



The Economic Crisis:

Understanding the Tools in Place to “Fix” Financial Markets

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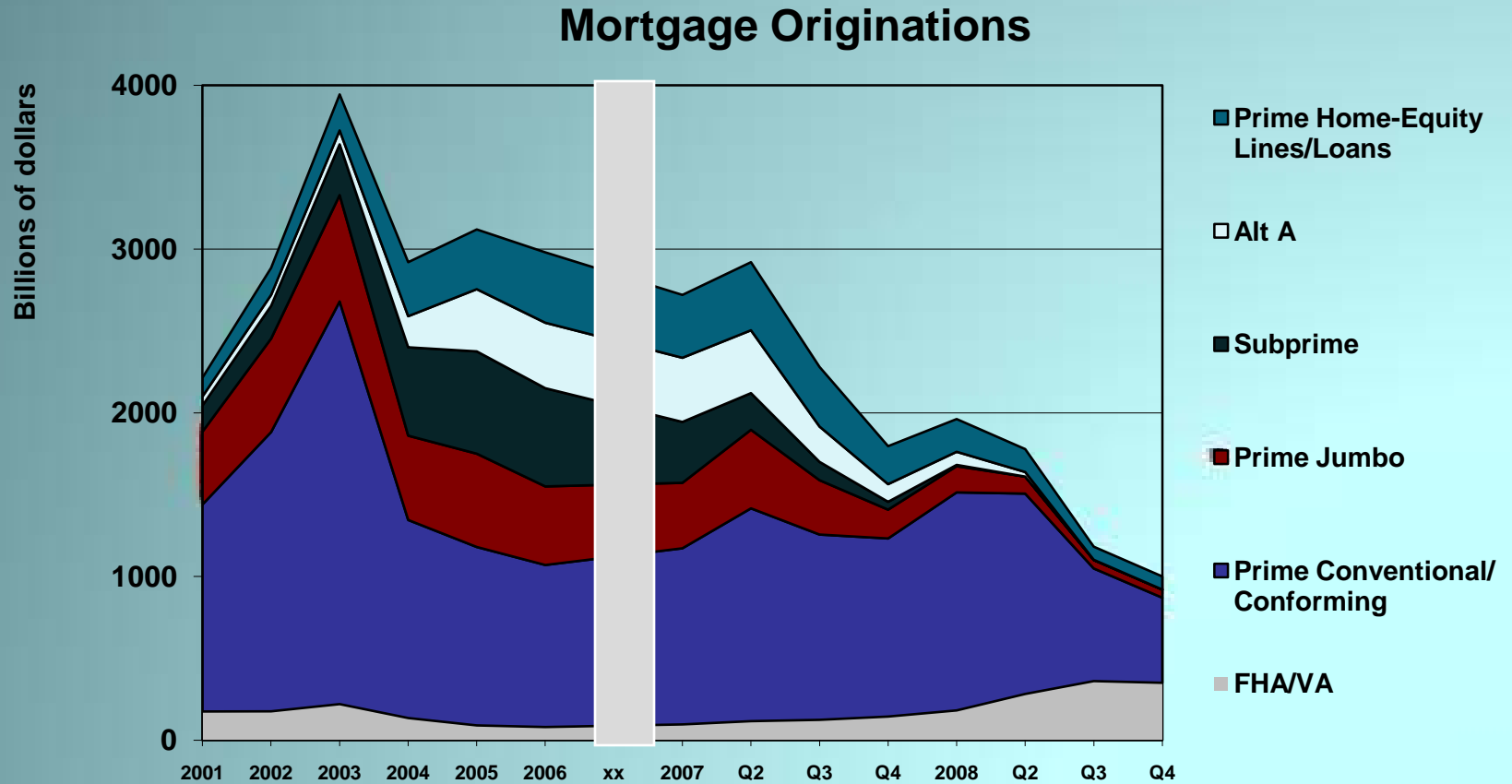
May 22, 2009

The views expressed are those of Julie Stackhouse and may not represent the official views of the Federal Reserve Bank of St. Louis or the Federal Reserve System.

Today's Challenges are Tied to Overuse of Debt in an Unsustainable Housing Market

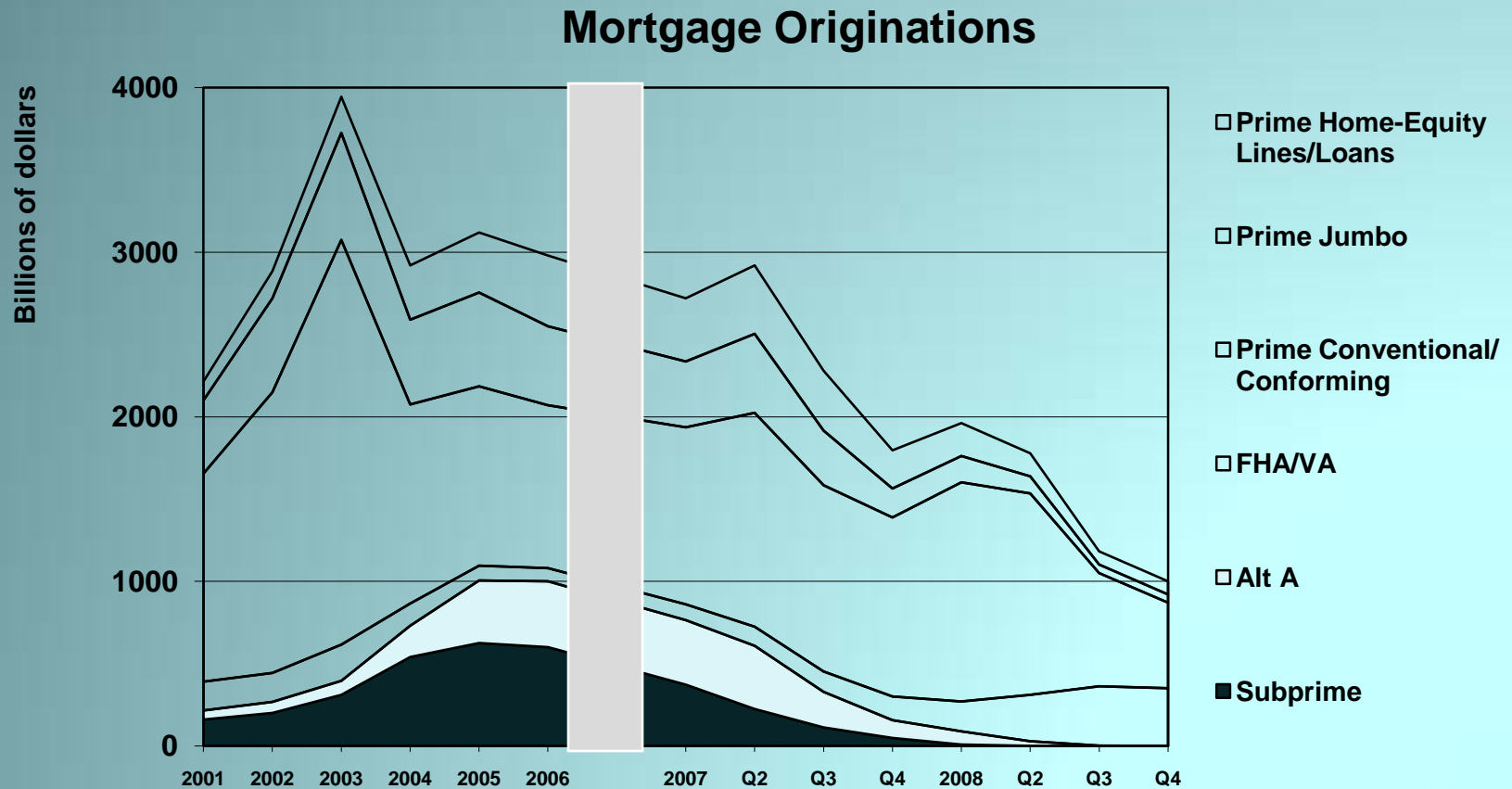
- Large amounts of international capital flowed into our financial markets resulting in low long-term interest rates.
- Low rates combined with excess liquidity led to a boom in the credit markets.
- Much of this excess liquidity flowed into the housing market. With so much liquidity, credit standards eased and subprime mortgages grew. The “originate to distribute model” largely kept the assets off the lenders’ balance sheets.
- These mortgages were transformed into complex structured financial products that were underestimated or misunderstood by investors and by credit ratings agencies.
- As house prices began to fall, losses ensued.

The Size and Growth of the Non-Prime Mortgage Market



Quarterly figures for 2007 and 2008 expressed at an annual rate.
 Source: *Inside Mortgage Finance*, Jan. 30, 2009.

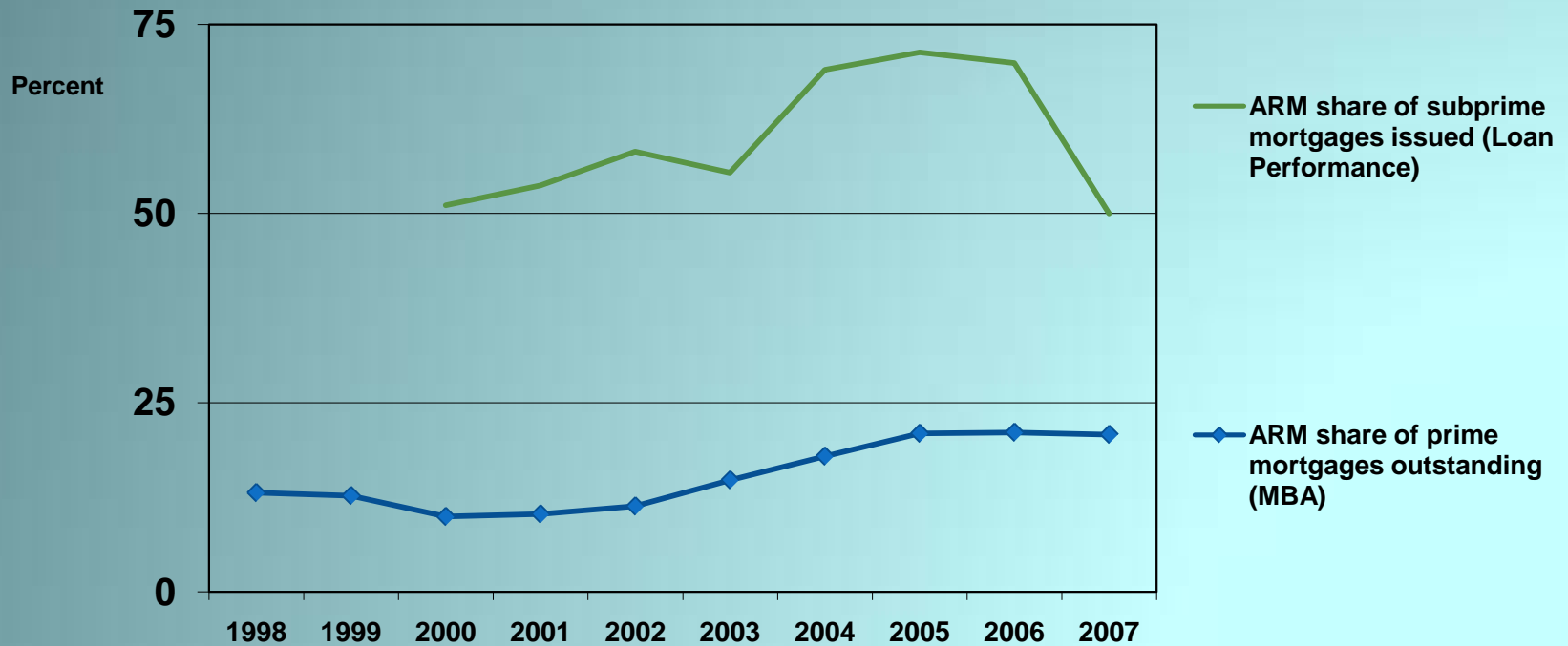
The Size and Growth of the Non-Prime Mortgage Market



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The Elements of Risk Layering: Adjustable Rates

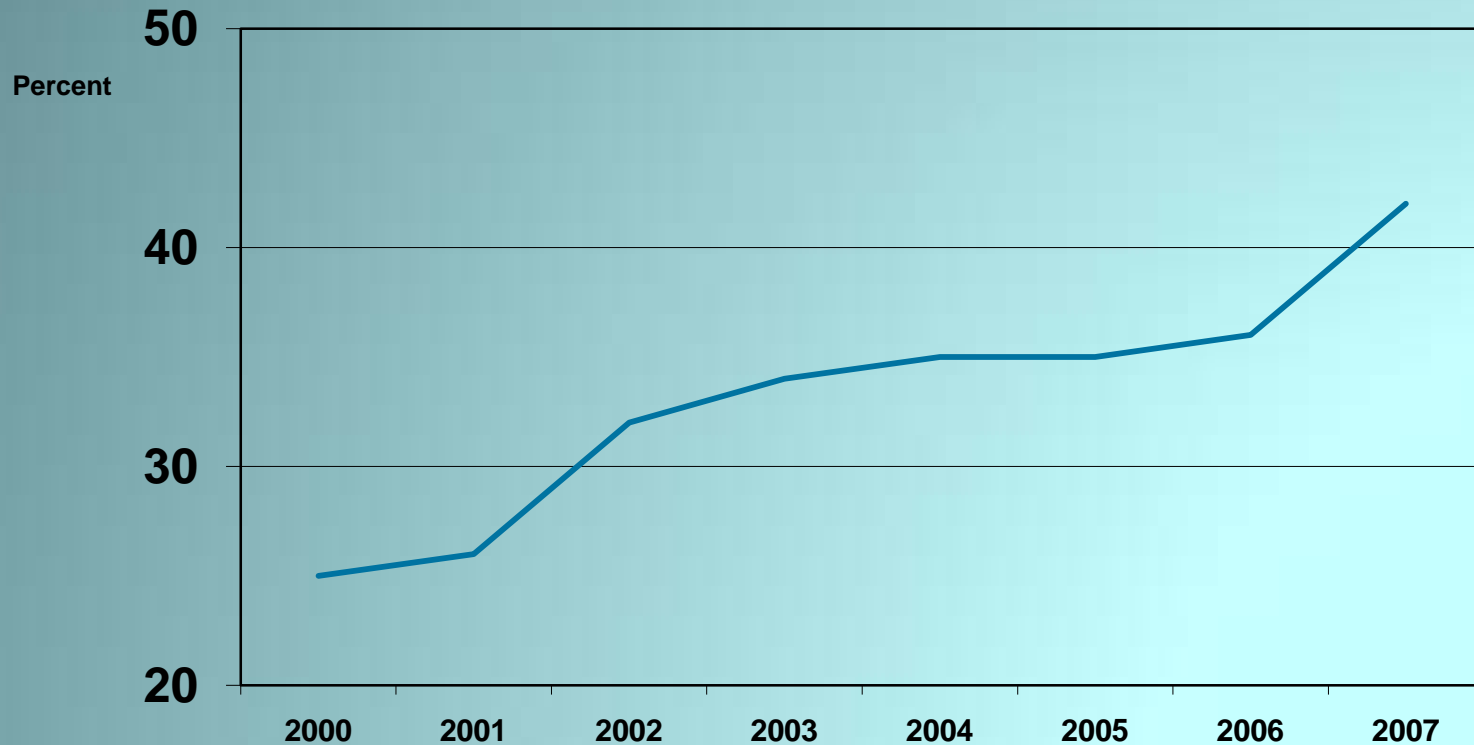
Share of Mortgages with Adjustable Rates, Including Hybrids



Sources: Mortgage Bankers Association, Loan Performance Corp.

The Elements of Risk Layering: Reduced Documentation

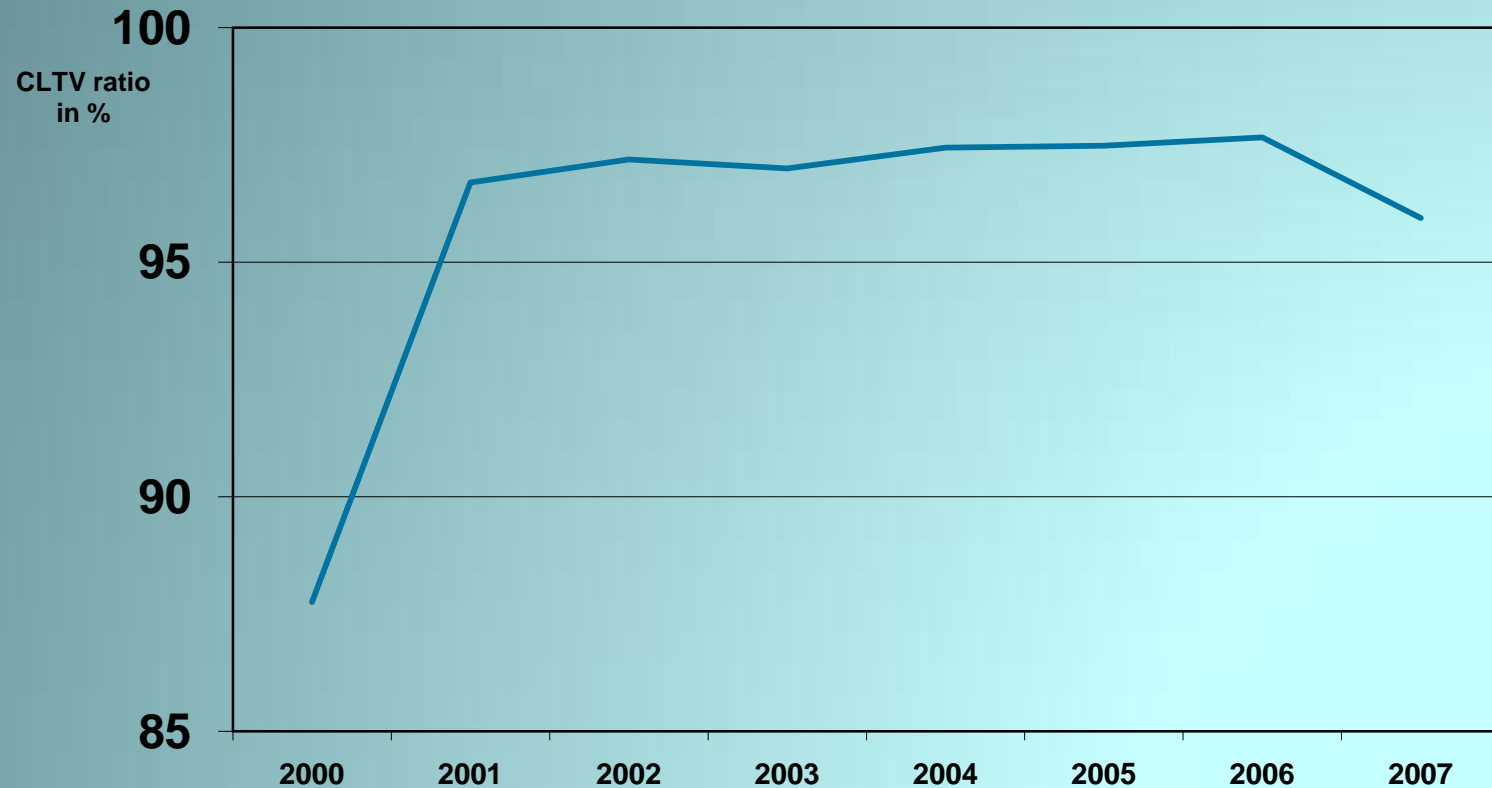
Share of Subprime Mortgages Underwritten With Reduced Documentation



Source: Loan Performance Corp.

The Elements of Risk Layering: Nominal Equity at Risk

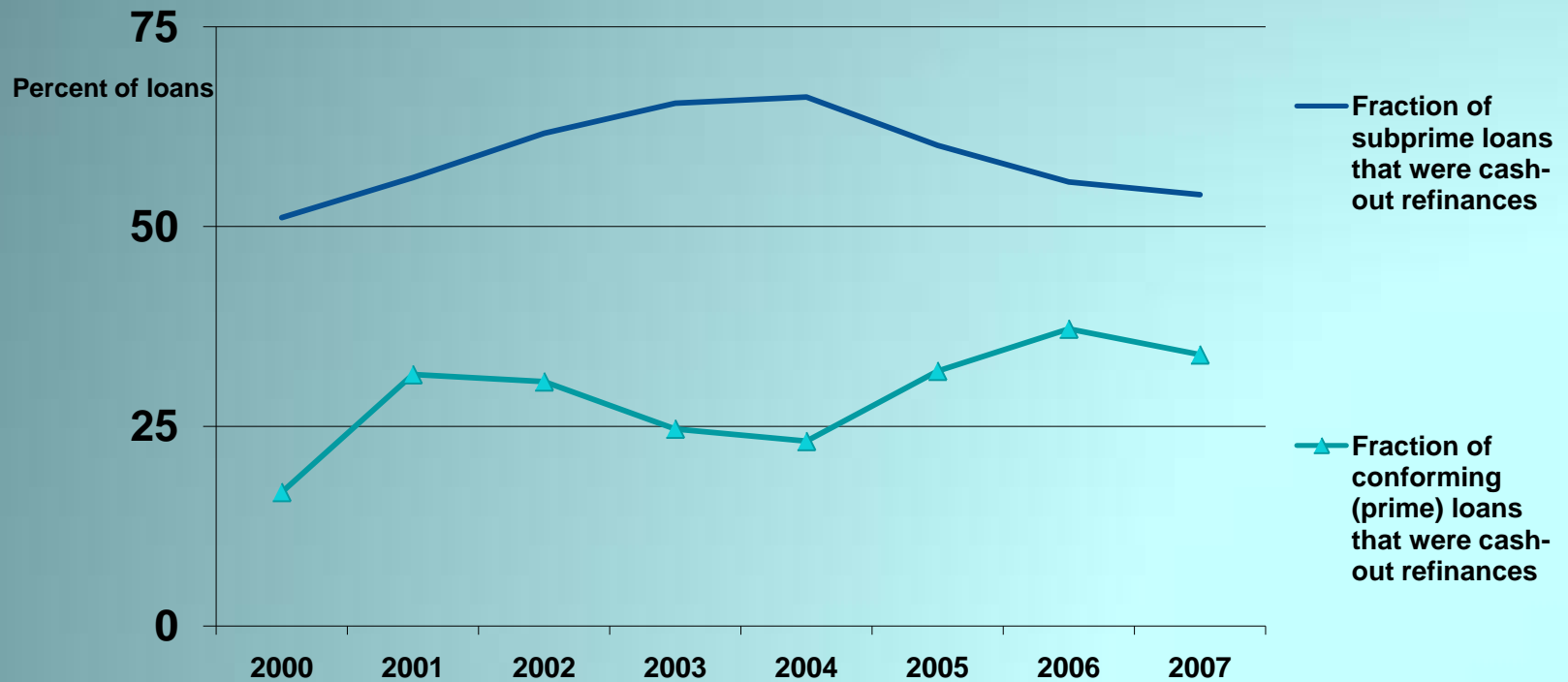
Combined Loan-To-Value Ratio For Subprime Mortgages
Includes all mortgage debt on property



Source: Loan Performance Corp.

The Elements of Risk Layering: Cash-Out Refinancing

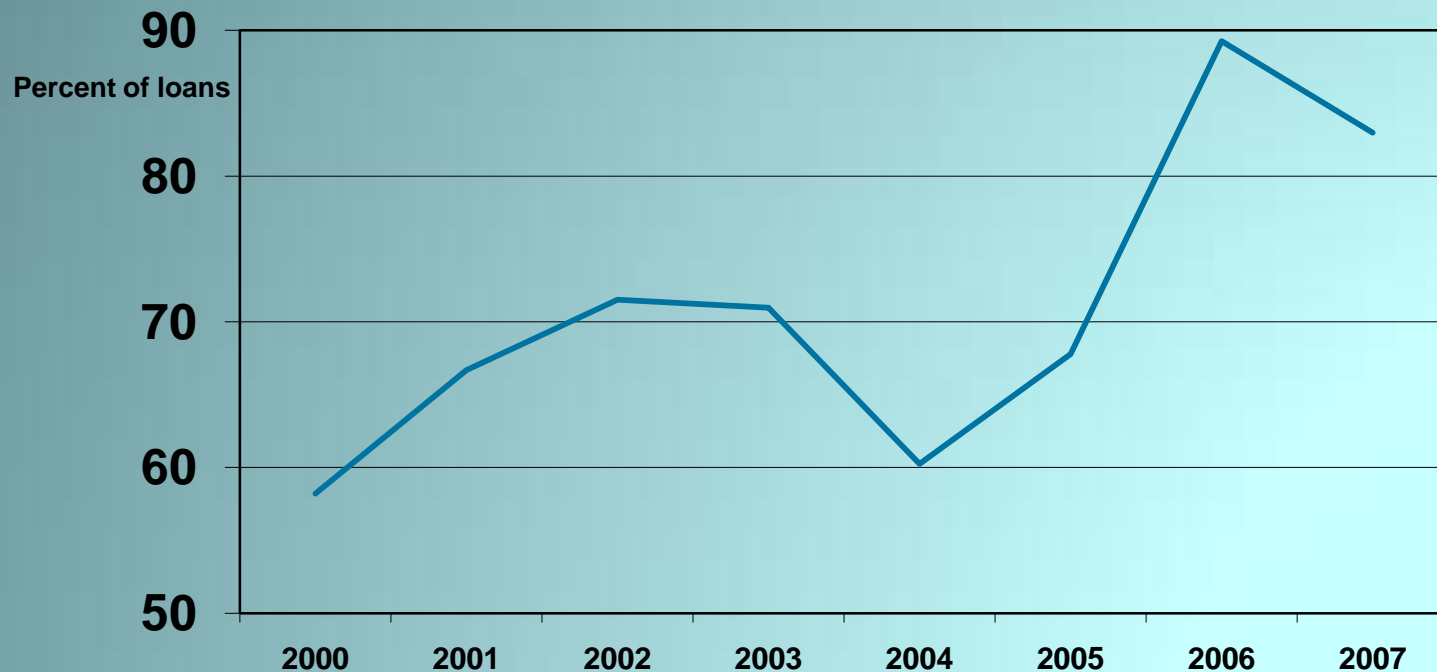
Share of Subprime Mortgages That Were Cash-Out Refinances



Source: Loan Performance Corp, Freddie Mac.

The Elements of Risk Layering: 3rd Party Originators

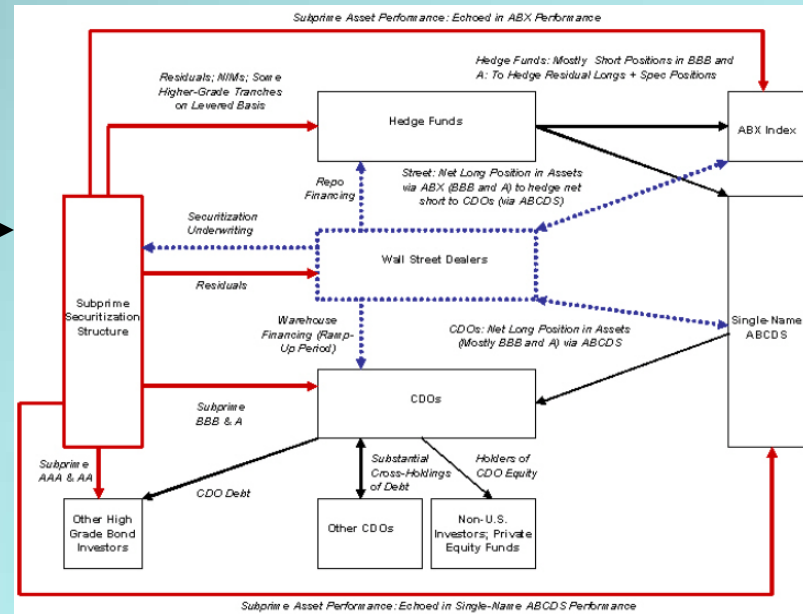
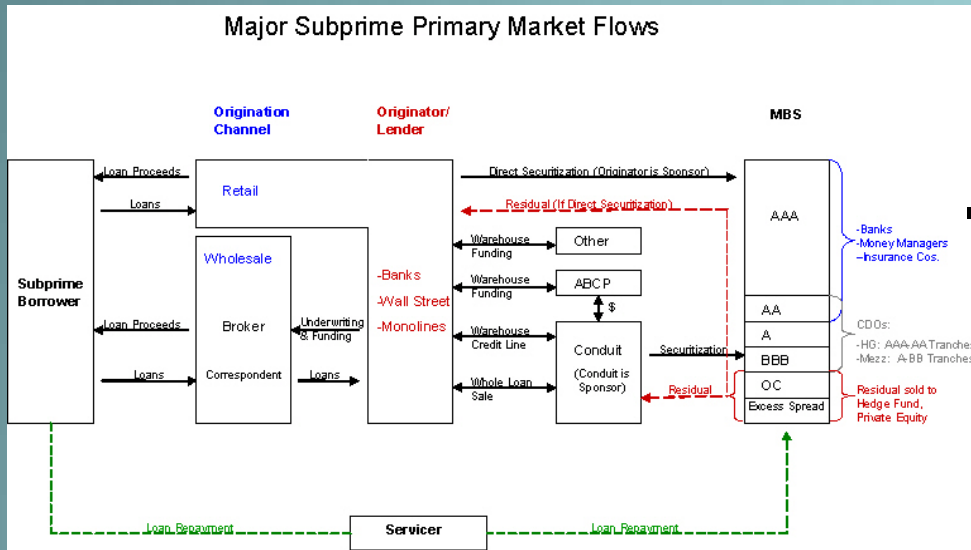
Share of Subprime Mortgages Originated Through Broker or Wholesale Channel



Source: Loan Performance Corp.

Cash Flows From Questionable Mortgages were Transformed into Securities and Derivative Products – often with AAA Ratings

Subprime MBS becomes part of many CDOs

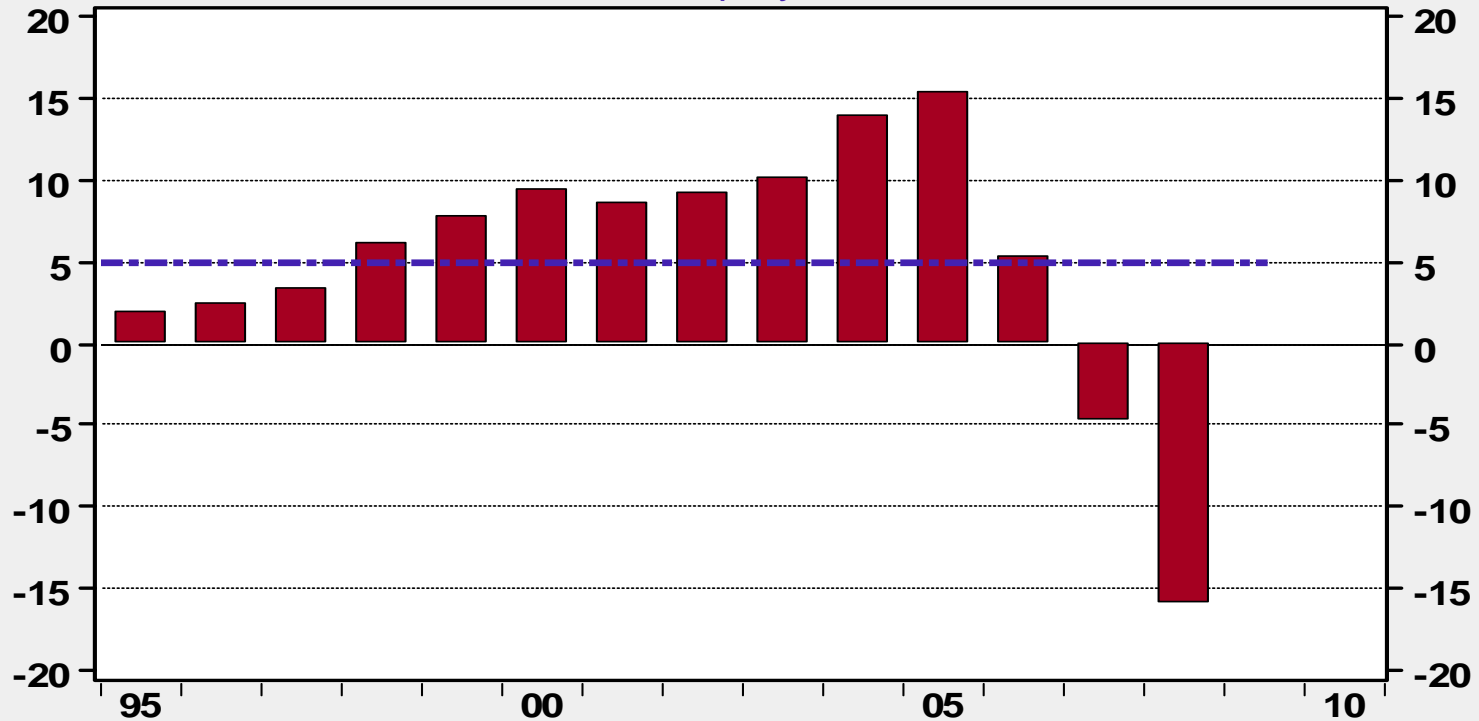


Source: Federal Reserve Bank of New York, "A Primer on the Mortgage Market: The Primary Market", by Michael Holscher and Jason Miu, April 20, 2007.

House Prices Appreciated Beyond Sustainable Levels

US House-Price Appreciation: S&P/Case-Shiller Home-Price Index
Percent per year

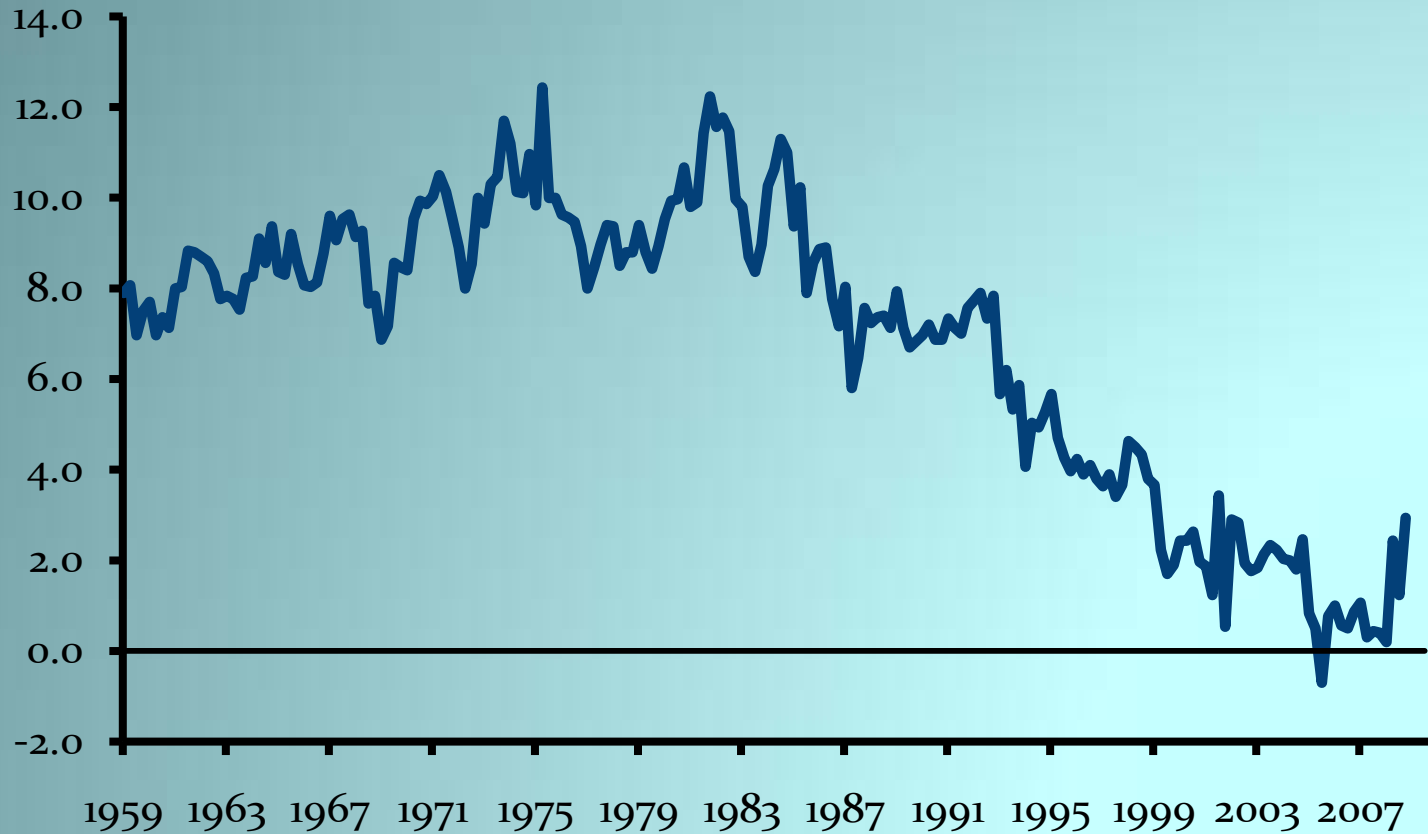
80-Year Historical Annual Average: 5 Percent
Percent per year



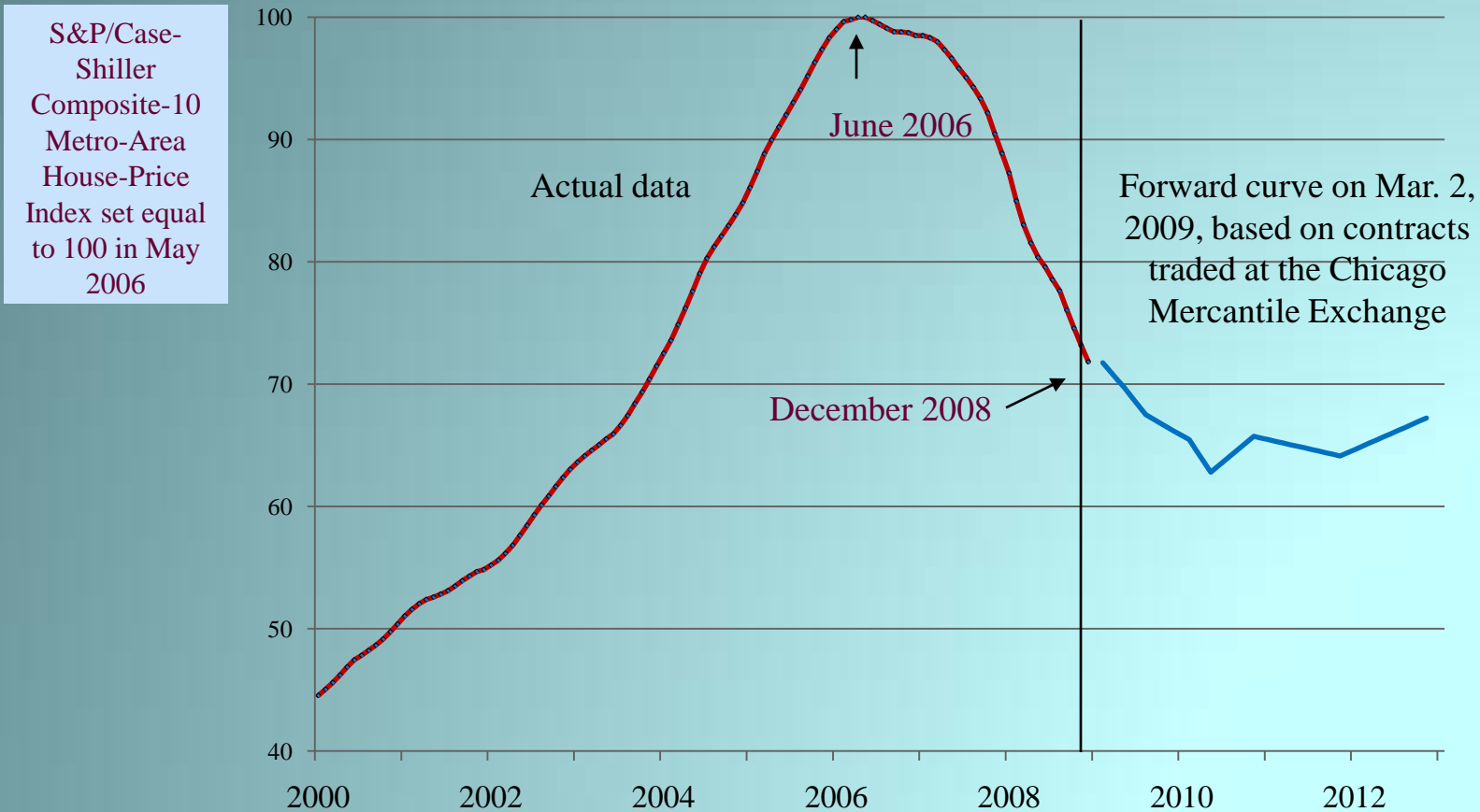
Sources: S&P, Fiserv, and MacroMarkets LLC, Haver Analytics

Over Time, Consumers Forgot how to Save

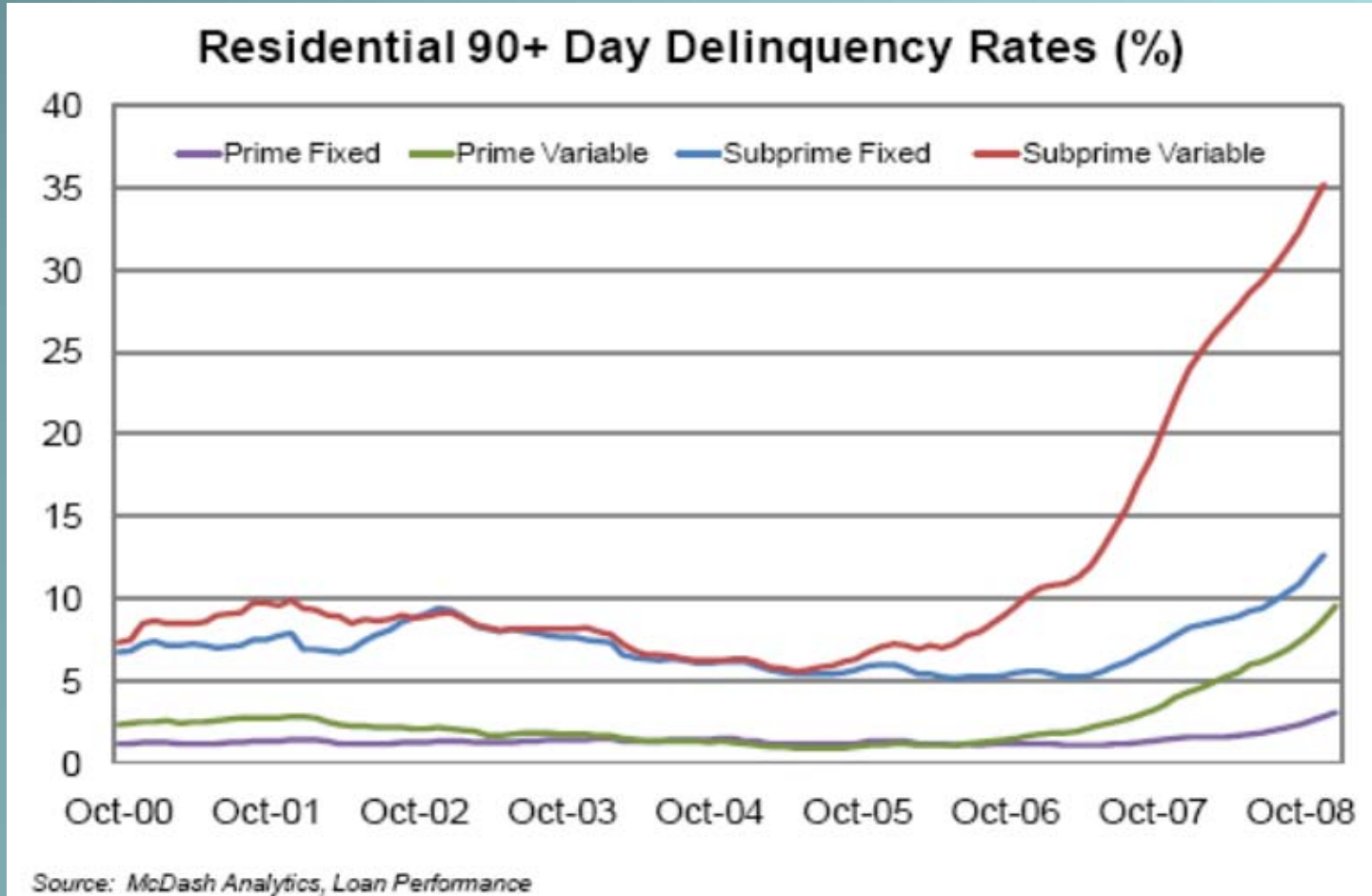
% of disposable income



And then, House Prices Fell – Major Market Prices Down 29%



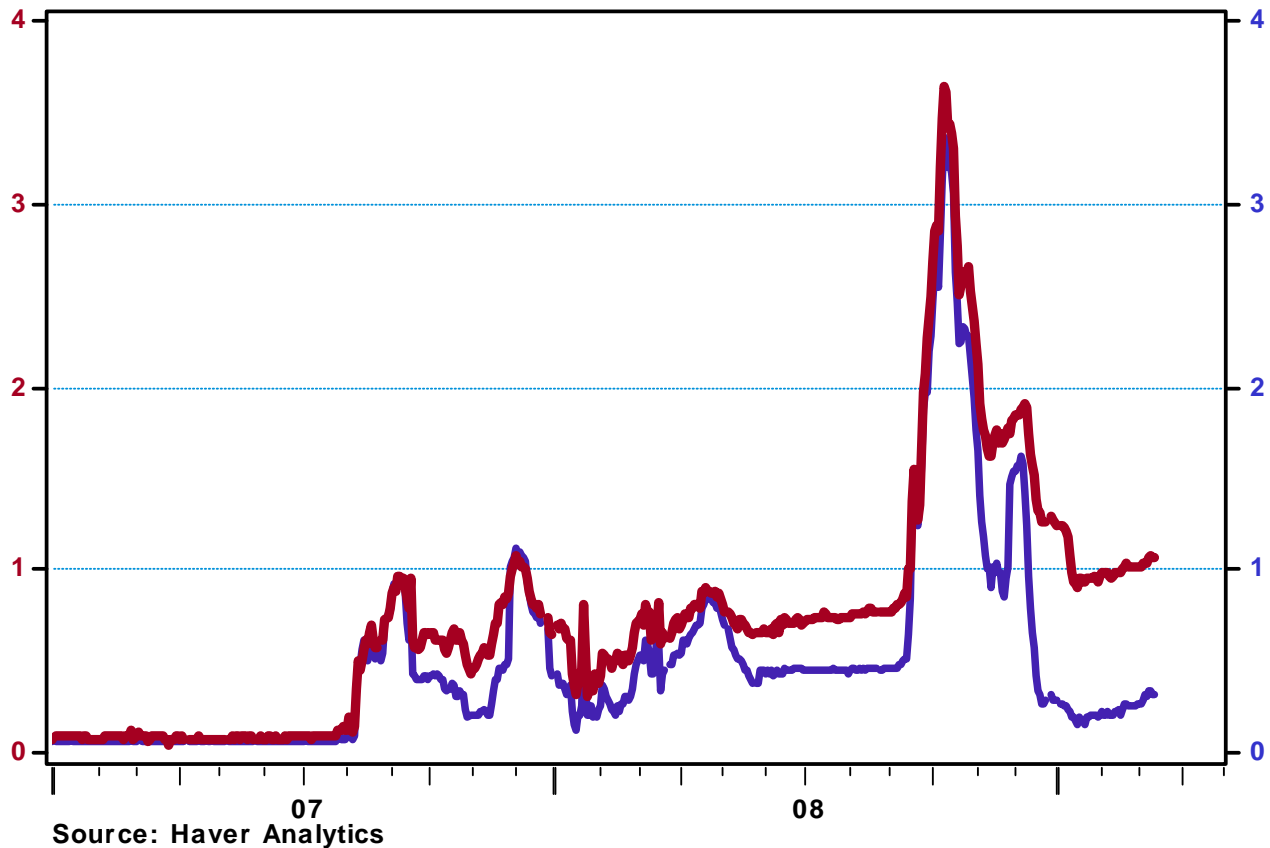
Mortgage Delinquency Rates Accelerated



The Financial System Faced a Crisis

3-Month LIBOR-OIS Interest Rate Spread
Percentage points

1-Month LIBOR-OIS Interest Rate Spread
Percentage points



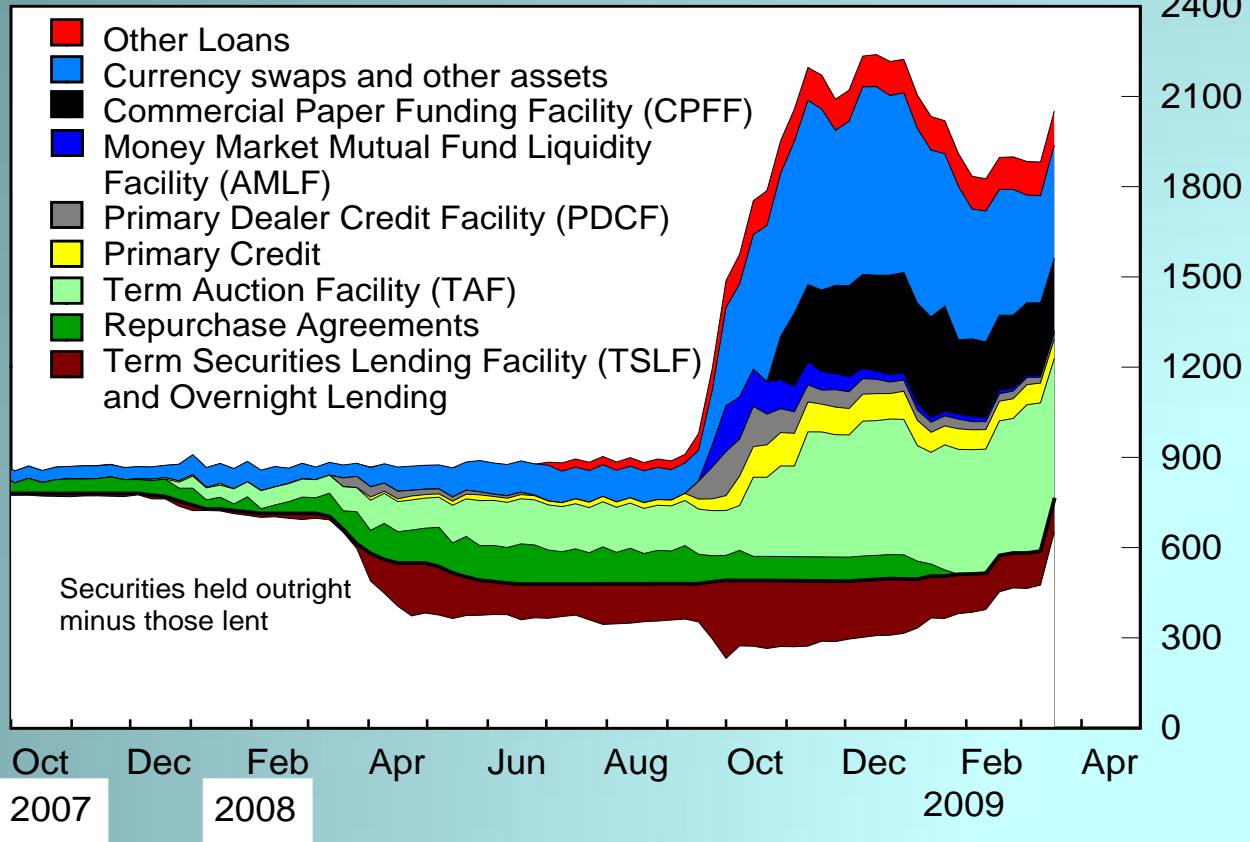
The Fed's Response to the Crisis

Financial Institution Facilities	Lender	Current Rate
Primary Credit	District Reserve Banks	Federal Funds plus 25 basis points
Secondary Credit	District Reserve Banks	Primary Credit rate plus 50 basis points
Seasonal Credit	District Reserve Banks	Published
Term Auction Facility	District Reserve Banks	Set at auction
Section 13(3) Facilities	Lender	Date of Facility
JPMC/Bear Stearns	FRB New York	March 16, 2008
Primary Dealer Credit Facility	FRB New York	March 17, 2008
AIG	FRB New York	September 16, 2008/November 10, 2008
AIG- Residential Mortgage-Backed Securities Facility	FRB New York	November 10, 2008
AIG- Collateralized Debt Obligations Facility	FRB New York	November 10, 2008
AMLF - Asset-Backed Commercial Paper Money Market Mutual Fund Lending Facility	FRB Boston	September 19, 2008
CPFF- Commercial Paper Funding Facility	FRB New York	October 7, 2008
MMIFF – Money Market Investor Funding Facility	FRB New York	October 21, 2008
TALF – Term Asset-Backed Securities Loan Facility	FRB New York	November 25, 2008

Changes in the Fed's Balance Sheet

Federal Reserve Assets

Billions of dollars



Congressional Response to the Crisis: \$700 Billion TARP and the Financial Stability Plan

- Capital Purchase Program (CPP)
- Stress testing of the largest banking organizations and Capital Assistance Program (CAP)
- Public-Private Investment Program (P-PIP)
- Consumer and Business Lending Initiative (Super TALF)
- Targeted Investment Program (TIP)
- Auto Industry/Auto Supplier Program
- Systemically Significant Failing Institutions Program
- Affordable Housing Support and Foreclosure Prevention (Making Homes Affordable Program)

Source: www.financialstability.gov/roadtostability/programs.htm

Transaction Report as of May 13, 2009

	May 13, 2009
Capital Purchase Program (CPP)	\$197.8 billion
Capital Assistance Program (CAP)	\$0
Consumer and Business Lending Initiative (Super TALF)	\$20 billion in LLC
Public-Private Investment Program (P-PIP)	\$0
Targeted Investment Program (TIP) – Citi, BoA	\$40 billion
Asset Guarantee Program - Citi	\$5 billion
Auto Industry/Auto Supplier Program – GM, GMAC, and Chrysler	\$35.6 billion
Systemically Significant Failing Institutions - AIG	\$69.8 billion
Affordable Housing Support and Foreclosure Prevention (Making Homes Affordable Program)	14 servicers Incentive caps of \$15.1 billion



More about the Capital Purchase Program and Capital Assistance Program

- **Capital Purchase Program (10/14/2008)**
 - 579 institutions currently participating (as of 5/13/2009)
 - Total purchases: \$199 billion
 - Total repayments: \$1.3 billion
 - Investments:
 - **Preferred Stock:** Pays cumulative dividends of 5% per year (first 5 years); 9% per year after 5 years
 - May not be redeemed for three years except with the proceeds from a “Qualified Equity Offering” (sale of Tier 1 qualifying perpetual preferred stock or common stock for cash)
 - **Warrants:** Treasury can purchase common shares of stock with an aggregate market price equal to 15% of the Preferred Stock amount on the date of investment.
 - Term: 10 years

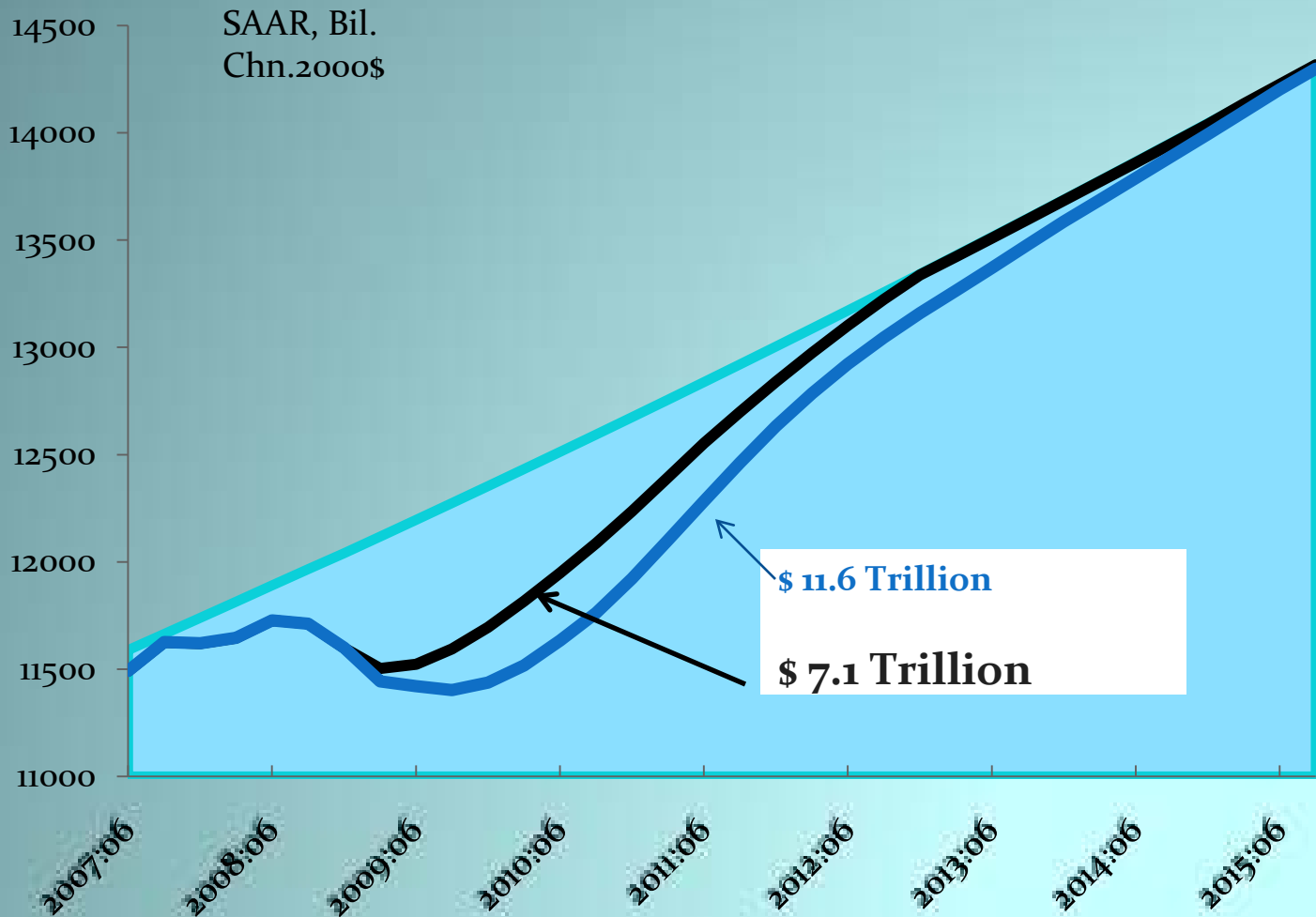
More about the Capital Purchase Program and Capital Assistance Program

- **Capital Assistance Program (2/10/2009)**
 - “Big 19” were primary participants via stress tests. Other publicly traded banks may apply (deadline: 6/9/2009)
 - Investments:
 - **Convertible Preferred Securities:** Convertible to common equity at a 10 percent discount to the prevailing price prior to February 9 (with regulator approval).
 - Carry a 9% dividend yield
 - Automatically converts to common equity after 7 years
 - Recipients must submit a plan on how they intend to “preserve and strengthen their lending capacity”. Banks must submit detailed monthly lending reports which will be made public.
 - Includes restrictions on the payment of dividends (maximum of \$0.01 per share per quarter), repurchasing shares and pursuing cash acquisitions
 - **Warrants:** Treasury receives warrants to purchase shares of common stock with an aggregate market value equal to 20% of the Convertible Preferred amount on the investment date.
 - Term: 10 years

Congressional Response to the Crisis: Expanded FDIC Insurance Coverage and an Economic Stimulus Bill

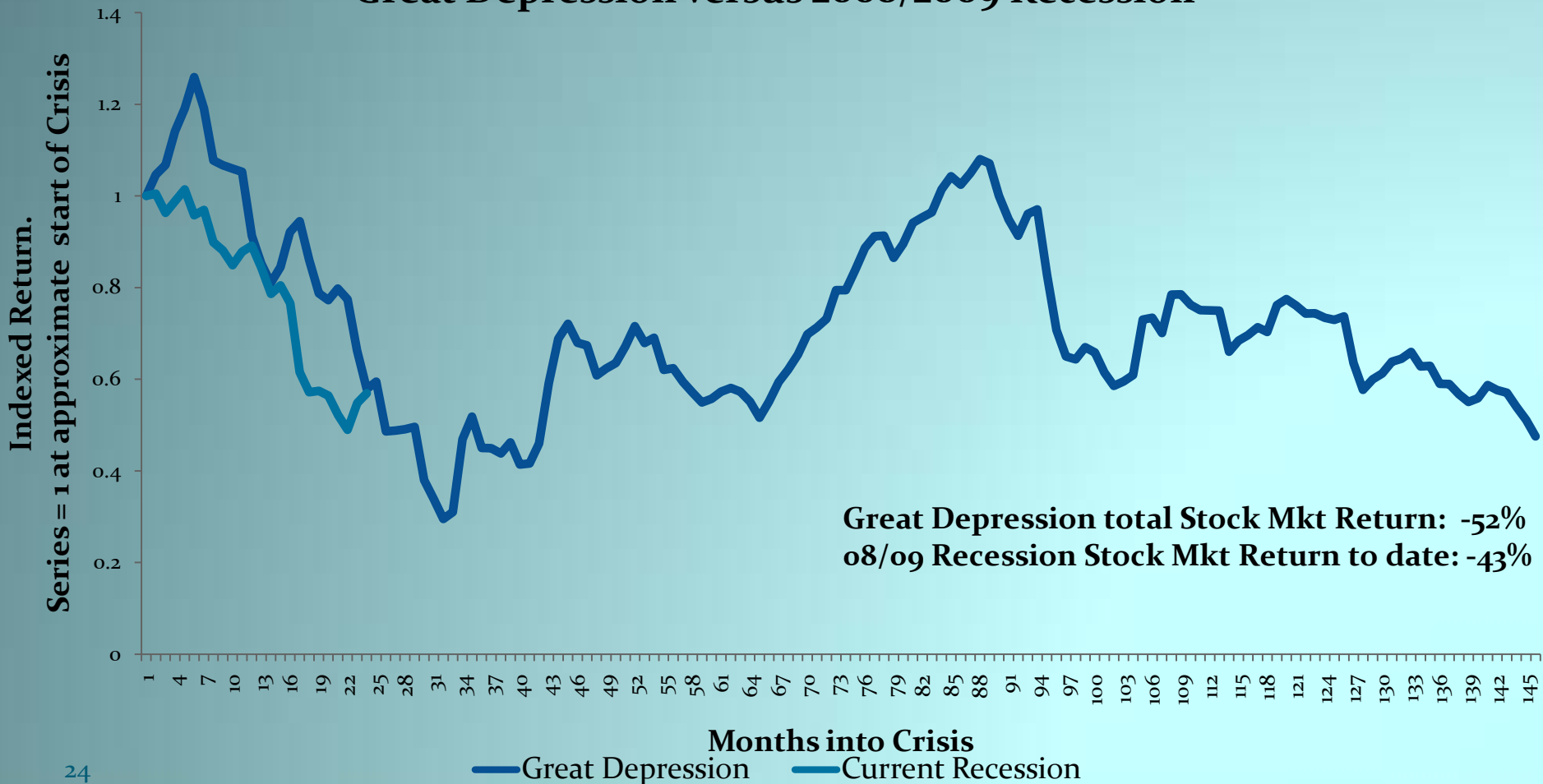
- Federal Deposit Insurance Coverage increased to \$250,000 per owner through December 31, 2009; banks also had option to fully cover all non-interest bearing accounts
- Temporary government guarantee of participating money market mutual funds until September 19, 2009
- \$800 billion economic stimulus package

Economists Estimate that Stimulus Might Save One-Third to Half a Year's GDP



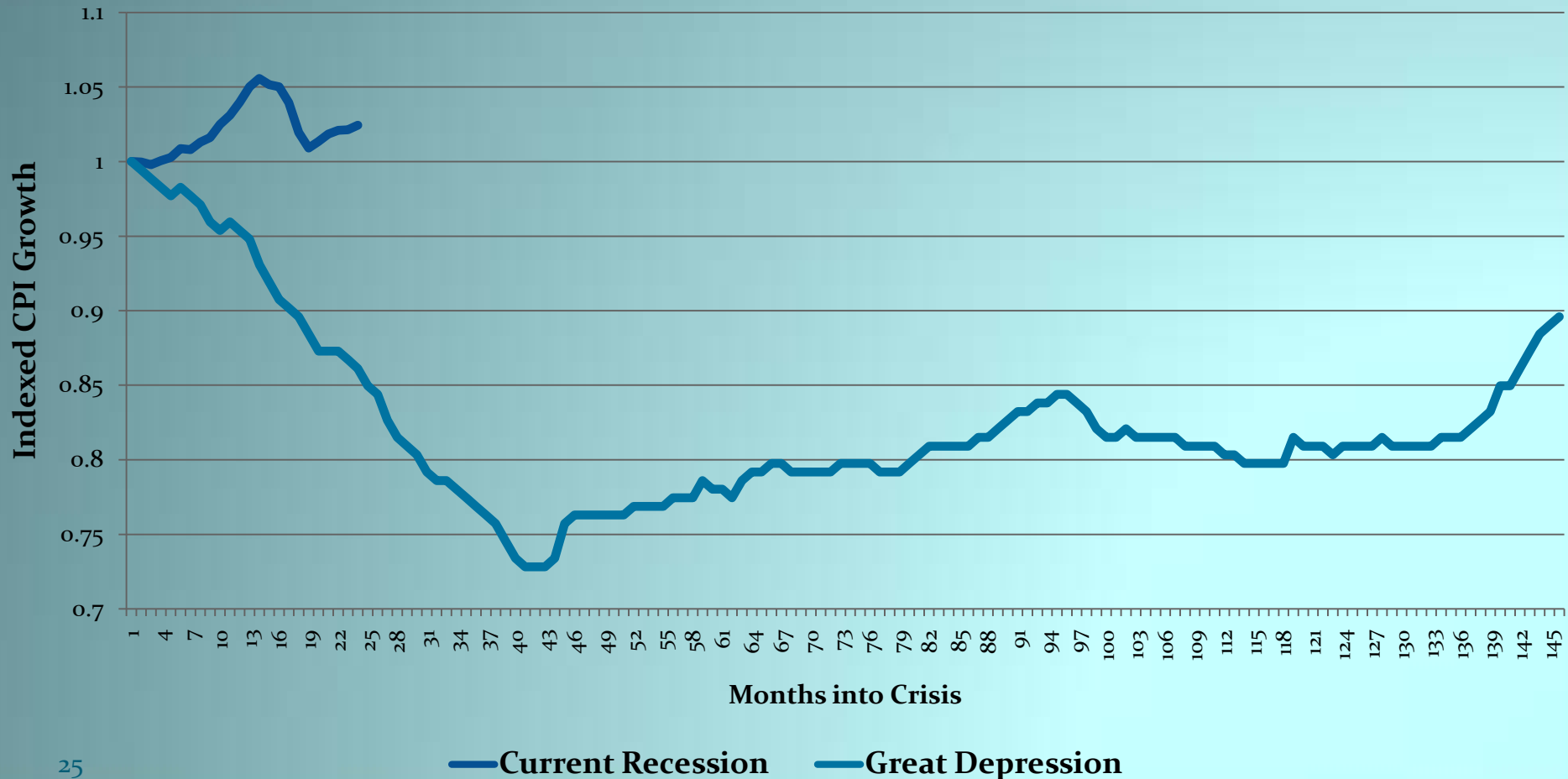
Is the Current Crisis as Bad as the Great Depression?

S&P 500
Great Depression versus 2008/2009 Recession



Is the Current Crisis as Bad as the Great Depression?

Inflation: Great Depression versus Current Recession



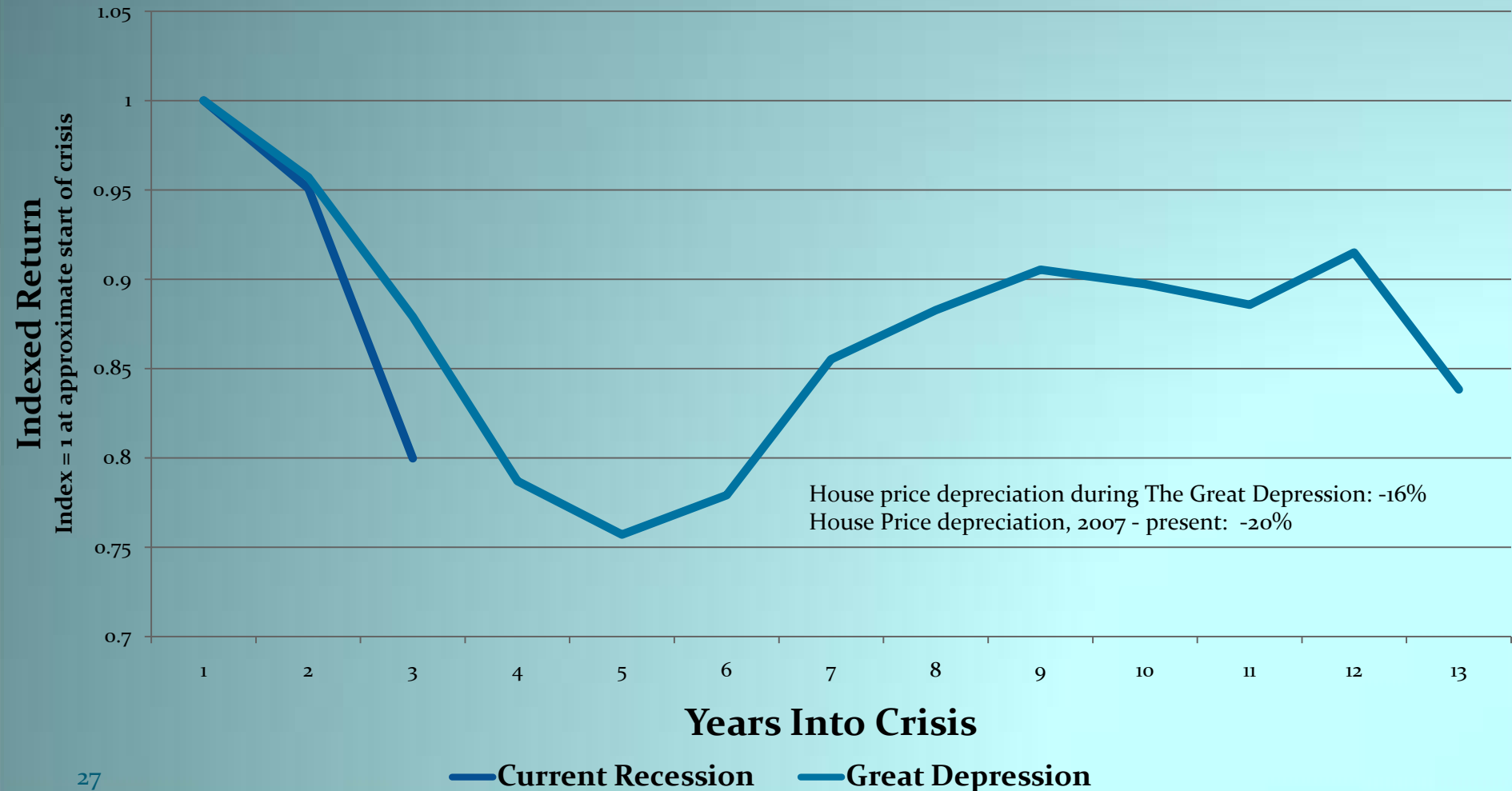
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Industrial Production Still Stronger than Great Depression Automotive Industry Could drag Industrial Production Further Down



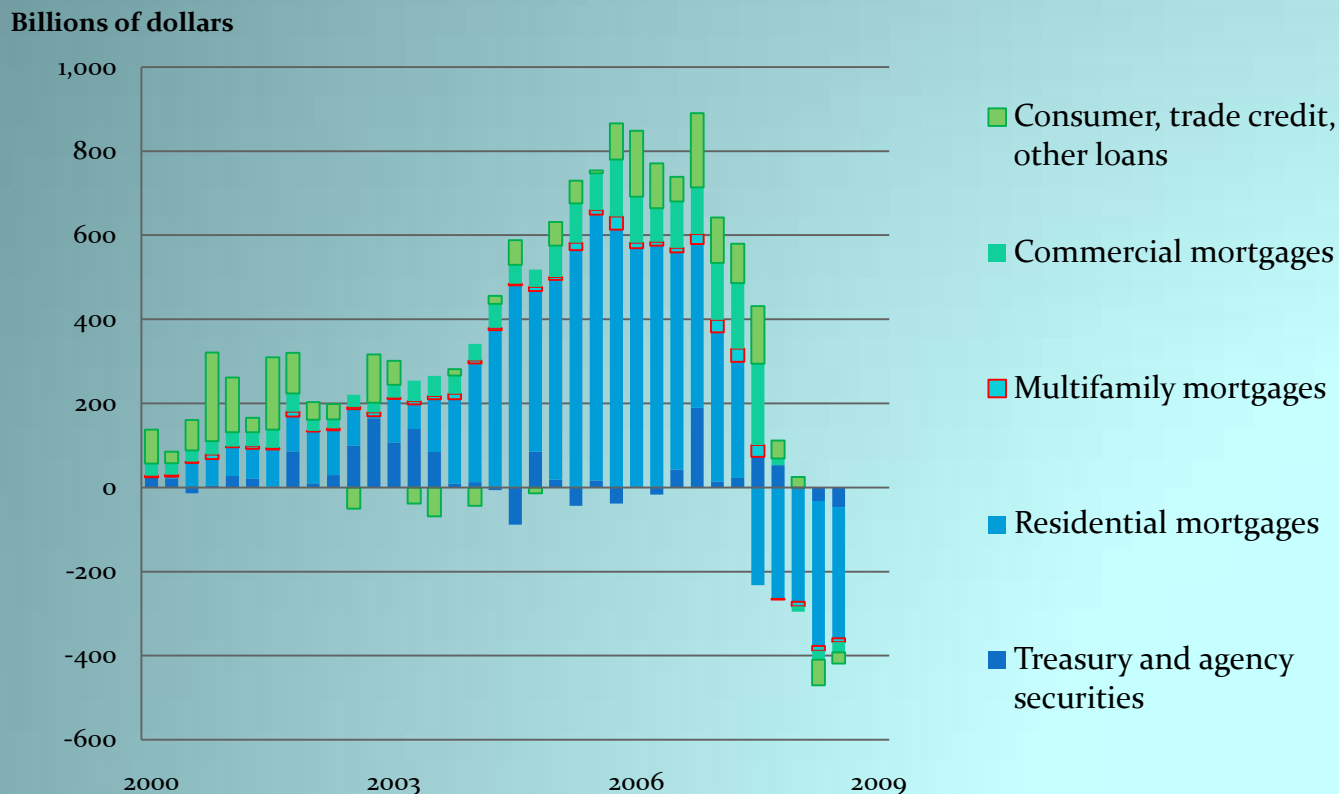
Is the Current Crisis as Bad as the Great Depression?

House Prices In Current Recession Steeper than Great Depression Nominal House Prices



Impact for the Future: The Market for Private-Label Mortgage-Banked Securities is Gone

Net Lending Via Private-Label ABS

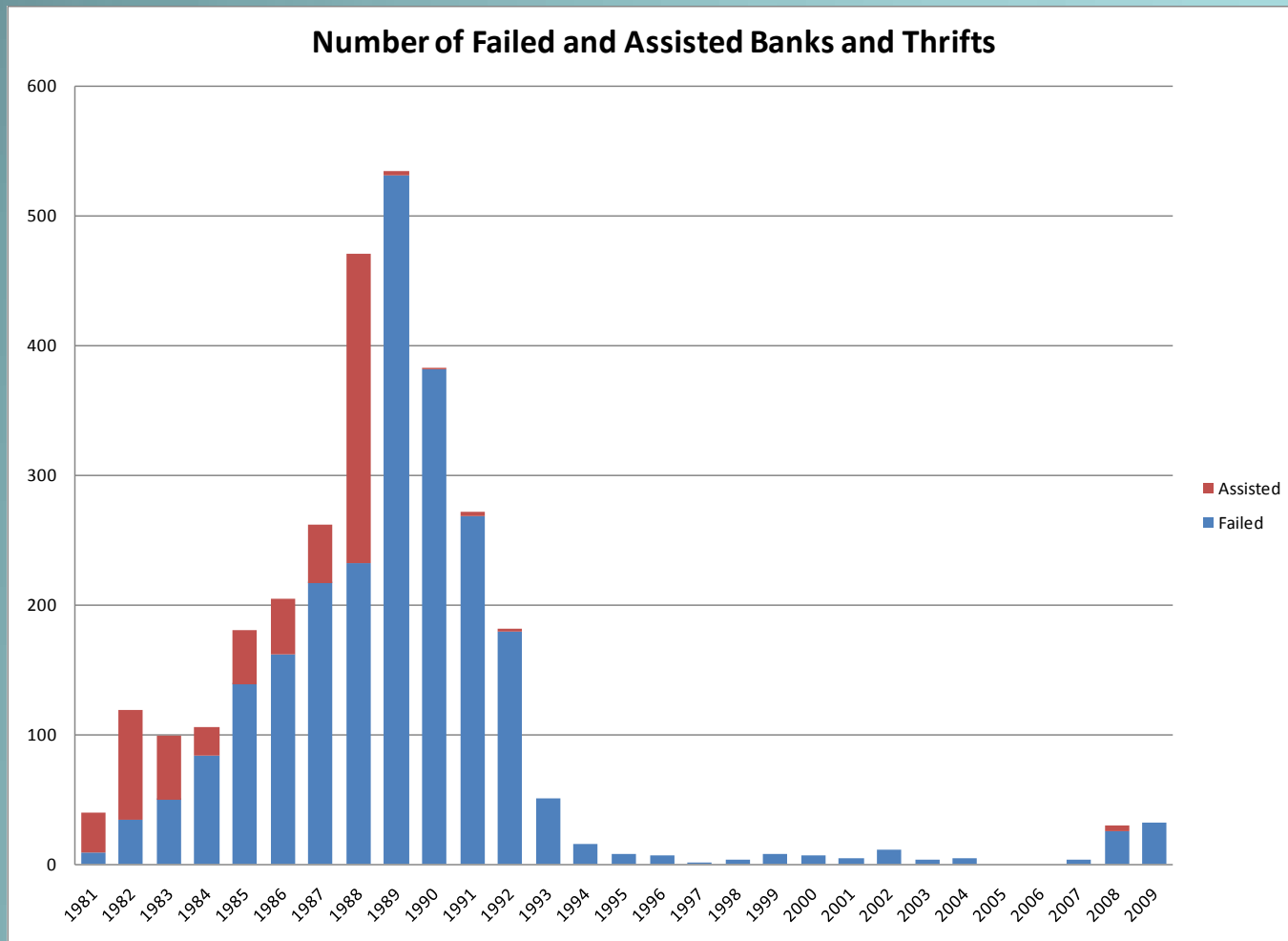


Impact for the Future: The Cost to Banks and Investors Has been Significant

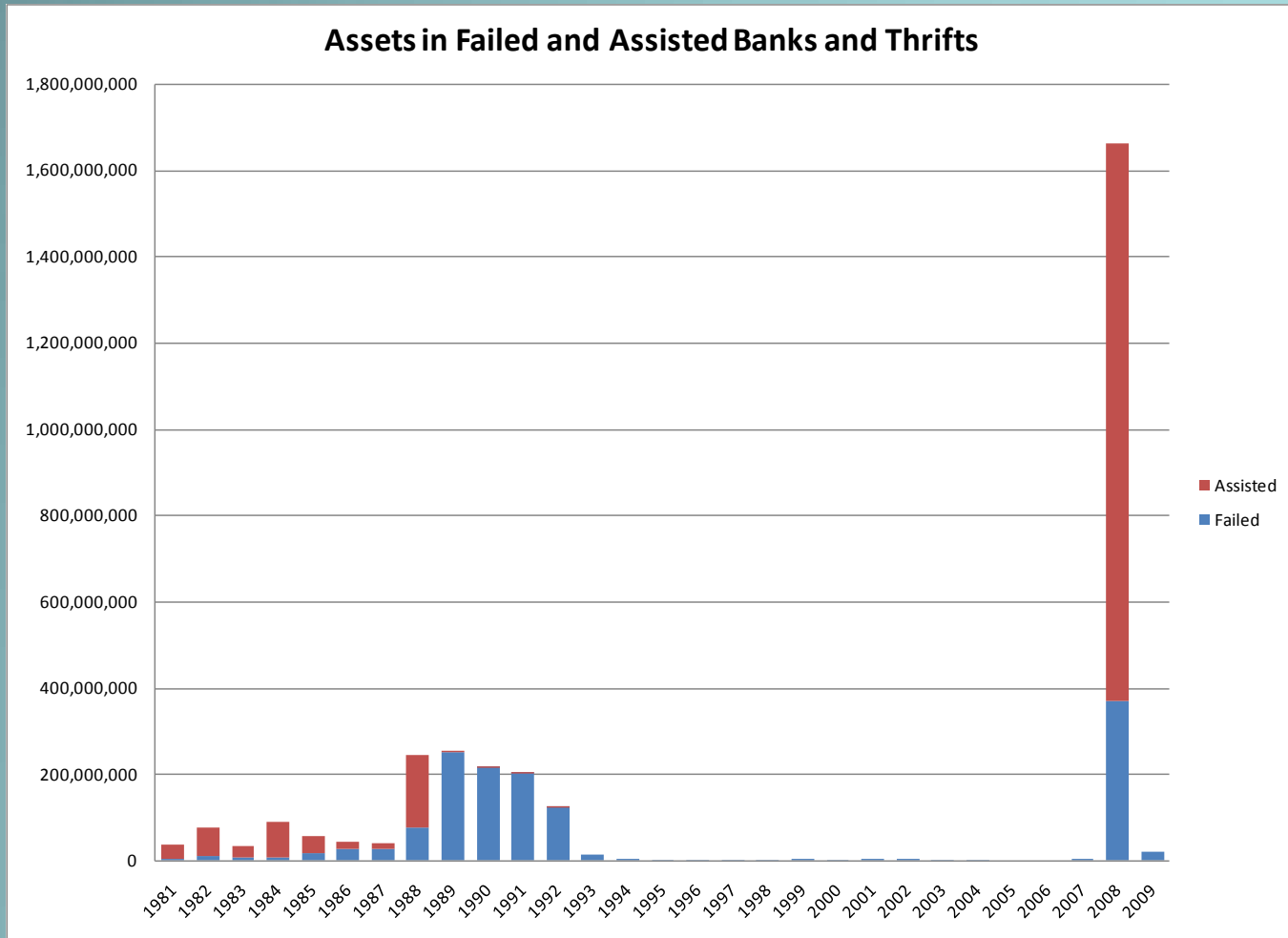
Loans	Outstanding Billions of \$	Implied Cumulative Loss Rate (Percent)	Implied Losses Billions of \$
Residential mortgage	5,117	8.4	430
Commercial mortgage	1,913	9.8	187
Consumer	1,914	14.2	272
Corporate	1,895	5.2	99
Municipal	2,669	3	80
Total for loans	13,507	7.9	1067
Securities			
Residential mortgage	6,940	14.3	992
Commercial mortgage	640	34.8	223
Consumer	677	14.2	96
Corporate	4,790	7	335
Total for securities	13,047	12.6	1644
Total for loans and securities	26,554	10.2	2709

Source: International Monetary Fund

Impact Today and in the Future: The Number of Bank Failures is Rising



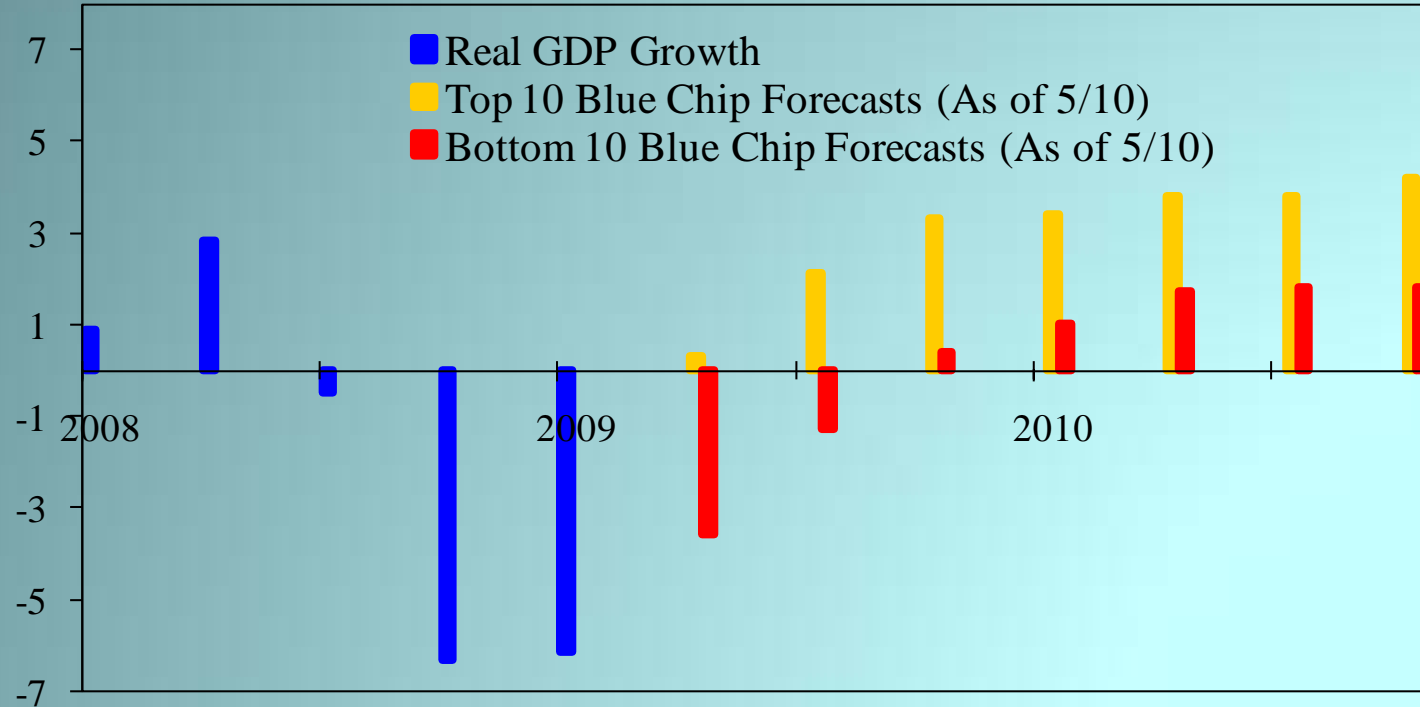
The Size of Failed Banks has Dwarfed the 1980s



Where Does the Economy Stand?

(based on the views of Blue Chip Forecasters)

Percent



Post-Recovery Implications

- The IMF is now expects that “the deleveraging process will be slow and painful, with economic recovery likely to be protracted.
- As predictable in a recession, credit standards have tightened considerably, although some recent improvements have been seen in the corporate debt markets for financially strong firms.
- Riskier and larger credits were often securitized or syndicated. Those markets remain weak. The market for securitized subprime mortgages may not return for a long time. This has implications for recovery of the housing market.
- The positive effects of the recently passed economic stimulus legislation will take time to work through the economy.

Excellent Resources

- Financial Crisis Timeline:
<http://timeline.stlouisfed.org/>
- A Word on the Economy for High School Students:
<http://www.stlouisfed.org/education/AWordontheEconomy/player.html>
- Credit Card and Mortgage Delinquency Maps:
<http://data.newyorkfed.org/creditconditionsmap/>
- Crisis and Liquidity Programs and the Federal Reserve's Balance Sheet:
<http://www.federalreserve.gov/monetarypolicy/bst.htm>
- Emergency Economic Act Stabilization Updates:
<http://www.treas.gov/initiatives/eesa/>