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Subprime & Structured Finance Litigation: An Economic Overview

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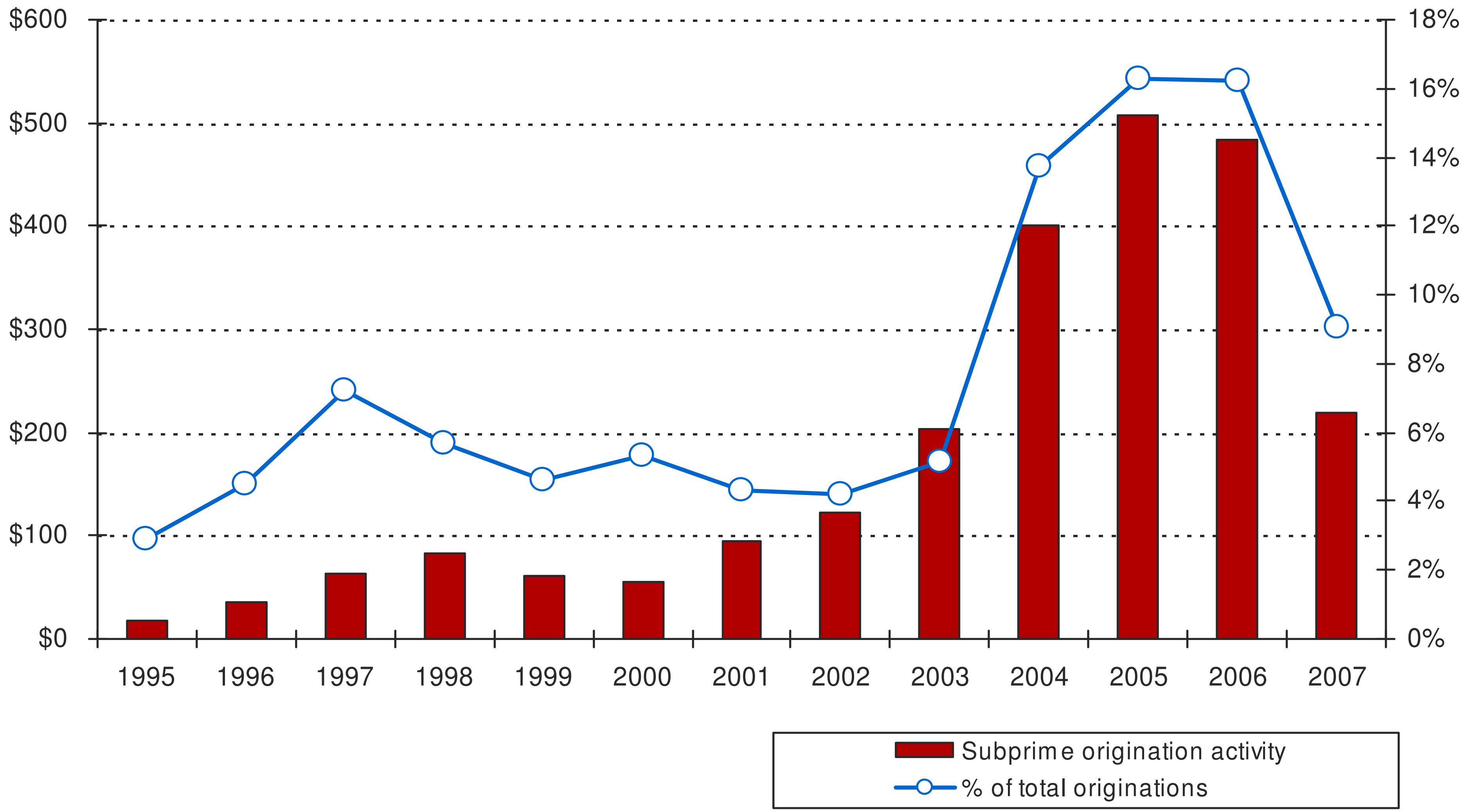
Subprime origination has dramatically increased since 2000



Source: Inside Mortgage Finance

Factors that led to the growth of the subprime market

- Increases in the government promotion of home ownership
  - GSEs and regulatory housing goals
- Changes in the origination market
  - New products
  - Efficiency gains in the underwriting process
  - Growth in mortgage brokers
  - Changes in underwriting standards
- Increases in securitized products
  - Senior-subordinate subprime RMBS allowed for the creation of securities with a spectrum of credit ratings
    - AAA-rated pieces that appealed to institutional investors
    - Mezzanine and equity tranches purchased by hedge funds, investment banks, institutional investors seeking higher returns
  - CDO and CDO^2 structures: Allowed the creation of AAA-rated securities from lower-rated tranches of RMBS and CDOs

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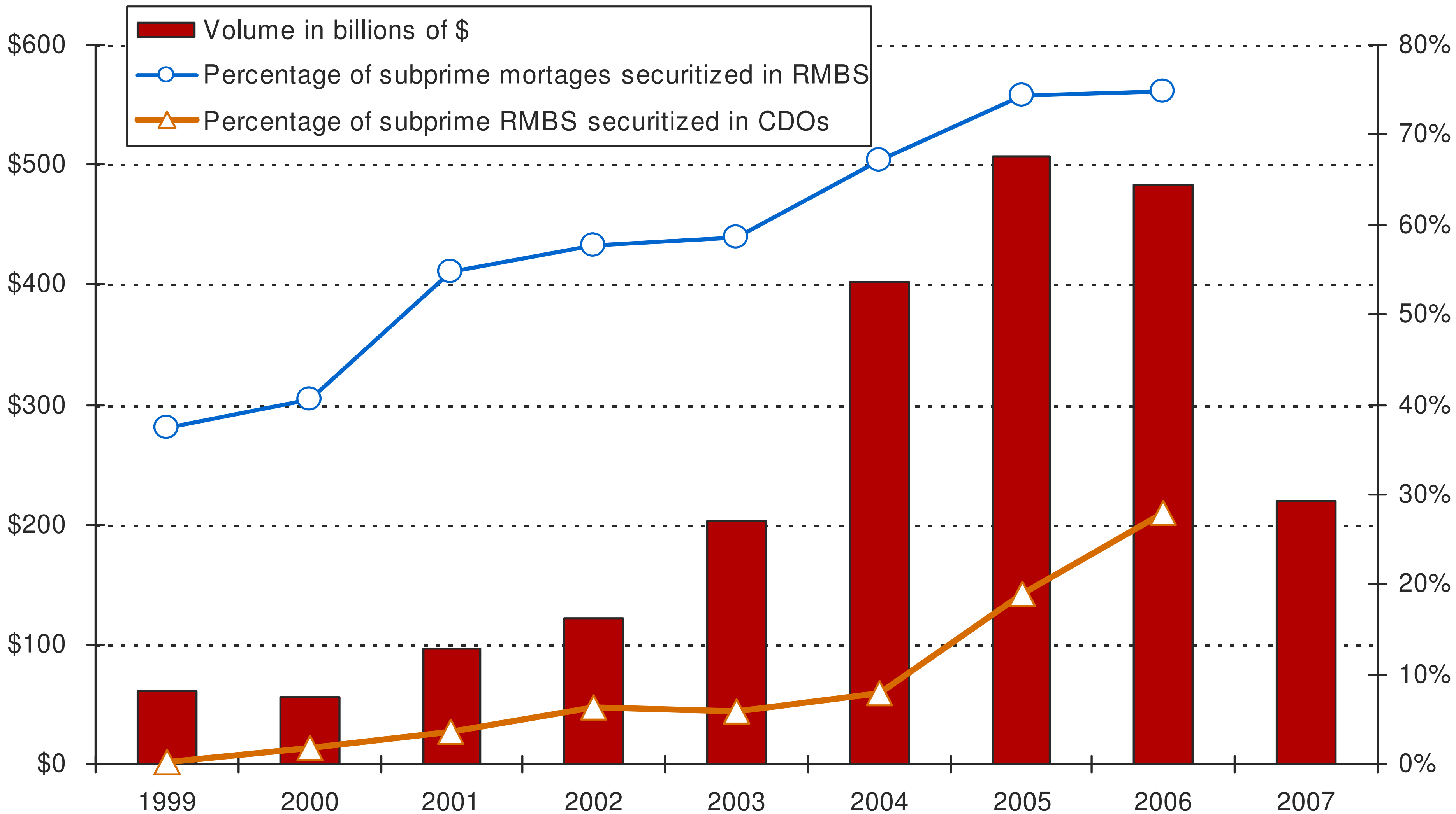
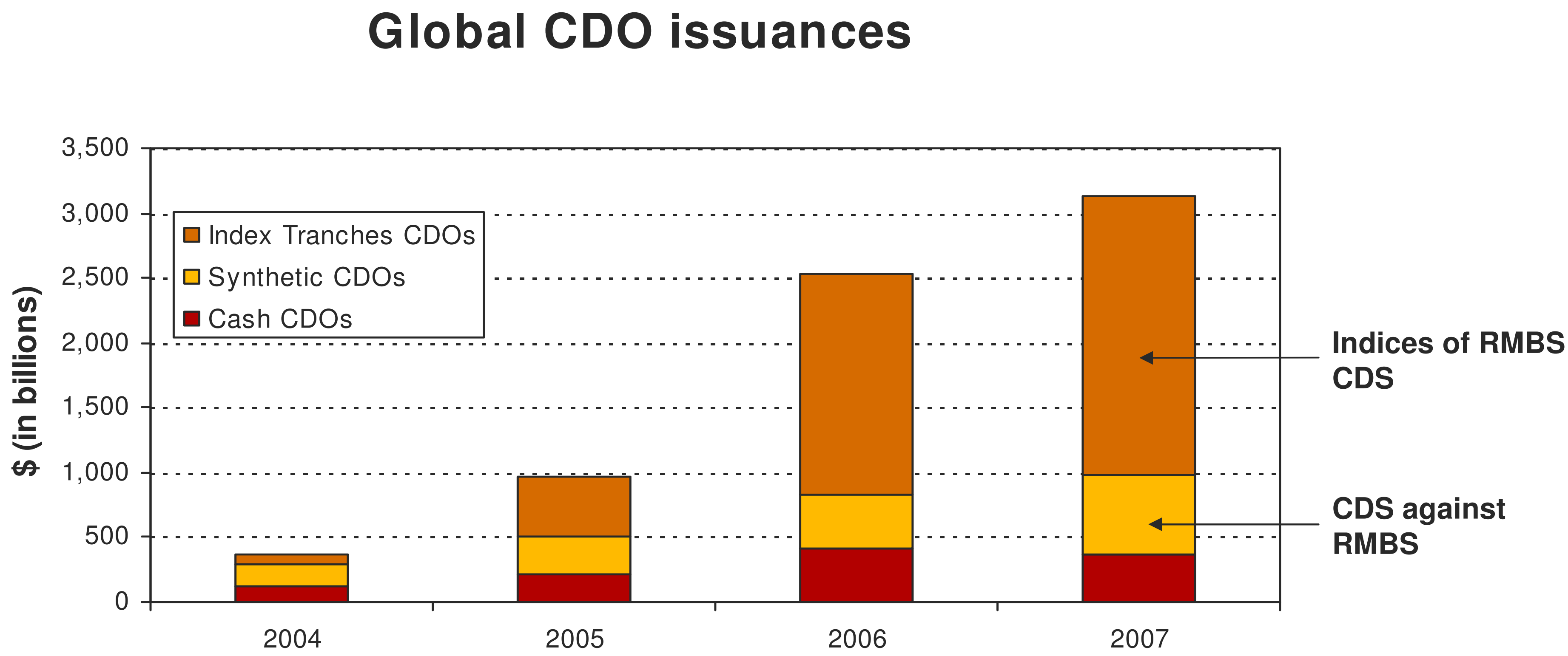
Subprime mortgages became increasingly securitized as RMBS and CDOs



Source: Estimates based on Inside Mortgage Finance, Moody's and SIFMA data

Subprime mortgages became increasingly embedded in CDOs



Source: Bank of International Settlements - 2008

Complex instruments, a lack of historical experience and underestimated risks led to unpleasant surprises

- Uncertainty: Not knowing how a financial instrument will behave during a time of stress
- Risk: Understanding how changes in the economic environment will impact the value of a financial instrument, but not knowing what the economic environment will be

Subprime-related credit losses and write-downs at the world's largest banks and securities firms

Company	Write-down/ loss
Citigroup	$ 42.9B
UBS AG	38.2
Merrill Lynch	37.0
HSBC	19.5
IKB Deutsche	16.0
RBS	15.2
Bank of America	14.9
Morgan Stanley	12.6
JP Morgan Chase	9.7
Credit Suisse	9.5
Washington Mutual	9.1

Company	Write-down/ loss
Crédit Agricole	8.3
Deutsche Bank	7.7
Wachovia	7.0
Mizuho Financial Group	6.2
Barclays Capital	5.2
CIBC	4.2
Lehman Brothers	3.3
Bear Stearns	3.2
Goldman Sachs	3.0
Others	149.4
Total	**$379.2B**

Source: http://www.bloomberg.com/apps/news?pid=20601087&sid=aK4Z6C2kXs3A&refer=home

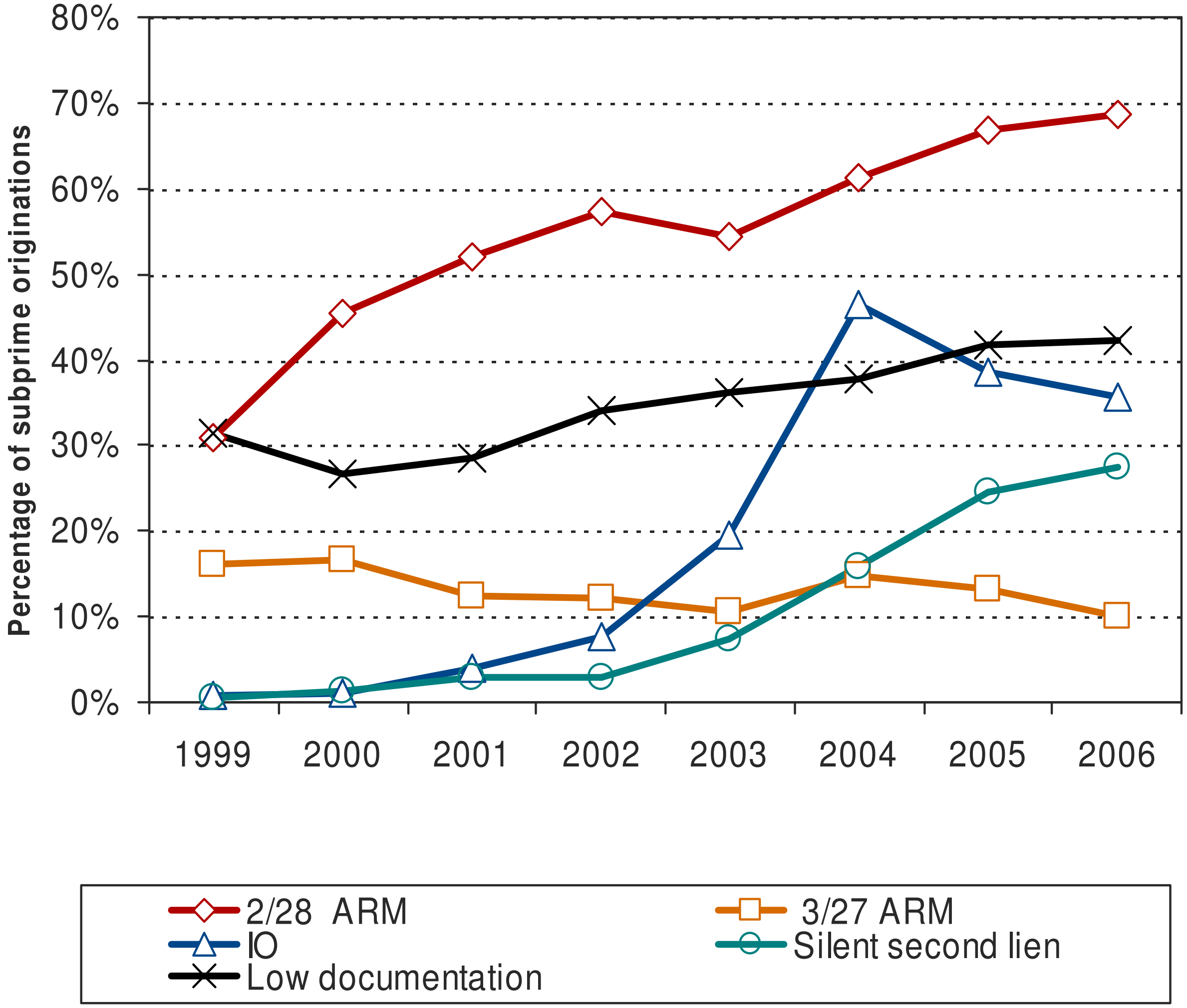
Uncertainty surrounded the valuing subprime mortgages and related securities

- New, complex products with little historical data
- Valuation models usually depended upon historical data that showed:
  - Appreciating house prices
  - A positive correlation between home prices and economic activity
  - A negative correlation between delinquencies/foreclosures and economic activity

Small changes in underlying assumptions or data can lead to large changes in valuation

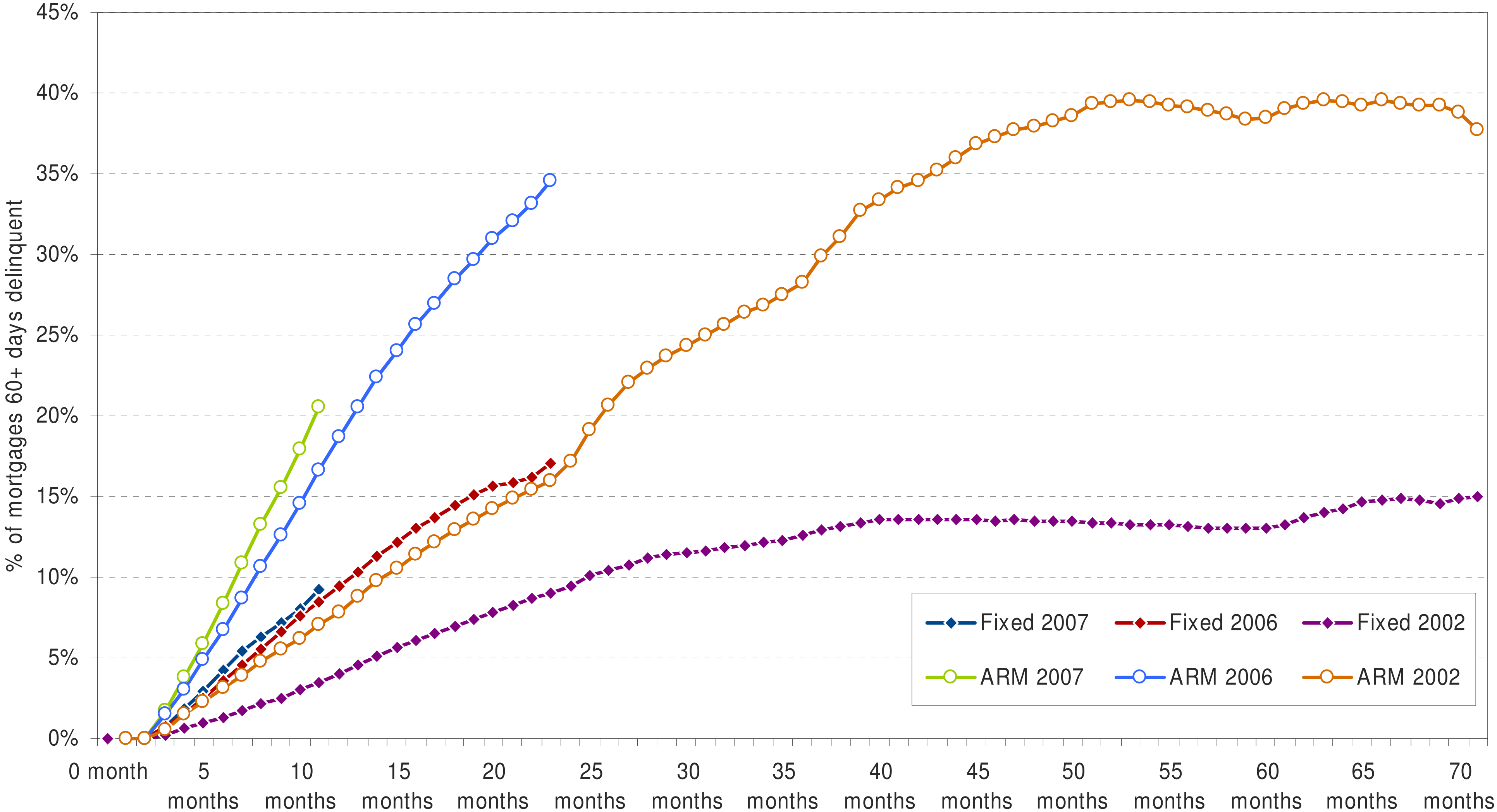
- Many market participants did not account for the probability of a significant drop in national real estate prices
- Small changes in underlying assumptions or data can lead to large changes in valuation
- If market conditions are evolving over time or do not reflect events in the past, predictions may diverge from actual results
- Magnification effect: Since the risks are being concentrated in lower-rate tranches, the impact of deviations from expectations/assumptions is magnified as mortgages are securitized and resecuritized

Historical performance of subprime loans did not account for new subprime products



Source: Loan Performance

New vintages performed poorly: Fixed and ARM subprime mortgage delinquencies by year of origination



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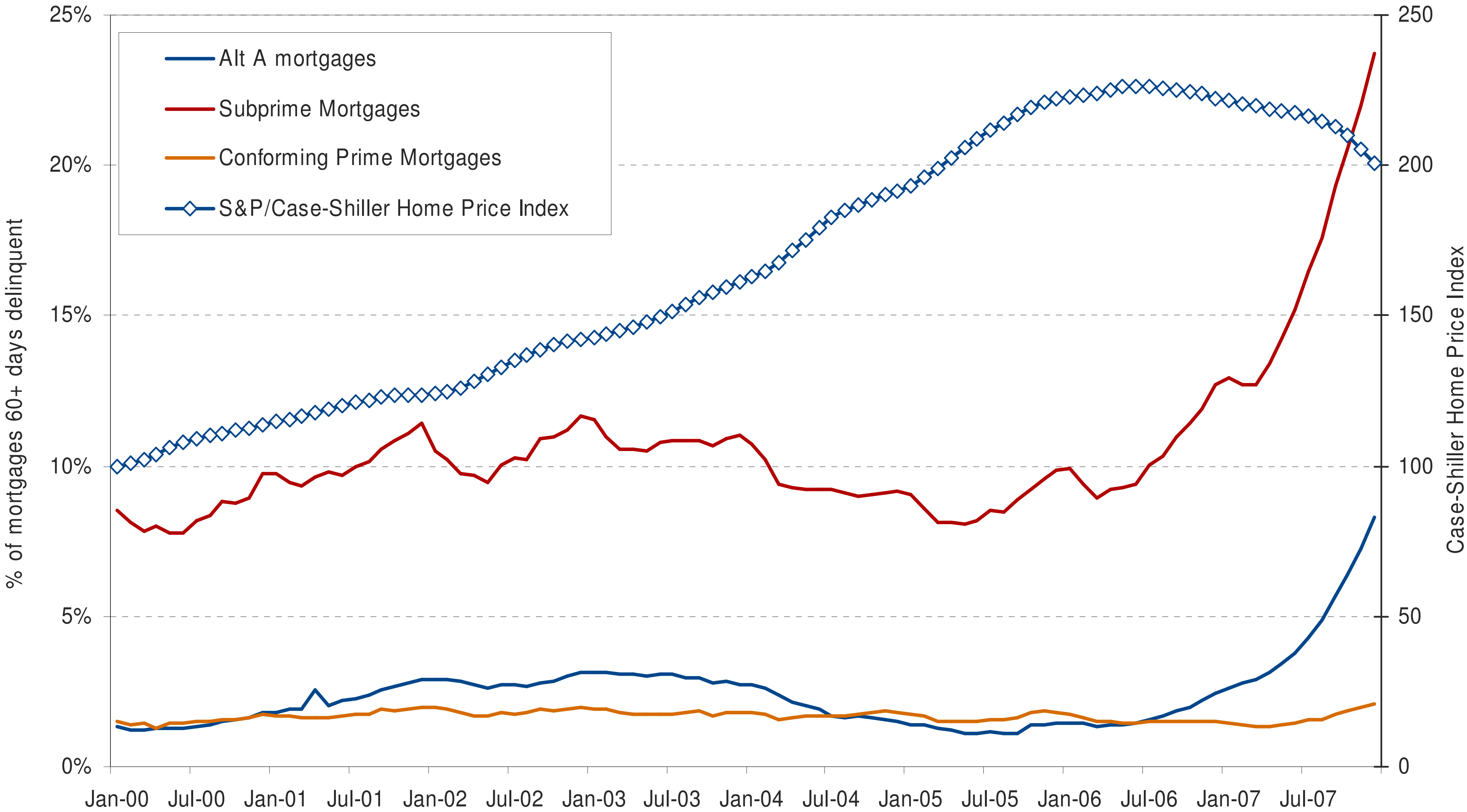
Source: First American CoreLogic

Mortgage delinquencies rose as home prices fell



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Source: First American CoreLogic, Standard & Poors

In retrospect, this was a perfect storm for uncertainty

- New economic environment (declining home prices without a recession)
- New complex products
- New borrowers

- "We overestimated the extent or value of the diversification we thought we had, and we underestimated the severity of the security performance and the counterparty performance in a stressed market."
  - Brian Shaw, Chief Executive of CIBC World Markets

Incentive problems may have exacerbated the impact of uncertainty or poorly understood risk

- The risk of a low-probability, high-impact events
  - Investment managers compensated for taking such risks
- Some investment managers may have traded large future losses for current income
- Evidence that a significant portion of investment managers may have delivered superior performance—in the short run—by betting against low-probability events
  - Superior short-run performance increased compensation and attracted investment funds
  - No clawbacks

Litigation environment

- Through mid-2007: Litigation focused on the origination stage
  - Borrowers suing mortgage loan originators
  - Secondary market loan investors seeking to put loans back to originators (reps and warranties)
- Credit crunch beginning in July/August led to write-downs and losses
  - Shareholder derivative suite
  - Securities fraud class actions
  - ERISA suits
  - Municipal suits

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