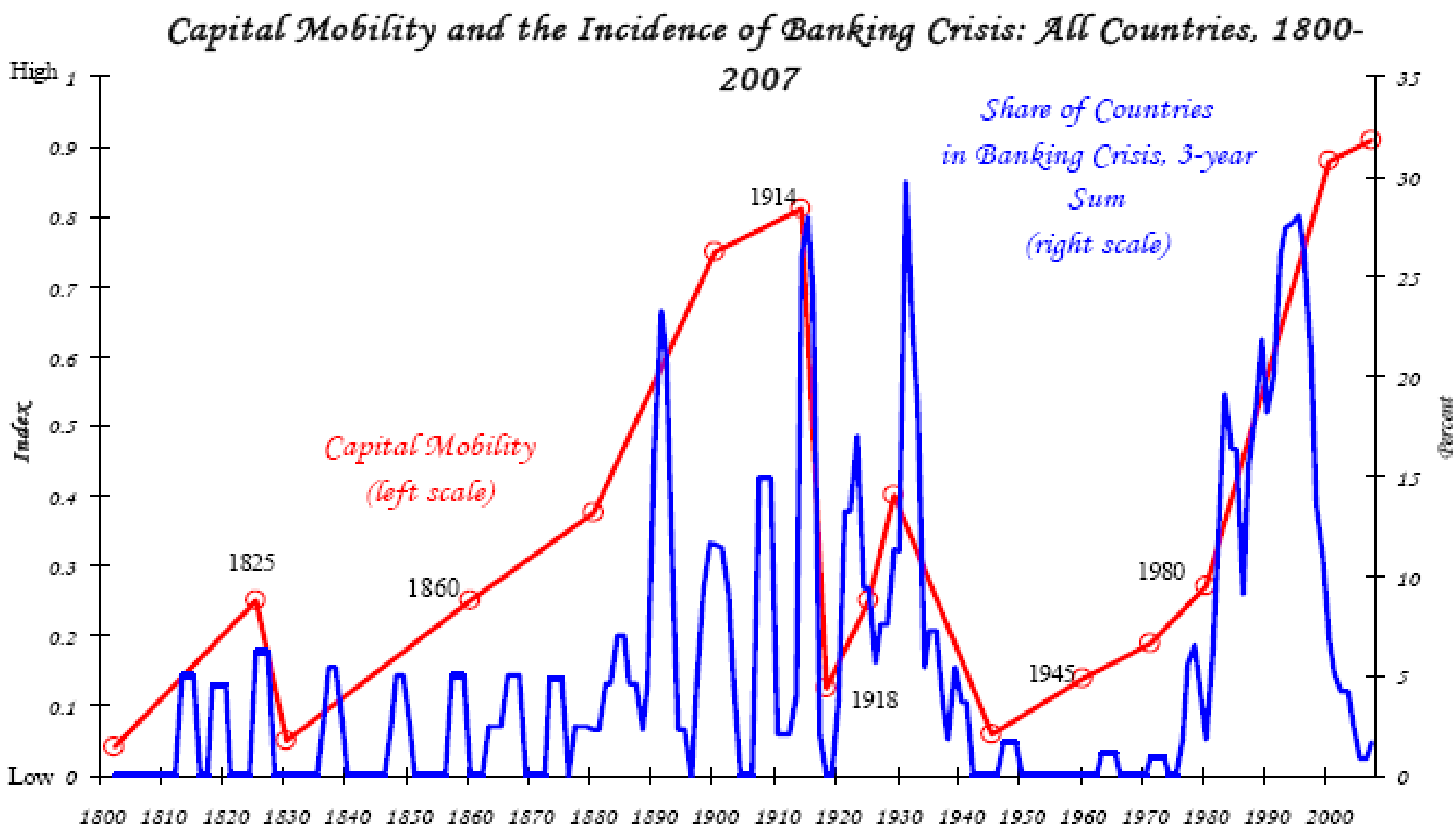
U.S. Financial Crises & More

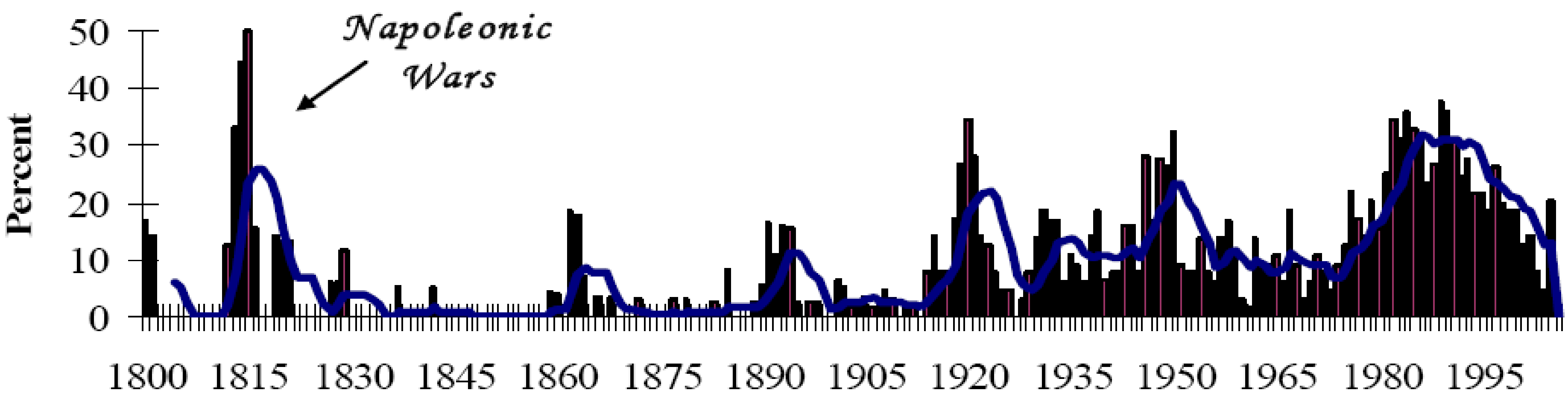
Types of Crises

- Reinhart and Rogoff identified 5 “varieties” of financial crises.
  1. External Debt
  2. Domestic Debt
  3. Banking Crises
  4. Currency Crashes
  5. Inflation Outbursts

Banking Crises



Currency Crashes: Share of Countries with an Annual Depreciation Greater than 15 Percent: 1800-2006



Case: The Great Depression

- In 1928 and 1929, stock prices doubled in the U.S. The Fed tried to curb this period of excessive speculation with a tight monetary policy. But this lead to a collapse of more than 60% in October of 1929.
- By 1932, unemployment had reached 23.6%, and it peaked in early 1933 at 25%, drought persisted in the agricultural heartland, businesses and families defaulted on record numbers of loans, and more than 5,000 banks had failed.
- Between 1930 and 1933, one-third of U.S. banks went out of business as agricultural shocks led to bank failures

Stock Market Prices During The Great Depression

FIGURE 8.2 Stock Price Data During the Great Depression Period

Stock prices crashed in 1929, falling by more than 60%, and then continued to fall to only 10% of their peak value by 1932.

Source: Dow-Jones Industrial Average (DJIA), http://lib.stat.cmu.edu/datasets/djdc0093.

Credit Spreads During The Great Depression

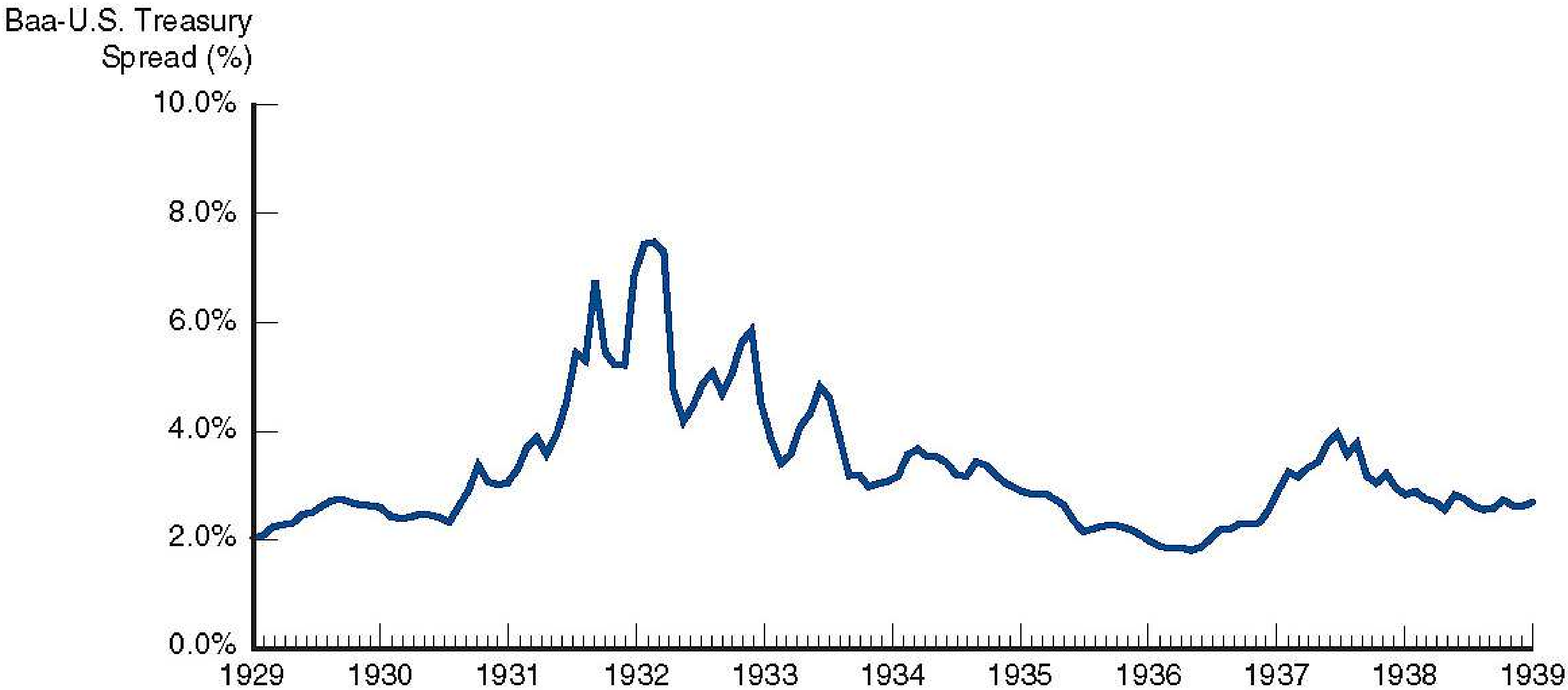


FIGURE 8.3 Credit Spreads During the Great Depression

Credit spreads (the difference between rates on Baa corporate bonds and U.S. Treasury bonds) rose sharply during the Great Depression.

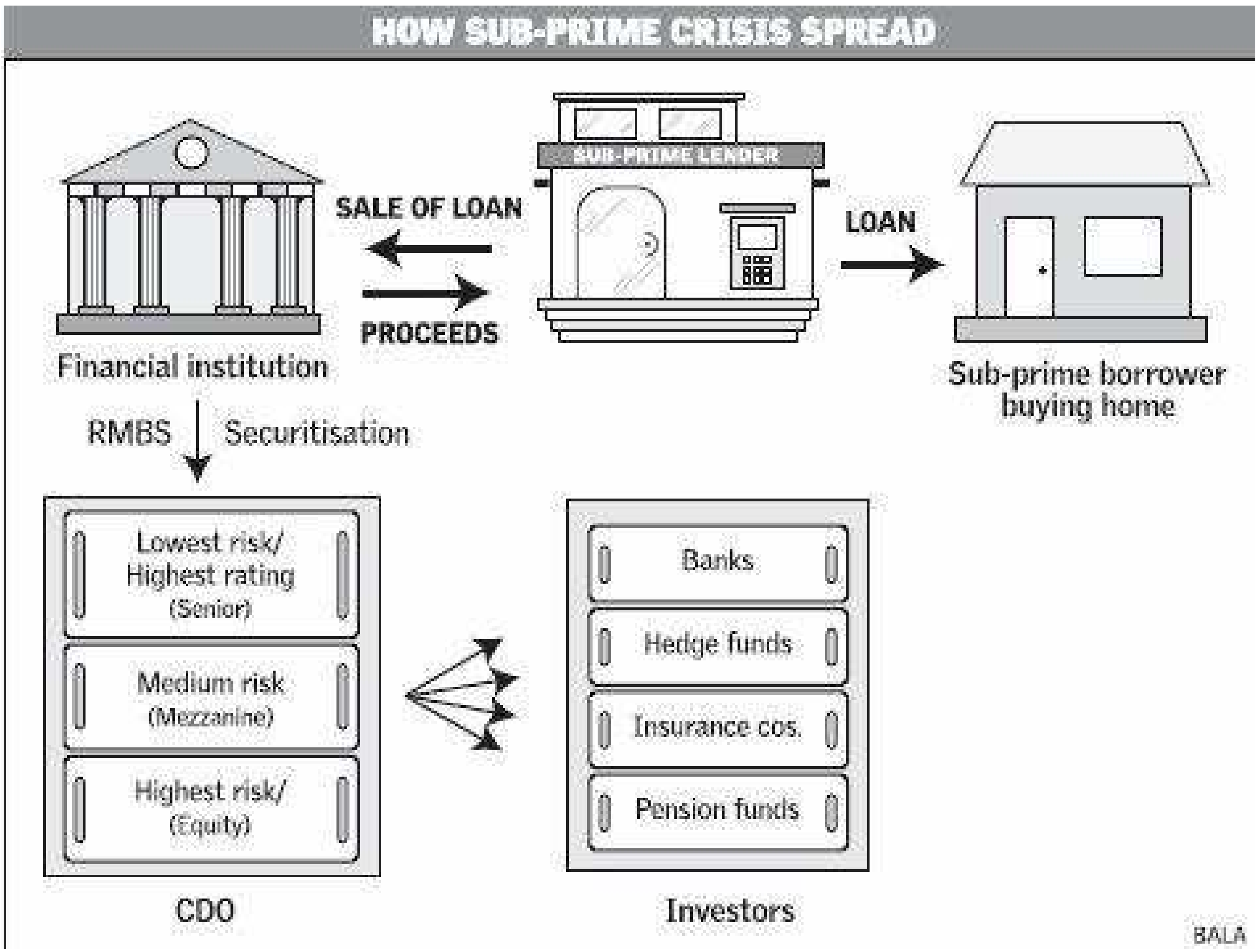
Source: Federal Reserve Bank of St. Louis FRED database, http://research.stlouisfed.org/fred2/categories/22.

Case: The 2007–2009 Financial Crisis

Financial innovation in mortgage markets developed along a few lines:

- Less-than-credit worthy borrowers found the ability to purchase homes through subprime lending, a practice almost nonexistent until the 2000s
- Financial engineering developed new financial products to further enhance and distribute risk from mortgage lending

Financial Innovation and Confusion

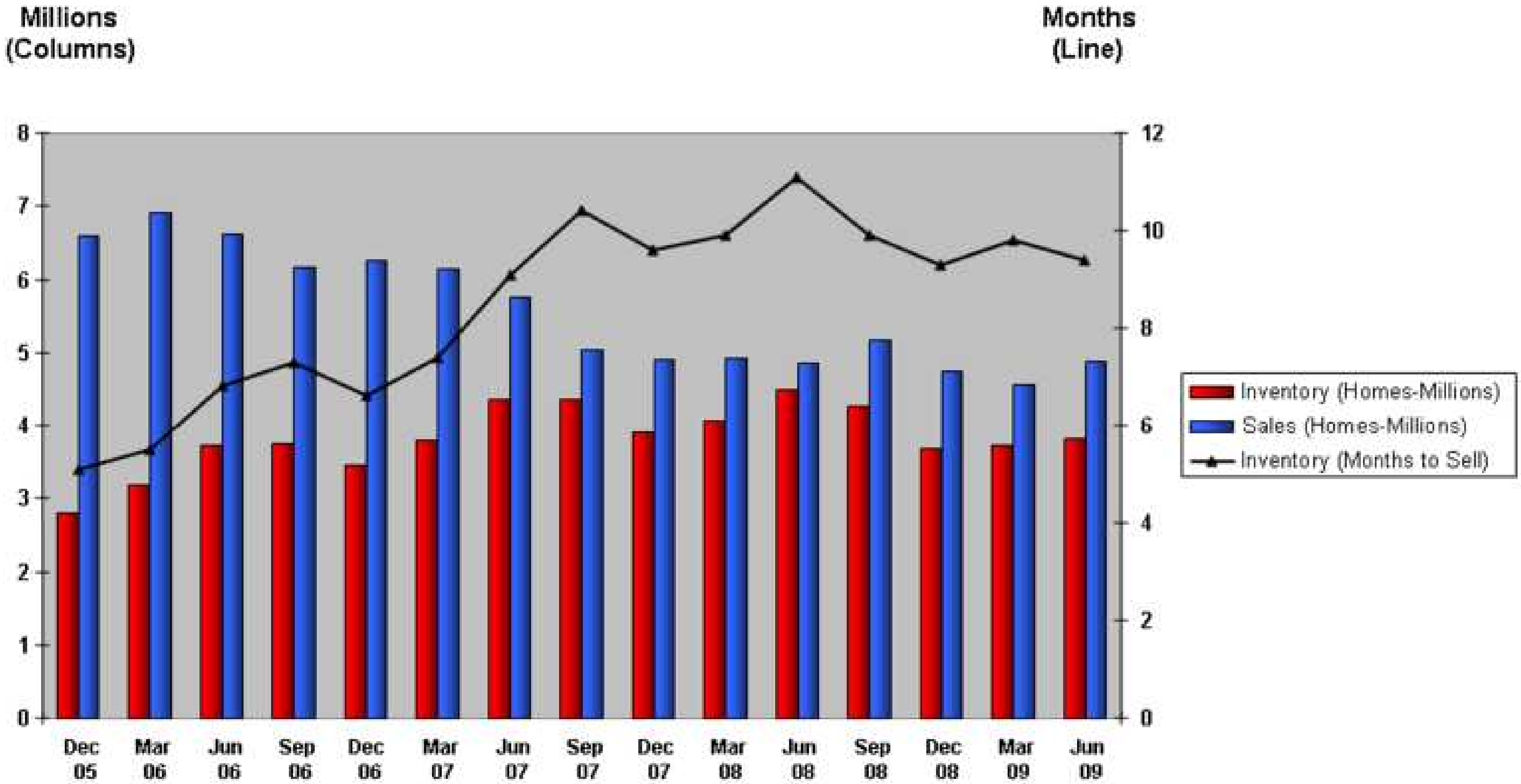


Case: The 2007–2009 Financial Crisis

Agency problems in mortgage markets also reached new levels:

- Mortgage originators did not hold the actual mortgage, but sold the note in the secondary market
- Mortgage originators earned fees from the volume of the loans produced, not the quality
- In the extreme, unqualified borrowers bought houses they could not afford through either creative mortgage products or outright fraud (such as inflated income)

U.S. Existing Home Sales, Inventory, and Months Supply
December 2005 – June 2009



Each inventory figure (red or first column) represents the number of homes for sale at a point in time.
Each sales figure (blue or second column) is annualized based on the most recent month's rate of sale.
The inventory months to sell (black line) is how many months it would take to sell the existing inventory most recent sales rate.

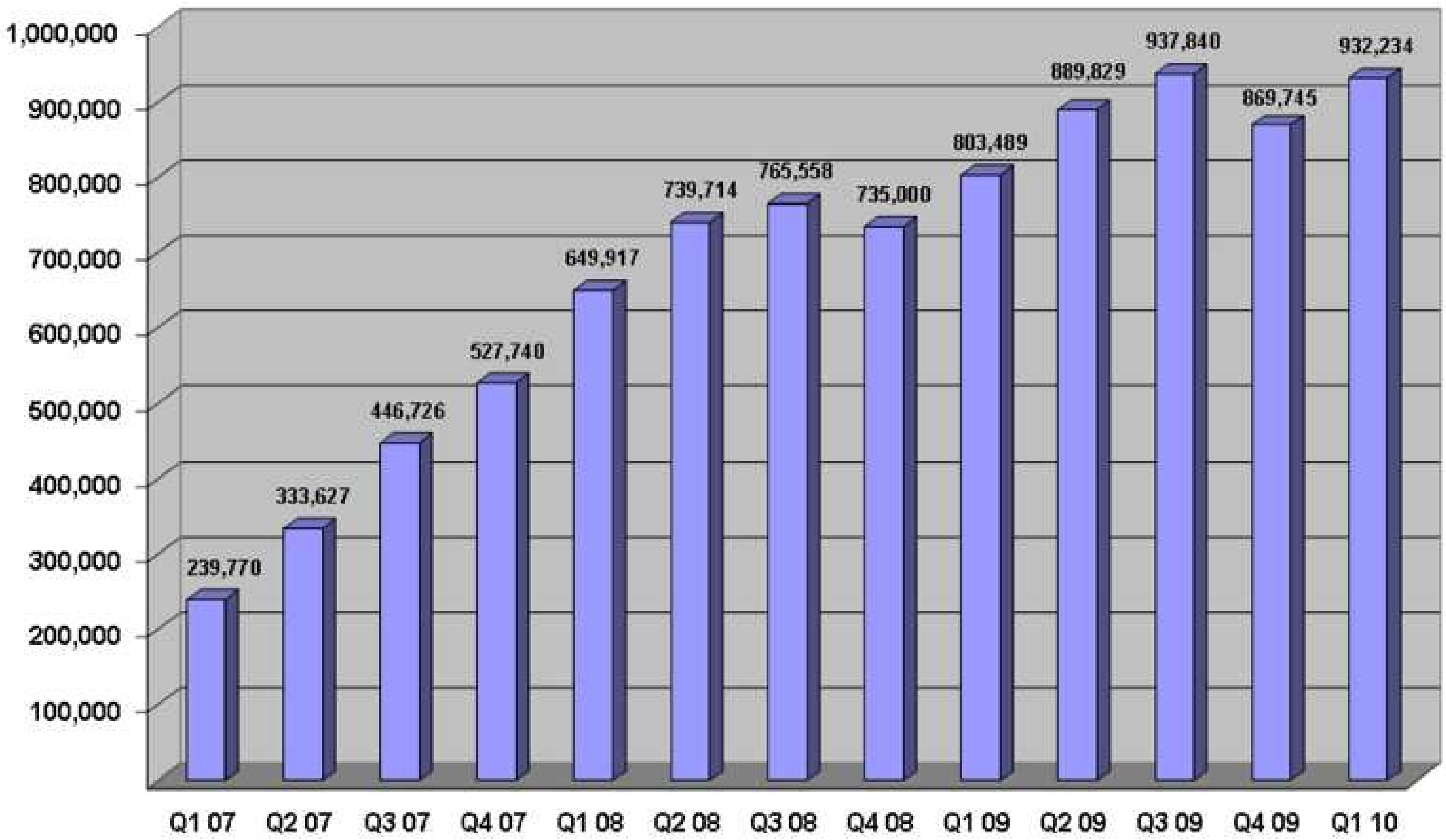
Source Data: National Association of Realtors (NAR)

Case: The 2007–2009 Financial Crisis

The rating agencies didn’t help:

- Agencies consulted with firms on structuring products to achieve the highest rating, creating a clear conflict
- Further, the rating system was hardly designed to address the complex nature of the structured debt designs
- The result was meaningless ratings that investors had relied on to assess the quality of their investments

U.S. Properties with Foreclosure Activity



Source Data: RealtyTrac Press Releases of "U.S. Foreclosure Market Report"

Housing Prices: 2002–2010

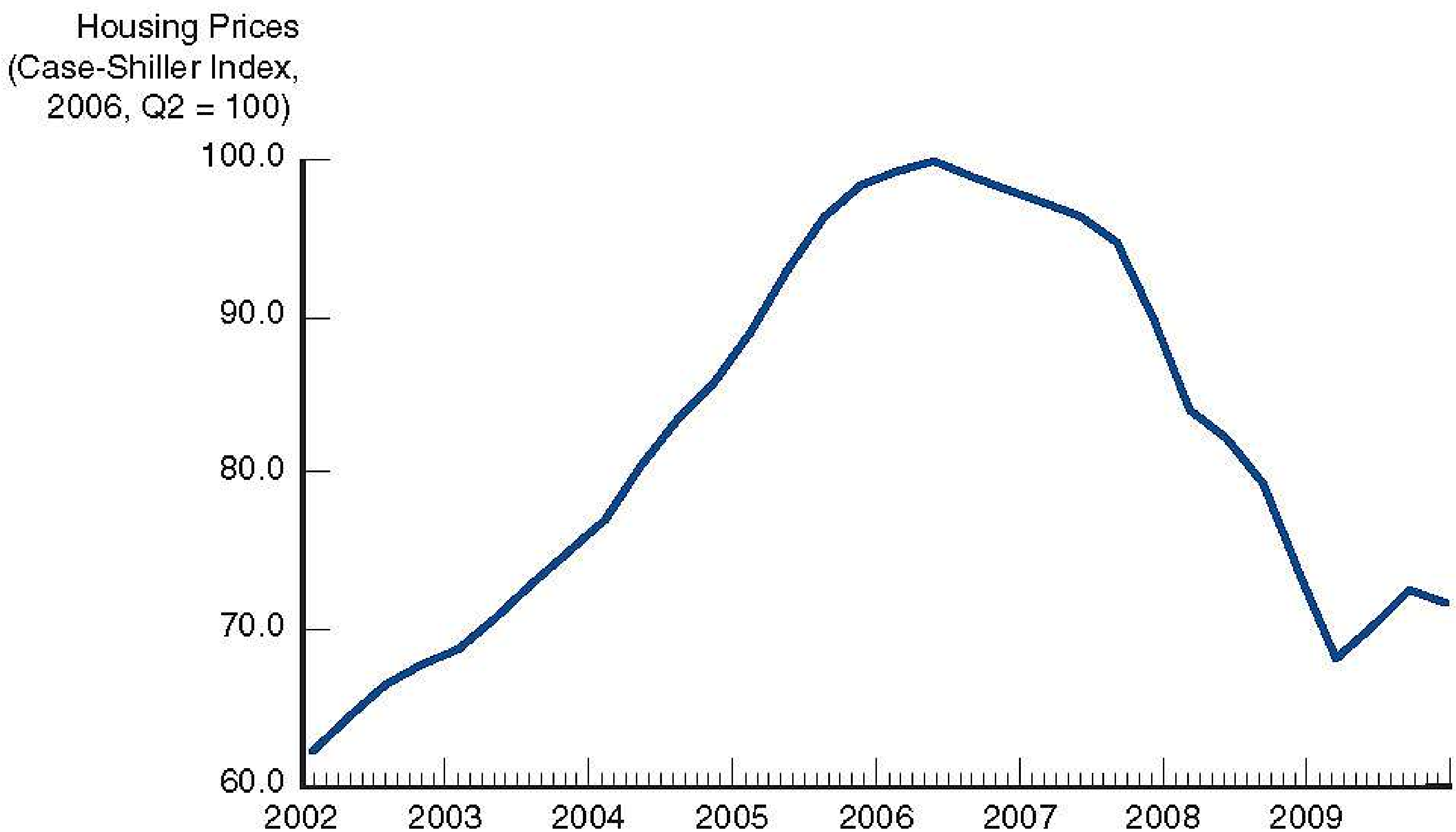


FIGURE 8.4 Housing Prices and the Financial Crisis of 2007–2009

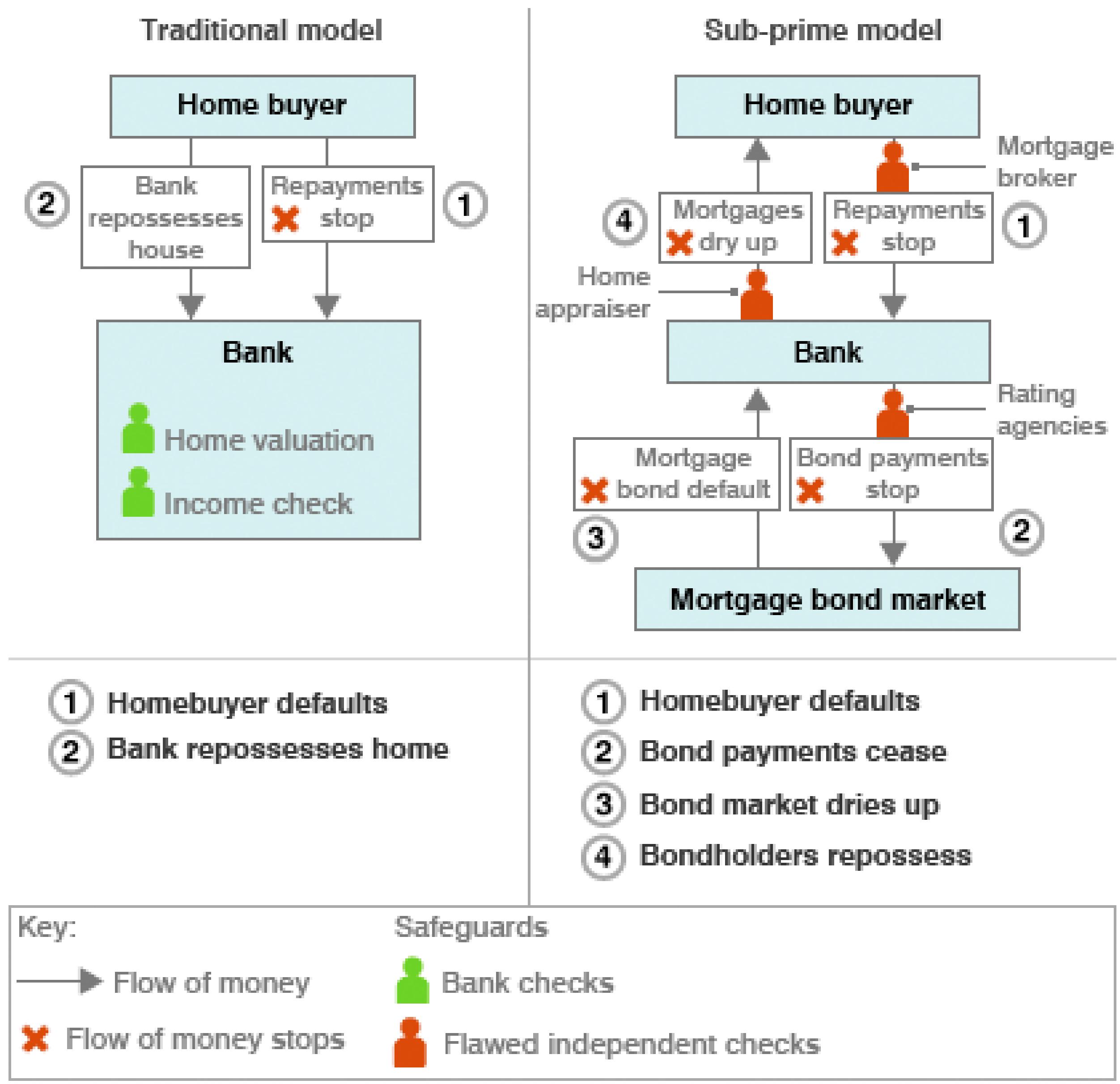
Housing prices boomed from 2002 to 2006, but then fell by more than 25% subsequently.

Source: Adapted from Case-Shiller U.S. national composite house price index, available from http://www.macromarkets.com/csi_housing/index.asp.

Case: The 2007–2009 Financial Crisis

- As mortgage defaults rose, banks and other FIs saw the value of their assets fall. This was further complicated by the complexity of mortgages, CDOs, defaults swaps, and other difficult-to-value assets.
- Banks began the deleveraging process, selling assets and restricting credit, further depressing the struggling economy

When default happens…



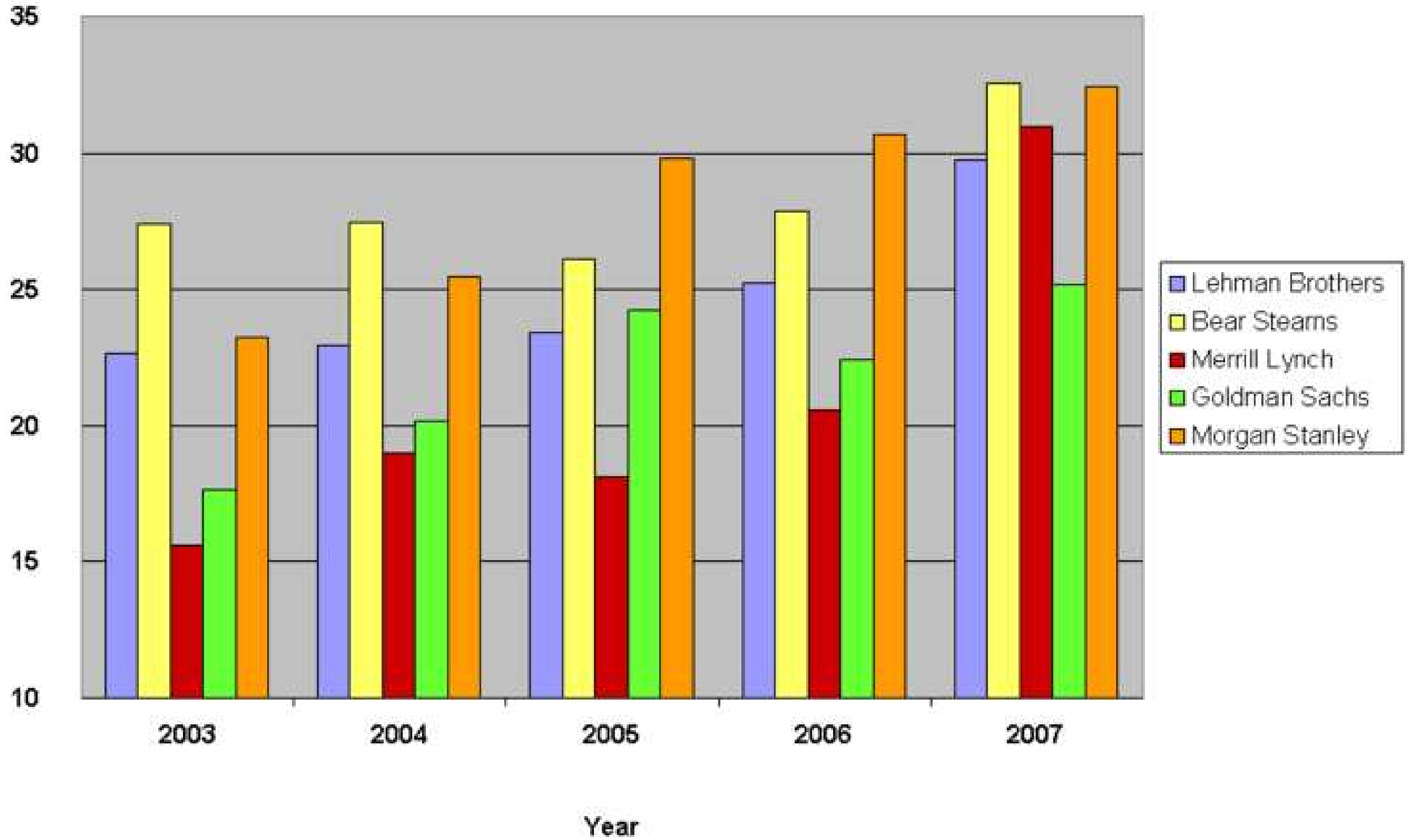
Case: The 2007–2009 Financial Crisis

Finally, the collapse of several high-profile U.S. investment firms only further deteriorated confidence in the U.S.

- March 2008: Bear Sterns fails and is sold to JP Morgan for 5% of its value only 1 year ago
- September 2008: both Freddie and Fannie put into conservatorship after heaving subprime losses.
- September 2008: Lehman Brothers files for bankruptcy. Merrill Lynch sold to Bank of America at “fire” sale prices. AIG also experiences a liquidity crisis.

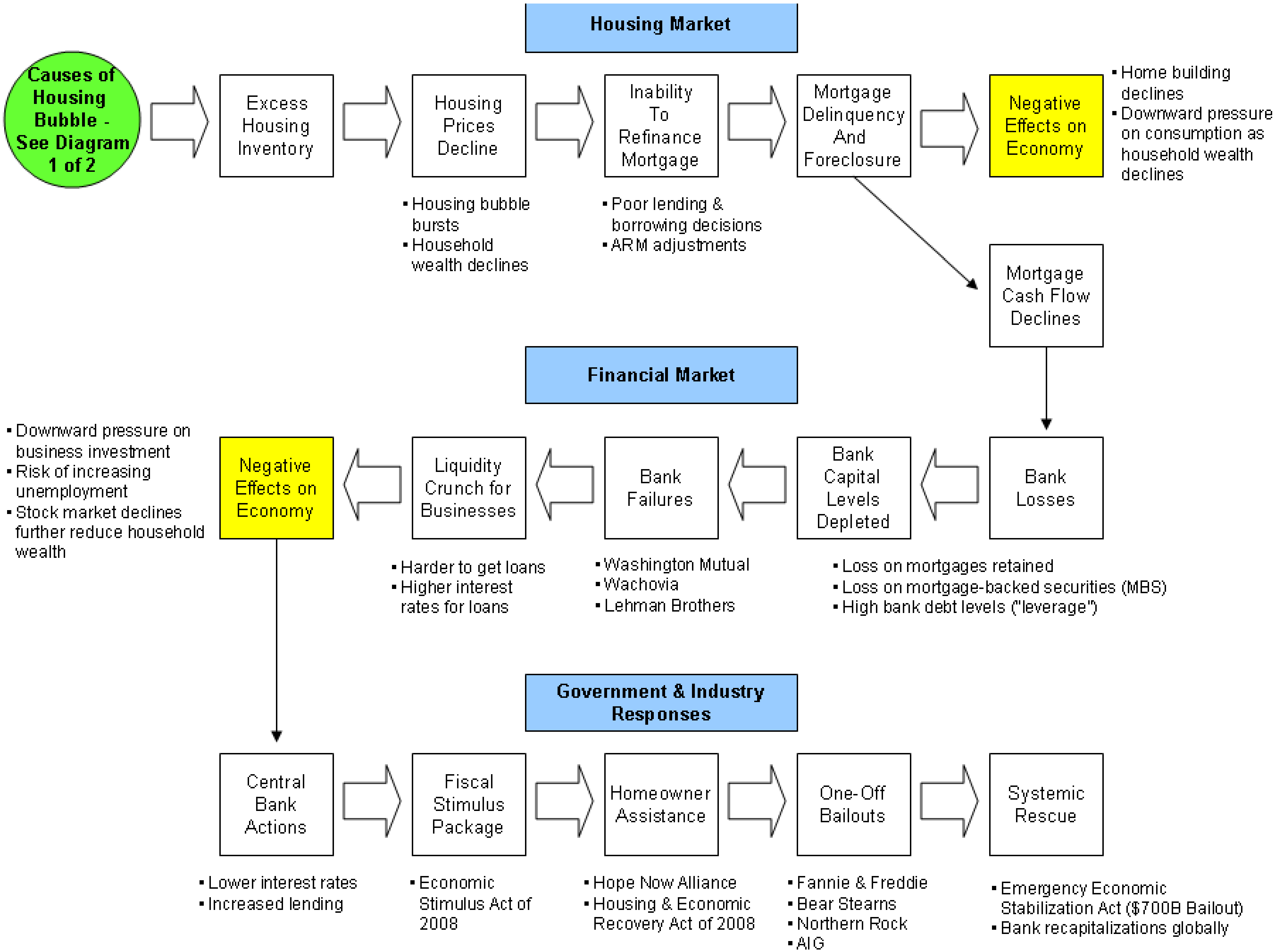
Leverage Ratios For Major Investment Banks

The leverage ratio is a measure of the risk taken by a firm; a higher ratio indicates more risk.
It is calculated as total debt divided by stockholders equity. Each firm's ratio increased between 2003-2007.



Source Data: Company Annual Reports (SEC Form 10K)

14 September 2007



Housing Market
Causes of Housing Bubble - See Diagram 1 of 2
Excess Housing Inventory
Housing Prices Decline
Inability To Refinance Mortgage
Mortgage Delinquency And Foreclosure
Negative Effects on Economy
▪ Home building declines
▪ Downward pressure on consumption as household wealth declines
▪ Housing bubble bursts
▪ Household wealth declines
▪ Poor lending & borrowing decisions
▪ ARM adjustments
Mortgage Cash Flow Declines
Financial Market
▪ Downward pressure on business investment
▪ Risk of increasing unemployment
▪ Stock market declines further reduce household wealth
Negative Effects on Economy
Liquidity Crunch for Businesses
Bank Failures
Bank Capital Levels Depleted
Bank Losses
▪ Harder to get loans
▪ Higher interest rates for loans
▪ Washington Mutual
▪ Wachovia
▪ Lehman Brothers
▪ Loss on mortgages retained
▪ Loss on mortgage-backed securities (MBS)
▪ High bank debt levels ("leverage")
Government & Industry Responses
Central Bank Actions
Fiscal Stimulus Package
Homeowner Assistance
One-Off Bailouts
Systemic Rescue
▪ Lower interest rates
▪ Increased lending
▪ Economic Stimulus Act of 2008
▪ Hope Now Alliance
▪ Housing & Economic Recovery Act of 2008
▪ Fannie & Freddie
▪ Bear Stearns
▪ Northern Rock
▪ AIG
▪ Emergency Economic Stabilization Act ($700B Bailout)
▪ Bank recapitalizations globally

Stock Prices: 2002–2010

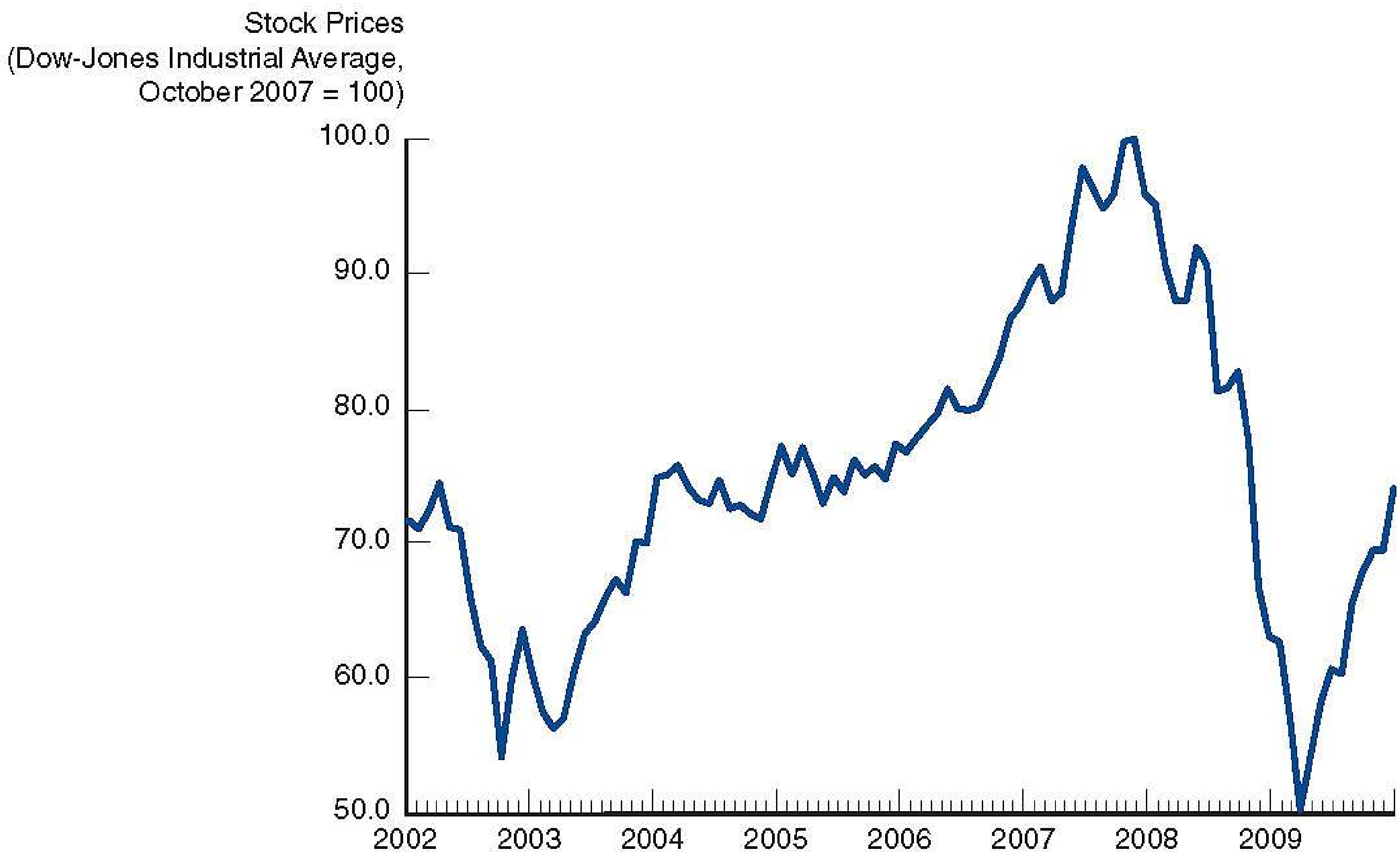


FIGURE 8.5 Stock Prices and the Financial Crisis of 2007–2009

Stock prices fell by 50% from October 2007 to March of 2009.

Source: Dow-Jones Industrial Average (DJIA), available at http://finance.yahoo.com/q/hp?s=%5EDJI.

Credit Spreads: 2002–2010

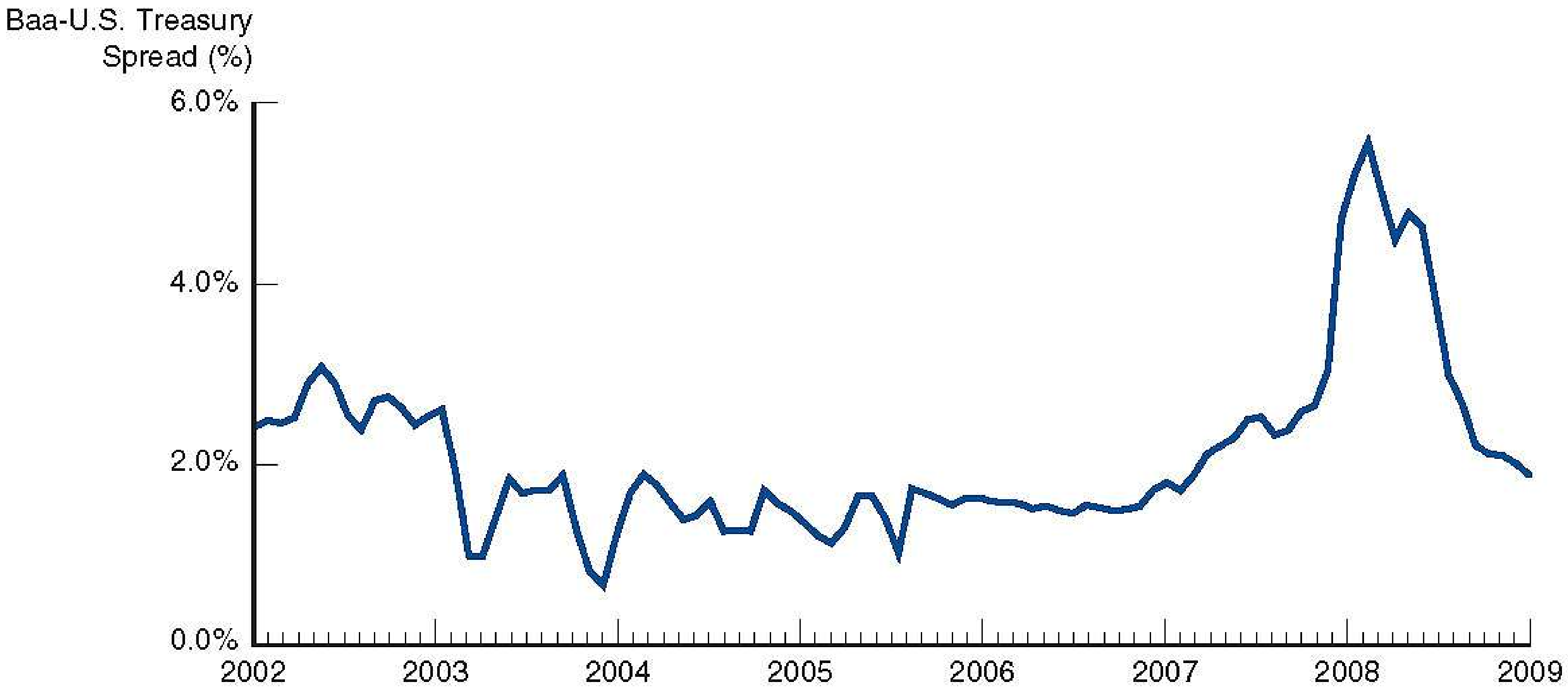


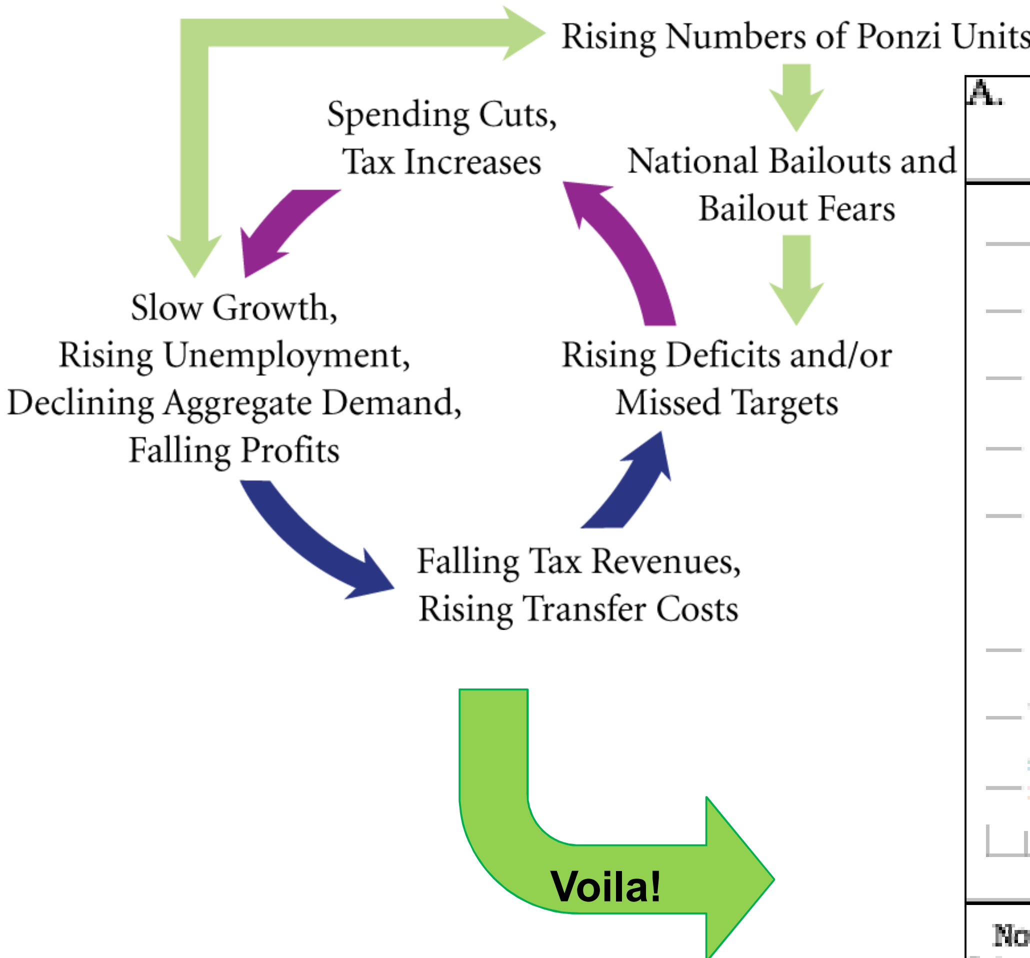
FIGURE 8.6 Credit Spreads and the 2007–2009 Financial Crisis

Credit spreads (the difference between rates on Baa corporate bonds and U.S. Treasury bonds) rose by more than 400 basis points (4 percentage points) during the crisis.

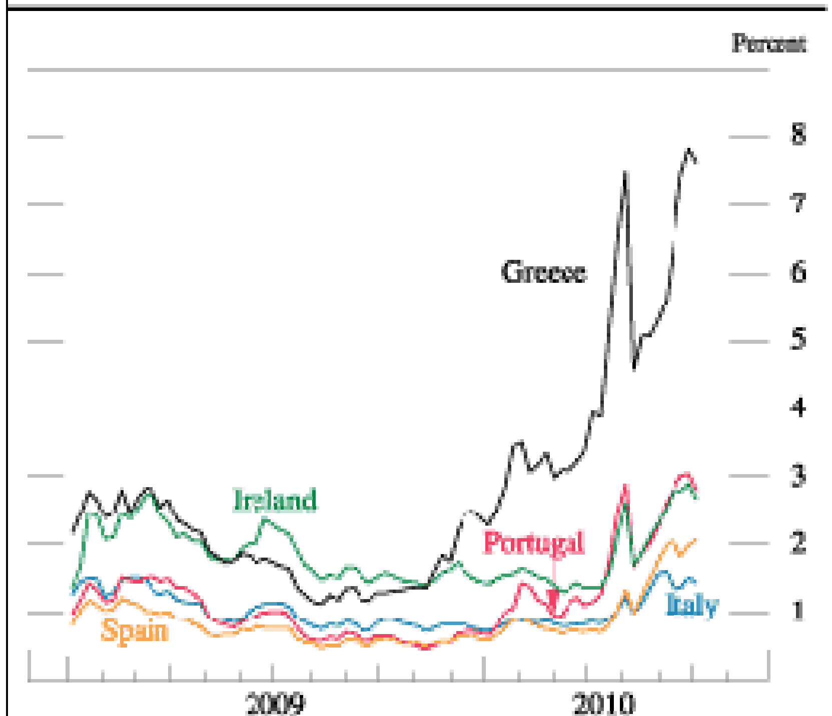
Source: Federal Reserve Bank of St. Louis FRED database, http://research.stlouisfed.org/fred2/categories/22.

One thing leads to the other…

Figure 4 **A Fiscal Trap Occurs When Fiscal Policy Aims to Balance the Budget—And Private-sector Financial Fragility Can Worsen the Problem**



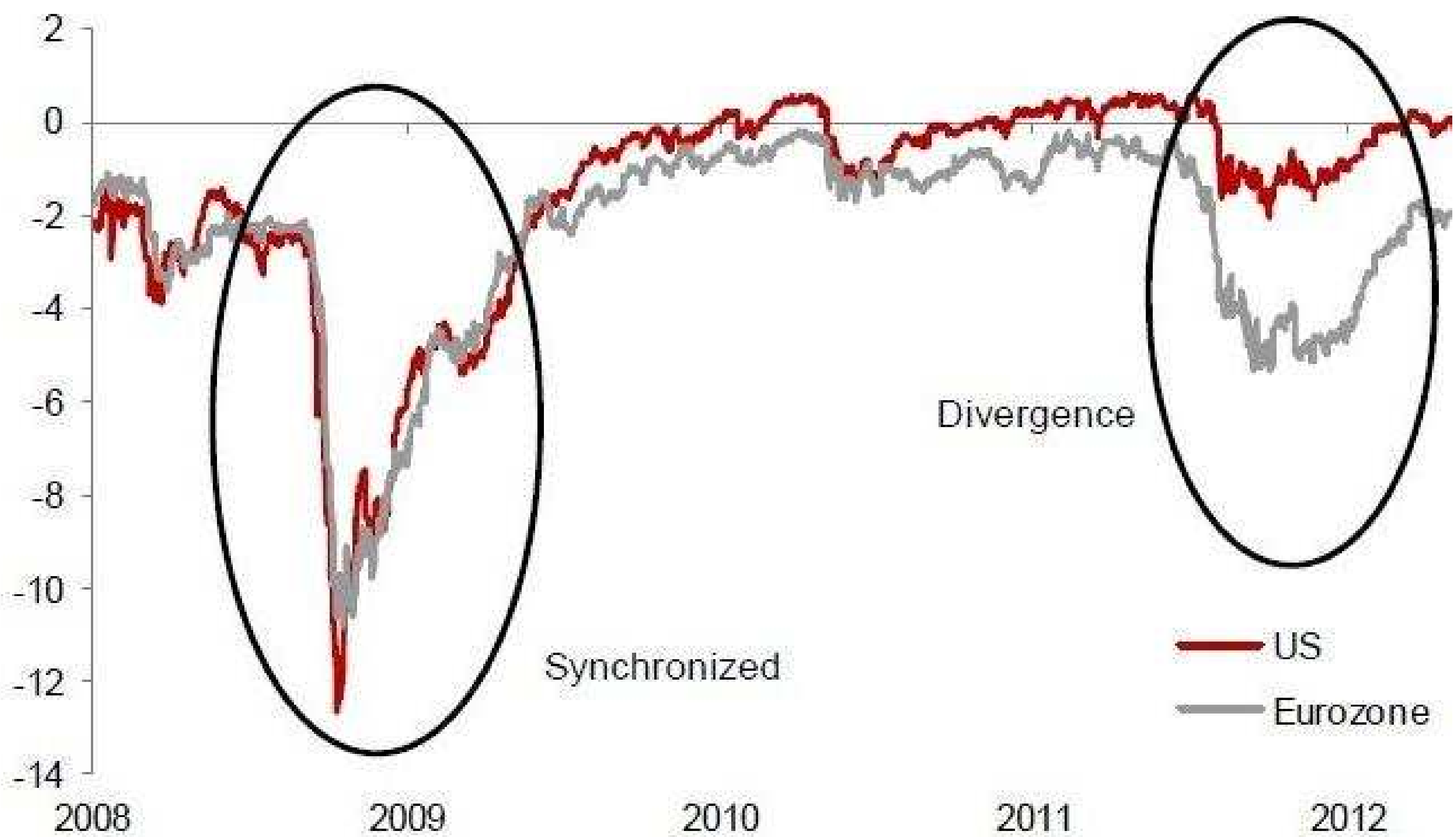
A. Ten-year government debt spreads for peripheral European economies, 2009–10



Note: The data are weekly. The last observation for each series is July 9, 2010. The spreads shown are the yields on 10-year bonds less the 10-year German bond yield.
Source: Bloomberg.

This time, it's different (maybe)…

Fig. 5: Financial condition index: Synchonized in 2008, more divergent now



Source: Bloomberg