Regulatory Perspectives on Interest Rate Risk & Liquidity

2011 Interagency Minority Depository Institutions Conference

June 16, 2011

J. Ray Diggs
Group Leader: Balance Sheet Management Group
Credit & Market Risk Division
Office of the Comptroller of the Currency

Agenda

- Balance Sheet Management Group
  - Basel Liquidity Standards
  - OTS Integration
  - Supporting the OCC's National Risk Committee
- Current Market
  - IRR Trends/Issues
  - Liquidity Trends/Issues
- Summary and Takeaways

Balance Sheet Management Group

Quarterly & Ongoing analysis of IRR, Investments, Liquidity, and Bank-owned Life Insurance:

- Collect and analyze industry data
  - Call Report data & bank information
  - Outlier analysis
  - Market & early warning indicators
  - Target analysis (e.g., investment securities or funding products)
- Identify industry trends & outliers for field examiners and the OCC's National Risk Committee
- Support Policy Development
  - Domestically & Globally
- Provide expert support to field examiners & provide examiner Training
- Answer Congressional Requests

Including thrifts after July 22, 2011

Basel Liquidity Standards: Internationally Active Banks

Liquidity Coverage Ratio:

- A short-term standard to ensure there is sufficient high quality liquid assets to survive an acute stress scenario lasting one month.

$$\frac{\text{Stock of High Quality Unencumbered Liquid Assets}}{\text{Net Cash Outflows Over 30 Days Under a Specified Scenario}} \geq 100\%$$

Net Stable Funding Ratio:

- A long-term standard that promotes the use of stable funding over a one year horizon.

$$\frac{\text{Available Amount of 1 Yr. Stable Funding (sources)}}{\text{Required Amount of 1 Yr. Stable Funding (uses)}} \geq 100\%$$

Applicable to small and midsize banks?

- **Not the quantified standard but the concepts are applicable. We will discuss more later in the presentation.**

Basel Liquidity - Status

- Basel issued Liquidity Standards Document in December 2010
- Transition period for each standard, 2015 for LCR and 2018 for NSFR
- Additional QIS work and periodic reporting during transition – calibration of calculation factors in the standards may be adjusted based on data collected during transition phase. Key U.S. concerns:
  - Liquidity commitment facilities – 100% draw in stress
  - Treatment of GSE holdings
  - Unused FHLB capacity not considered
  - Financial Institution deposit runoff factors too aggressive
- Interagency review underway lead by the FRB to assess the potential impact on the economy
- U.S. agencies will develop and issue a "Notice of Proposed Rulemaking" by yearend 2011

OTS Integration – Market Risk

- OTS has approximately 20-25 capital markets FTEs
- IRR supervision is governed by Thrift Bulletin 13a, which partially overrides interagency guidance:
  - Should establish limits with regard to NPV; not required to establish limits or analyze earnings sensitivity
  - Thrifts under $1 billion in assets may rely on quarterly NPV estimates produced by OTS; over $1 billion should measure their own NPV and interest rate sensitivity
  - IRR data is collected through schedule CMR of the Thrift Financial Report. NPR proposal to eliminate this schedule as thrifts move to the call report as of 3/31/12. All thrifts will need to measure and manage IRR, either internally, or through a vendor model or measurement process.
- Until transition date to the call report, the OCC will run the NPV model for all thrifts and provide data to thrifts in the same way as the OTS. As of 6/30/10, 710 thrifts out of a total of 753 filed the CMR schedule with the OTS. (348 required, 362 volunteered)

Interpreting the “Signs”

National Risk Committee Issues

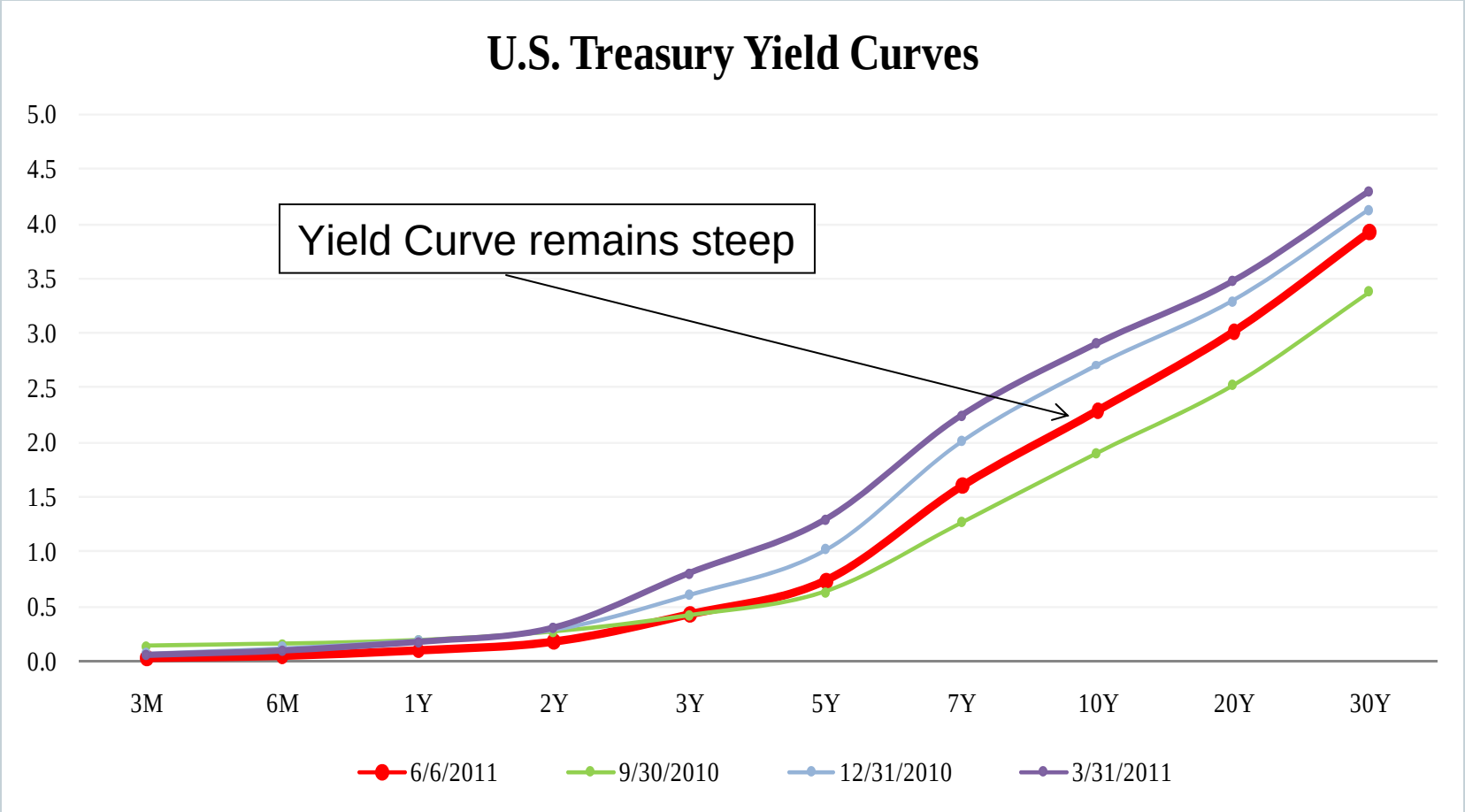
- Slow economic growth and high unemployment contributing to slow recovery and weak credit conditions in residential and commercial real estate
- How record levels of core deposits will behave in a rising rate environment
- Interest rate mismatches and convexity embedded in growing securities portfolios
- Operational risk in mortgage servicing and other high volume transaction services

Current Condition – IRR Trends/Issues

- A steep yield curve at a historically low level of interest rates.
- Funding costs are very low as banks increase their holdings of retail deposits.
- Due to the impact of the banking crisis, banks are entering this rate cycle with relatively low levels of both earnings (NIM and ROAA) and appear less equipped to buffer the impact of interest rate risk than during other rate cycles.
- Challenging environment to measure IRR exposures.
  - Unpredictable mortgage prepayment speeds.
  - Rising levels of non-maturity deposits (e.g., MMDAs and Other Savings).
  - Increasing volumes of structured notes in community banks.

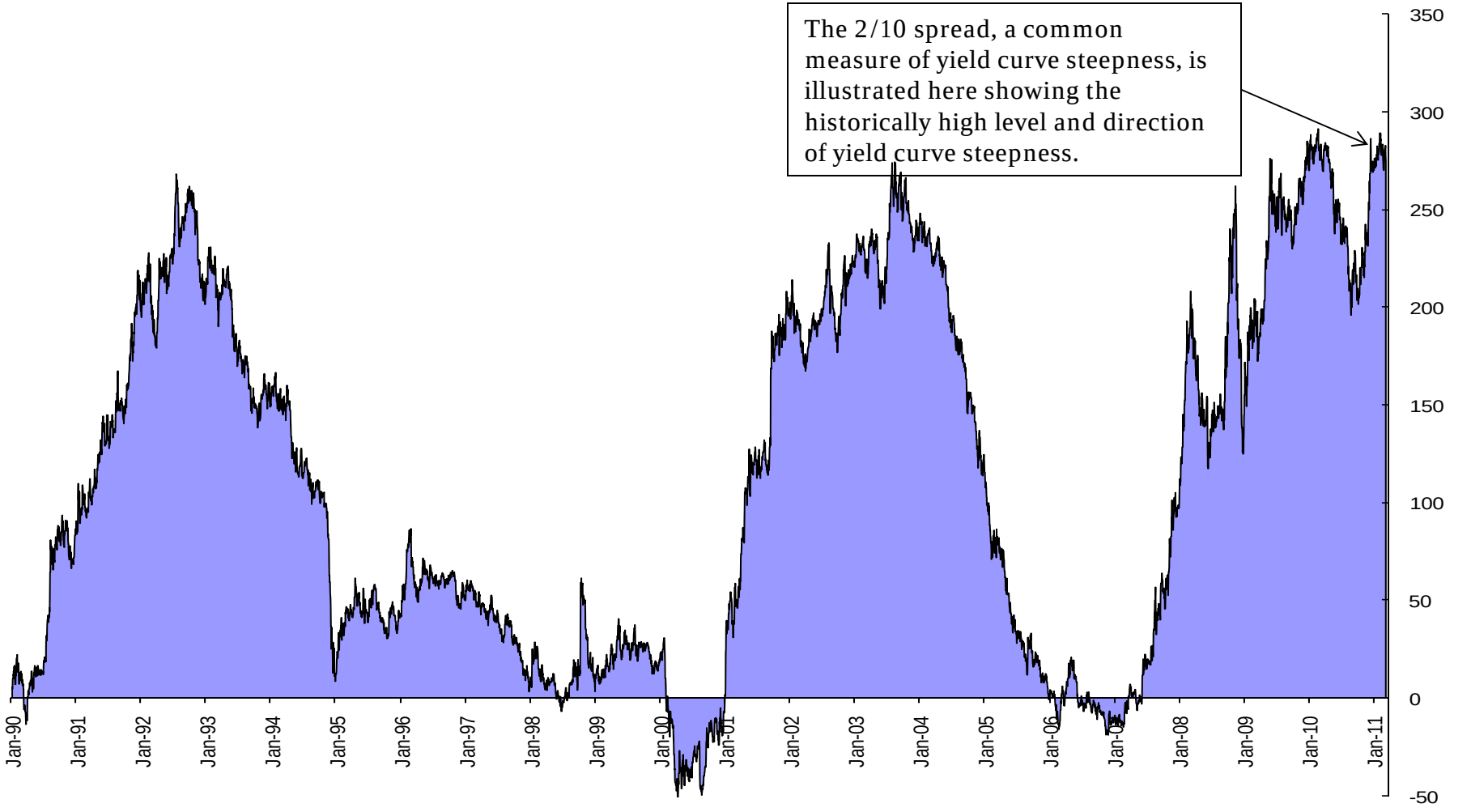
Q3 ’10 to Q1 ’11 Yield Curve Movement

Daily Data



Data Source: Federal Reserve

U.S. 10-Year / 2-Year Spread



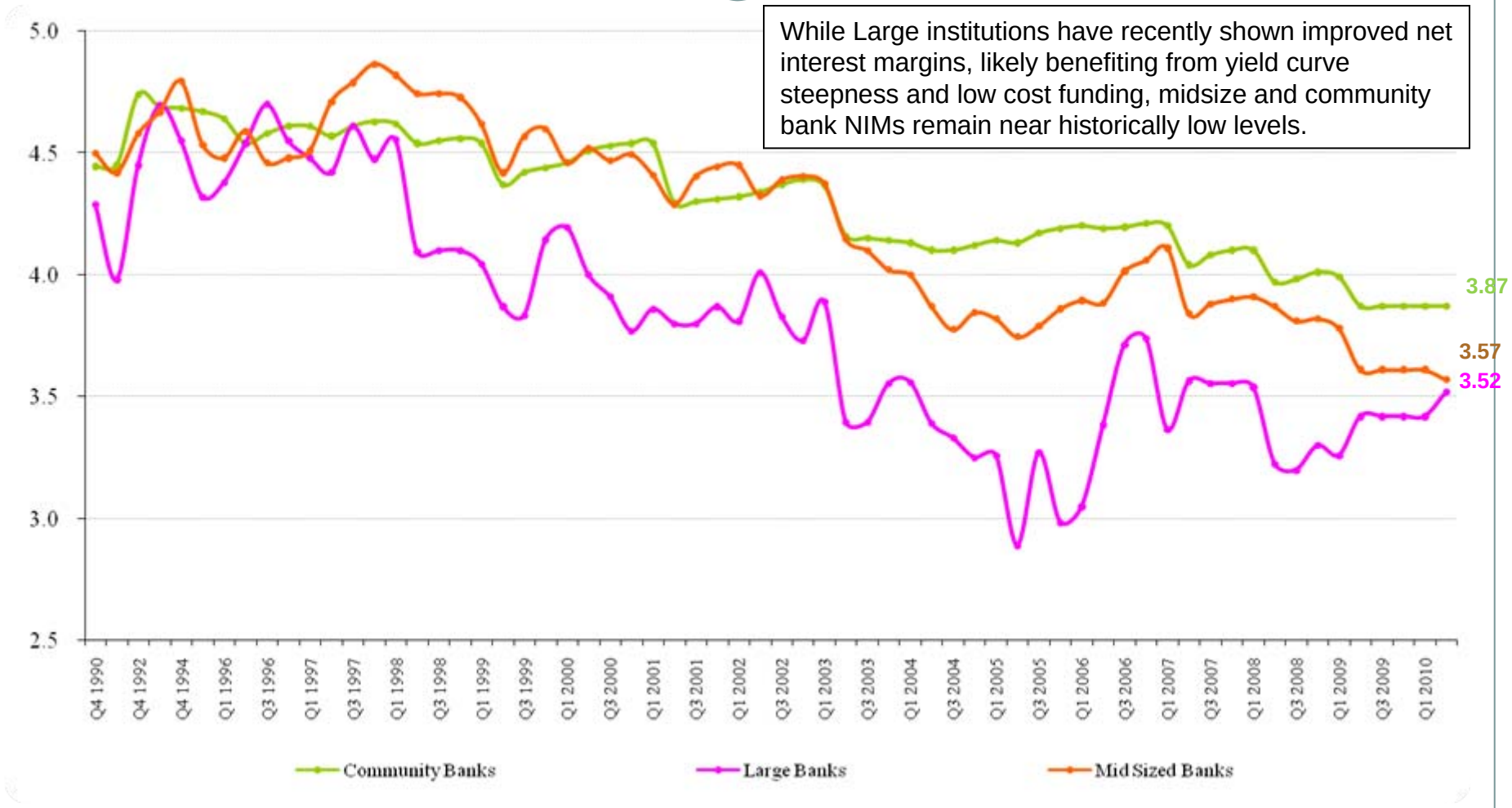
Data Source: Bloomberg

Weekly Data

Median Net Interest Margin Trends

by Business Line

While Large institutions have recently shown improved net interest margins, likely benefiting from yield curve steepness and low cost funding, midsize and community bank NIMs remain near historically low levels.

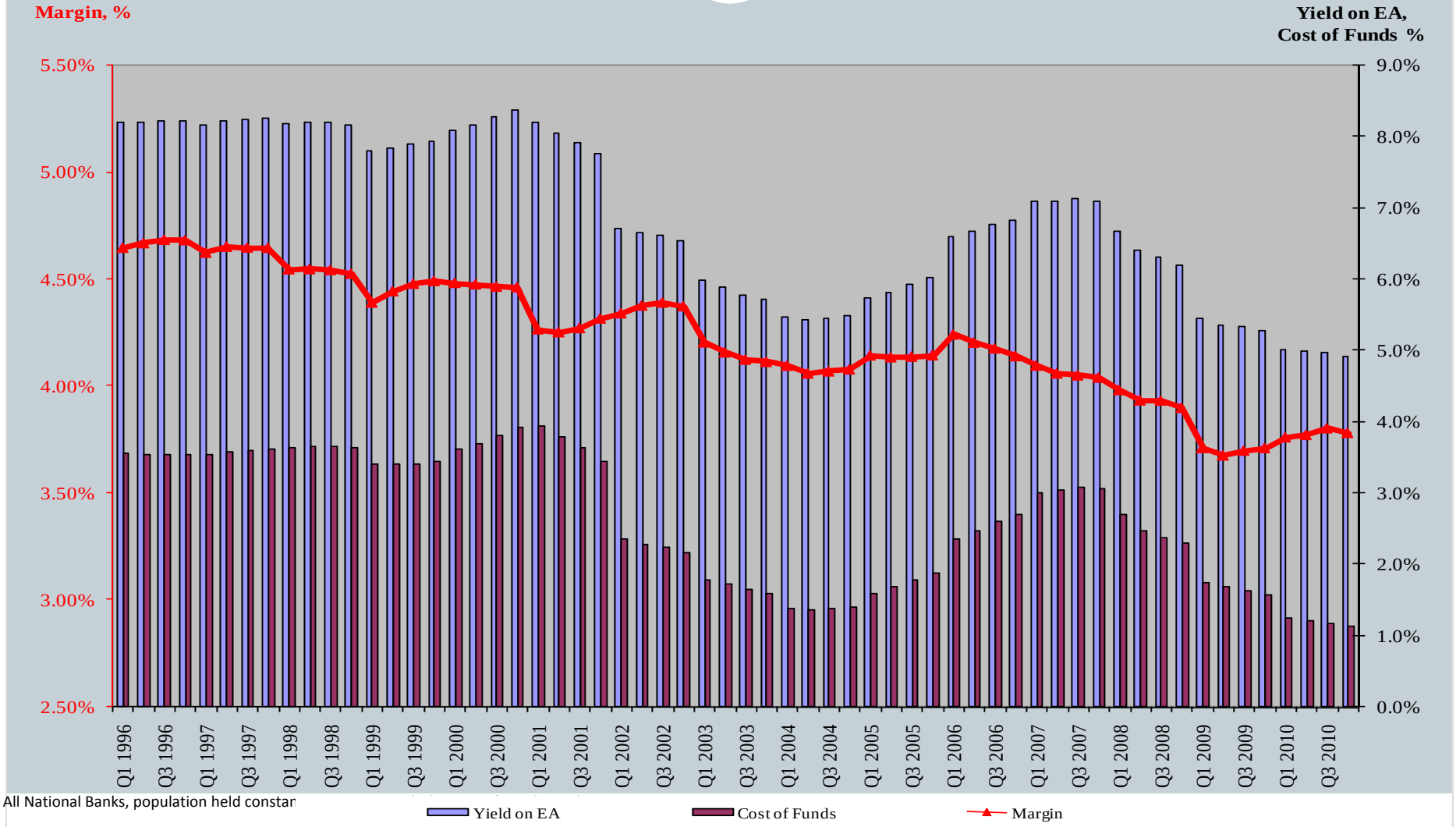


All National Banks excluding trust cc & de novo institutions , population held constant at Q3 2010

UBPR NIM Quarterly values weighted by Total Assets

Source: FINDRS

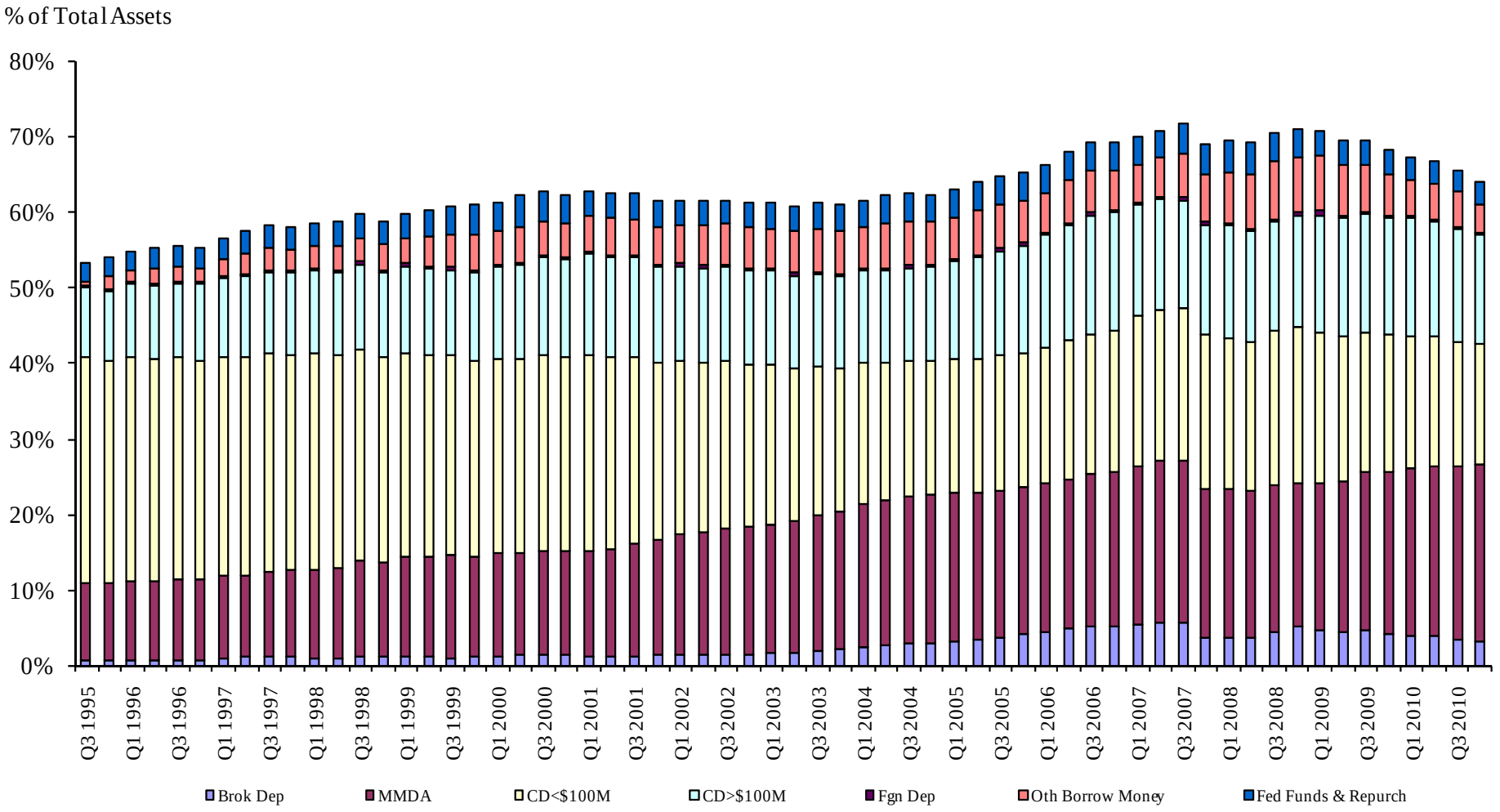
Margin Trends – Community Banks



Source: FINDRS

Rate Sensitive Funding: Community Banks

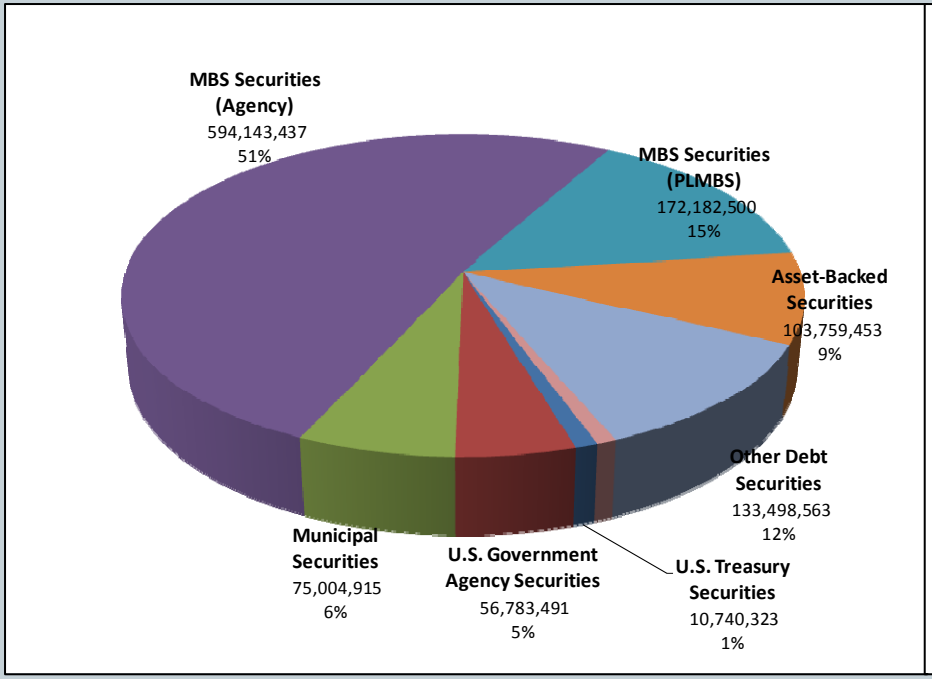
Quarterly Data



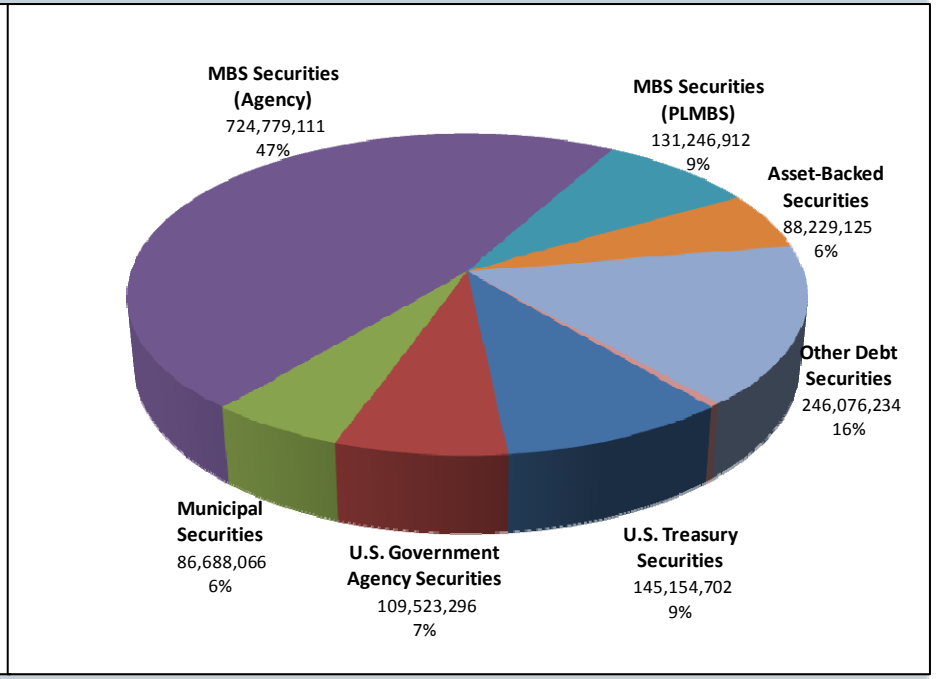
Data Source: FINDRS

Changes in the Investment Portfolio
All National Banks

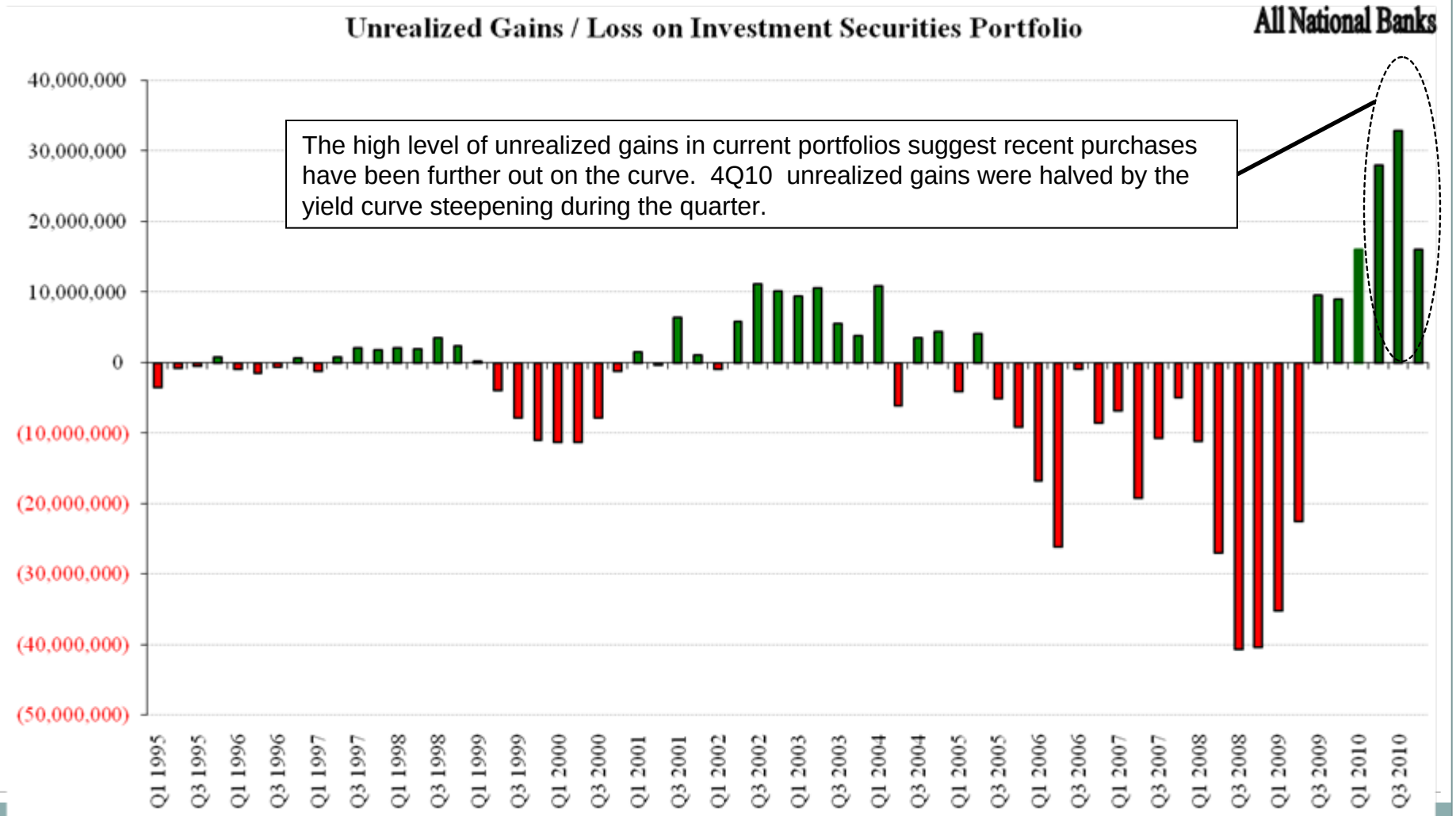
Q4 2008



Q4 2010

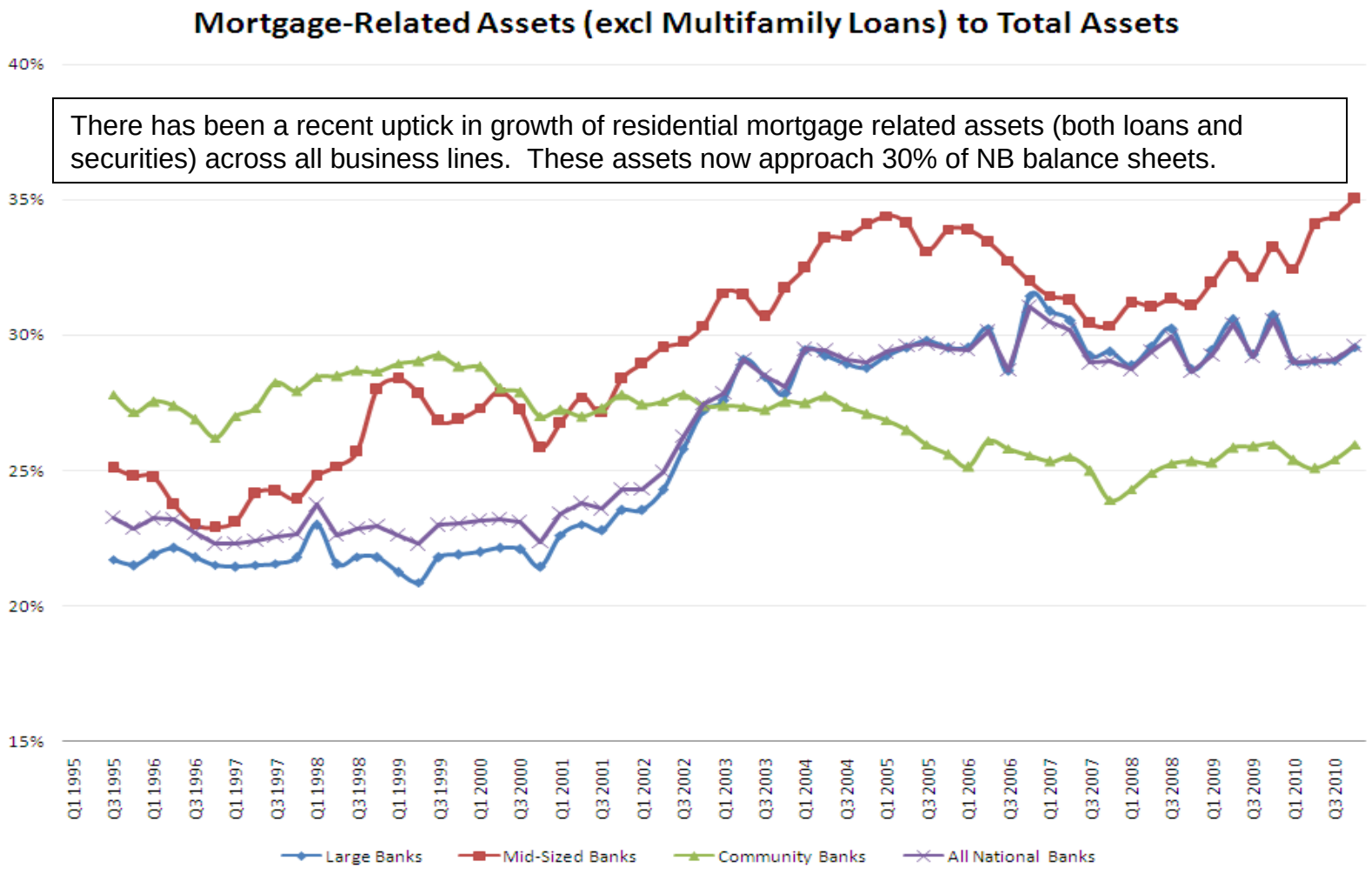


Portfolio – Unrealized Gains / Losses



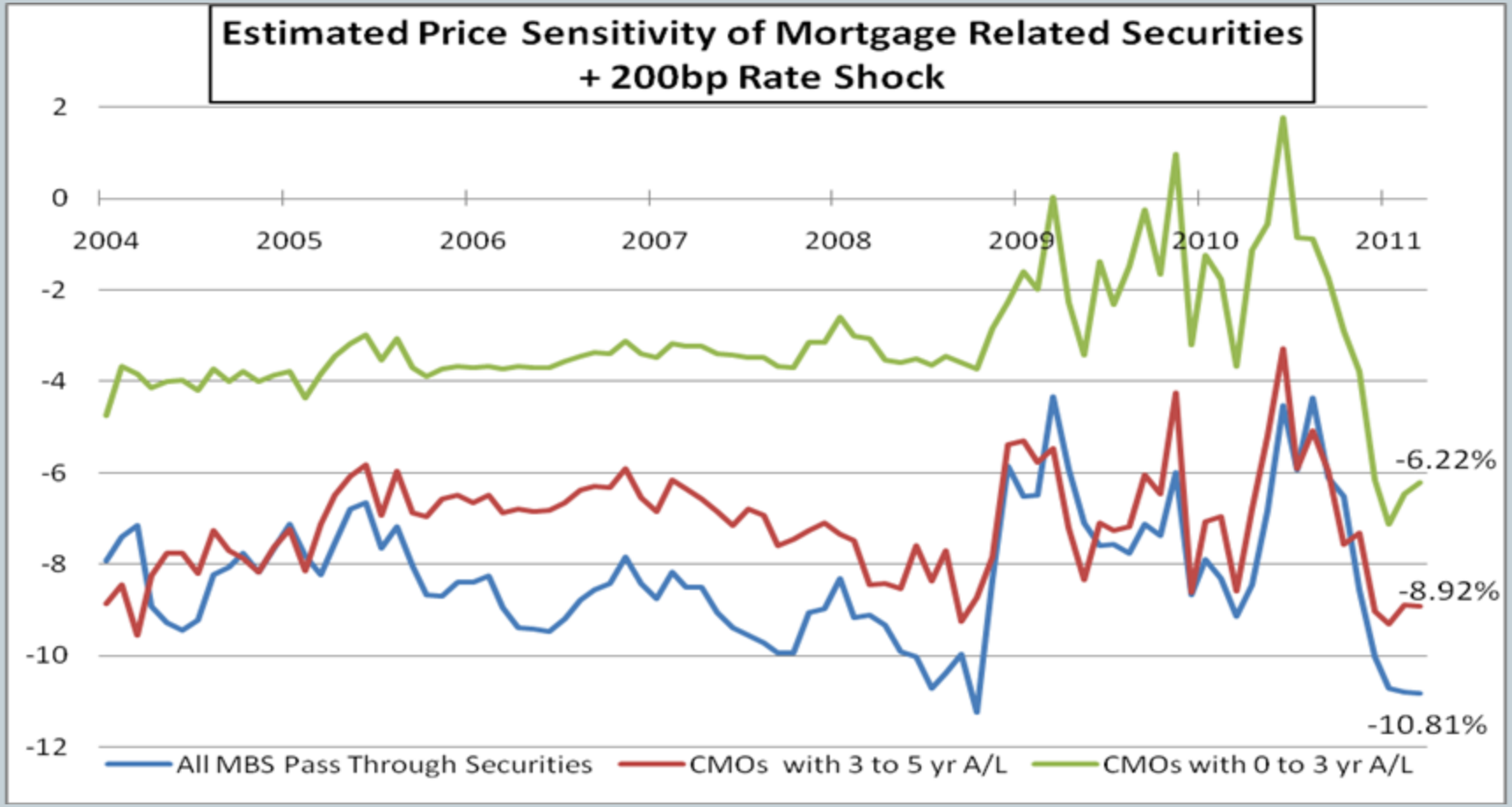
Source: Call Reports

Growth in Residential Mortgage Related Assets



Source: FINDRS

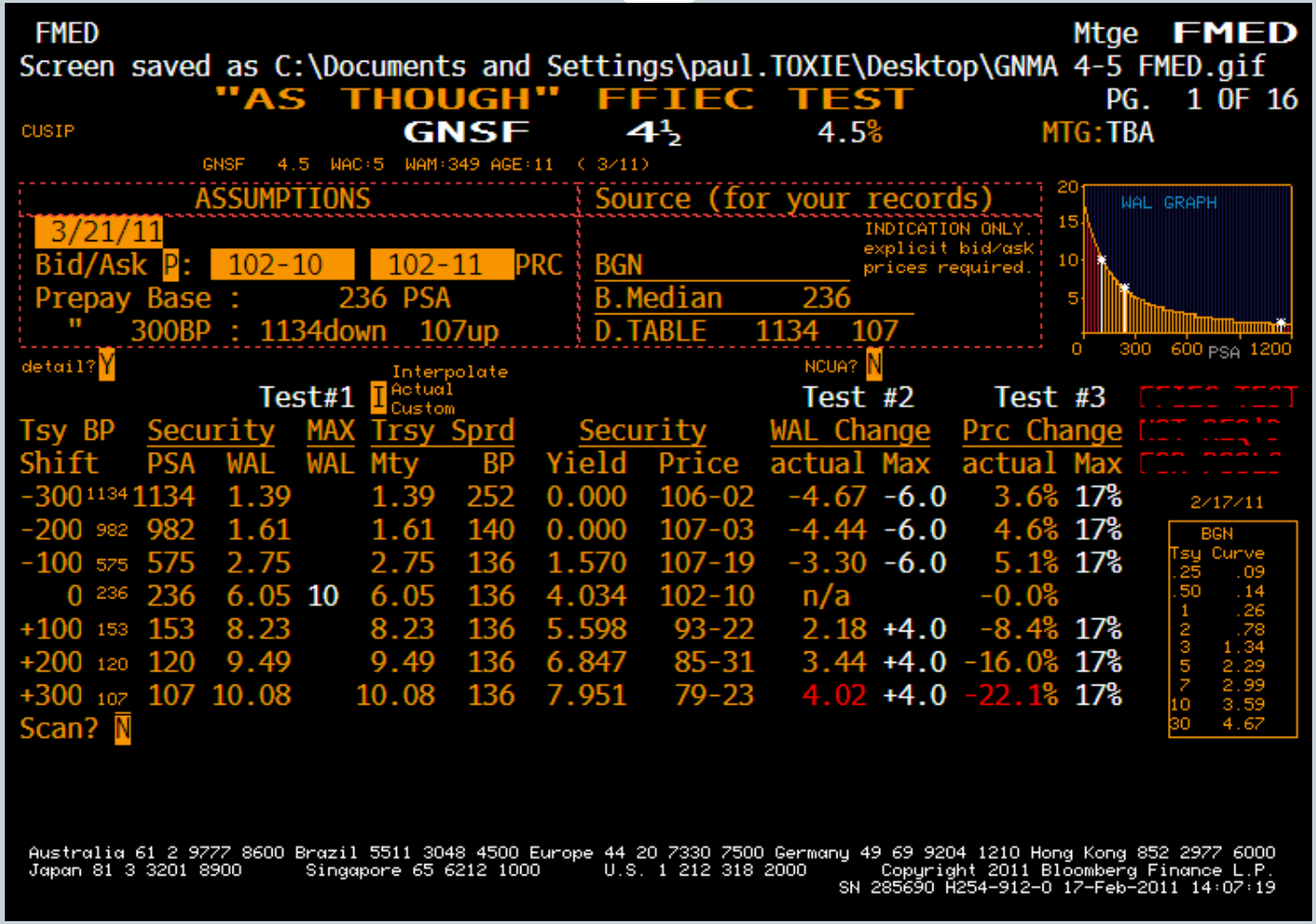
Price Sensitivity - MBS



Investment Portfolio – Areas of Focus

- Mortgage Products
  - Mortgage-related assets comprise a significant portion of the balance sheet for all business lines (true historically).
  - Agency MBS with stated maturities between 5 and 15 years have increased 46% since 4Q2008. Agency CMOs have also increased, especially in midsize banks.
  - Changes in the mortgage market, the economy, and the term structure of interest rates have increased IRR exposure within existing residential mortgage asset holdings.
  - Mortgage extension risk increases the interest-rate price sensitivity of these assets and exposes the banks to elevated IRR during periods of rising interest rates.

30 Year Agency Pass Through FMED (High Risk Test) Results



What Examiners will look at. . .

- Assess how the amount and/or tenor of MBS has changed
- Assess the bank's strategy and risk controls
  - Is the bank's pre-purchase analysis comprehensive and do limits curtail excessive risk?
- Are positions accurately captured in IRR measurement process, and assumptions appropriate for current environment?
- Does the retail deposit base or other longer-term funding provide a meaningful "hedge" to mortgage extension risk?

Municipal Risk Exposure

Summary of Risks:

- Credit Risk - Ongoing fiscal stress at state and local levels (budget, pension funding, reduced tax revenues), and in specific revenue projects present elevated credit risk in banks with muni concentrations.
- Price Risk – Concerns in other risk (credit, IRR, headline) areas may impact fair values and lead to higher unrealized loss positions. Ineffective valuation and pricing methodologies in our CBs are also potential concerns.
- Interest Rate Risk – Most public finance is issued at fixed rates with generally long tenors, resulting in elevated IRR in muni portfolios.
- Liquidity Risk – Relative to other bank investments, Muni market is thinly traded. Credit and IRR could further reduce the liquidity of this market.
- Headline Risk – Banks located in perceived problem states (CA, IL, MI, NY, NJ) with significant muni portfolios are exposed to heightened risk exposure.

Municipal Default Statistics

Recent municipal default trends:

2008 – 162 defaults totaling $8.2 Billion
2009 – 204 defaults totaling $7.4 Billion
2010 (through November 30) – 72 defaults totaling $2.5 Billion

Total municipal issuers exceed 20 thousand and current outstanding debt is estimated at **$2.7 trillion**.

States are barred from declaring Bankruptcy (for now);
Some local municipalities unable to pay debt service may file Chapter 9 bankruptcy;
Not all municipalities are granted Chapter 9 authority without the authorization of the general assembly and others cannot file under any circumstances. (**26 states outright prohibit local muni bankruptcy**);
Chapter 9 filings are rare – there have only been 2 sizeable filings since 1990 (Orange County CA 1994 and Vallejo CA 2008), and only 7 since 2005.

(Source: Distressed Debt Securities Newsletter)

Major Hurdles for Muni Bond Holders

- SEC lacks the authority to require muni issuers to disclose financial information before selling debt.
- Financial disclosures by many municipalities and projects funded by revenue bonds are non-existent or severely out of date.
- Recent study by DPC DATA, Inc. found that, of the 17,000 bond issues it researched, more than 56% filed no financial statements in any given year between 2005-09.*

Although, SEC has established an enforcement unit dedicated to investigating the adequacy of municipal financial disclosures to investors – Current investigations of Rhode Island, Harrisburg PA, & Illinois; reached a settlement w/NJ last summer over lack of disclosure of pension funding issues.

* Source: Wall Street Journal – January 26th, 2011

Municipal Exposure in NBs

- System-Wide Exposure: (3Q10)

  - Municipal Loans: $ 39B
  - Municipal Securities: $ 82B

    Total: $121B

  - System: 1.4% of TA and 18% of T1 Capital

    Large Banks 1.0% of TA and 13% of T1 Capital

    Midsize Banks 3.0% of TA and 32% of T1 Capital

    Community 5.0% of TA and 55% of T1 Capital

Municipal Holdings: What Examiners will look at. . .

During examinations significant concentrations of municipal debt, examiners will incorporate the following, as applicable:

Concentration Risk Management

- Has the institution established an effective concentration risk management program for significant municipal security portfolios?
- Do concentration risk limits or tolerances effectively control municipal risk exposure? Do these reflect the institution's stated risk appetite and relate to the capital base?
- Is there an effective concentration reporting system that identifies excessive risk exposures or non-compliance which includes courses for corrective action, if warranted?

Municipal Holdings: What Examiners will look at. . .

Credit Risk Assessment

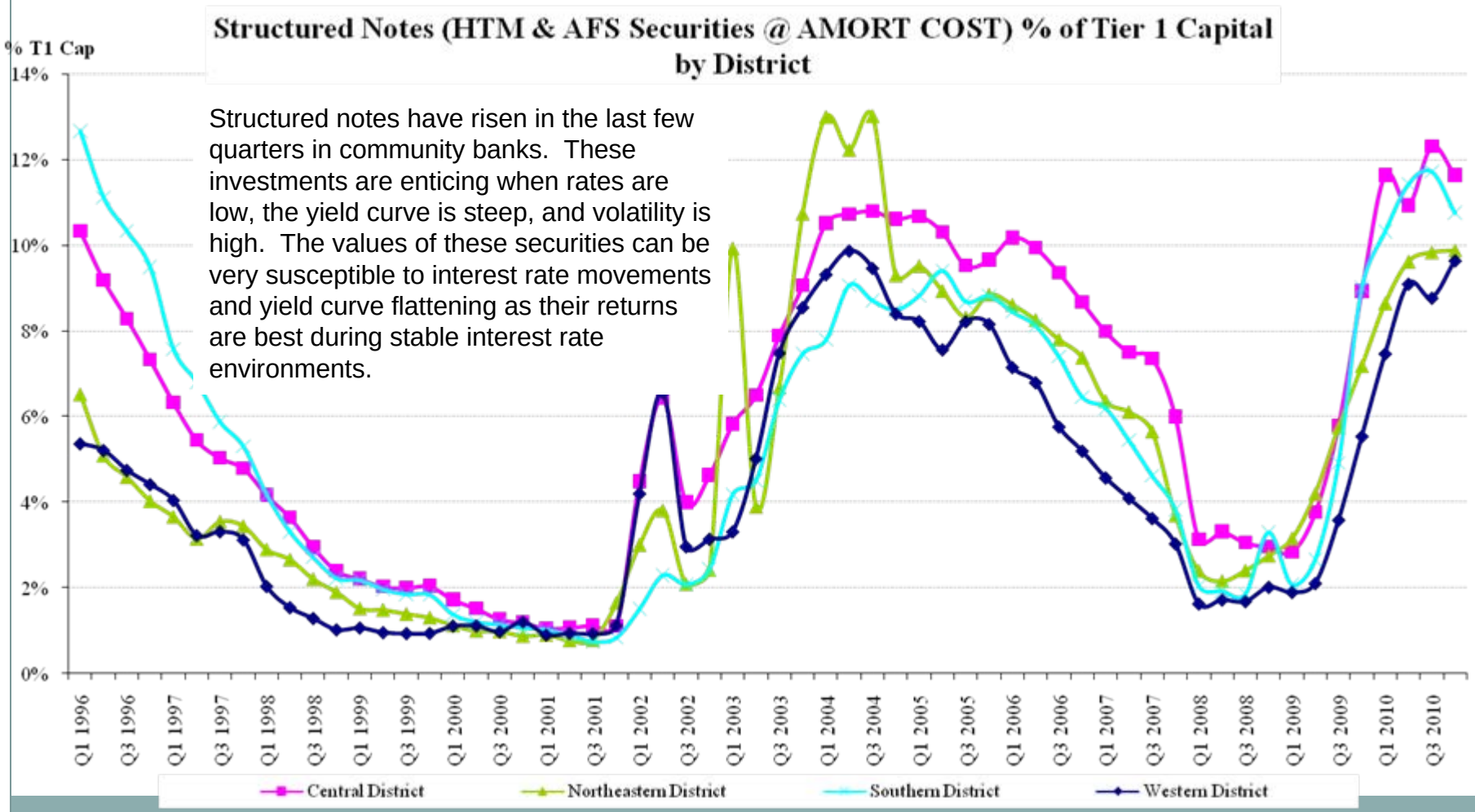
- Has the institution implemented a credit risk management framework that identifies and monitors municipal risk exposure?
- Is management's ongoing credit risk assessment process commensurate with the level of risk exposure, timely, and supported by current financial information?
- Does management understand the characteristics of all material municipal holdings, including levels of taxing authority, extent of third party support, and local Chapter 9 Bankruptcy rules?
- For significant municipal holdings, is management's ongoing credit monitoring process over reliant on credit rating agencies for identifying changes to risk exposure and financial condition?
- For municipal securities that are exhibiting negative financial trends or credit quality deterioration, is management's credit risk identification process consistent with the uniform Classification Agreement (OCC 2004-25)?

Municipal Holdings: What Examiners will look at. . .

Pricing and Valuation Methods

- Does the institution's municipal securities valuation ensure timely, independent and accurate pricing?
- Do methods comply with current fair value accounting guidance?
- For municipal securities whose fair value drops below amortized cost, do OTTI policies ensure the timely and accurate recognition of credit and non-credit related impairment?

Structured Notes – Community Banks



Structured notes have risen in the last few quarters in community banks. These investments are enticing when rates are low, the yield curve is steep, and volatility is high. The values of these securities can be very susceptible to interest rate movements and yield curve flattening as their returns are best during stable interest rate environments.

Source: FINDRS Call Report Data

Investments in Structured Notes

- Structured note volumes, consisting primarily of Agency issued step-up bonds, continue to increase.
- Performance is susceptible to interest rate movements and yield curve flattening and returns are best during stable rate environments.
- Frequent call schedules force banks to reinvest at low rates.
- Maturity extends in rising rate environment; step ups seldom keep pace with rate increases and banks are not adequately compensated for holding longer-term bond.
- In banks with sizable structured note portfolios, are risk characteristics understood and price sensitivity measured prior to purchase and during holding period? Is this a concentration of capital and if so, is the risk excessive?

Structured Notes – Tale of 2 Risk Profiles

Example Step-up # 1	
Issue Date:	**10/2010**
Issuer:	**Fannie Mae**
Coupon:	**1.00%**
Yield at Par:	**1.00%**
Final Maturity:	**10/2015**
	5 years
First Call Date:	**April, 2011**
No. of Rate Steps:	**2**
No. of Calls:	**1**

Example Step-up # 2	
Issue Date:	**10/2010**
Issuer:	**Fannie Mae**
Coupon:	**1.00%**
Yield at Par:	**1.00%**
Final Maturity:	**10/2025**
	15 years
First Call Date:	**April, 2011**
No. of Rate Steps:	**4**
No. of Calls:	**30**

- Same Issue Date, Issuer, Coupon Rate, Original Yield, and First Call Date
- Difference is Final Maturity (5 years –vs- 15 years) and Number of Calls (1 –vs- 30)
- Purchaser of Step Up 2 is not being compensated for additional risk

Structured Notes – Tale of 2 Risk Profiles

Example Step-up # 1

	Price Change	Exp. Maturity
Rates:		
+100	- 4.32%	Oct 2015
+200	- 8.56%	Oct 2015
+300	-12.53%	Oct 2015

Example Step-up # 2

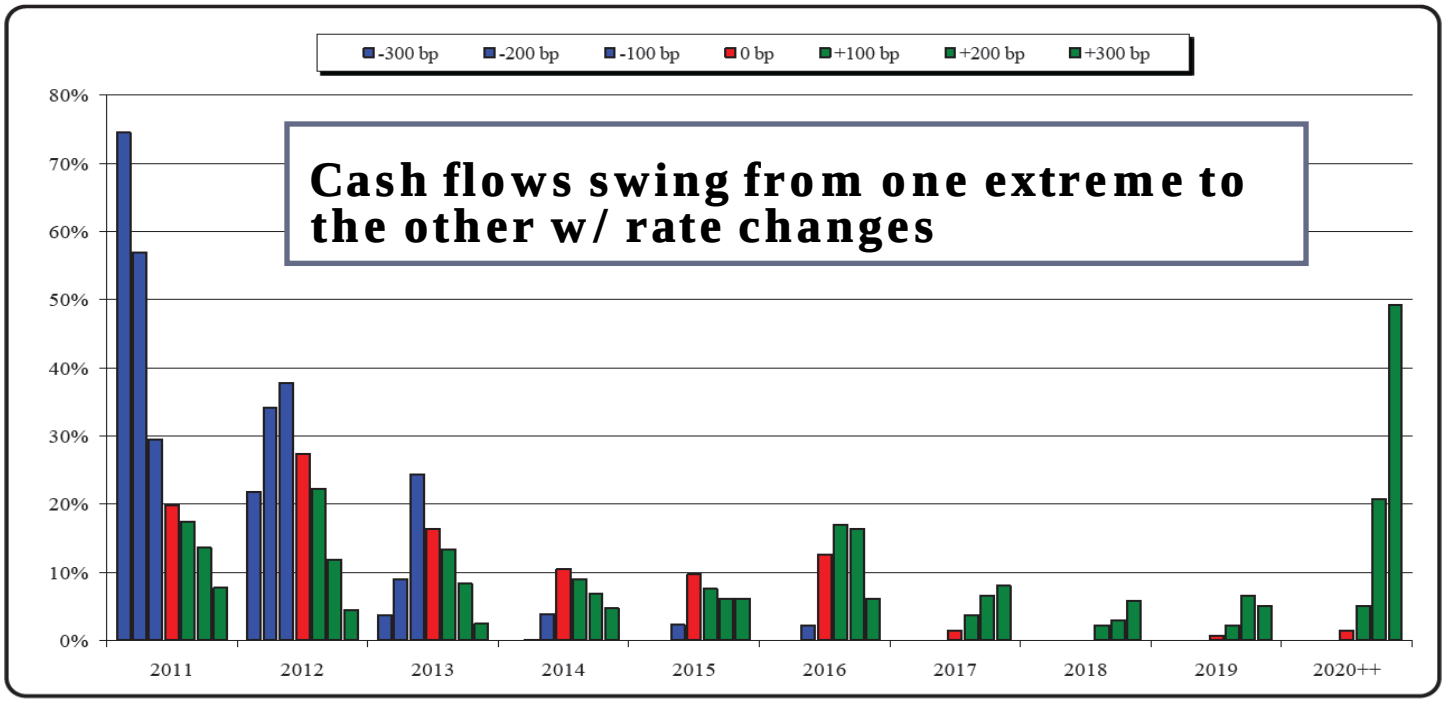
	Price Change	Exp. Maturity
Rates:		
+100	- 7.88%	Oct 2013
+200	- 16.58%	Oct 2013
+300	- 24.72%	Oct 2025

- 2nd bond has more unpredictable expected maturity
- 2nd bond has much higher price sensitivity to rate increases, at the same original yield.
- Result: Higher Interest Rate and Liquidity Risk, long-term earnings impact

What About a Portfolio of Structured Notes?

Example NB:
TA: $482M
T1 Capital: $47M
Investments: $140M

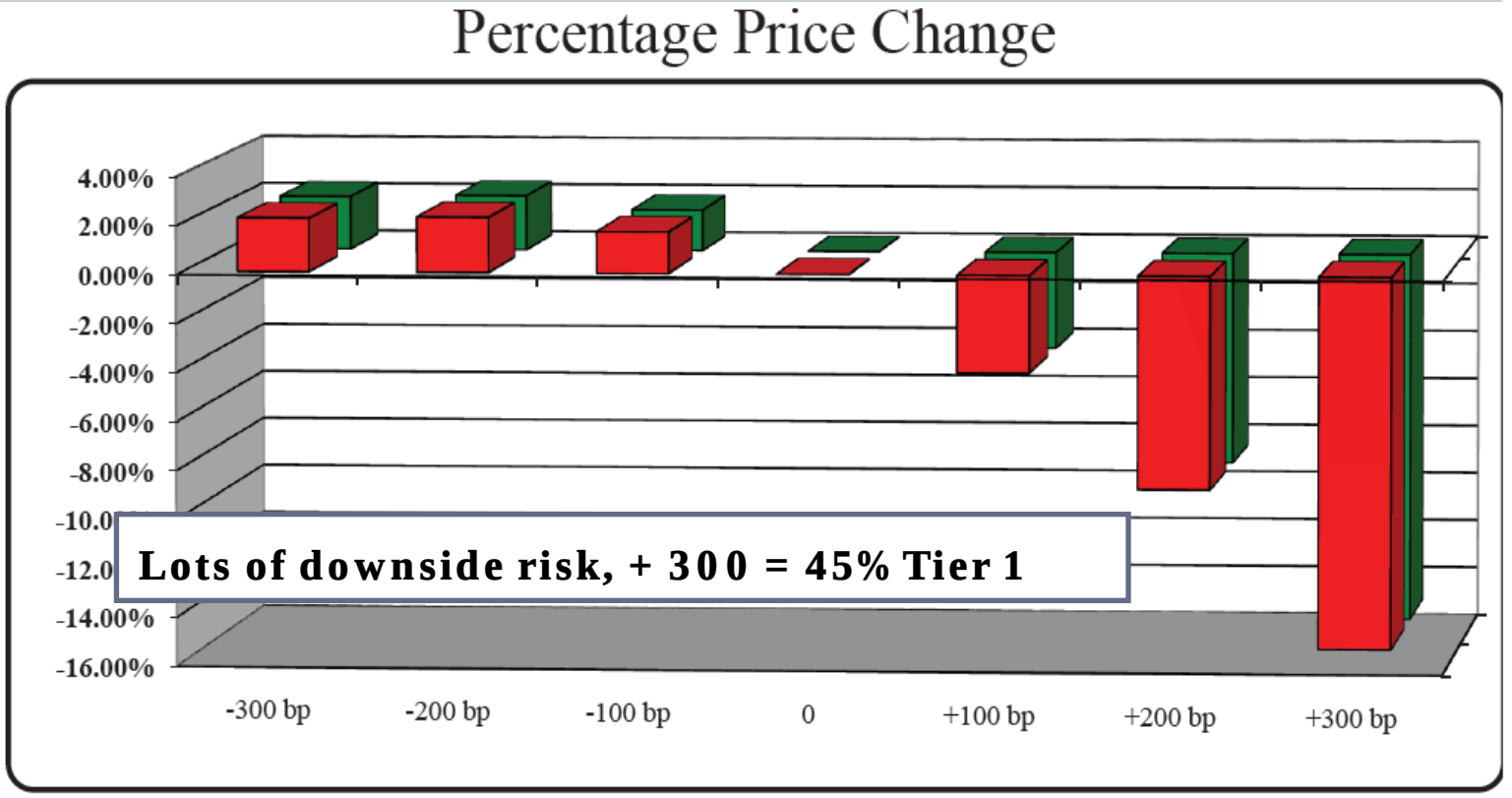
Cashflow Shock



Bps	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020++
-300 bp	74.49%	21.77%	3.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
-200 bp	56.80%	34.13%	8.98%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
-100 bp	29.52%	37.73%	24.34%	3.90%	2.30%	2.21%	0.00%	0.00%	0.00%	0.00%
0 bp	19.82%	27.44%	16.32%	10.45%	9.69%	12.62%	1.46%	0.00%	0.73%	1.46%
+100 bp	17.46%	22.26%	13.40%	9.04%	7.58%	17.04%	3.65%	2.27%	2.19%	5.11%
+200 bp	13.59%	11.85%	8.29%	6.88%	6.18%	16.39%	6.58%	2.92%	6.57%	20.76%
+300 bp	7.72%	4.50%	2.45%	4.70%	6.20%	6.21%	8.05%	5.84%	5.11%	49.22%

Portfolio Price Sensitivity

Example NB:
TA: $482M
T1 Capital: $47M
Investments: $140M



Rates :	-300 bp	-200 bp	-100 bp	0	+100 bp	+200 bp	+300 bp
% Price - AFS	2.19%	2.26%	1.69%	0.00%	-3.98%	-8.71%	-15.18%
Total % Price:	2.19%	2.26%	1.69%	0.00%	-3.98%	-8.71%	-15.18%

Interagency IRR Advisory

- Issued jointly by FRB, FDIC, NCUA, OCC, OTS, FFIEC, and State Liaison Committee on January 6, 2010.
- Goal is to remind institutions of supervisory expectations regarding sound practices for managing IRR.
- Advisory prompted by concerns about historically low rates, and the need to measure and mitigate exposure to potential increases in rates.
- Effective IRR processes especially important for banks under earnings and capital pressure due to lower credit quality and market illiquidity.
- Reiterates several key IRR management principles, but emphasizes and clarifies some key expectations.

Interagency IRR Advisory – Key Points

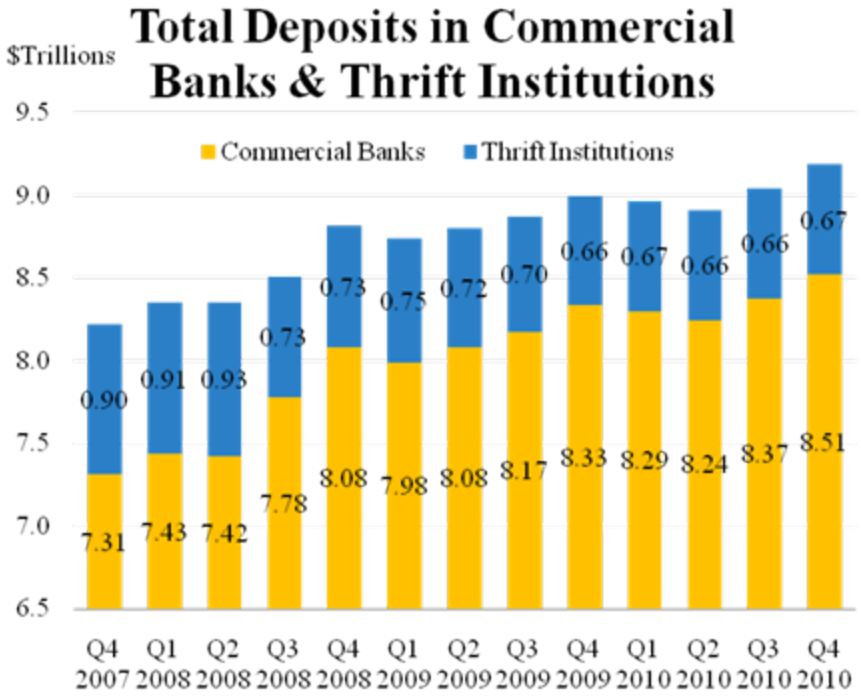
- Well managed banks consider earnings and economic perspectives
- Processes commensurate with earnings and capital levels, complexity, business model, risk profile, and scope of operations
- Measurement Methodologies
  - Technology has broken barriers, simulation at small banks
  - True impact of strategies and transactions captured over a longer time horizon; at least two years, probably longer
  - Encourages EVE as effective way to capture embedded options risk
  - System should be robust enough to capture material on and off-balance sheet positions and incorporate stress testing to identify and quantify IRR exposure and potential problem areas
- Stress Testing
  - A meaningful range of scenarios to identify basis, yield curve, and embedded options risk should be used
- Assumptions
  - Document, monitor, and regularly update key assumptions (i.e. asset prepayments and non-maturity deposits)

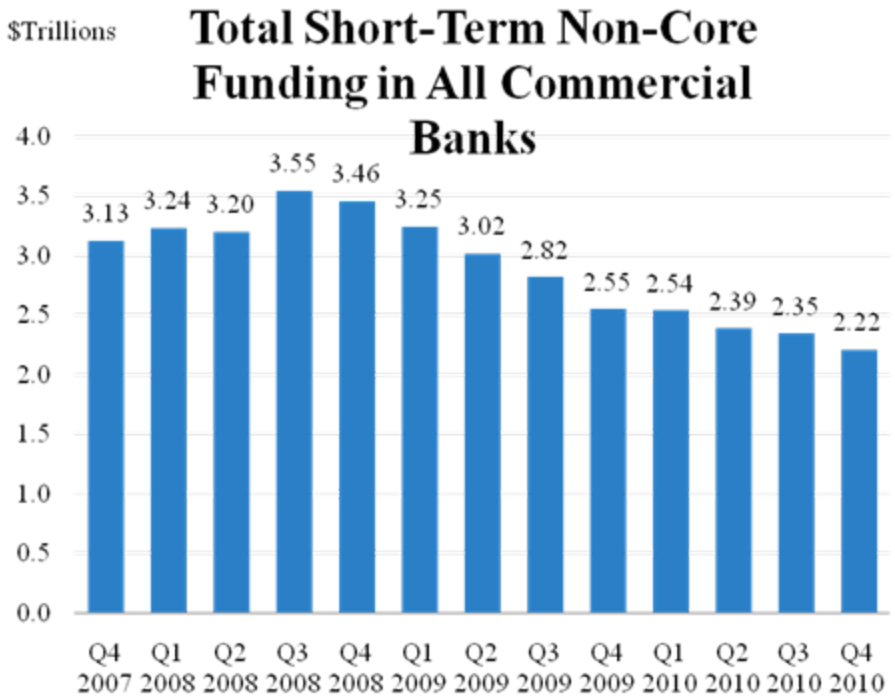
Supervisors are working on an FAQ for release 3rd quarter 2011!!!!

Current Condition – Liquidity Trends/Issues

- System wide liquidity has improved.
- Uncertainty continues to surround retail deposit surges experienced during market disruption and banks have had difficulty determining the likely retention of deposits placed as a flight to quality.
- Proposed Basel Liquidity Standards will require higher levels of liquid assets as well as increased structural liquidity.
- Regulatory Reform legislation may add additional liquidity and capital requirements, as well as restrictions on business practices.

Industry Trends in Deposits





- Core deposits up $1.2T (16%) over past 3 years
- Short Term Non-Core Funding down $910B (29%)

Trends in Liquid Assets

Changes in National Bank Securities Portfolio Composition

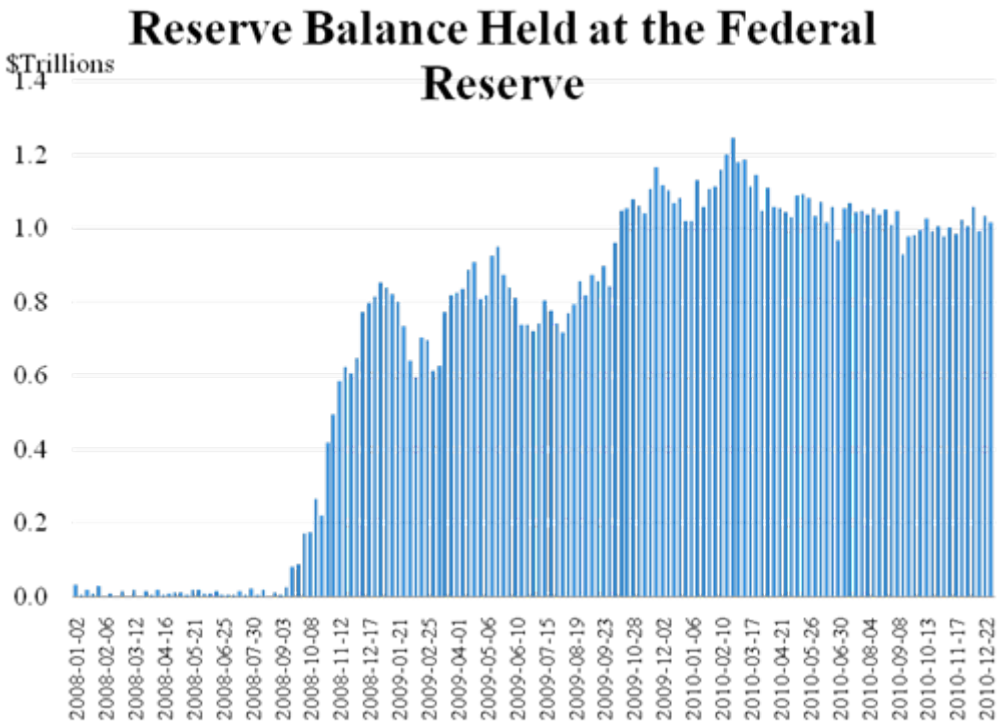
	Q4 2008	Q4 2010	Change	% Change
Tsy/Agncy	67.5	254.7	187.1	377%
Muni	75.0	86.7	11.7	16%
Agncy MBS	594.1	724.8	130.6	22%
PMBS/ABS	275.9	219.5	-56.5	-20%
Other	133.5	246.1	112.6	84%
TOTAL	1,155.5	1,604.9	449.4	39%

- Absent loan demand, liquid assets for all commercial banks have increased from $1.6T to $2.33T (+45%)
- National banks have increased by $449B (39%) with largest increases coming from Treasury, Agency, and Other categories
- Higher risk private MBS/ABS have declined $56b (20%)

Trends in Excess Reserve Balances

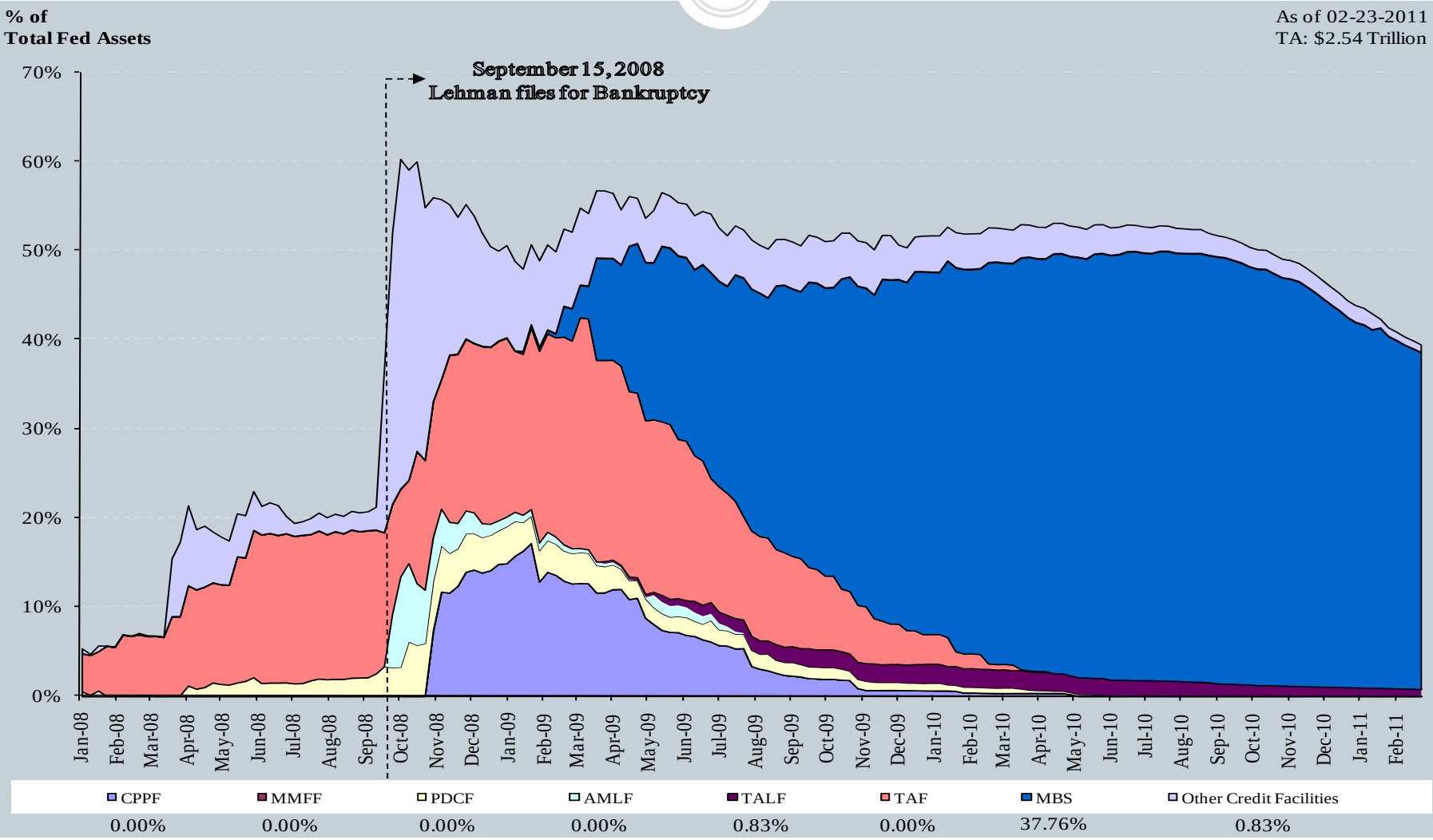
- Reserve balances at Federal Reserve have increased by $1T over past 2 years

- US banking system presently at record levels of liquidity with high core deposits, high levels of liquid assets and excess reserves



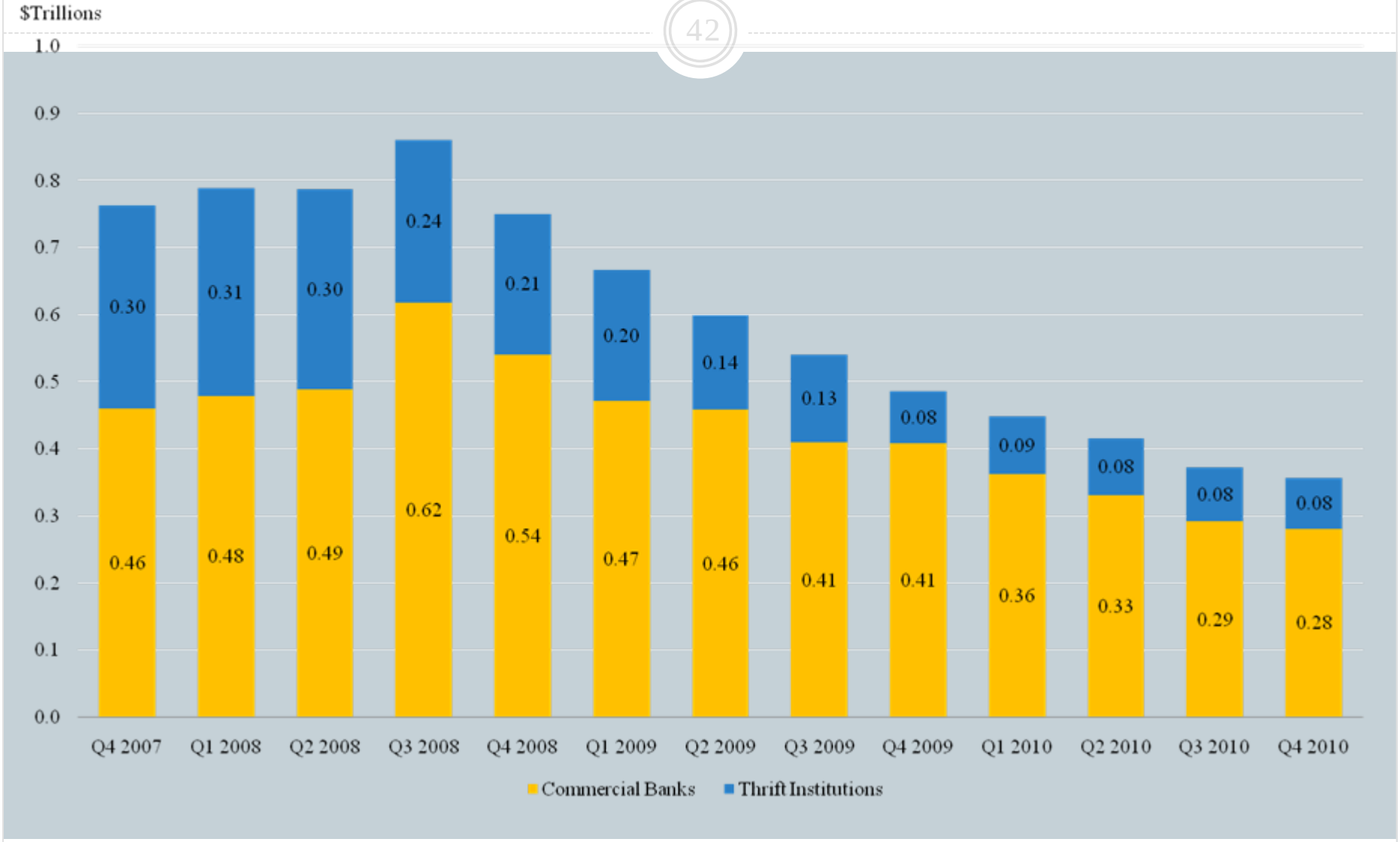
Federal Reserve Balance Sheet

Daily Data



Data Source: Federal Reserve

Total Federal Home Loan Bank (FHLB) Advances in All Commercial Banks & Thrift Institutions



Interagency Policy Statement on Liquidity

- Issued jointly by OCC, FRB, FDIC, OTS, NCUA, and CSBS on March 22, 2010 to provide consistent expectations for managing funding and liquidity risk
- Summarizes the principles of sound liquidity risk management issued previously
- Supplements existing guidance with the “Principles for Sound Liquidity Risk Management and Supervision” issued in September 2008 by the Basel Committee on Banking Supervision
- Banks are expected to manage liquidity risk with processes and systems “commensurate with the institution’s complexity, risk profile, and scope of operations”.

Interagency Policy Statement – Key Points

- Effective Corporate Governance (management and Board)
- Appropriate Strategies, Policies, Procedures, and Risk Tolerance
- Comprehensive Measurement, Monitoring, and Reporting
- Intraday Liquidity and Collateral Position Management
- Diversified Funding Sources – avoid concentrations
- Cushion of Liquid Assets to Meet Needs In Stressful Situations
- Contingency Funding Plans To Address Adverse Events
- Internal Controls and Audit Processes

Cash Flow Projections

- Strategies should identify funding sources for meeting daily operating cash outflows as well as seasonal and cyclical fluctuations
- Liquidity measurements should include robust methods for comprehensively projecting cash flows (CF) from assets, liabilities, and off-balance sheet items over an appropriate set of time horizons, under expected and adverse business conditions
- CF projections can range from simple spreadsheets to detailed reports depending on sophistication and risk profile under various scenarios

Stress Testing

- Conduct tests regularly for a range of institution-specific and market-wide events across multiple time horizons
- Test results should help management identify and quantify sources of potential liquidity strain and impacts on overall liquidity, profitability, and solvency
- Stress tests demonstrate whether current exposures are consistent with established risk tolerance; allow management action to build liquidity and adjust exposure to align with risk tolerance
- Stress tests results should play a key role in developing contingency plans

Summary and Takeaways

- Banks are flush with liquidity. Mixed economic signals. Sustained period of low interest rates. Historically low margins. Watch for yield chasing without sufficient analysis. Pre-purchase and ongoing analysis through stress/sensitivity testing. Ensure strategy and risk assessment supports transactions.
- A large number of institutions have significant concentrations in municipal securities – need to assess credit and price deterioration in these portfolios. Make sure you have appropriate controls and monitoring processes.
- You should understand the risk profile of structured notes, prior to purchase. Risk exposure should be commensurate with your tolerances, measurement, and pricing processes.
- Interest rate risk from an agency pass-through mortgage security is probably as high as it has ever been. You should be appropriately identifying and considering this risk.
- Behavioral assumptions used in IRR models should be adjusted to reflect the current environment and you should be performing sensitivity testing on critical model inputs. Mortgage prepayments, deposit behavior and other key assumptions should be tested across a range of variables.