The Causes of the Financial Crisis and its Consequences

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What Happened

Timeline of the Financial Crisis
A History of Home Values

The Yale economist Robert J. Shiller created an index of American housing prices going back to 1890. It is based on sale prices of standard existing houses, not new construction, to track the value of housing as an investment over time. It presents housing values in consistent terms over 116 years, factoring out the effects of inflation.

The 1890 benchmark is 100 on the chart. If a standard house sold in 1890 for $100,000 (inflation-adjusted to today’s dollars), an equivalent standard house would have sold for $66,000 in 1920 (66 on the index scale) and $199,000 in 2006 (199 on the index scale, or 99 percent higher than 1890).

**DECLINE AND RUN-UP** Prices dropped as mass production techniques appeared early in the 20th century. Prices spiked with post-war housing demand.

**BOOM TIMES** Two gains in recent decades were followed by returns to levels consistent since the late 1950’s. Since 1997, the index has risen about 83 percent.


Bill Marsh/The New York Times
Timeline of Financial Crisis
Fall 2005-Spring 2007

- **Fall 2005**: growth of housing bubble slows
- **Summer 2006**: housing prices begin to decline
- **Winter 2006**: default rates on lower-rated subprime private mortgage-backed securities (PMBS) begin exceeding normally expected rates in a deflating bubble
- **Spring 2007**: abnormal default rates cause prices of AAA-rated PMBS to steeply decline
Timeline of Financial Crisis
Fall 2007

- Market for PMBSs, CDOs, and ABSs shuts down
- Value of MBSs and CDOs falls sharply
- Mark-to-market accounting forces large banks to write down securitized assets
- Write-downs cause downward spiral in banks’ capital and questions about solvency and stability
Timeline of Financial Crisis
March 2008

- Bear Stearns has difficulty raising short-term financing; customers begin to withdraw their money
- Bear is sold to JP Morgan Chase with Federal Reserve assistance
- The Fed opens its discount window to the four remaining investment banks
  - Fed actions provide only temporary relief
Timeline of Financial Crisis
September 2008

- **September 7:** Fannie Mae and Freddie Mac, two government-sponsored enterprises (GSEs) are placed into conservatorship

- **Week of September 15:**
  - Lehman Brothers fails
  - Merrill Lynch is acquired by Bank of America
  - Goldman Sachs and Morgan Stanley become bank holding cos.
  - AIG is rescued
  - Reserve Fund is rescued and other money market mutual funds are guaranteed
  - Banks and financial intermediaries around the world stop lending
  - Bernanke and Paulson ask Congress for $770 billion in TARP funds
  - Congress initially refuses; Dow falls over 700 points in single day
Cause and Effect

- The mortgage meltdown and the current financial crisis are connected
  - Unprecedented default rates on mortgages underlying MBSs caused complete shutdown of ABS market
  - Collapse of ABS market, combined with mark-to-market accounting, caused banks to write down the value of their securitized assets, calling their solvency into question
  - Failure of Bear Stearns and Lehman Brothers caused a sharp drop in interbank lending and a hoarding of cash, cutting credit availability and deepening the recession
This Housing Bubble was Different

- This bubble contained 27 million subprime and Alt-A loans
  - Comprising almost 50% of all single family mortgages in the U.S.
  - Total value of over $4 trillion
- Foreclosure rates on these mortgages were and are several times greater than even the rates seen in the Great Depression
Why It Happened

Why were almost 50% of the mortgages in the bubble subprime or Alt-A?
Government Policies & the Financial Crisis
Fannie Mae and Freddie Mac

- **1992**: Fannie and Freddie are given an affordable housing (AH) mission
  - 30% of purchases must be loans to borrowers at 100% of median income or below (LMI borrowers)

- **1995**: HUD authorizes subprime and Alt-A loans to meet AH guidelines

- **2005**: HUD requires 55% of purchases to be LMI, with 25% low income

- As HUD’s regulations tighten, Fannie and Freddie lower underwriting standards to include more subprime and Alt-A loans
# GSE Purchases of Subprime & Alt-A Loans

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>Product Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subprime PMBS</td>
<td>$3</td>
<td>$38</td>
<td>$82</td>
<td>$108</td>
<td>$169</td>
<td>$110</td>
<td>$62</td>
<td>$644</td>
</tr>
<tr>
<td>Subprime Loans</td>
<td>$37</td>
<td>$206</td>
<td>$262</td>
<td>$144</td>
<td>$139</td>
<td>$138</td>
<td>$195</td>
<td>$1,121</td>
</tr>
<tr>
<td>Alt-A PMBS*</td>
<td>$-</td>
<td>$18</td>
<td>$12</td>
<td>$30</td>
<td>$36</td>
<td>$43</td>
<td>$15</td>
<td>$154</td>
</tr>
<tr>
<td>Alt-A Loans</td>
<td>$-</td>
<td>$66</td>
<td>$77</td>
<td>$64</td>
<td>$77</td>
<td>$157</td>
<td>$178</td>
<td>$619</td>
</tr>
<tr>
<td>High LTV Loans**</td>
<td>$32</td>
<td>$102</td>
<td>$128</td>
<td>$84</td>
<td>$71</td>
<td>$74</td>
<td>$171</td>
<td>$662</td>
</tr>
<tr>
<td>Yearly Total ***</td>
<td>$63</td>
<td>$388</td>
<td>$509</td>
<td>$467</td>
<td>$460</td>
<td>$481</td>
<td>$544</td>
<td>$2,912</td>
</tr>
</tbody>
</table>

All $ values are in billions

*Alt-A PMBS for 2002-2005 values are estimates

** Original LTV ratio is greater than 90%

*** Yearly totals are deduped for overlaps among loan groups, deduped sum of yearly totals is $2,192 billion; product totals are non-deduped, non-deduped sum of product totals is $3,200
Who was responsible

- In mid-2008, the 27 million subprime and Alt-A mortgages were held, guaranteed or had been securitized by the following entities, and had the following unpaid principal amount:

<table>
<thead>
<tr>
<th>Entity</th>
<th>No. of loans</th>
<th>UPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fannie Mae and Freddie Mac</td>
<td>12 million</td>
<td>$1.8 trillion</td>
</tr>
<tr>
<td>FHA and other Federal</td>
<td>5 million</td>
<td>.6</td>
</tr>
<tr>
<td>CRA and HUD</td>
<td>2.2 million</td>
<td>.3</td>
</tr>
<tr>
<td>Total Federal Govt</td>
<td>19.2 million</td>
<td>$2.7 trillion</td>
</tr>
<tr>
<td>Wall Street PMBS</td>
<td>7.8 million</td>
<td>$1.9 trillion</td>
</tr>
<tr>
<td>Total</td>
<td>27 million</td>
<td>$4.6 trillion</td>
</tr>
</tbody>
</table>

Source: http://www.aei.org/docLib/Pinto-Sizing-Total-Federal-Contributions.pdf
Breakdown of 27 Million Subprime and Alt-A Mortgages

- Subprime and Alt-A mortgages held or guaranteed by Fannie and Freddie (12 million)
- Subprime and Alt-A mortgages held by FHA, VA, and other Federal agencies (5 million)
- Subprime and Alt-A mortgages held by four largest banks, under CRA commitments and Countrywide Financial, under HUD program (2.2 million)
- Other Subprime and Alt-A mortgages securitized by Wall Street (7.8 million)
Home ownership increased

- Home ownership, which had been 64% for 30 years, grew to more than 69% between 1995 and 2005.
- Congress and two administrations supported the policies that produced this growth.
- There was no chance that regulators would have been able to stop the growth in subprime lending.
- Congress resisted Bush efforts to curb the GSEs.
- Now, Congress and the administration point fingers at everyone else.
- The financial crisis has become an excuse for taking control of the financial system.
# Subprime, Nonprime, and Alt-A Loans: Defaulting at Unprecedented Rates

The gray highlight shows a default rate of 6-19x higher than that of the loans underwritten by GSEs in the traditional way.

<table>
<thead>
<tr>
<th>Loan Types</th>
<th>Estimated # of Loans</th>
<th>Total Delinquency (30+ Days and in Foreclosure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High Rate Subprime</td>
<td>6 million</td>
<td>45.0%</td>
</tr>
<tr>
<td>2. Option Arm</td>
<td>1.1 million</td>
<td>30.5%</td>
</tr>
<tr>
<td>3. Alt-A</td>
<td>1.9 million †</td>
<td>23.0%</td>
</tr>
<tr>
<td>4. Fannie Subprime/Alt-A/Nonprime</td>
<td>5.7 million</td>
<td>17.3%</td>
</tr>
<tr>
<td>5. Freddie Subprime/Alt-A/Nonprime</td>
<td>3.1 million</td>
<td>13.8%</td>
</tr>
<tr>
<td>6. Government/Other</td>
<td>5.5 million</td>
<td>13.5%</td>
</tr>
<tr>
<td><strong>Subtotal # of Loans</strong></td>
<td><strong>23.3 million</strong></td>
<td></td>
</tr>
<tr>
<td>7. Non-Agency Jumbo Prime</td>
<td>7.5 million ‡</td>
<td>6.8%</td>
</tr>
<tr>
<td>8. Non-Agency Conforming Prime*</td>
<td></td>
<td>5.6%</td>
</tr>
<tr>
<td>9. Fannie Prime**</td>
<td>12.2 million</td>
<td>2.6%</td>
</tr>
<tr>
<td>10. Freddie Prime***</td>
<td>8.8 million</td>
<td>2.0%</td>
</tr>
<tr>
<td><strong>Total # of Loans</strong></td>
<td><strong>51.8 million</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Includes an unknown amount of subprime (FICO<660) and other nonprime loans
** Excludes Fannie subprime/Alt-A/nonprime
*** Excludes Freddie subprime/Alt-A/nonprime
† Excludes loans owned or securitized by Fannie and Freddie
‡ Non-agency jumbo prime and conforming prime counted together

Sources:
1,2,3,6,7: Lender Processing Services, LPS Mortgage Monitor
4,9: Based on Fannie Mae 2009 2Q Credit Supplement. These loans are also contained in categories 1-3,6,7, and 8. Converted from serious delinquency (90+ days and in foreclosure) to an estimate of 30+ days and in foreclosure.
5,7,10: Based on Freddie Mac 2009 2Q Financial Results Supplement. These loans are also contained in categories 1-3,6,7, and 8. Converted from serious delinquency (90+ days and in foreclosure) to an estimate of 30+ days and in foreclosure.
Conclusion
Government Policies Caused the Financial Crisis

- Government policies, like CRA and GSE affordable housing mandates, created large number of subprime and Alt-A loans

- These weak loans began defaulting at unprecedented rates, causing sharp decline in the value of MBSs and ABSs and the shutdown of the related securities markets

- Market collapse, combined with mark-to-market accounting, caused massive asset write-downs and questions about bank’s solvency

- Failure of Bear and Lehman caused a freezing of interbank lending and a hoarding of cash, cutting credit availability and deepening the recession
Congress and Administration Respond

Financial Crisis becomes an Excuse for New Regulation
Major Financial Regulation on the Way

- All large financial institutions subject to regulation by the Fed—securities firms, finance companies, insurers, holding companies, hedge funds, private equity funds
- Regulation will include capital, liquidity, leverage and activities—firms can be broken up
- These firms will be seen as too big to fail
- Resolution system for all large financial firms, run by FDIC
- Derivatives likely to be pushed out of banks
- Banks will have higher capital requirements
- Consumer Financial Protection Agency will get substantial power
Effect on the Economy

- Housing problem will remain—prices could still decline further
- Administration policies are slowing foreclosures but not preventing them
- Fannie and Freddie will cost taxpayers more than $400 B
- Fed regulation will reduce competition among large financial services firms and impose regulator costs
- Pushing derivatives activity out of banks may cause the business to move overseas, will also reduce availability of derivatives for hedging, raising costs everywhere
- CFPA will add to credit costs
Economy generally weak

- Housing slump will suppress growth
- New regulatory costs, higher banks capital requirements, CFPA, reduction in competition among financial institutions will all add to credit costs
- Then additional taxes: Bush tax cuts expire for incomes over $250K, higher capital gains taxes
- Credit card reforms have reduced credit availability to consumers and small business start-ups
- ObamaCare imposes substantial new taxes on businesses and individuals
- Unemployment to stay high/Consumer demand weak
Dangers on the Horizon

- Double-dip recession/Fed cannot cut rates any further
- Democrats won’t agree to cut taxes
- Republicans won’t agree to new spending
- Election results may not chart a new path
- Long-run: Budget deficits unsustainable, but no clear way to address spending on entitlements without a mandate for someone
- When will China decide the only way we get out of this is by inflating the currency
- The Good News: Americans seem energized to change direction