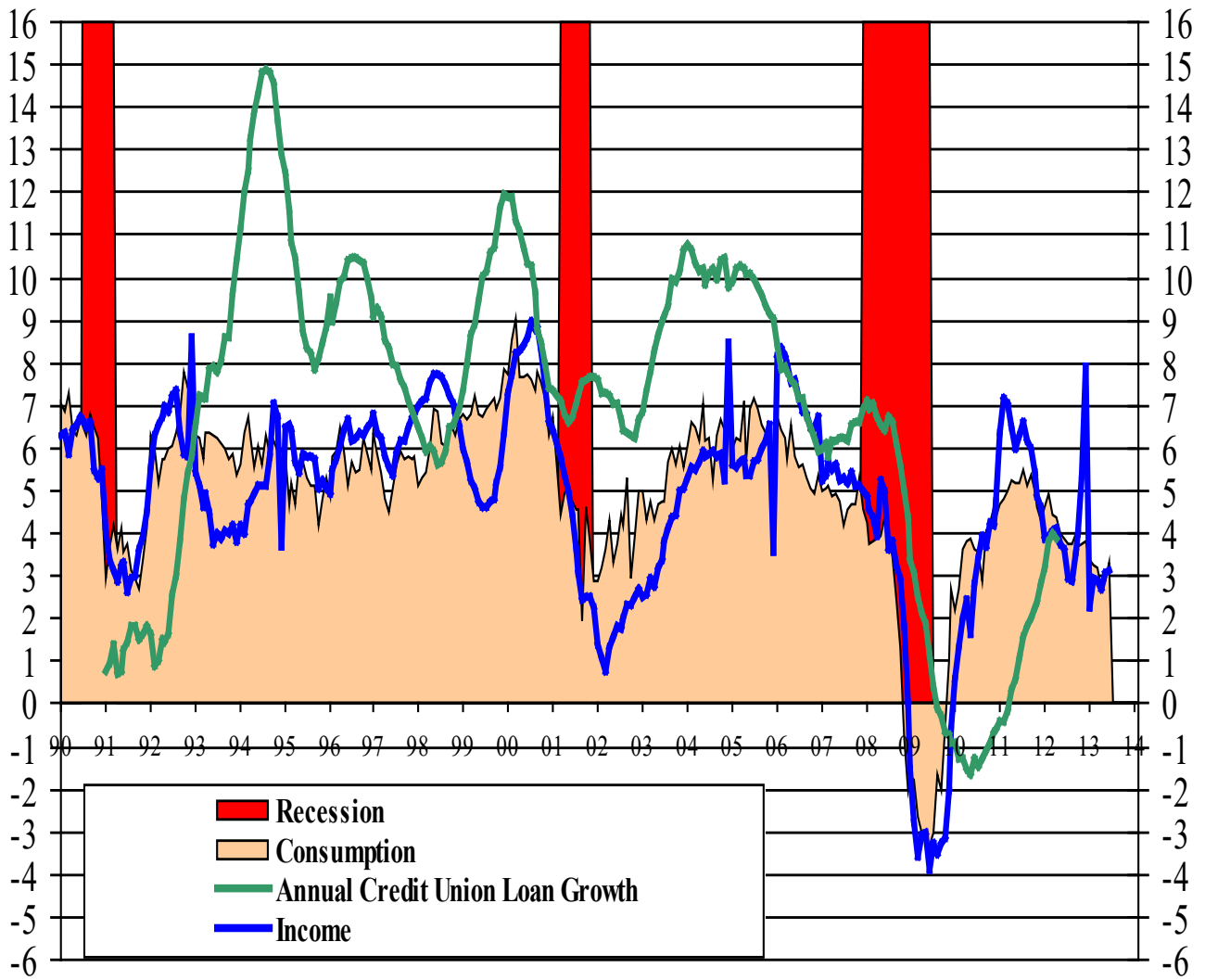
**QE:** Continued QE will lower interest rates, encourage additional borrowing and spending, and therefore increase economic growth and job creation.

**Not QE:** American households' debt levels are still excessive and therefore must continue to deleverage their balance sheets. The Fed's QE policy of encouraging more debt will just postpone the day of reckoning of the U.S. economy. QE and low interest rates has caused a redistribution of wealth from the old (savers) to the young (borrowers).

# Household Budget Constraint

$$\text{Income} + \text{Chg Debt} = \text{Taxes} + \text{Debt Interest} + \text{Spending} + \text{Savings}$$

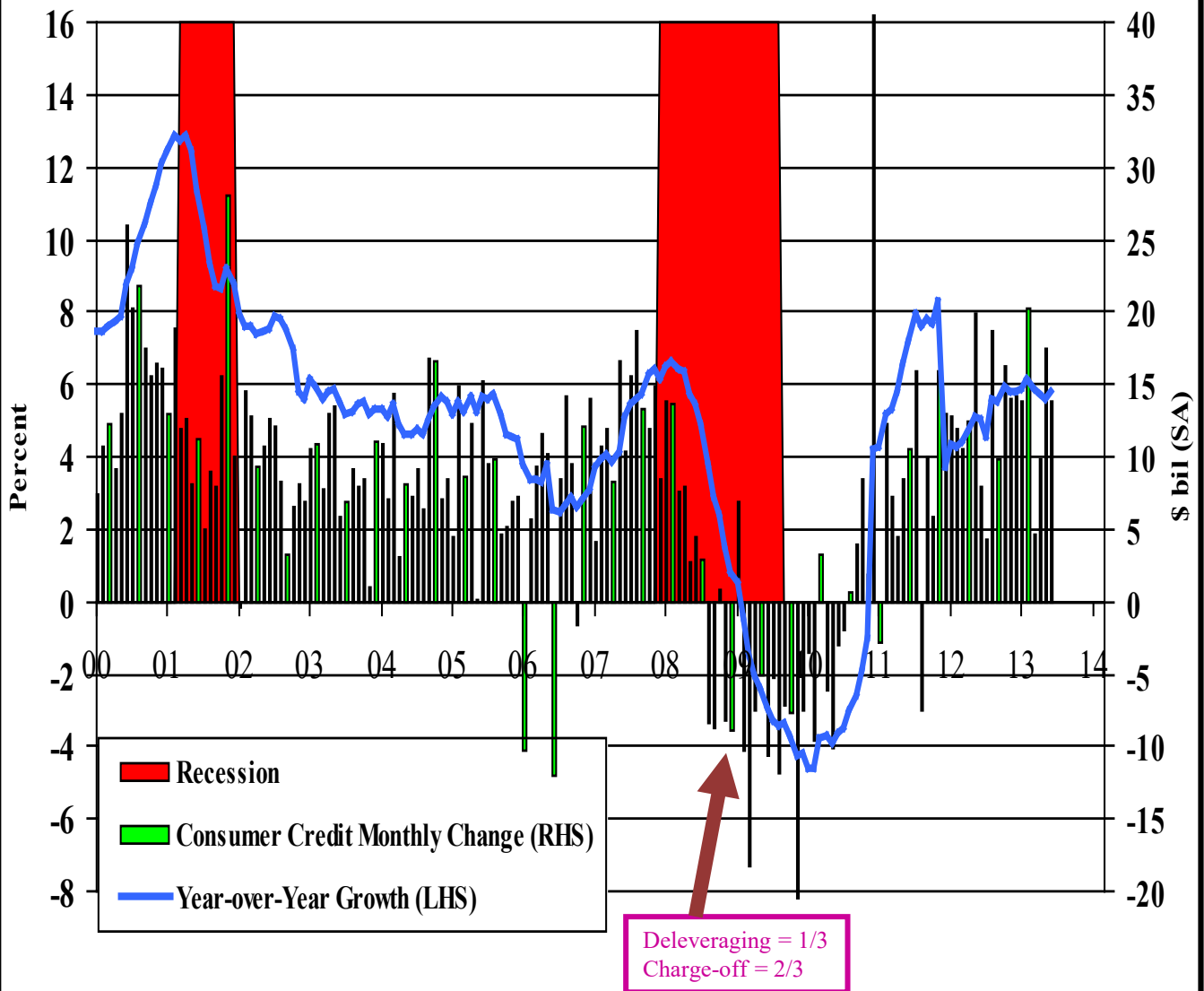
## CU Loan Growth vs Personal Income & Consumption Expenditures [Year Over Year % Change]



# Household Budget Constraint

$$\text{Income} + \text{Chg Debt} = \text{Taxes} + \text{Debt Interest} + \text{Spending} + \text{Savings}$$

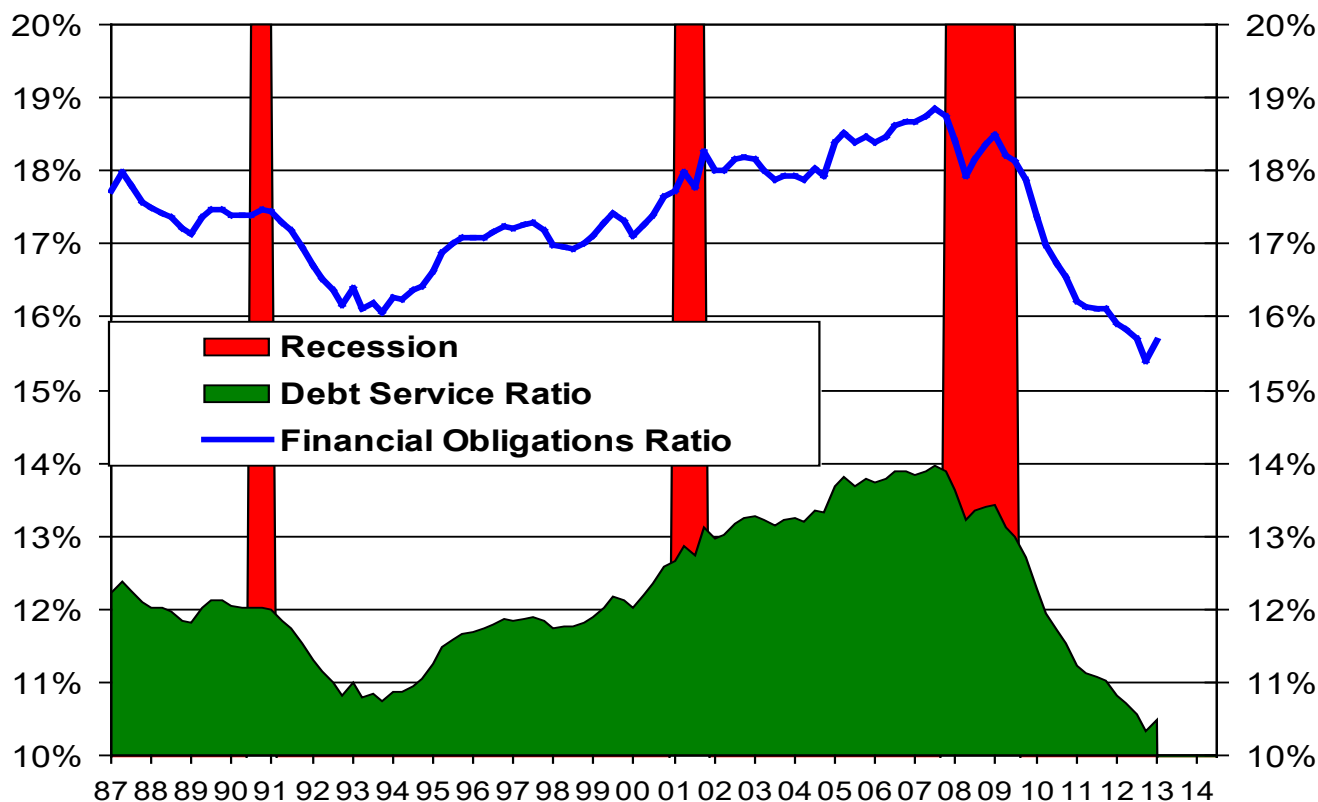
## Consumer Credit Outstanding (monthly change & annual growth rate)



# Household Budget Constraint

$$\text{Income} + \text{Chg Debt} = \text{Taxes} + \text{Debt Interest} + \text{Spending} + \text{Savings}$$

## Household Debt Service & Financial Obligations Ratios



Source: Federal Reserve.

The household debt service ratio is an estimate of the ratio of debt payments to disposable personal income. Debt payments consist of the estimated required payments on outstanding mortgage and consumer debt.

The debt service ratio fell to 10.9% in the fourth quarter of 2011, the lowest level since Q3 of 1994. Falling interest rates and debt levels both caused the decline. Low debt payments are freeing up disposable income for additional consumption or savings.

The financial obligations ratio adds automobile lease payments, rental payments on tenant-occupied property, homeowners' insurance, and property tax payments to the debt service ratio.

The financial obligation ratio fell to 15.9% in the fourth quarter of 2011, down from 18.9% in Q3 of 2007.

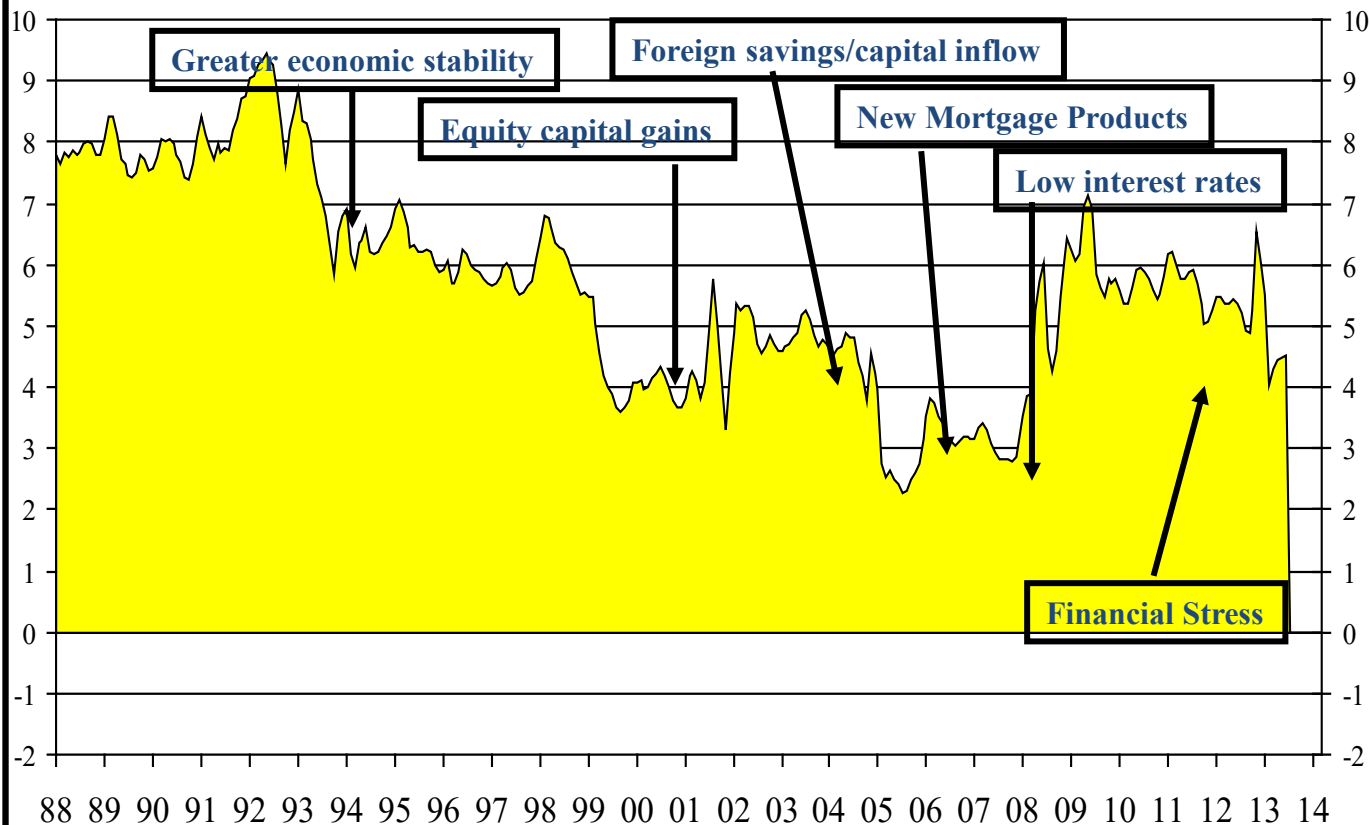


# Household Budget Constraint

$$\text{Income} + \text{Chg Debt} = \text{Taxes} + \text{Debt Interest} + \text{Spending} + \text{Savings}$$

## National Savings Rate

[3-month moving average (Personal Savings/DPI)]



**Saving rate (savings / disposable personal income) = 4.4%, down from 5.6% one year ago**

In the environment of low savings, spending gains will be highly dependent on income growth and consumers preferences for additional savings.

### Paradox of Thrift

Everyone increasing their savings leads to a recession

# Quantitative Easing

(Print money to buy bonds)

The Fed's large scale asset purchase program.

(Monthly purchases of \$45 billion Treasuries and \$40 billion MBS)

## Should the Fed Continue QE or End it Today?

The Fed policy is to hold down long-term interest rates and encourage investors to take more risk. This should revive demand and economic growth.

In normal times the Fed moves short-term interest rates via “**open-market operations**”: by buying and selling securities, they supply or subtract reserves from the banking system. The quantity of reserves that banks hold is a secondary consideration; the real target is the interest rate. A lower rate, for example, encourages spending and investment, boosting the economy.

In times of severe economic distress, however, short-term interest rates may fall to zero. That is when QE comes into play. One type of QE is called “**credit easing**” with the aim to support the economy by boosting liquidity and reducing interest rates when credit channels are clogged, for example the **mortgage backed security** market.

Another type of QE works through “**portfolio rebalancing**”. Investors who sell securities to the Fed then take the proceeds and buy other assets, raising their prices. Lower bond yields encourage borrowing; higher equity prices raise consumption; both help investment and boost demand. If investors buy foreign assets, portfolio rebalancing also weakens the domestic currency, fueling exports.

The critical question is whether the uncertain risks of uncertain magnitude outweigh the benefits of doing more QE.

**Stipulated:** The FRB of San Francisco estimates that \$600 billion of QE reduces long-term interest rates by 15-20 basis points, equivalent to a 75 basis point cut in the federal-funds rate. QE helps the real economy. QE1 and QE2 increased output 3%, employment is 3 million higher, and the unemployment rate is 1.5 percentage points lower than otherwise.

## Quantitative Easing Timeline

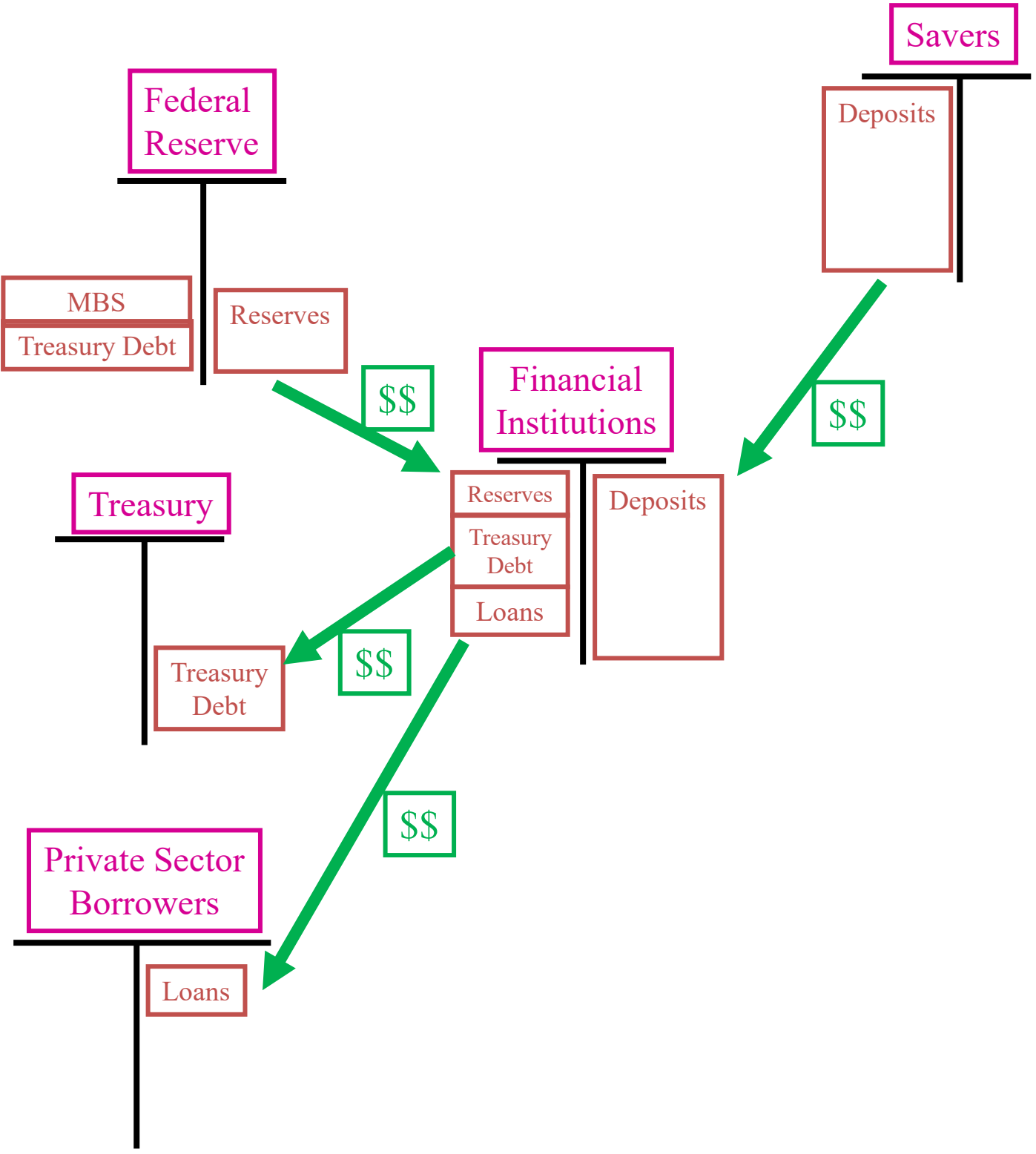
**QE-1 = November 2008...\$ 600 b MBS**

**QE-2 = November 2010...\$ 600 b Treasury**

**QE-3 = September 2012...\$40b/m of MBS**

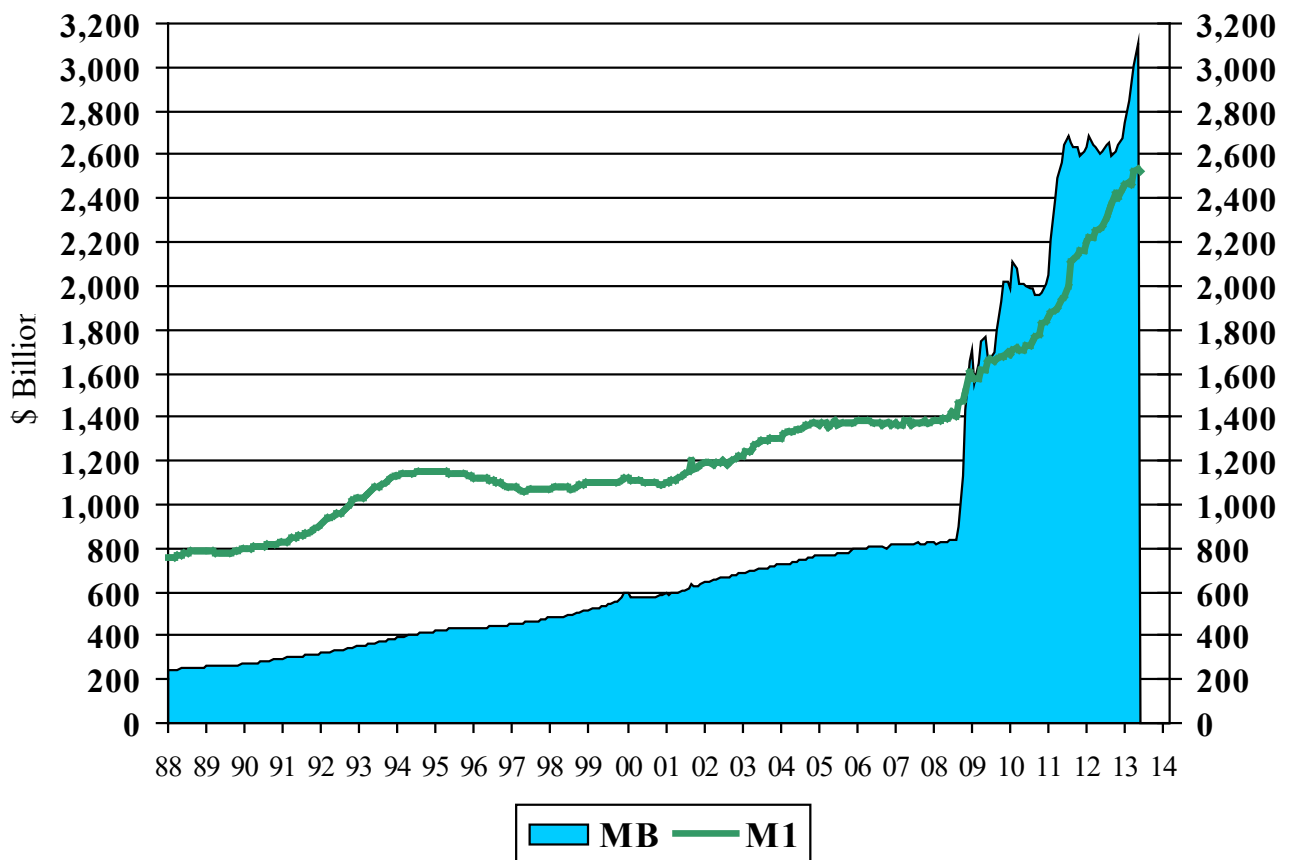
**QE-4 = December 2012...\$85b/m of MBS & Treasury**

# Quantitative Easing



$$\text{Spending} = \text{HH} + \text{Bus./Res.} + \text{Gov.} + \text{Exports} - \text{Imports} \\
 \text{Con.} \quad \quad \quad \text{Invest.}$$

# M1 & Monetary Base (Size of Fed's Balance Sheet)

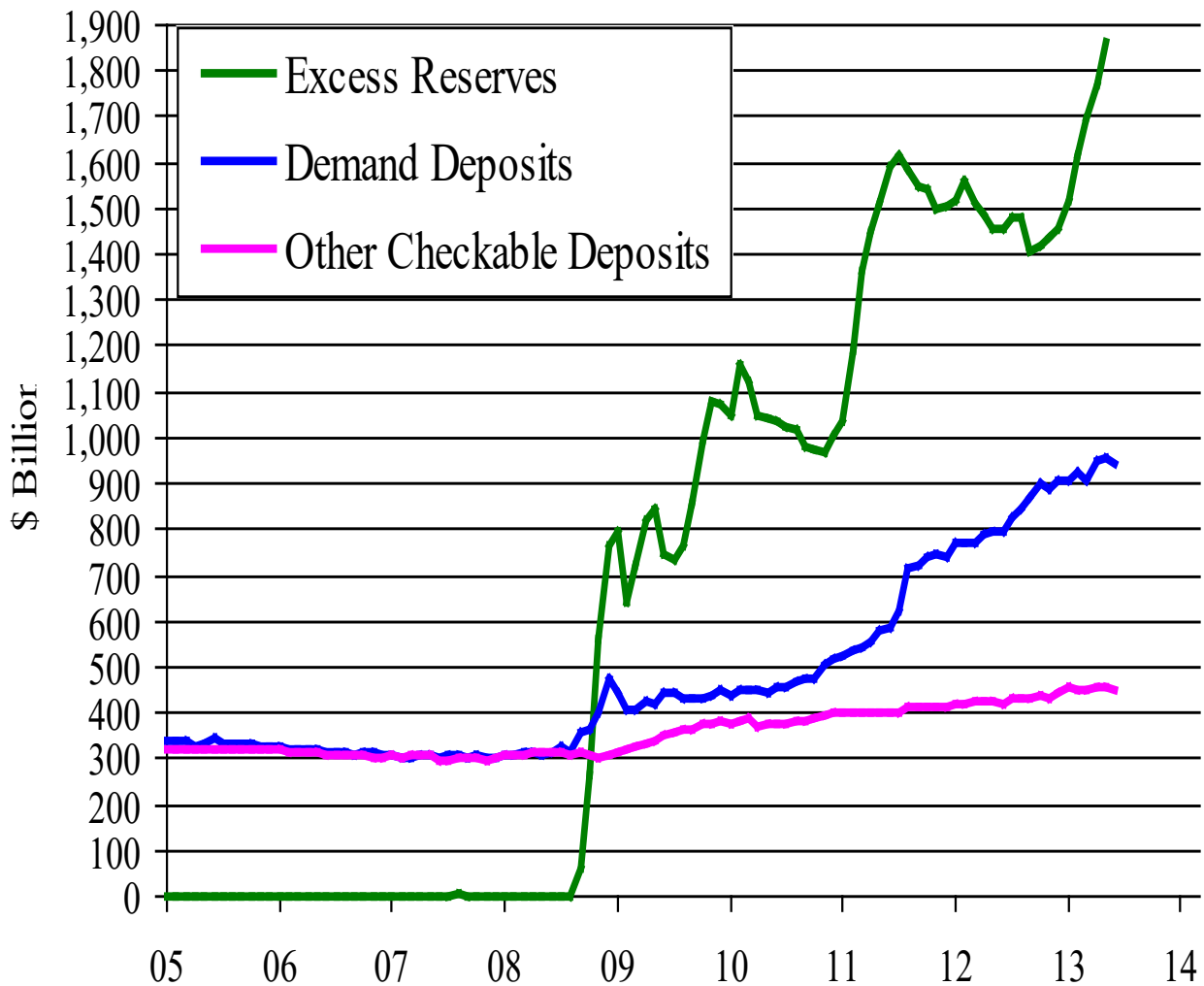


The size of the Fed's balance sheet is what matters for monetary policy. If the size of the balance sheet continues to grow then policy is getting looser. So if the Fed cuts in half its monthly purchases, that would be like reducing the fed funds rate by 5 basis points instead of 10.

**QE:** The Fed has indicated it would hold the bonds on its balance sheet to maturity to address fears that dumping bonds will lead to a rapid rise in borrowing costs. This will also allow the Fed to avoid realizing losses on its bond holdings (and therefore capital levels) as interest rates rise to normal levels when QE ends.

**Not QE:** The level of the monetary base has now reached dangerous levels. Unwinding of such a massive program will prove to be very difficult. So the longer the Fed continues QE the harder it will be. The Fed's asset purchases and growing market presence could increase the chance of price distortions because QE makes the markets less liquid. QE is distorting pricing signals in the MBS market. The greatest risk is a mishandled QE exit: inflation and interest rate could spike, and the Fed could lose credibility with financial markets and lawmakers.

# Excess Reserves & Checking Deposits

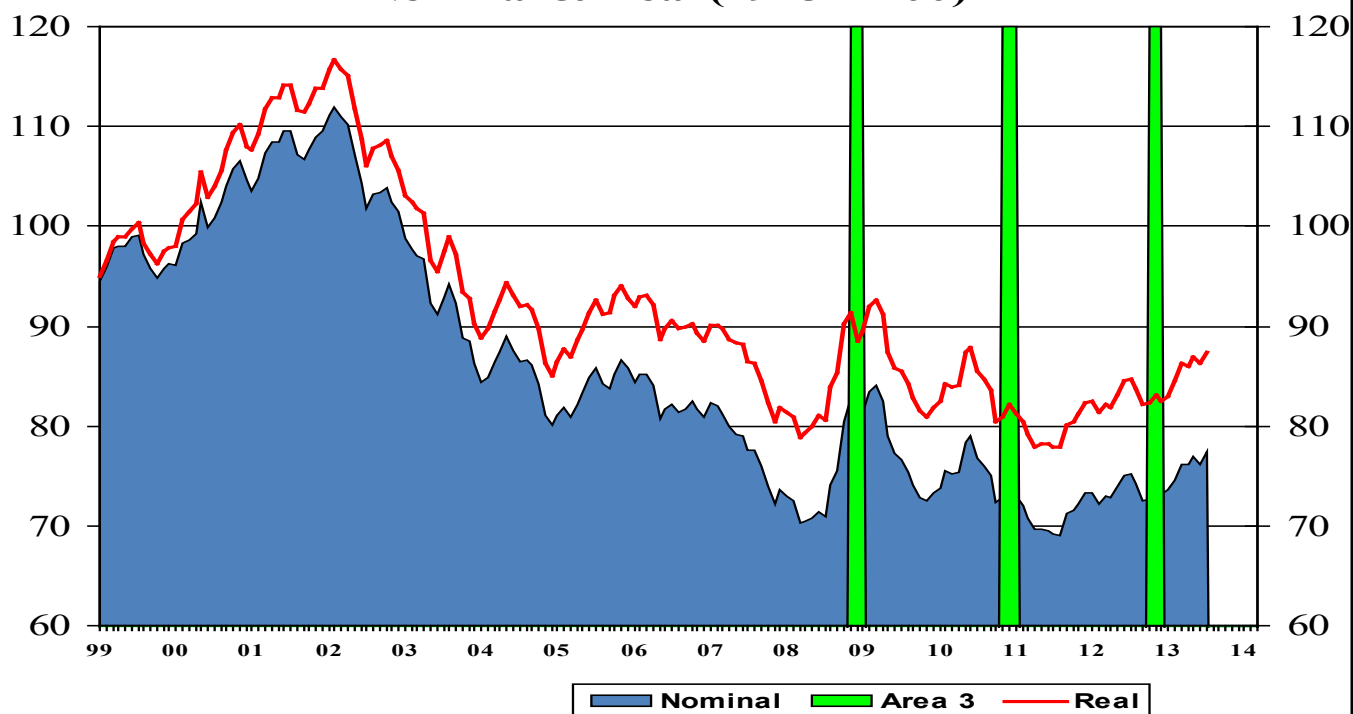


**QE:** The large increase in excess reserves has stabilized the banking system, reduced the liquidity crisis that almost brought down the U.S. banking system and has reduced interest rates on all types of lending products. This has revived borrowing and spending and helped boost the economic growth rate.

**Not QE:** QE has caused what John Maynard Keynes referred to as a “liquidity trap”. All that new Fed money (excess reserves = \$1.9 trillion) is stuck in the banks, not being lent out into the community. So further QE will be as effective as “pushing on a string”.

# U.S. Dollar Exchange Rate

## Major Currency Index Nominal & Real (1973 = 100)

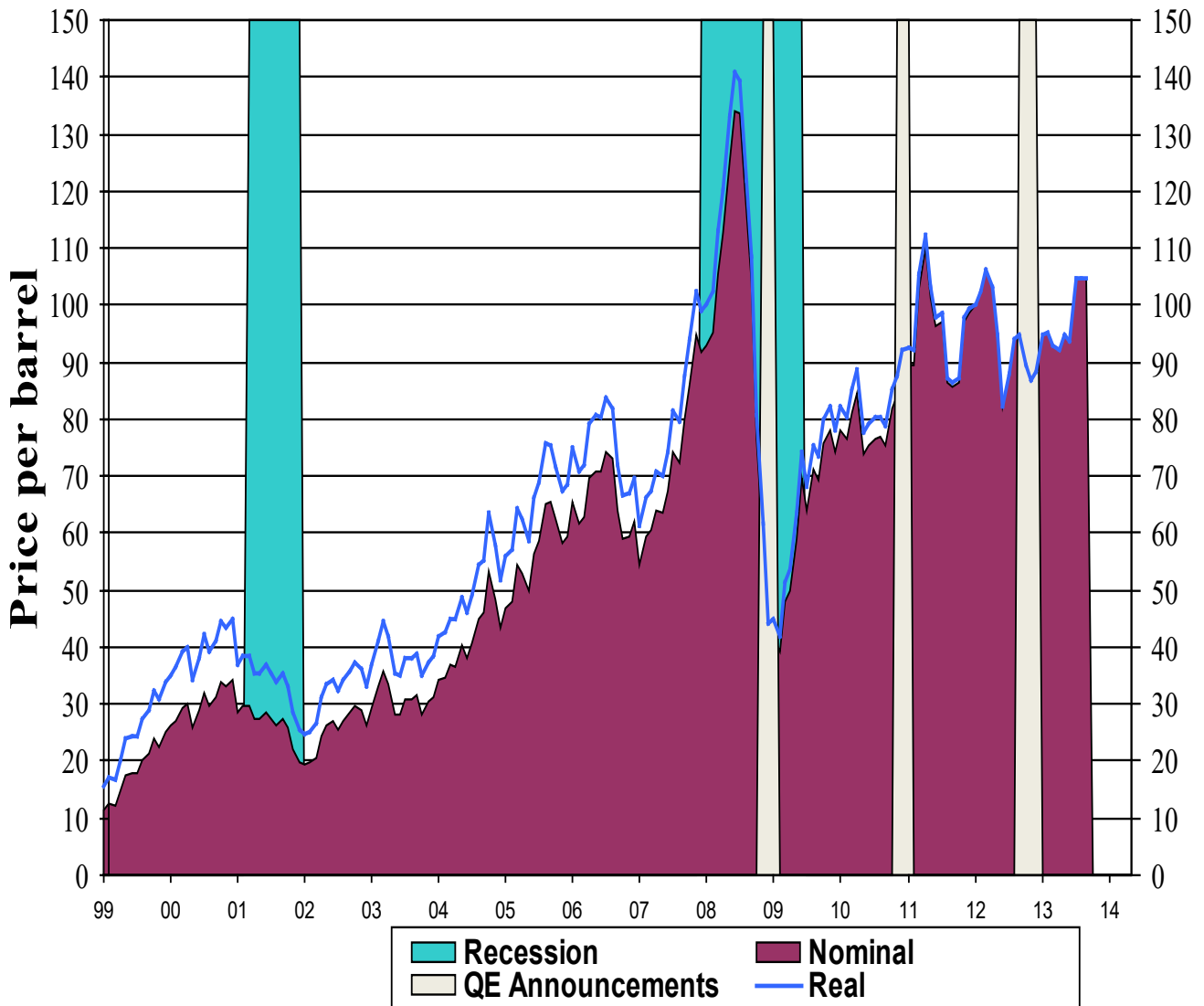


**QE:** QE is lowering the value of the dollar, making U.S. goods cheaper on the world market and therefore supporting our export sector of the economy. American monetary policy is amplified in the emerging markets of the world. Ending to soon will cause emerging-market currencies and bond prices to fall. Even if the Fed raised yields slowly and the dollar rallied slowly this would crush emerging market currencies and drive up their interest rates. This will slow further their already tepid growth rates. Interest rate are already rising in some countries as foreign buyers for local currency bonds dry up. If the fed ends QE, investors around the world will sell emerging market bonds and currencies.

**Not QE:** Excessive money printing will lower the value of the dollar, making what we buy cost more and sell worth less. This potential devaluation could cause the U.S. dollar to lose its “reserve currency” status, a singularly important privilege. A lower value of the dollar will increase oil prices (now at \$104). Currency wars are now taking place between the U.S., Japan, Eurozone, Switzerland.

The new money is being invested in the world with higher growth rates, not here in the U.S. This has resulted in property price bubbles abroad. Excessive money creation may lead to high inflation and rapid currency depreciation, bad news for domestic and foreign investors respectively. If investors lose 50% of their purchasing power, it does not really mater how this happens. QE is pushing up emerging-market currencies as cheap foreign credit has poured in. This has had a detrimental effect on exporters there. QE has caused massive inflows of capital into emerging markets, raising their exchange rate, lowering their exports and boosting domestic consumption. Ending QE will increase the amount of capital flowing into the U.S., raise the value of the dollar, and allow the U.S. economy to restructure away from consumption and towards the investment and export sectors.

# Oil Price per Barrel (West Texas Intermediate Crude)



**QE:** Lower interest rates reduce debt service costs and therefore helps to offset the rising cost of fuel.

**Not QE:** QE has created a commodity price bubble. QE has lowered the value of the dollar, making commodity prices (oil) cheaper on the world market, increasing the world's demand for oil and pushing up its price. Ending QE will increase the dollar's exchange rate and push commodity prices lower. This will act like a tax cut for consumers which will boost demand for other goods. The shale oil and gas boom in the U.S. will have great positive effects on the U.S. economy, decreasing the need for QE.

# CUNA's Economic and Credit Union 2013-2014 Forecast As of September 2013

## ECONOMIC FORECAST

- **The U.S. economy is expected to grow 2.00% in 2013 and 3% in 2014.** The U.S. economy will grow 2% in 2013 due to surging housing construction, rising home prices, rising auto sales, stronger business investment spending and a robust energy sector. Fiscal headwinds coming from higher payroll and income tax rates and lower government spending due to the sequestration will be a modest drag on overall economic growth but not enough to derail the recovery.
- **Inflation will fall below the Federal Reserve's inflation target of 2% in 2013.** Core inflation (excluding food and energy prices) will also remain around 1.75% in 2013 due to a modest recovery and falling commodity prices. Low core inflation will keep inflation expectations low and therefore also keep long-term interest rates low.
- **The unemployment rate will fall below 6.5% by the end of 2014.** The 6.5% is the new threshold the Federal Reserve has adopted as to when it will begin raising the fed funds interest rate target. The higher than normal unemployment rate over the next two years will keep CU loan delinquency rates slightly above historical averages.
- **The fed funds interest rate will stay in the 0-0.25% range through 2014 due to the economy operating below potential.** The U.S. economy is currently producing a level of output of goods and services 6% below its potential level of output. The Federal Reserve will wait until the economy closes that gap before exiting its extraordinarily easy monetary policy.
- **The 10-year Treasury interest rate will move in the 2.75% to 3.25% range through 2014.** The Federal Reserve's QE-3 program (monthly purchases of \$85 billion of Treasury bonds and MBSs) will continue through 2013 to keep downward pressure on long term interest rates. The quantity of purchases will decrease in 2014 as economic growth reaches 3%. This will raise long-term interest rates to over 3.25% by year-end 2014.
- **The Treasury yield curve will steepen in 2013 and 2014 as long-term interest rates rise faster than short-term interest rates.** This may increase credit union's net interest margins as borrowing short term and lending long term becomes more lucrative; but only if loan demand is there.

## CREDIT UNION FORECAST

- Credit union **savings balances are expected to grow 5% in 2013 and 5% in 2014.** Saving growth will remain below the average growth rate over the last 20 years of 6.7% as the economic recovery encourages household to spend rather than save. Fast membership growth of around 2.25% (twice as fast as the 1% growth in population ) will help buoy savings growth.
- Credit union **loan balances are expected to rise 5.5% in 2013 and 6.5% in 2014.** We expect households to release some pent up demand for autos, furniture and appliances over the next 2 years. New auto loans, credit card loans and purchase mortgage loans will be strong growth areas.
- **Credit quality will improve in 2013 and 2014.** The overall loan delinquency rate will fall below 1% in 2013, the lowest level since July 2008, as job growth continues. Provisions for loan losses as a percent of assets will fall to 0.30 percent in 2013, below the 0.43% recorded in 2007.
- Credit union **return on assets will fall to 0.78% in 2013 and move up to 0.8% in 2014.** A 10 basis point decline in net interest margins will be only partially offset by a 5 bps decline in provisions for loan losses. Fee and other income will decline as the mortgage refinance boom comes to and end in 2013.
- **Capital-to-asset ratios will rise to 11% in 2014.** Capital growth will outpace asset growth over the next two years, increasing the capital-to-asset ratio. Credit union capital ratios will approach the record level of 11.5% set in 2006, the year before the beginning of the great recession.



# Economic Forecast

September, 2013



	Actual Results		Quarterly Results/Forecasts				Annual Forecasts	
	5Yr Avg	2012	2013:1	2013:2	2013:3	2013:4	2013	2014
<b>Growth rates:</b>								
*Economic Growth (% chg GDP)	0.60%	2.20%	1.10%	2.50%	2.00%	2.50%	2.03%	3.00%
Inflation (% chg CPI)	1.80%	1.70%					2.00%	2.25%
Core Inflation (ex. food & energy)	1.75%	2.20%					1.75%	2.00%
Unemployment Rate	8.30%	8.10%	7.80%	7.60%	7.40%	7.20%	7.50%	7.00%
Fed Funds Rate	0.50%	0.14%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
10-Year Treasury Rate	2.95%	1.81%	1.95%	2.00%	2.74%	3.00%	2.42%	3.25%

\* Percent change, annual rate

All other numbers are averages for the period

# Credit Union Forecast

September, 2013



	Actual Results		Quarterly Results/Forecasts				Annual Forecasts	
	5Yr Avg	2012	2013:1	2013:2	2013:3	2013:4	2013	2014
<b>Growth rates:</b>								
Savings growth	6.6%	6.1%	3.6%	0.1%	0.8%	0.5%	5.0%	5.0%
Loan growth	2.5%	4.8%	0.2%	1.8%	2.0%	1.5%	5.5%	6.5%
Asset growth	6.1%	6.2%	3.3%	0.1%	0.8%	0.8%	5.0%	5.0%
Membership growth	1.5%	2.1%	0.7%	1.0%	0.4%	0.2%	2.3%	2.3%
<b>Liquidity:</b>								
Loan-to-share ratio**	73.9%	68.6%	66.3%	67.5%	68.3%	69.0%	69.0%	69.9%
<b>Asset quality:</b>								
Delinquency rate	1.47%	1.27%	1.06%	0.98%	0.92%	0.90%	0.97%	0.80%
Net chargeoff rate*	1.00%	0.73%	0.61%	0.55%	0.60%	0.60%	0.59%	0.60%
<b>Earnings</b>								
Return on average assets (ROA)*	0.52%	0.84%	0.83%	0.84%	0.75%	0.70%	0.78%	0.80%
<b>Capital adequacy:</b>								
Net worth ratio**	10.2%	10.4%	10.4%	10.6%	10.7%	10.8%	10.8%	11.0%

\* Annualized Quarterly Data

\*\*End of period ratio

See also our MCUE website

If you have any questions or comments send an email to [srick@cuna.coop](mailto:srick@cuna.coop)