Subprime Lending and the Procyclical Production of Risk

Weil, Gotshal & Manges Roundtable at Yale Law School
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The Wharton School
University of Pennsylvania
Subprime Lending and the Pro-cyclical Production of Risk

- Subprime lending pro-cyclically expands
- Where subprime expands, asset prices increase
- The market underprices risk
- Deregulation
- Why aren’t overpriced assets sold short? - Nontransparent and illiquid securitization
Chronic Imbalances

Sectoral contribution to U.S. gross debt
Percentage of GDP

Gross debt by U.S. sector
Percentage of GDP

<table>
<thead>
<tr>
<th>Year</th>
<th>Gov't</th>
<th>Nonfinancial</th>
<th>Financial</th>
<th>Household</th>
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<td>1975</td>
<td>40%</td>
<td>53%</td>
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<td>2007</td>
<td>53%</td>
<td>76%</td>
<td>116%</td>
<td>18%</td>
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Source: U.S. Federal Reserve, Bureau of Economic Analysis
Increased use of non-traditional products
Non Agency Share of MBS market rapidly expands from 2002 - 2006
## Non-Prime Grows from 15% to 46% of the Market from 2002 to 2006

<table>
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<th></th>
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Deterioration of lending standards, 2002 to 2006

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Source: Loan Performance data as of November 2006. UBS, April 16, 2007, Thomas Zimmerman, "How Did We Get Here and What Lies Ahead"

- CLTV, %>80 and use of Seconds increased
- % Full Doc declined
- Not much change in FICO or DTI
Price Appreciation Controlled for Volatility

- US Home Price
- Canada Home Price
- Australia Home Price
- UK Home Price
- France Home Price
- Thailand Home Price
- Japan Home Price
- Hong Kong Home Price
Subprime Lending and the Pro-cyclical Production of Risk

- Subprime lending pro-cyclically expands
- Where subprime expands, asset prices increase
- The market underprices risk
- Deregulation
- Why aren’t overpriced assets sold short? - Nontransparent and illiquid securitization
A Housing Bubble Starting in 2003, Especially in the “Sand States”
Figure 1: 1999 - Percent of All Loans – Adjustable Rate
Figure 2: 2006 - Percent of All Loans – Adjustable Rate
Figure 3: 1999 - Percent of All Loans – Low Documentation
Figure 4: 2006 - Percent of All Loans – Low Documentation

![Map showing the percent of all loans with low documentation across the United States. The map uses a color gradient to indicate the percentage range, with lighter colors for lower percentages and darker colors for higher percentages.]
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As Subprime Expanded - Margins Decreased

<table>
<thead>
<tr>
<th>Mortgage Information</th>
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<td><strong>Total Number of Loans</strong></td>
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<td><strong>1,840,040</strong></td>
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- Deregulation
- Why aren’t overpriced assets sold short? - Nontransparent and illiquid securitization
Deregulation

- State reserving for CDS issued by insurance companies is precluded
- 2004 act SEC allowed investment firms to
  - increase leverage to 40 to 1
  - to voluntarily measure their capital, and
  - decrease SEC oversight
- The proposed Federal Reserve Board Regulatory Oversight of mortgages not implemented until 2008
Broader Implications of Deregulation and Regulatory Arbitrage

- Charter competition fueled a race to the bottom in underwriting standards
- Migration to federal bank and thrift charters
- At the federal level, regulation and examinations of nonbank mortgage lending subsidiaries were lax
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Only Optimists Are Allowed to Participate

- Investors express negative views by short-selling
- The market for the underlying real estate assets does not allow short-selling
- This can be mitigated if the market for MBS allows short-selling
  - If the underlying real estate is over-priced
  - Mortgages would be perceived as riskier
  - Their cost will increase in the MBS market
  - Which will dampen the price in the real estate markets
- HOWEVER....
Only Optimists Are Allowed to Participate

- However, debt was securitized in a way that made short-selling virtually impossible
  - Pools/products were not standardized
  - There is NO information on the price of pools and tranches
  - No transparent way to short-sell, no liquidity
- We augmented one illiquid asset (Real Estate) with another equally illiquid asset (MBS)
- Buying CDS became a round-about way to short-sell
- HOWEVER...
CDS Could Have Helped

- Credit Default Swaps (CDS)
  - Provides credit protection if the underlying bond generates a loss
  - The buyer of protection pays for the swap
- CDS are good
  - Because they allow risk to be allocated to the party best capable of managing it
  - They allow market participants to take a negative position in MBS
- Their implementation in the mortgage market was bad
  - Insurers were NOT required to post reserves against CDS they issue if they were AAA rated
  - Insurers could recognize the revenues immediately
  - If an insurer loses their AAA rating, they are essentially bankrupt
The Problem With CDS

- Even only a few aggressive players can cause underpricing of CDS in the whole market
  - If one company under-estimates the cost they can gain market share very quickly
  - Other companies face the choice of lowering the cost or exiting the market

- It’s the classic race to the bottom, with no speed bumps along the way
The derivative market predicted the crisis much better than the Rating Agencies or the terms of loans actually being offered

- Ratings from Agencies did not accurately measure risk and were slow to downgrade securities
- Spreads on ABX grew based on forecast of future defaults

- Bad loans continued at cheap prices
- Markets alone are not sufficient when you have too big to fail institutions
Is Proper Securitization Enough

- Yes, if
  - Mortgages are securitized in tradable instruments, and
  - CDS are securitized in tradable instruments
  - Market participants are allowed to express a negative view
- If there are participants who can circumvent the transparent securitization
  - They are likely to underprice
  - They will gain market share
  - And force all other participants to underprice
- If we have a mix of participants, we need regulation
How Securitization Helps

- Lenders will tend to underprice the risk in their loans (Pavlov and Wachter, 2006)
- Lender regulation helps,
  - But evidence is that it is eventually circumvented
- Absent securitization it takes a long time to detect the problem
- Prior crisis with NO securitization
  - S&L, 1980
  - Japan, 1993
  - Asia, 1997
Regulation: What Kind?

- If a player is too big to fail and can put mortgage-related products on a balance sheet, they need to be regulated:
  - Make sure the balance sheet is well capitalized
  - Watch for signs of underpricing
    - Pavlov-Wachter (2006) symptom:
      - If asset prices are negatively correlated with lending spreads, we likely have underpricing
      - Overall, watch for asset prices in excess of fundamentals because of cheap credit
- The combination of pro-cyclical deregulation and non-tradable securitization is the problem
A Perspective

“The events of the past year or two have highlighted regulatory gaps and deficiencies that we must address to improve the structure of our markets and the resiliency of our economy. As we recover from the current crisis, it will be important to address these issues as soon as possible, to develop a regulatory structure that will better respond to future economic challenges.”

--Ben Bernanke