

Subprime Mortgages and the Financial Mess: What in the Hell Happened?



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How is it possible that

- **U.S. home prices have fallen 31% since 1Q 2006**
 - 51% in Phoenix
 - 48% in Las Vegas
 - 45% in Miami
 - 40% in Los Angeles and San Diego
- **Home mortgage foreclosures increased by 76% by the end of 2008 with 10% of all borrowers in foreclosure or default**
- **Unemployment has grow from 4.6% in mid 2006 to 8.1% in Feb. 2008**
- **The S&P 500 fell from 1,558 in Oct. 2007 to 683 in Mar. 2009, a decline of 56%**
- **Financial “failure” of**
 - Bear Sterns
 - Merrill Lynch
 - Leman Brothers
 - AIG
 - Wachovia
 - Fannie Mae and Freddie Mac

Source: S&P/Case-Schiller, Mortgage Bankers Association, BEA News Release, Bureau of Labor Statistics, Yahoo! Finance



How could a simple financial instrument like a home mortgage lead to the most severe economic contraction in the U.S. since the Great Depression?

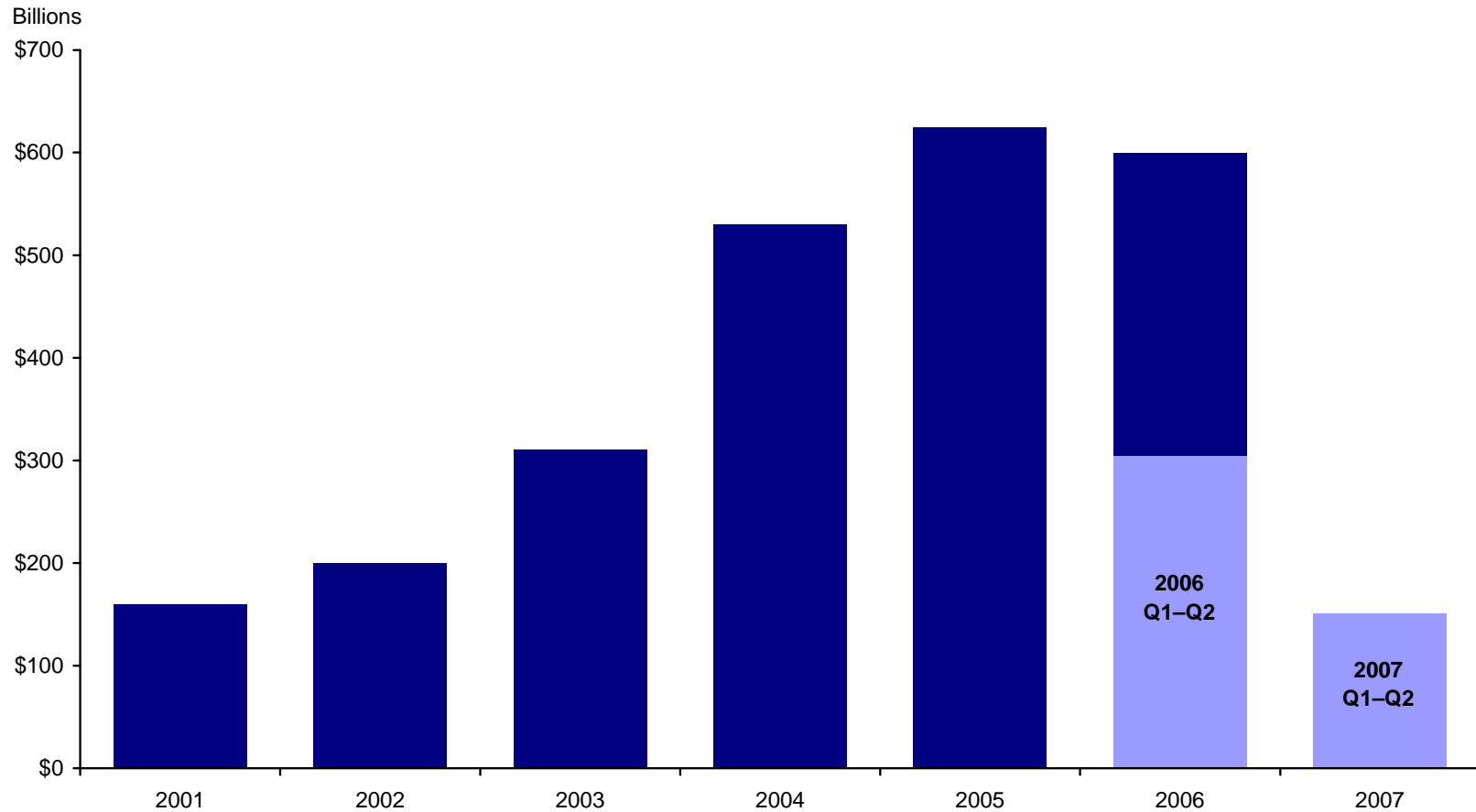


What is a Subprime Mortgage?

- **Credit status of the borrower**
 - Prime, Near Prime (Alt-A), Subprime
- **Characteristics of subprime loans**
 - High loan-to-value
 - Weak credit score
 - Adjustable rate
- **Risky for both borrower and lenders**
 - Higher rates of default → Higher interest rates



Growth of Subprime Originations



Source: Inside Mortgage Finance



What Caused the Subprime Growth?

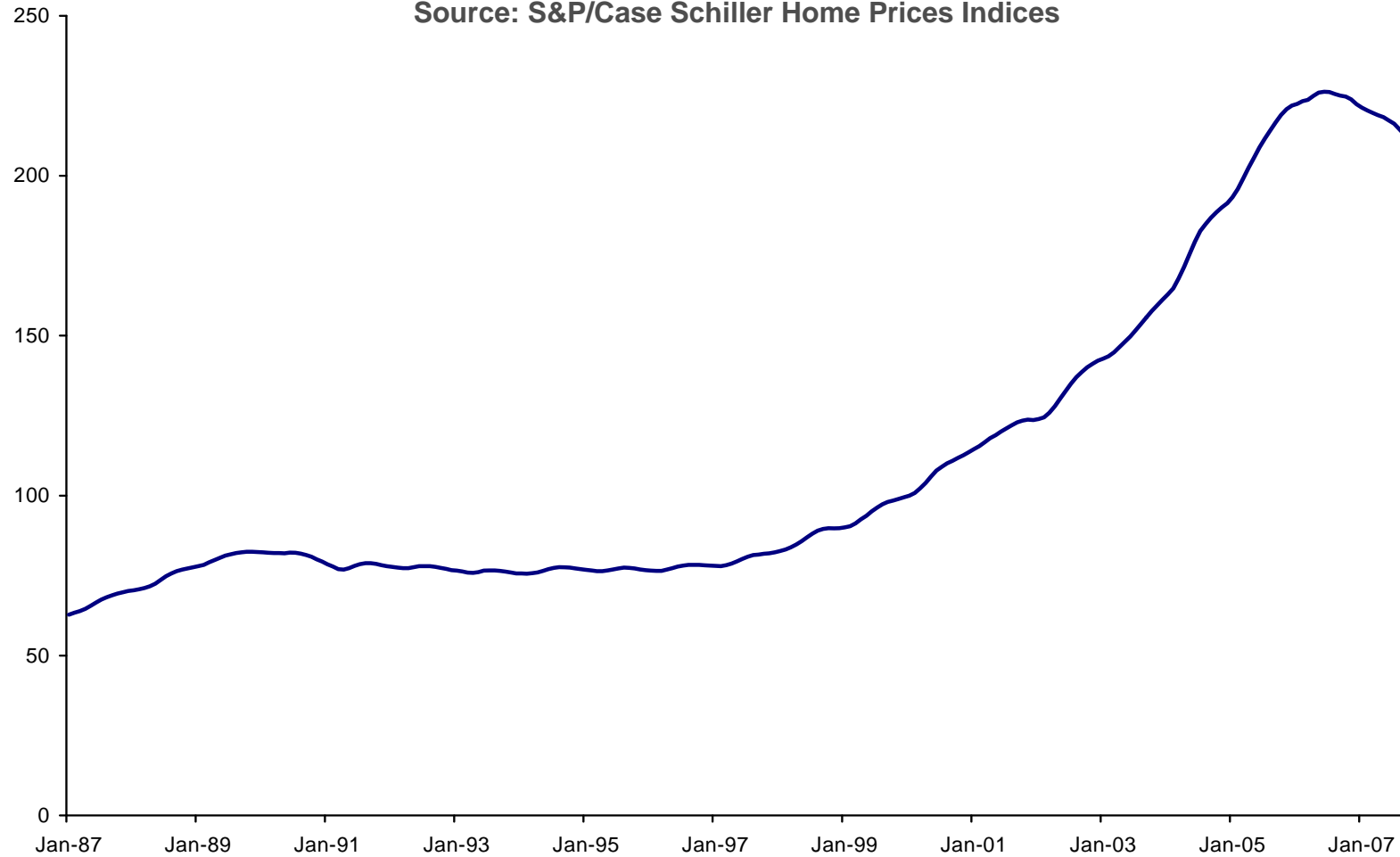
- **Historically low interest rates at start of decade caused an increase in housing demand**
- **Rising house prices**
 - Increases in the ratio of housing costs to income have made qualifying for conventional loans more difficult
 - More households financed using ARMs or with higher loan-to-value debt levels
- **Increase in home equity loans**



Home Prices

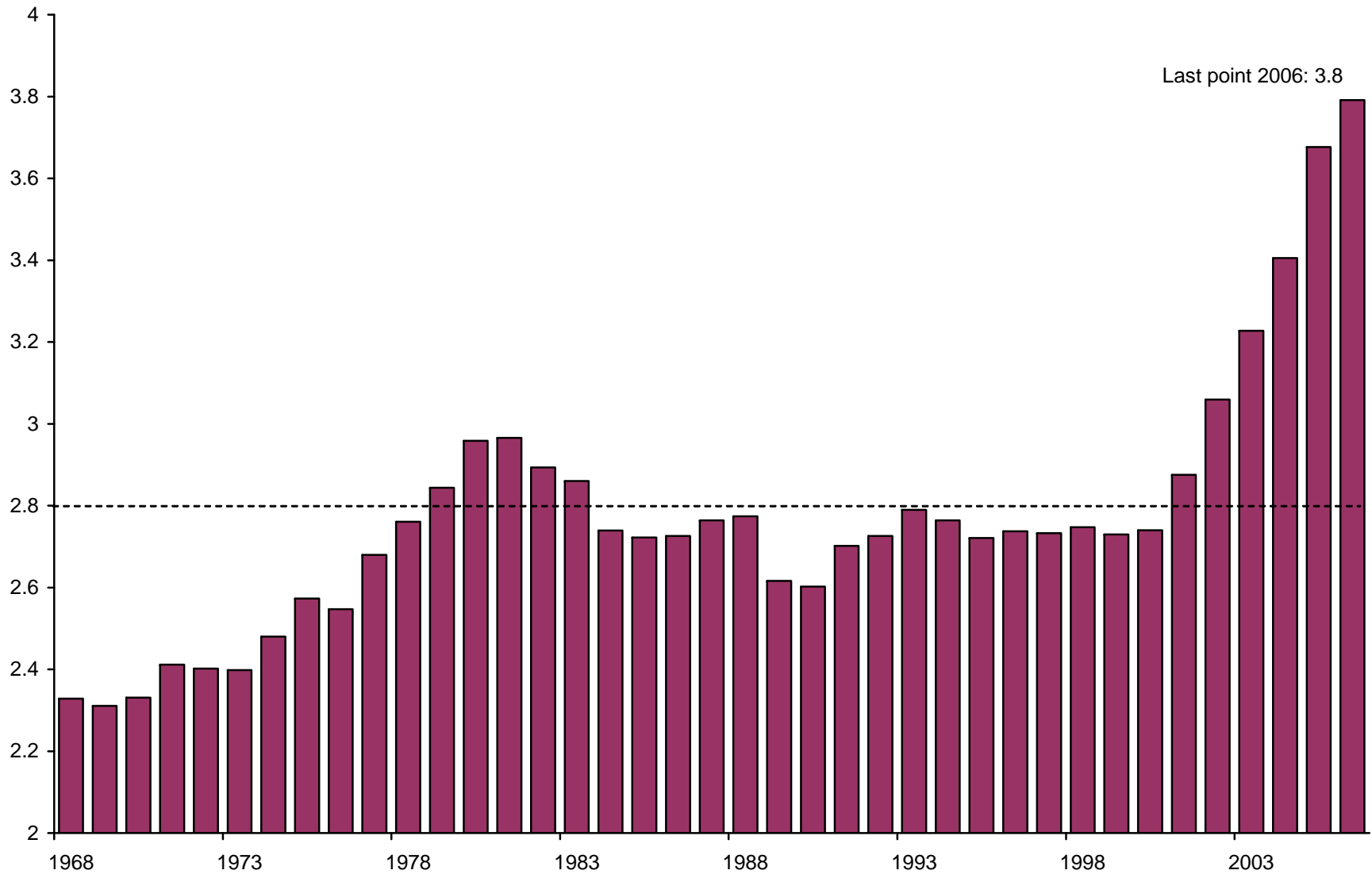
U.S. Home Price Index

Source: S&P/Case Schiller Home Prices Indices





Housing Cost Compared to Income



Source: U.S. Census Bureau; National Association of Realtors

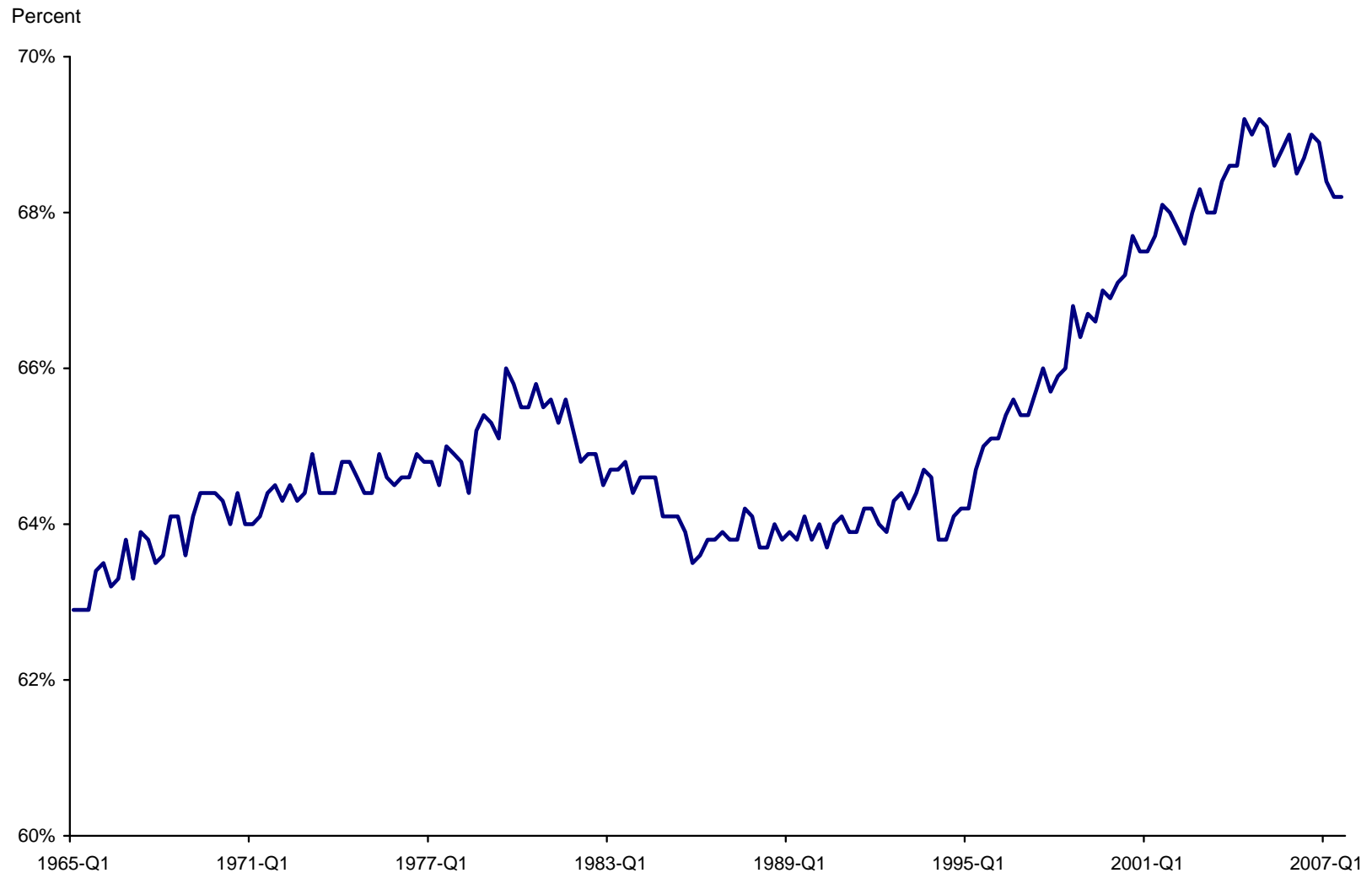


Economic Benefits to Borrowers

- **Increased liquidity for borrowers with low credit**
 - Low credit households have the ability to build equity
 - Low credit households have more options to access and utilize home equity. Home equity may be preferable to borrowers alternatives
 - credit cards
 - pay-day loans
- **Increased homeownership rates**
 - Expansion of subprime has increased homeownership rates for large groups who previous had more limited access to capital for home purchases



U.S. Homeownership Rates



Source: U.S. Census Bureau; Current Population Survey/Housing Vacancy Survey

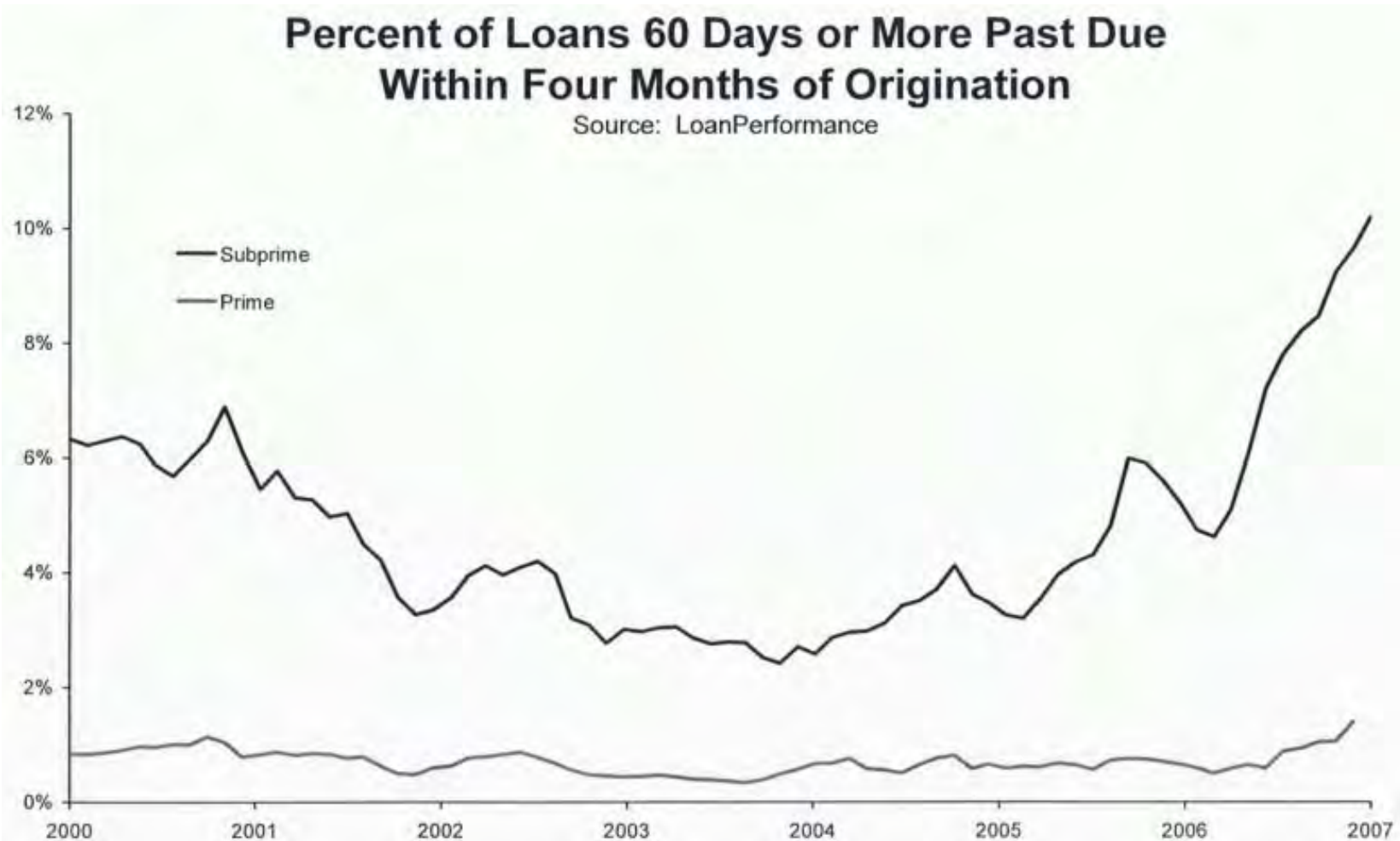


What Went Wrong?

- **Underestimation of subprime default risk**
 - Housing prices always go up!
- **Housing bubble in selected housing markets**
 - California, Florida, Las Vegas, Phoenix
 - Speculation
- **Tightening of monetary policy in 2004 leading to higher mortgage interest rates bursting bubble**
- **Subprime mortgage defaults**



Subprime Mortgage Defaults





House Price Contagion



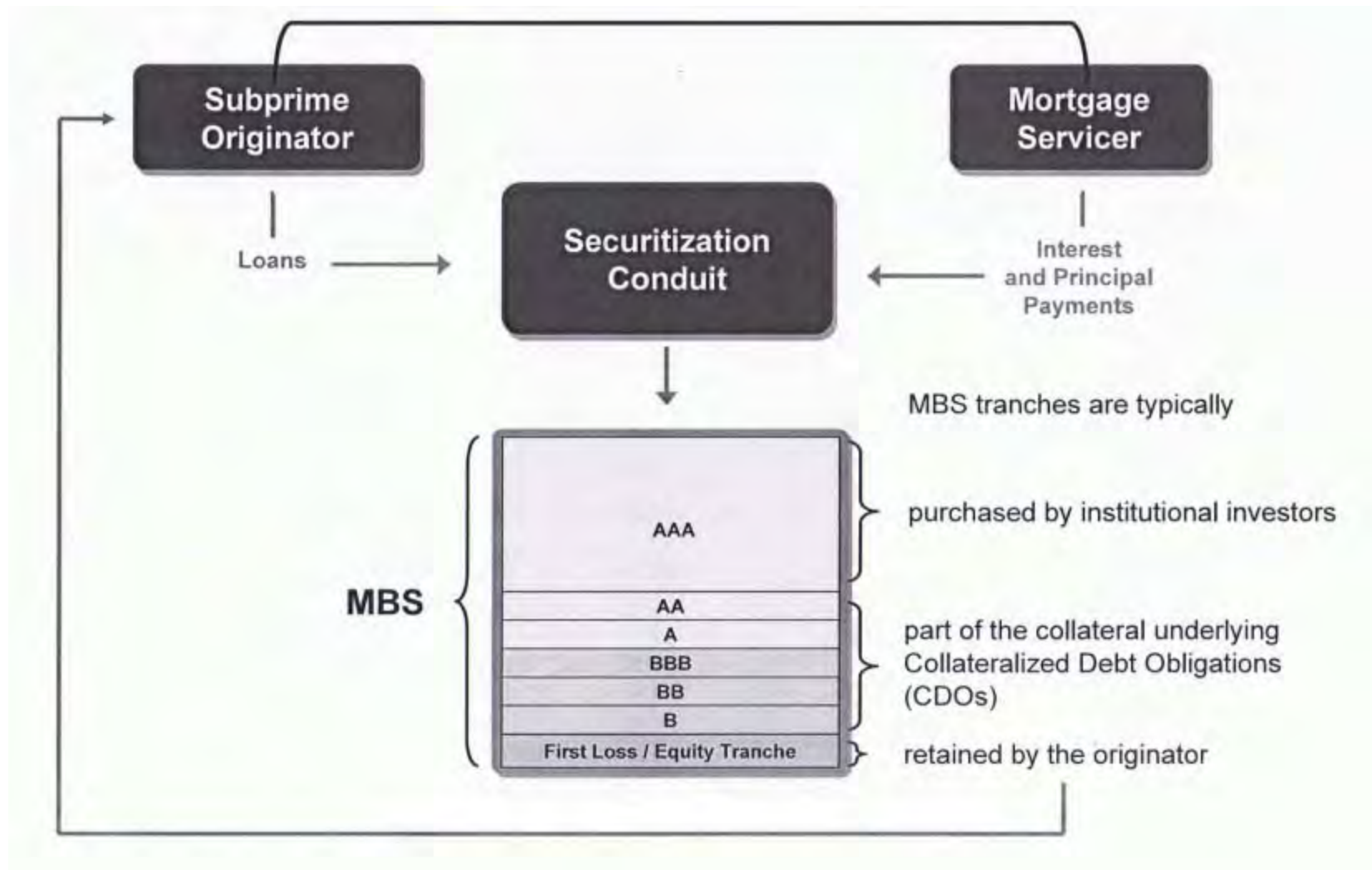


**How did mortgage defaults lead to
downfall of major financial institutions?**

Securitization

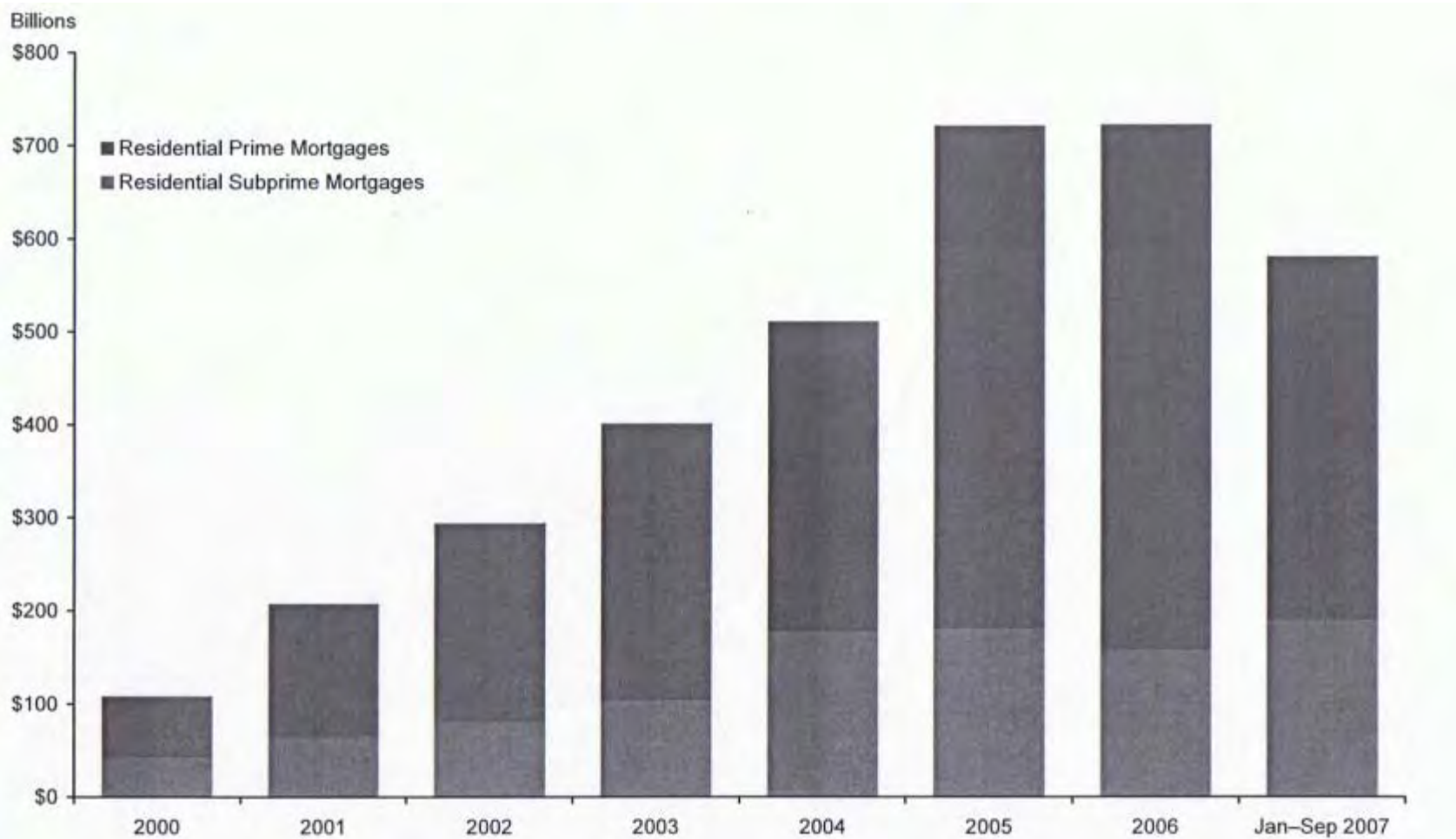


Mortgage Securitization Process





Growth of Mortgage Securitization



Source: Asset Backed Alert



Fundamental Financial Issues

- **What is the value of the outstanding mortgage-backed securities?**
 - need housing markets to settle to estimate default risk and value securities
 - additional recapitalization required?
- **Credit default swaps and counterparty risk**
 - **AIG**
 - formal trading market or regulate?
- **“Too big to fail”**
- **Future compensation contracts for traders and financial executives**