

# Capital Matters: Managing Labor's Capital

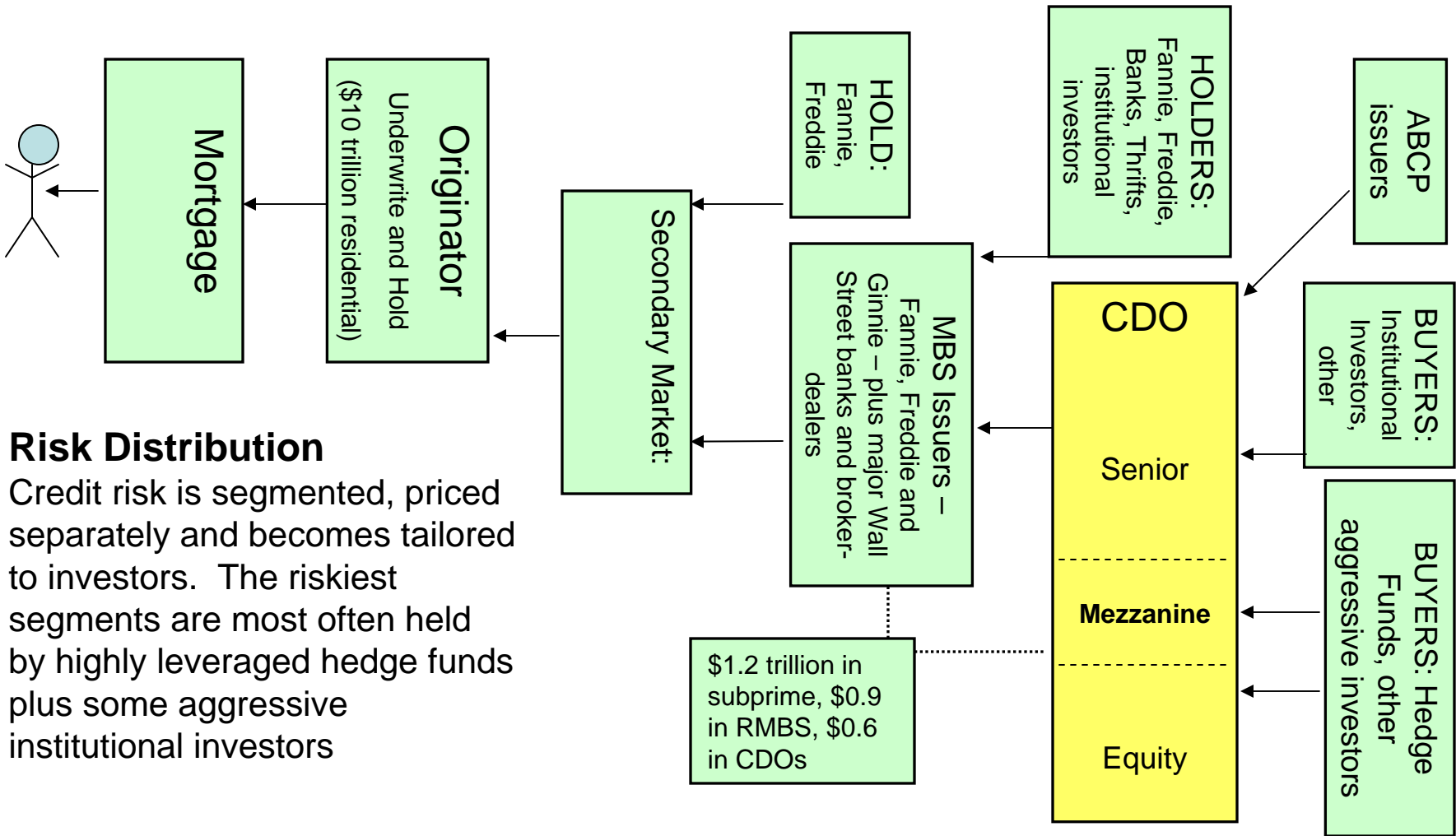
## FOUR LESSONS FROM THE FINANCIAL CRISIS

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*\* Standard disclaimer: the views expressed in this presentation are those of the author  
and not the IMF.*

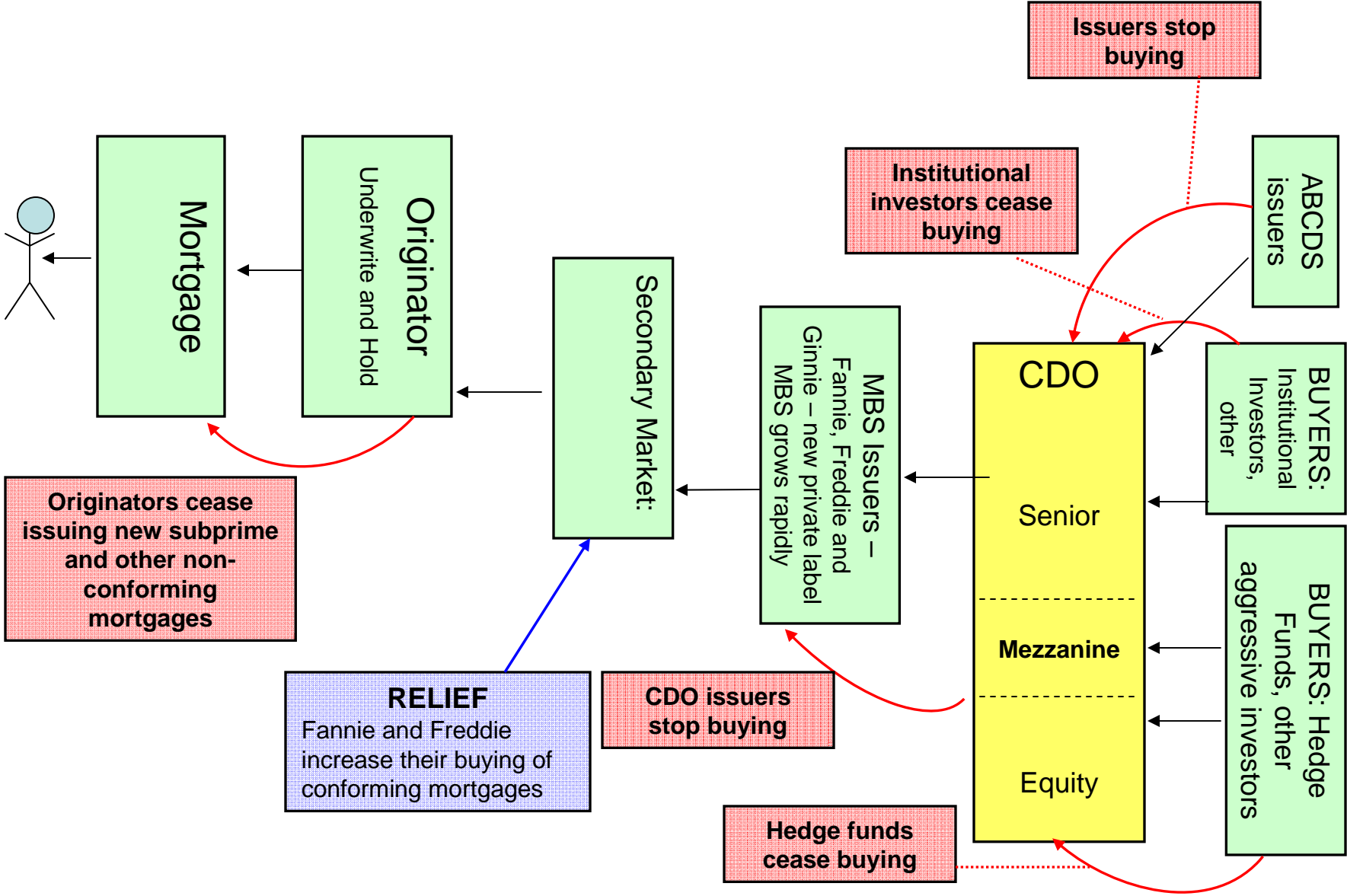
# Market Structure



## Risk Distribution

Credit risk is segmented, priced separately and becomes tailored to investors. The riskiest segments are most often held by highly leveraged hedge funds plus some aggressive institutional investors

# Crunch



## Four Lessons

1. Although large complex financial institutions (i.e. major banks and broker-dealers) are in trouble, and they are regulated, their problems emerged from their dealing with unregulated financial institutions (e.g. originators, SIVs, hedge funds) and unregulated markets (e.g. derivatives, structured securities).
2. Although there is a credit crunch at the major banks and broker-dealers, it is the OTC markets for structured securities, derivatives, muni bonds, student loan backed securities,
3. Leverage. Archimedes as enemy. Banks are inherently leveraged and much of finance generally depends on leverage, but the prudential limits that governs risk taking on balance sheets is not adequately applied to off-balance sheet items and is void at hedge funds and SIVs and the like.
4. Complexity. While there is nothing wrong per se with complexity, it is imperative that transactions in complex securities and derivatives be treated with high standards for transparency, competence and due diligence. The principle problem is pricing – getting the prices right – and it is challenging even in good times.

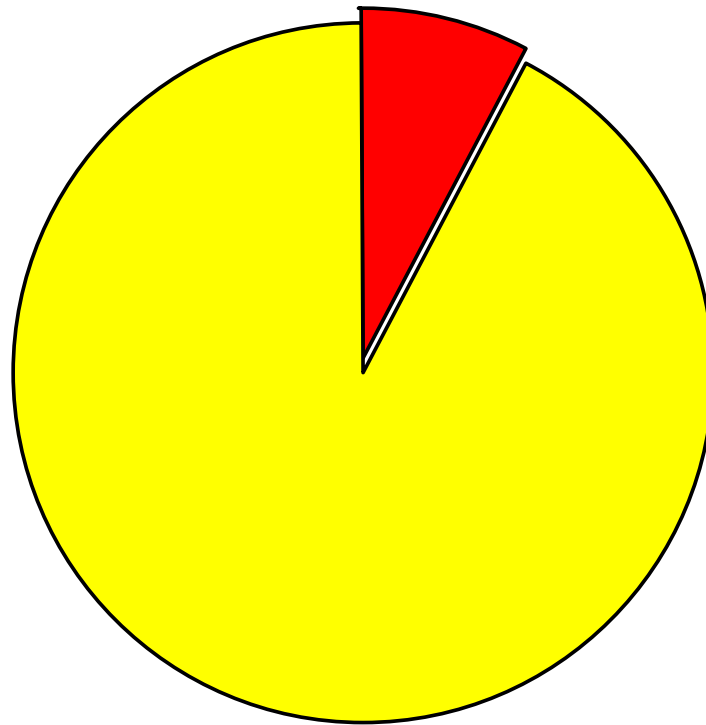
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**Total Mortgages:**

**\$14.4 trillion**

**Subprime Debt:**

**\$1.2 trillion**

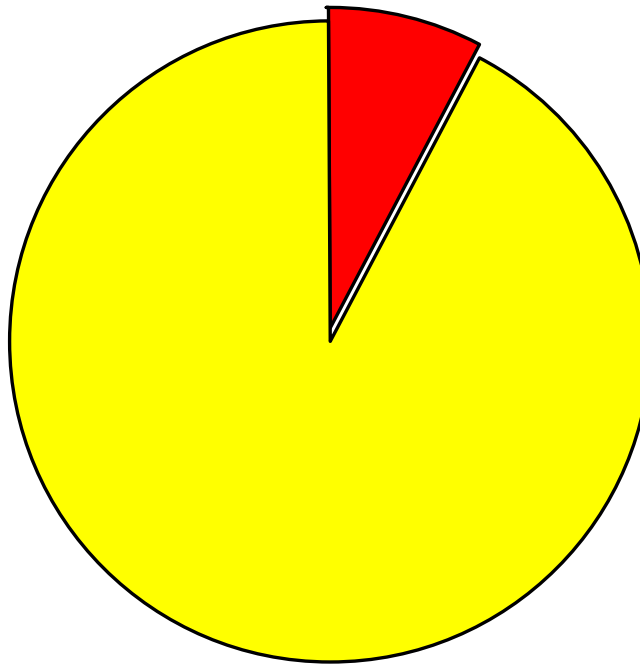


**Total Mortgages:**

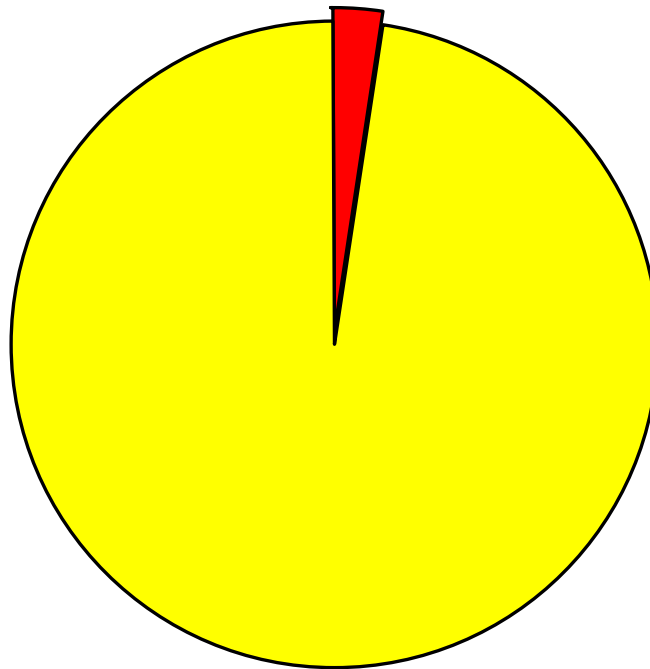
**\$14.4 trillion**

**Subprime Debt:**

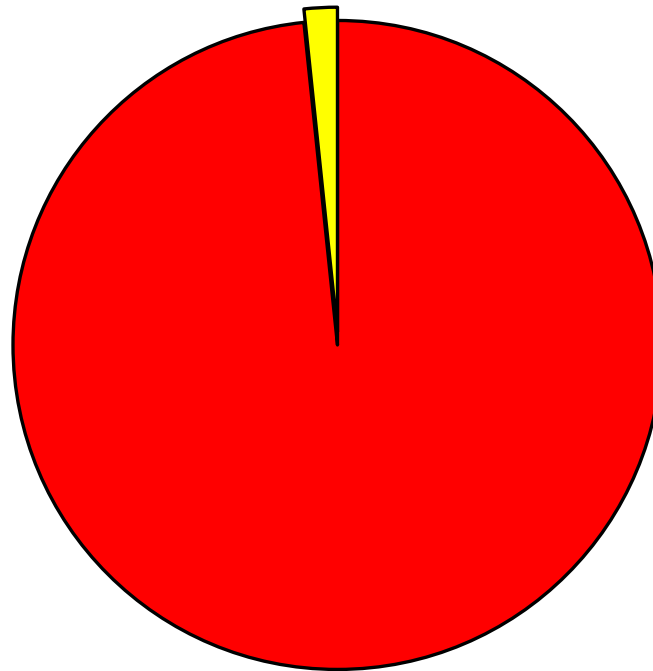
**\$1.2 trillion**



**Total Credit:**  
**\$48.9 trillion**  
**Subprime Debt:**  
**\$1.2 trillion**



**Total Capital:  
\$70.4 trillion**  
**Subprime Debt:  
\$1.2 trillion**



## Subprime Crisis

- catalyst
- rise in delinquencies and foreclosures

## Price collapse in subprime MBS and CDOs

- eliminates some market participants
- dries up most trading volume

## Funding Liquidity Crisis

- credit crunch

## Engorgement of Banks' Balance Sheets

- worsening credit crunch

- Kills many subprime mortgage originators
- Pension Fund losses from Norway to Florida
- Bank crises in UK and Germany
- Market liquidity dries up for MBS, CDOs and related credit derivatives
- Hedge fund failures >> deleveraging and less trading volume

- Banks hoard liquidity >> firms dependent on short-term financing are crushed
- LIBOR jumps up, T-bills dive down
- Margin calls on Hedge Funds
- SIVs fails as ABCP > LIBOR
- Broker-dealers take steps to strengthen funding

- SIVs assets taken onto balance sheet
- Hedge fund assets/collateral taken on
- Accumulation of unwanted inventory
- Aggravates banks' own leverage – more assets require more capital to meet regulatory requirements

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**Spreads to Muni and Student Loan Markets**  
-- more problems with short-term funding of long-term securities

- Problems at monoline insurers harms ABS they insured
- Banks and broker-dealers cease acting as dealers in auctions
- ARS auctions fail in record number
- Similar troubles at VRDO and TOB

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**Spreads to Agency Debt, Interest Rate Swaps and other liquid instruments**  
-- risk-free Treasury go to large premium

- Illiquid or weakened credit derivatives market leads to shorting of anything liquid but Treasury to hedge credit exposures
- Carlyle Capital and Peleton collapse

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**New Meaning of Bear Market**  
-- credit crunch

- Bear Sterns fails and is bought by JPM – demonstrates concern for counterparty risk in OTC derivatives market
- Low price sends price shock to market

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**Policy Responses**  
-- some late, some new, some ineffective

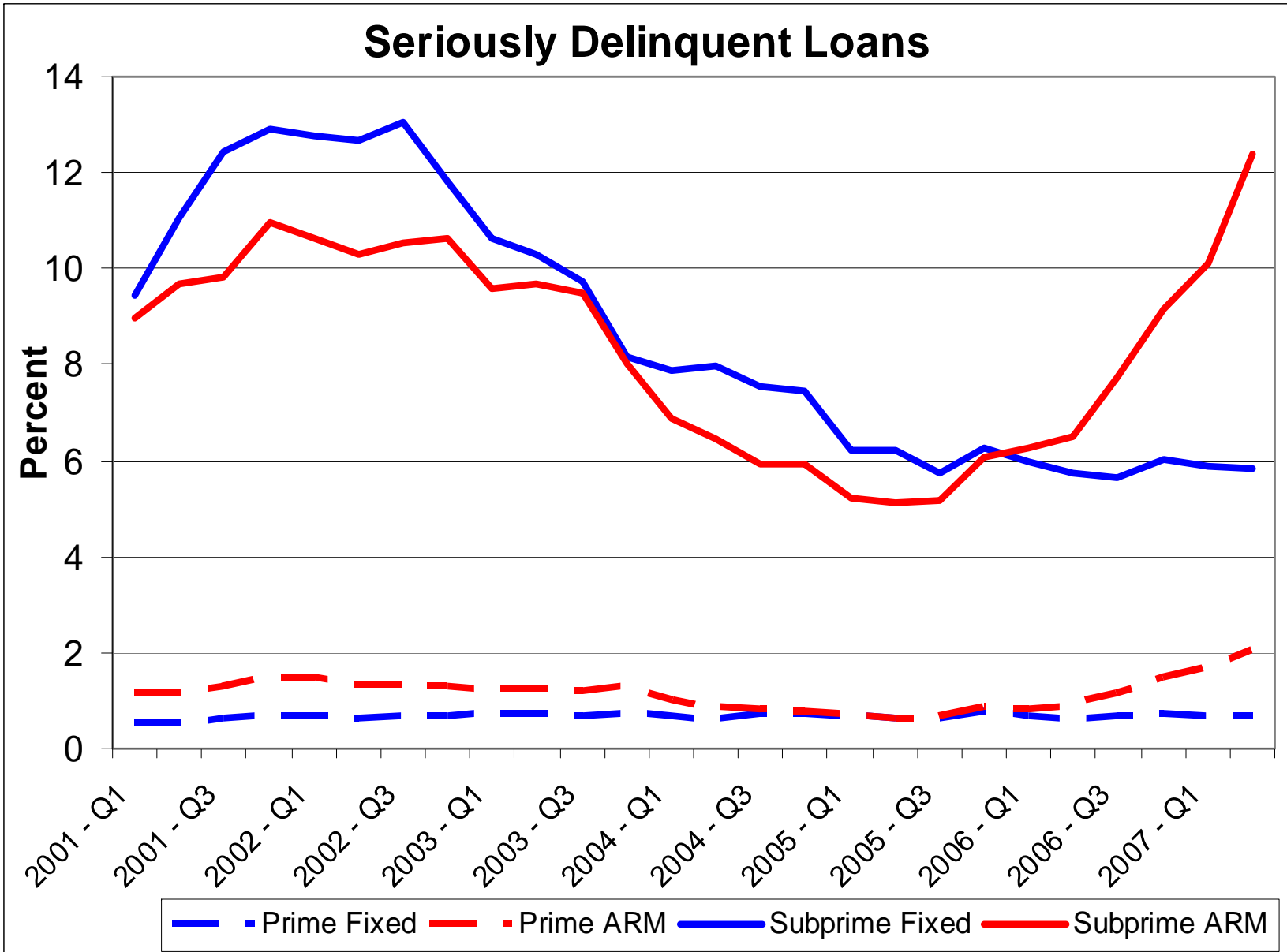
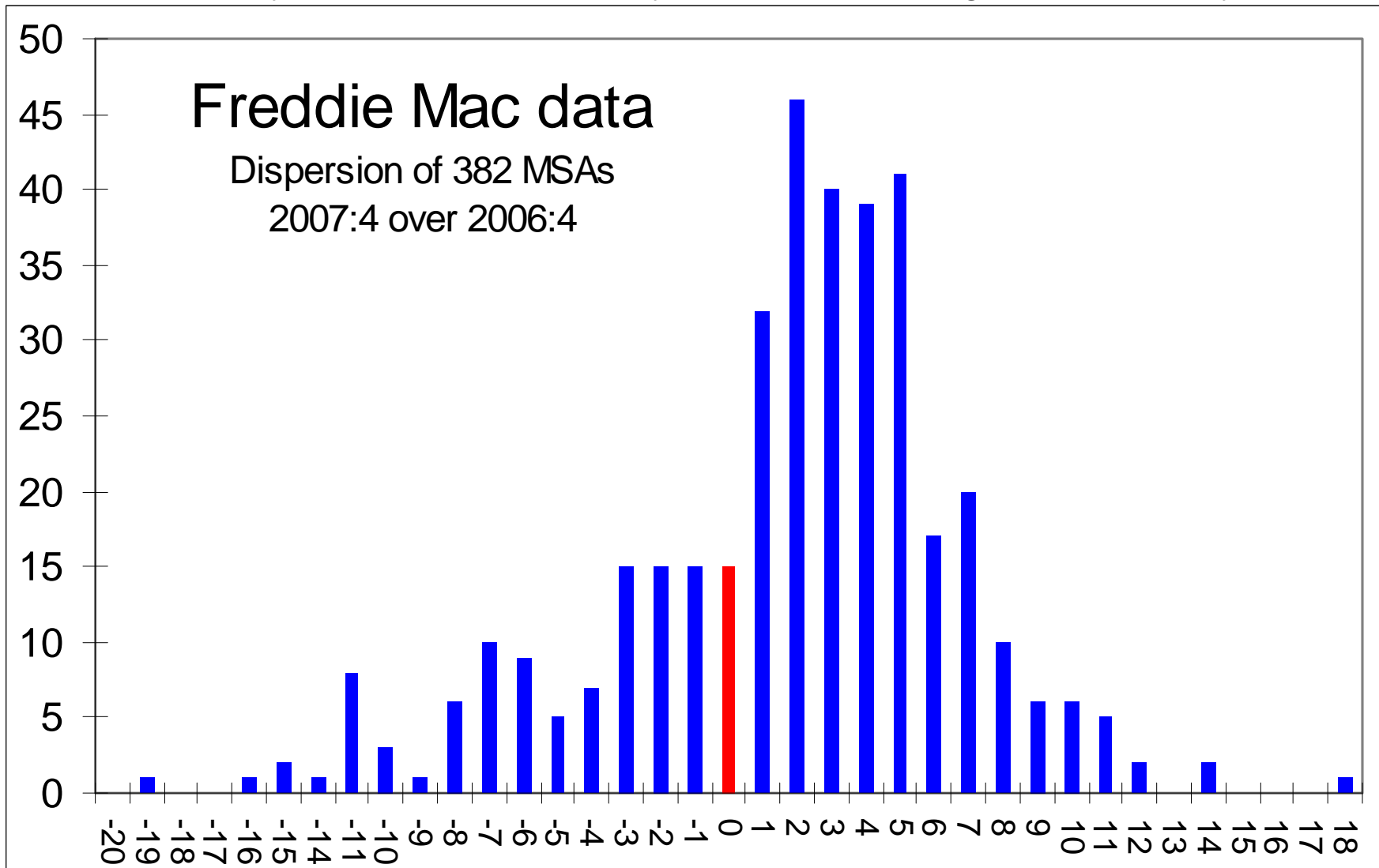


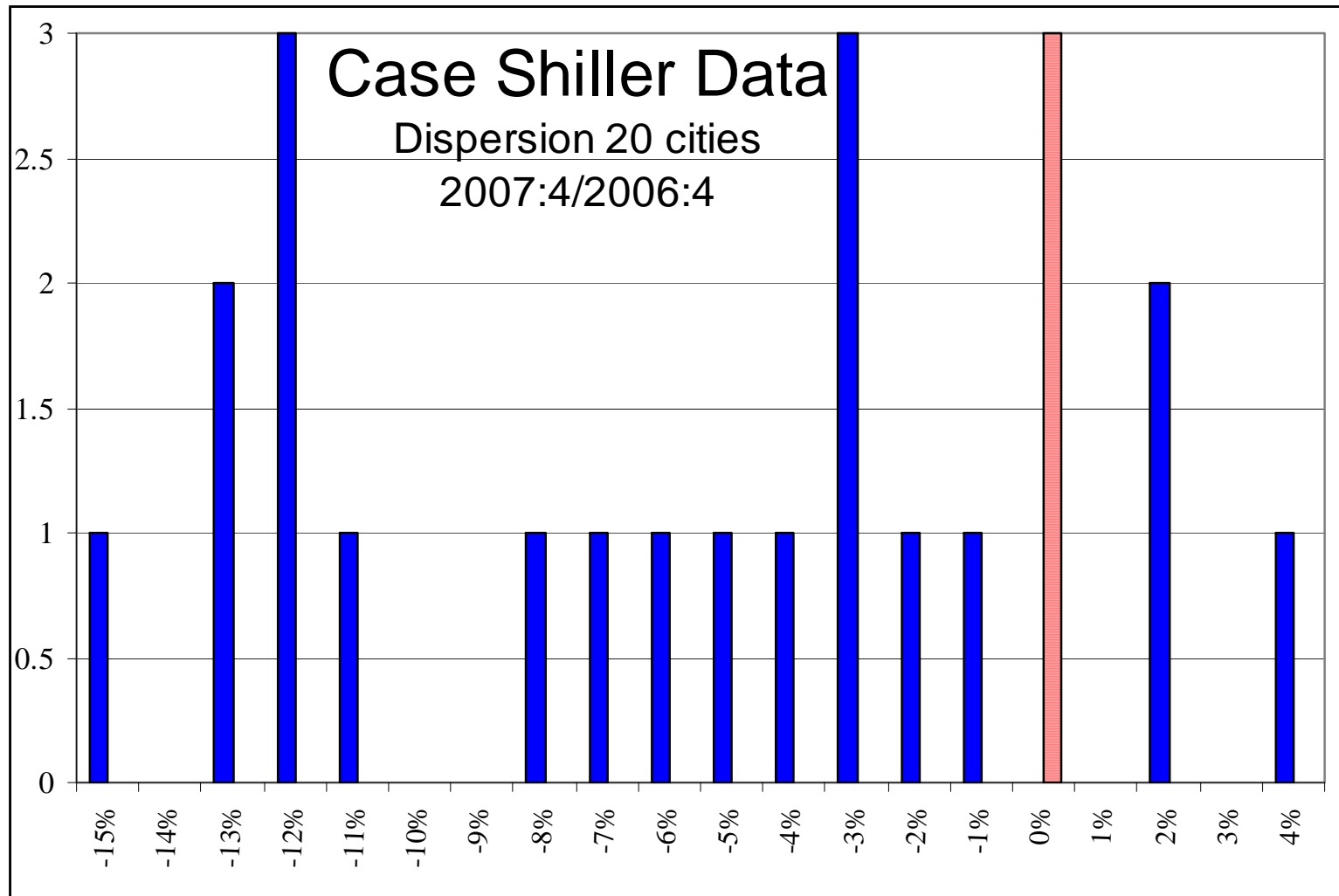
Chart from Jay Brinkmann, VP of Research and Economics, Mortgage Bankers Association

Not all areas of nation are in trouble – in fact a minority of MSAs are  
Frequency of MSAs bracketed by home price changes of the past year



\* Freddie Mac Conforming Mortgage Home Price data

Title Case-Schiller Data shows for same quarter/quarter shows all but three major cities shows declines over the period

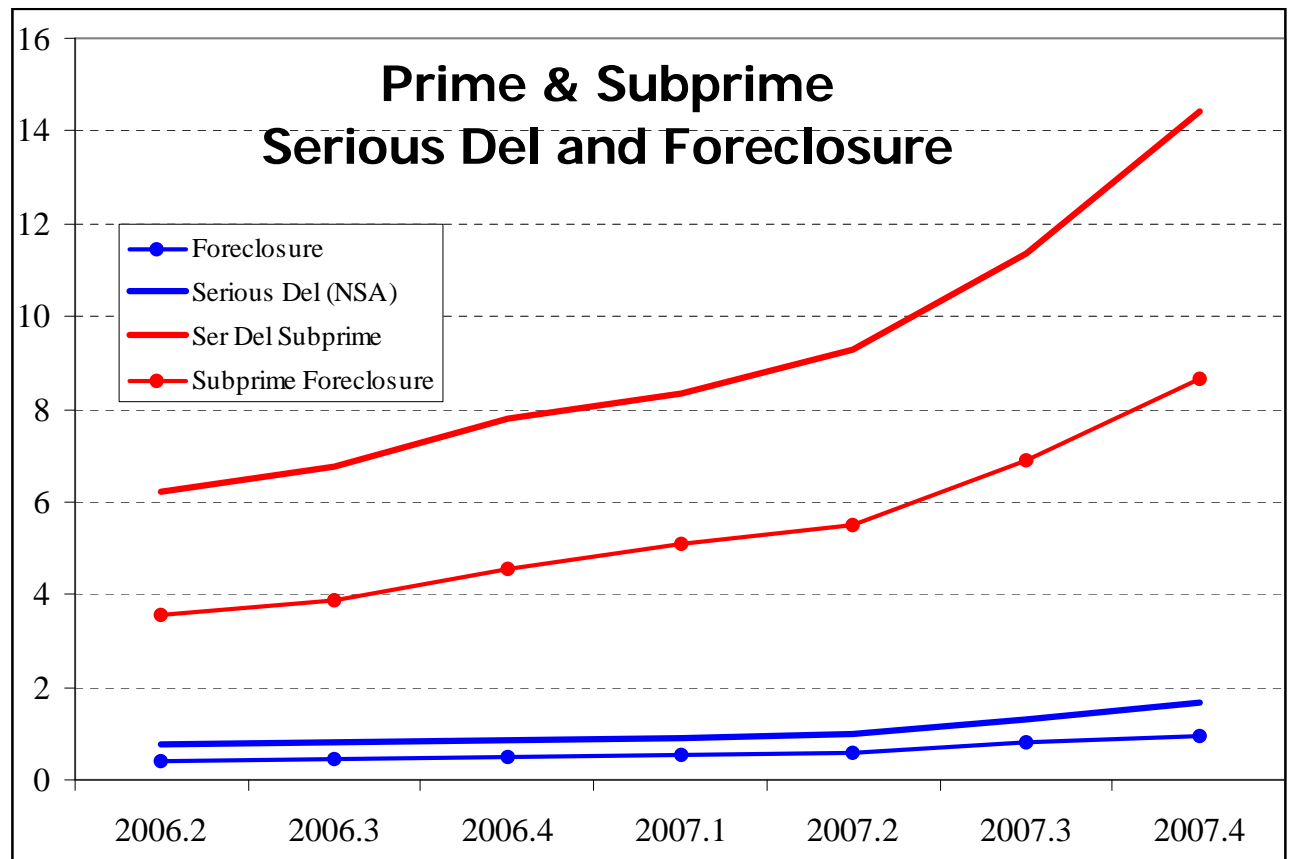


\* Case Shiller data from S&P

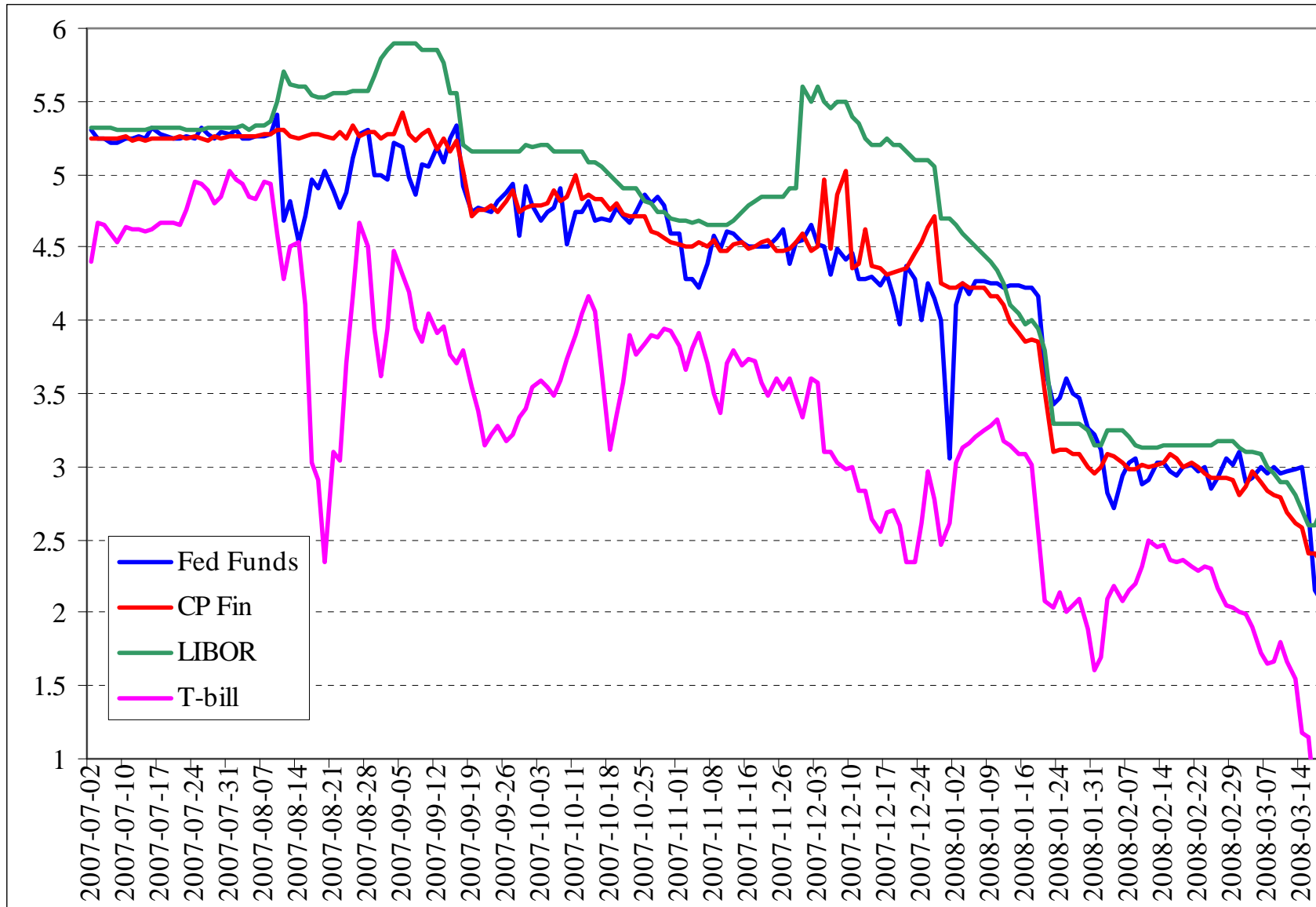
# Serious Delinquency and Foreclosure: small change in prime

	2006.2	2006.3	2006.4	2007.1	2007.2	2007.3	2007.4
<b>Prime - 87% of mortgage</b>							
Delinquency	2.29	2.44	2.57	2.58	2.73	3.12	3.24
Serious Del (NSA)	0.75	0.79	0.86	0.89	0.98	1.31	1.67
Foreclosure	0.41	0.44	0.5	0.54	0.59	0.79	0.96
<b>Subprime - 13% of mortgages</b>							
Delinquency	11.7	12.56	13.33	13.77	14.82	16.31	17.31
Serious Del (NSA)	6.23	6.78	7.78	8.33	9.27	11.38	14.44
Foreclosure	3.56	3.86	4.53	5.1	5.52	6.89	8.65

\* Mortgage Bankers Association data

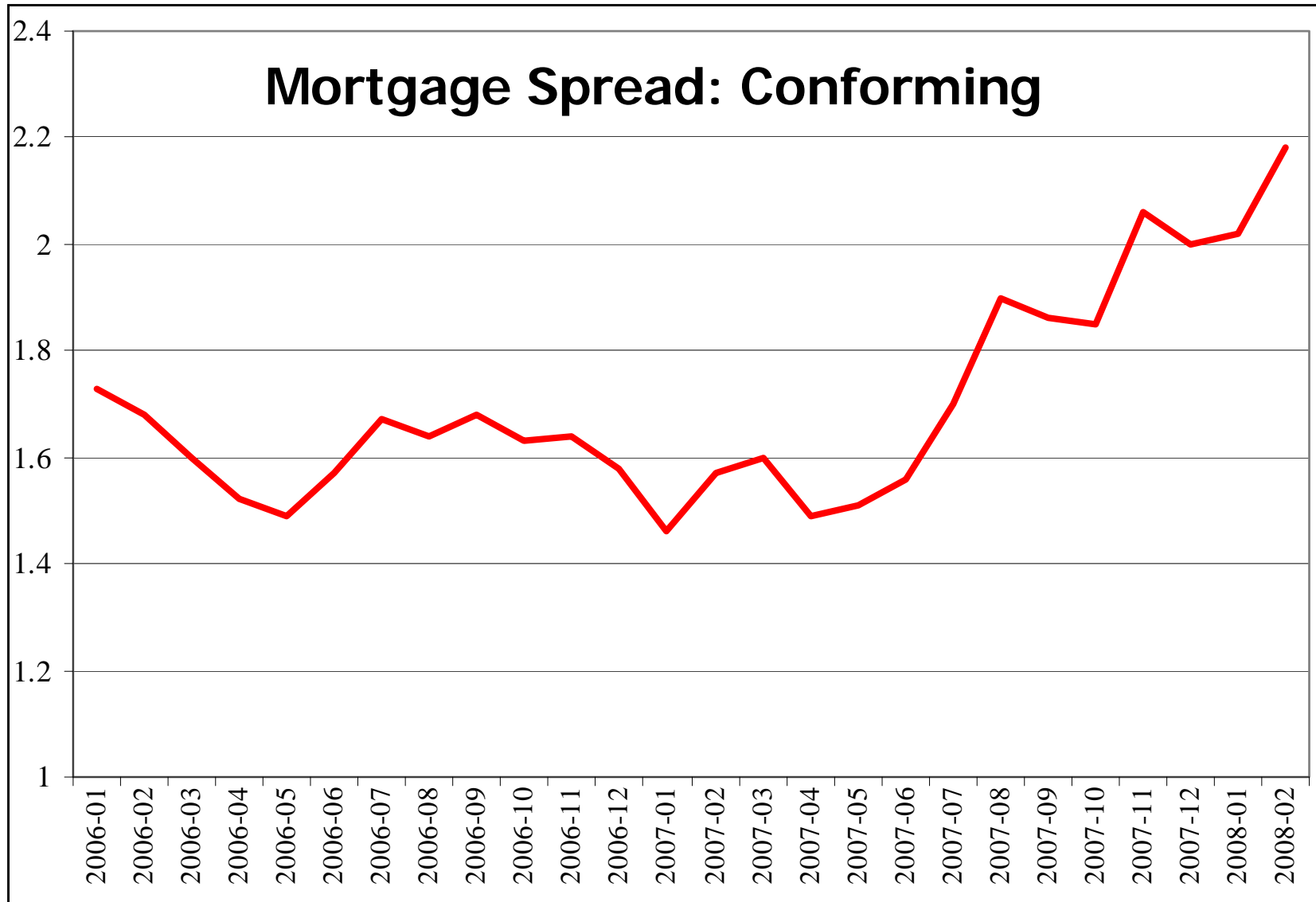


# Credit Crunch: LIBOR jumps up, T-bills dive down



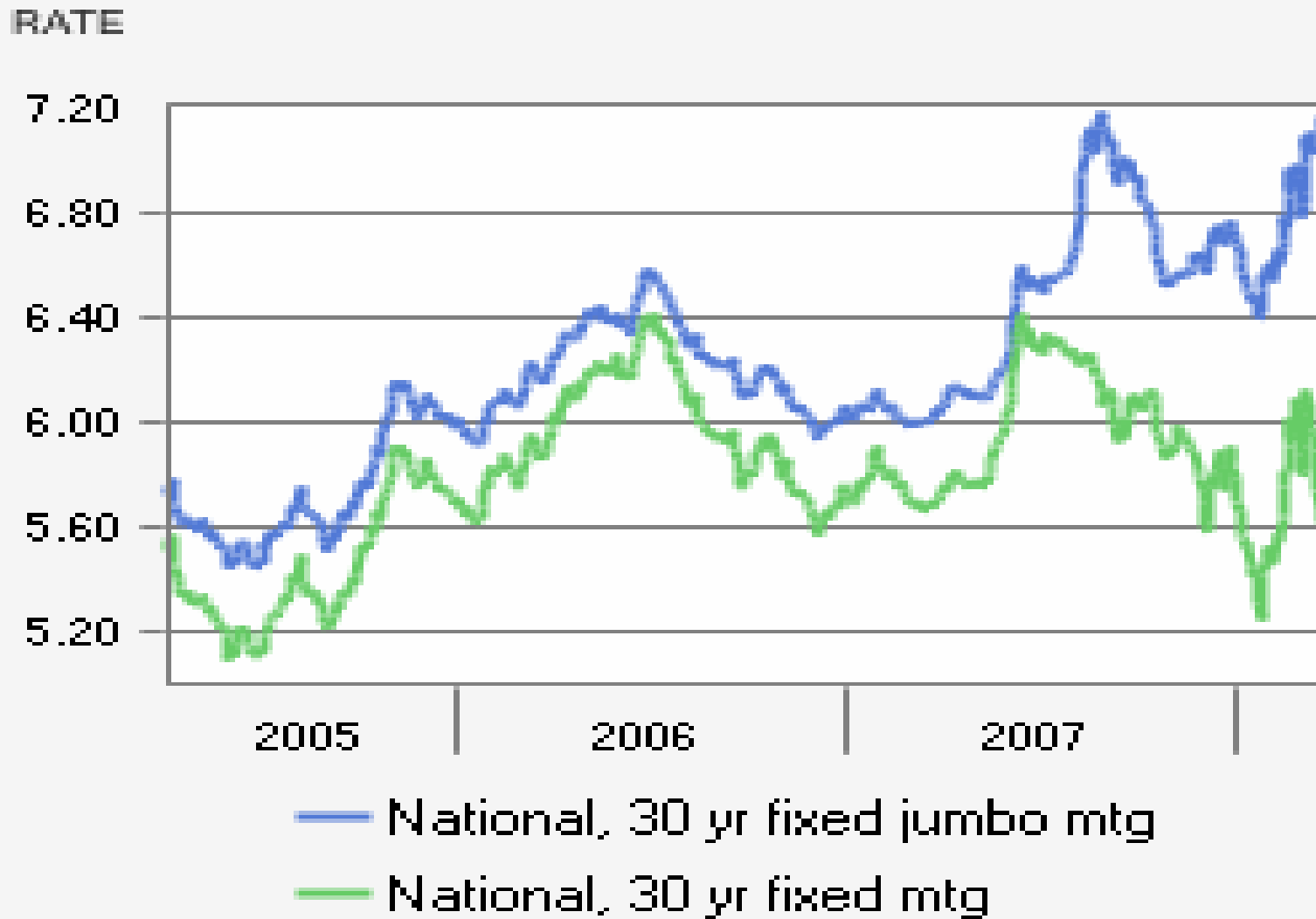
\* U.S. Federal Reserve data, H.15

# Credit Crunch: Conforming mortgage spreads rise



\* 30-year mortgage less 10-year Treasury; Freddie Mac; US Federal Reserve H.15

Spreads for Jumbo prime over conforming loans jumps as private label issuers suffer Credit Crunch



Source: Bankrate.com

US Interest Rate Swaps (2-year) spread over Treasury – measures credit exposure on counterparty risk in what is otherwise a AA market.



\* Bloomberg

## How it spreads to Municipal Bond market

Over one-half of municipal bonds issuances are guaranteed by monoline insurers so that the bonds receive AAA credit rating.

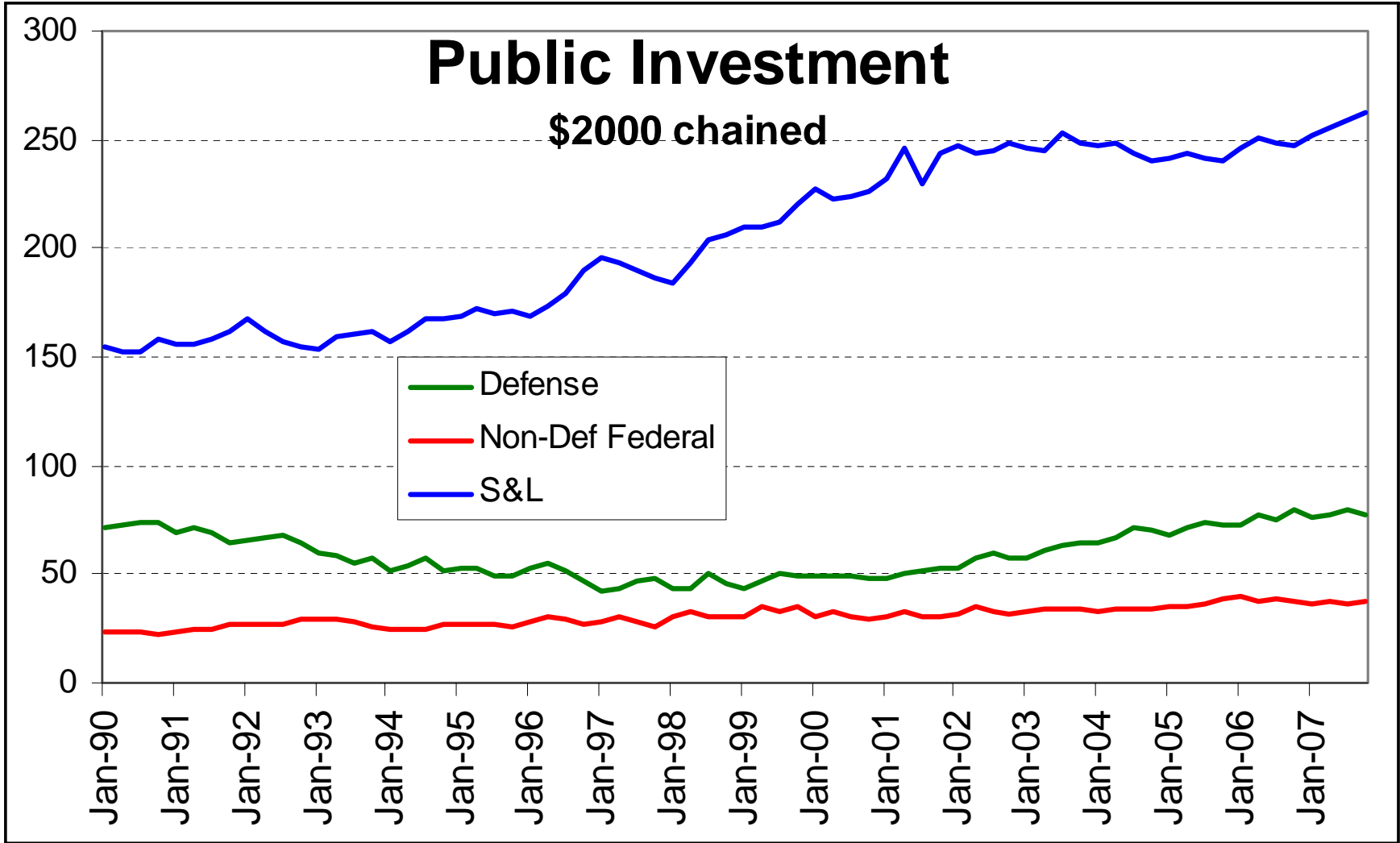
Monoline insurers took a hit three ways

1. They insured some senior tranches of CDOs
2. They sold credit protection in credit derivatives markets
3. They invested their asset portfolios in CDOs – apparently so convinced that correlations would remain small and problems remote that they added to their underwriting exposure by investing in the securities.
  - MBIA took losses of \$3.5 billion on credit derivatives alone.
  - Market estimates \$23 billion losses for MBIA and Ambac on RMBS and CDOs.

Major monoline insurers were put on ratings review. FGIC, Ambac and ACA are downgraded. How can AA firm provide AAA guarantees?

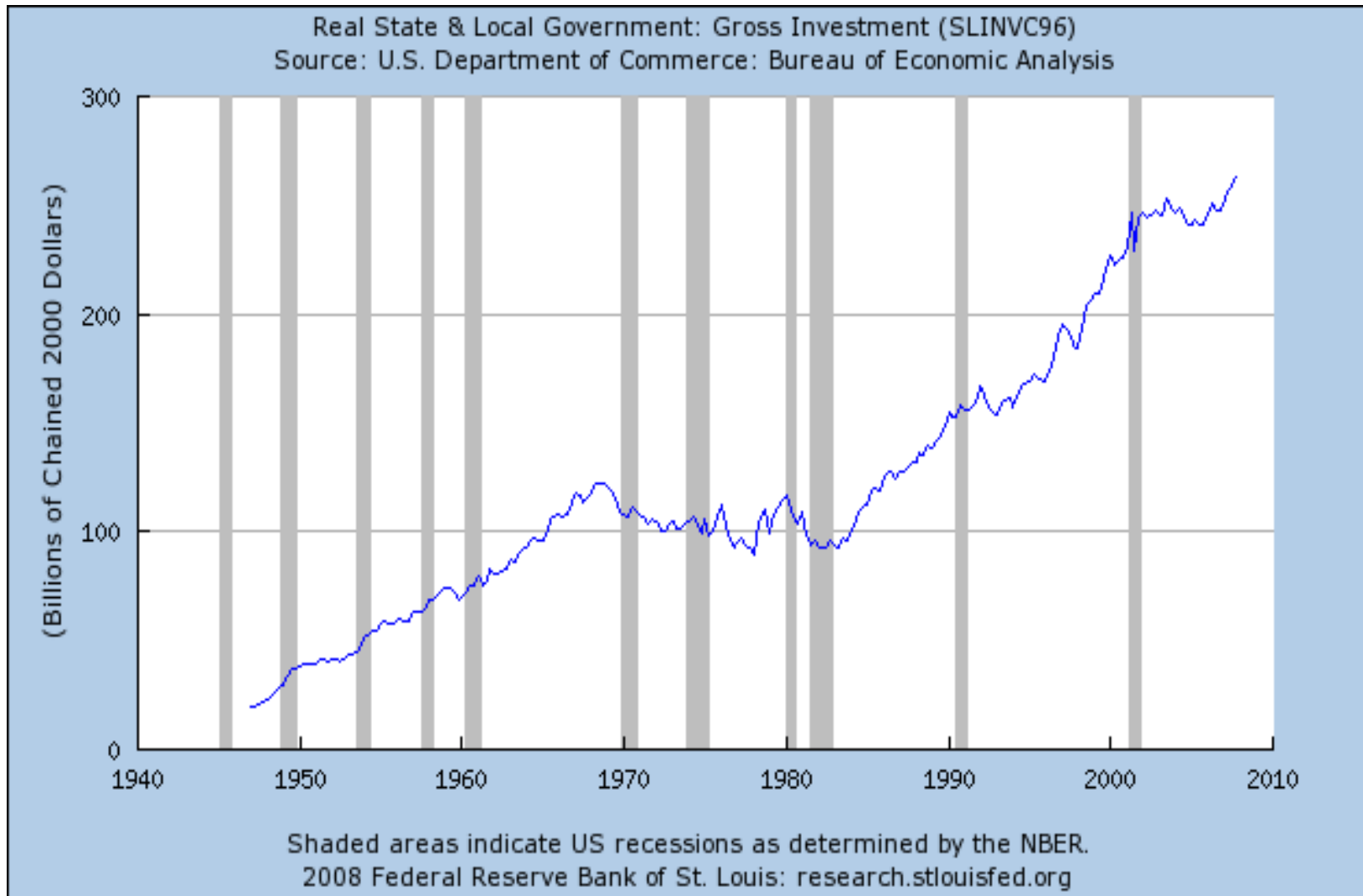
The impact of such market doubts is first manifested in new issuances, refinance and in the variable rate portion of the market.

Markets for auction rate securities is roiled and funding costs spike.



\* U.S. Dept of Commerce, Bureau of Economic Analysis, NIPA series

Real State and Local investment spending is not cyclical like overall muni budgets. Bond fund thus plays stabilizing macroeconomic role.



## ENGORGEMENT OF BALANCE SHEETS

### Assets\*

- + \$20 billion SIV/ conduit assets
- + \$20 billion unwanted inventory
- + \$20 billion hedge fund assets and collateral
- + \$10 billion muni securities bought to clear auctions

### Liabilities\*

- + \$64.4 billion in new borrowing – sometimes strengthened through us of longer-term notes
- + \$5.6 billion new capital to meeting capital requirements and leverage ratios

\* Figures are hypothetical amounts chosen to illustrate the economic points

# How it hits the muni market

## 1. Less funding and refinance – which would otherwise benefit from lower interest rate environment

### Underwriting

Jan '08	\$19.6 billion
Jan '07	\$31.2 billion

### Refunding

Jan '08	\$5.3 billion
Jan '07	\$17.9 billion

## 2. Roiling the variable rate market

This market segment has several sub-sectors

- Auction Rate Securities
- Tender Offer Bonds
- Variable Rate Demand Obligations
- Closed End Funds - Use leverage by issuing variable rate

\* Bond Market Association at [www.bondmarkets.com](http://www.bondmarkets.com)

# Student Loan Market

Student Loan Market is heterogeneous

1. Direct student lending by government (administered by educational institutions). This is about \$15 billion a year (amounts cut back by Republican Congress back in 1995).
2. Federal guarantees for private lenders such as banks and universities
  - \$115 billion borrowed last year by 8 million students
  - 2,000 lenders participate in program, although top 50 make 83% of loans
  - The largest, Sallie Mae has 40% of new loans, and Citi is second
  - Many lenders (at least 26) leaving program, e.g. Brazos of Texas that had a \$15 billion portfolio. They have stopped making new loans.
- State and fully private (no guarantees) provide another \$18.5 billion

# Student Loan Market

## Auction Rate Securities

- SLARS – student loan-backed auction rate securitizations. Market estimated by Moody's to be \$86 billion.
- Example from July 2006: The Vermont Student Assistance Corporation issuance consisted of three series of 'AAA' rated tax-exempt auction-rate securities totaling \$175.3 million. The securities were issued out of a master trust supported by a financial guarantee insurance policy issued by Ambac, whose insurer financial strength is rated 'AAA' by Fitch. The collateral securing the bonds consists of both FFELP and private loans. They are often tranced.
- Problems became acute last fall. Broker-dealers who brought these to market backed away from providing market liquidity and let the auctions fail.
- Although rates are capped by formula or a ceiling, when the auction rate or the cap exceed the interest rates on the underlying student loans less fees, then the solvency and credit rating of the trust is brought into question.

# POLICY RESPONSES:

1. Initially, nothing
2. Super-SIV => D.O.A.
3. 30 day stay or freeze on foreclosures => does anyone still remember? Court backlog is greater than 30 days.
4. Stimulus package: raising ceiling on GSE and FHA loans
5. Reduce capital surcharge on GSEs – will enable them to increase lending and securitization activities.
6. Monetary policy easing – Fed funds goes from 5.25% to 2.25%
7. Municipal government are allowed to buy back their own debt during auction of ARS

# POLICY RESPONSES:

## 7. LOLR – Lender of Last Resort:

- Discount Window – traditional instrument for adding to borrowed reserves (accepts collateral with haircut in exchange for loan)
- Term Auction Facility – banks bid for \$50 billion in term loans (28 days) against collateral as required for discount window borrowing.
- Term Securities Lending Facility – lending general collateral US Treasury securities against collateral (schedule I or II). Borrowers bid for the use of the more liquid collateral. Schedule II includes discount window eligible collateral plus AAA mortgage backed securities that are not under ratings review.
- Primary Dealer Credit Facility – overnight loans like the discount window for depository institutions, but for primary dealers. Eligible collateral will include all collateral eligible for tri-party repurchase agreements arranged by the Federal Reserve Open Market Trading Desk, as well as all investment-grade corporate securities, municipal securities, mortgage-backed securities, and asset-backed securities for which a price is available.
- \$30 billion loan to JPM for the purchase of Bear Stearns – JPM holds first loss on \$1 billion and Fed holds remaining risk.