Housing Markets: Loan Originations and Defaults in the Mortgage Crisis

2008 Financial Crisis: A Ten Year Review
Manuel Adelino (Duke)
Antoinette Schoar (MIT)
Felipe Severino (Dartmouth)

November 8th, 2018
NEW CONSENSUS OF THE HOUSING CRISIS

- Housing markets were subject to a classic asset bubble
  - Rising house prices and over-optimistic expectations played a key role in the increase in mortgage debt and defaults
  - Households increased demand for housing and mortgage debt across all income groups, especially middle-class borrowers
  - Banks lent against increasing collateral values and underestimate the risk of defaults

- Not a “subprime crisis” but a middle-class crisis!
  - Financial sector acted as an amplification mechanism for changes in expectations by lending into the bubble
  - No unilateral shift of credit allocation towards marginal or sub-prime borrowers, Adelino, Schoar, Severino (2015, 2016)
THE FACTS

- The Run-up: Credit expanded across the income distribution, not just poor or low FICO borrowers
  - Middle/high income households had a much larger contribution to mortgage debt before the crisis than poor/low FICO borrowers
  - Debt-to-income levels (DTI) went up for all income groups
  - Loan-to-Value distribution stayed constant before the crisis
  - Faster churning of houses leading up to the crisis
  - Ownership rates went down for subprime and low income households before the crisis

- The Aftermath: Sharp increase in delinquencies for middle class and prime borrowers after 2007
  - Middle class and high FICO borrowers made up much larger share of defaults, especially in areas with high house price growth
MORTGAGE ORIGINATION ACROSS INCOME GROUPS STAYED STABLE

Fraction of mortgage dollars originated per year by income quintile (HMDA)
ORIGINATION BY FICO SCORES

<table>
<thead>
<tr>
<th>Year</th>
<th>FICO &lt; 660</th>
<th>660 ≤ FICO &lt; 720</th>
<th>FICO ≥ 720</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>17</td>
<td>28</td>
<td>55</td>
</tr>
<tr>
<td>2004</td>
<td>18</td>
<td>30</td>
<td>53</td>
</tr>
<tr>
<td>2005</td>
<td>17</td>
<td>30</td>
<td>53</td>
</tr>
<tr>
<td>2006</td>
<td>18</td>
<td>29</td>
<td>53</td>
</tr>
</tbody>
</table>
MORTGAGE DEBT EXPANDED PROPORTIONALLY

Data from SCF, own calculations

- Bottom Quintile
- 2
- 3
- 4
- Top Quintile

Nov-8 Housing Markets
COMBINED LOAN TO VALUE DISTRIBUTION AT ORIGINATION

Corelogic, own calculations
DROP IN HOMEOWNERSHIP FOR LOW INCOME HOUSEHOLDS

Data from ACS, own calculations
INCREASED SPEED OF HOME SALES

![Graph showing increased speed of home sales over time](image)
THE AFTERMATH …
SHARE OF DELINQUENT MORTGAGES (3 YRS OUT)

- 2003: FICO < 660 = 20, FICO 660 ≤ 720 = 9, FICO ≥ 720 = 71
- 2004: FICO < 660 = 25, FICO 660 ≤ 720 = 12, FICO ≥ 720 = 63
- 2005: FICO < 660 = 34, FICO 660 ≤ 720 = 18, FICO ≥ 720 = 47
- 2006: FICO < 660 = 38, FICO 660 ≤ 720 = 23, FICO ≥ 720 = 39
SHARE OF DELINQUENT MORTGAGES BY FICO AND HOUSE PRICE GROWTH

2003 Cohort

- Low HP Growth 02-06: 8 (FICO < 660), 26 (FICO > 660)
- Q2: 7 (FICO < 660), 15 (FICO > 660)
- Q3: 7 (FICO < 660), 13 (FICO > 660)
- High HP Growth 02-06: 7 (FICO < 660), 17 (FICO > 660)

2006 Cohort

- Low HP Growth 02-06: 4 (FICO < 660), 6 (FICO > 660)
- Q2: 7 (FICO < 660), 6 (FICO > 660)
- Q3: 14 (FICO < 660), 7 (FICO > 660)
- High HP Growth 02-06: 37 (FICO < 660), 20 (FICO > 660)
IMPORTANT POLICY IMPLICATIONS

• (Optimistic) house price expectations played a major role in the expansion of credit and delinquencies

  Important focus on macro-prudential implications
    • Systemic build up of risk can lead to losses across the financial system, e.g. strategic responses to house price drops
    • Protect functioning of financial system when crisis occurs
    • How to build provisions against losses across financial institutions once a crisis occurs