FDIC 6th Annual Consumer Research Symposium
Discussion Panel 3:
Mortgages and the Housing Boom

Felipe Severino. Dartmouth College

What happened during the boom?

- A common view of the '07 mortgage crisis is that innovations and perverted incentives in credit supply led to **distortions in the allocation of credit, especially to poorer households**
  - Financial sector provided mortgages at unsustainable debt-to-income levels, in particular to low income and low-FICO borrowers.
  - **Hence the label "sub-prime crisis"**
- As a results, significant emphasis on understanding the role of the low-income and subprime borrowers for the crisis.

What happened during the boom?

- “Subprime crisis” narrative implies that share of mortgage debt should shift from high income/prime borrowers to low income/ subprime borrowers
- If true, share of debt during the boom should look like this

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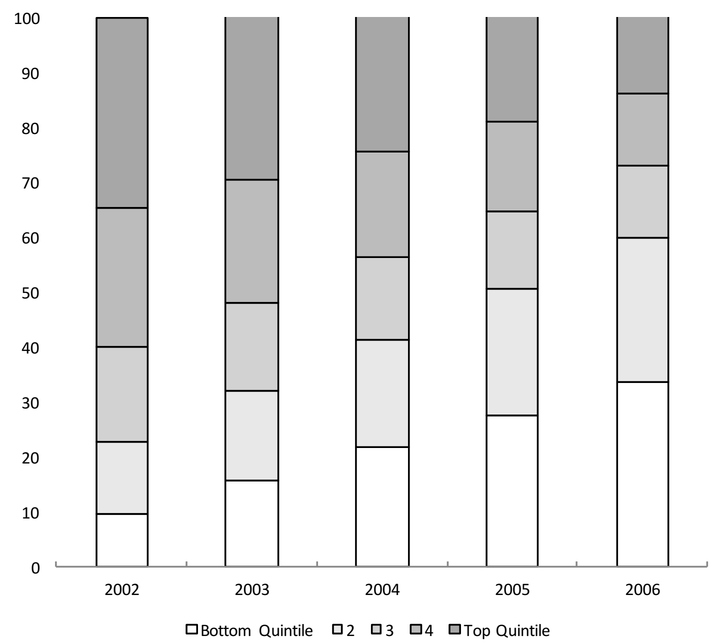
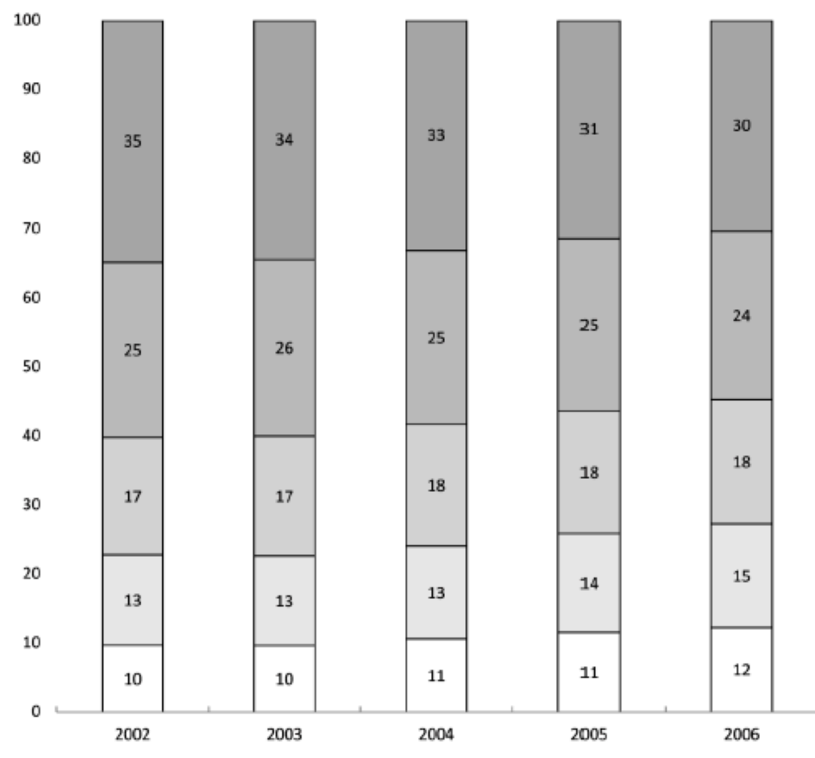
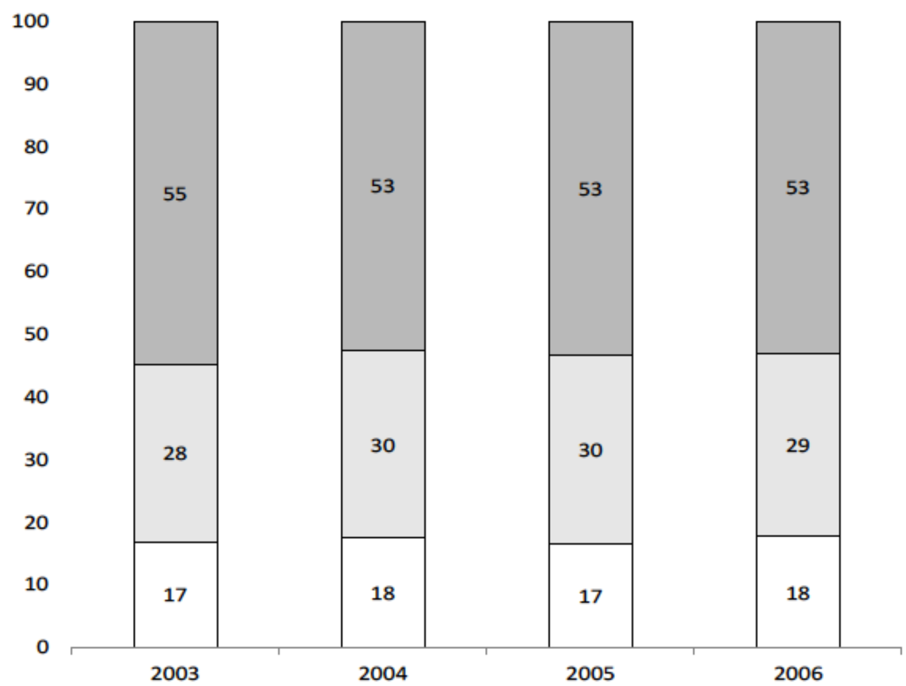


Aggregate Mortgage Origination by IRS Household Income Stayed Stable. Adelino, Schoar and Severino (2016)



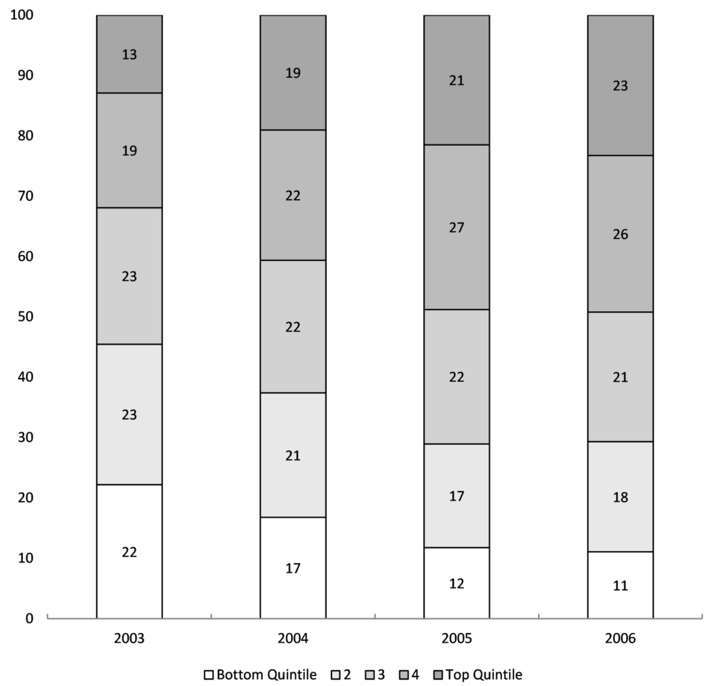
Fraction of mortgage dollars originated per year by **IRS income quintile**

Aggregate Mortgage Origination by FICO Scores Stayed Stable. Adelino, Schoar and Severino (2016)

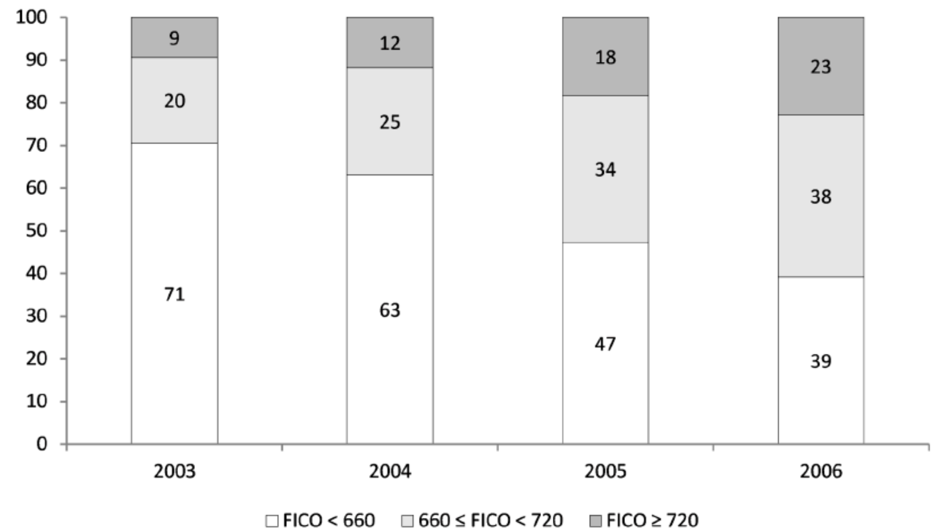


Fraction of mortgage dollars originated per year by **FICO scores**

Share of Delinquent Mortgages 3 Yrs Out by Household Income and FICO Scores. Adelino, Schoar and Severino (2016)



Fraction of delinquent dollars per cohort by **income**



Fraction of delinquent dollars per cohort by **FICO scores**

Facts are inconsistent with "subprime label"

- Credit expanded across the income distribution, not just poor or low FICO borrowers
  - Middle/high income households had a much larger contribution to overall mortgage debt before the crisis than poor or low FICO borrowers
  - Mortgage debt-to-income levels (DTI) saw no decoupling at origination
- Sharp increase in delinquencies for middle class and prime borrowers after 2007
  - Middle class and higher FICO score borrowers make up much larger share of defaults, especially in areas with high house price growth

No shift on the supply of credit across income/fico groups

Building on the new facts, further support

- No distortion in the allocation of credit for the stock of debt (using Equifax data)

  Christopher L. Foote, Lara Loewenstein, and Paul S. Willen (2016)

- Prime borrowers contribution to housing boom and bust due to speculation or fraudulent owner-occupied status

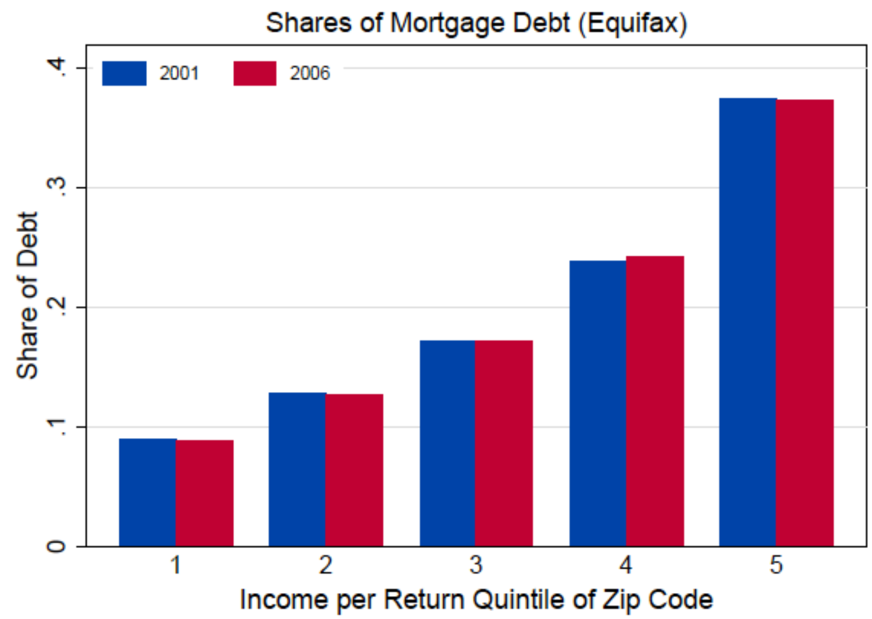
  Elul and Tilson (2016)

- Further evidence in debt accumulation consistent with this view

  Albanesi et al (2016), Bhutta and Keys (2016)

Cross-Sectional Patterns of Mortgage Debt During the Housing Boom: Stocks and Flows

Christopher L. Foote, Lara Loewenstein, and Paul S. Willen



- Show that when focusing on stock credit (Equifax) allocation patterns are the same as in Adelino, Schoar and Severino (2016)

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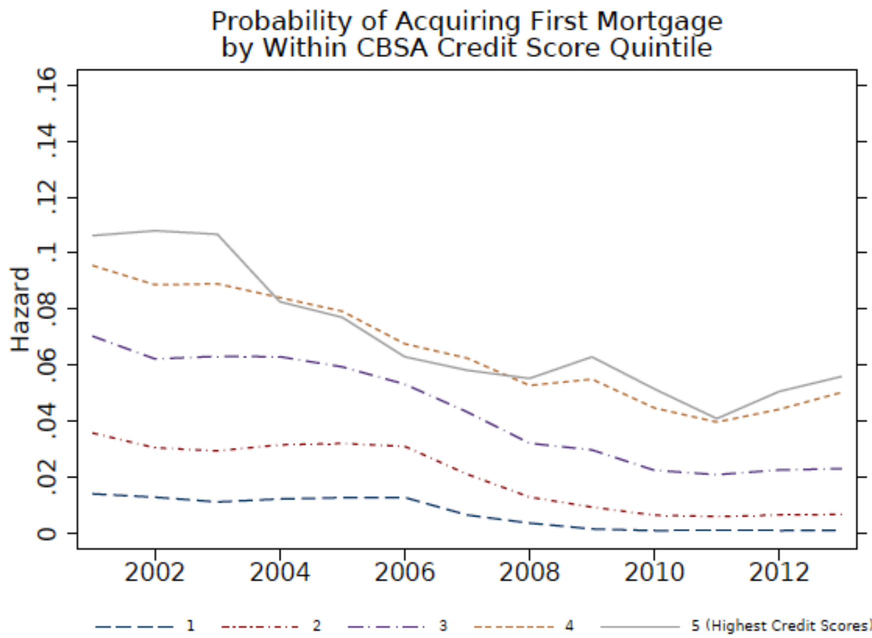
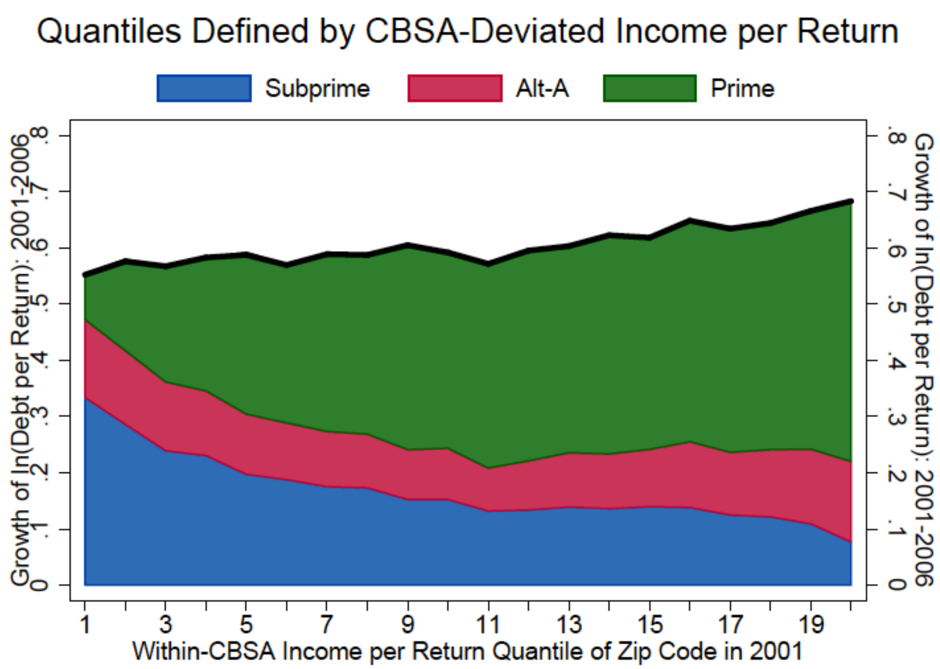


- Provide more direct evidence that there was not misallocation on the extensive margin

[Comment] Cross-Sectional: Subprime role an borrowers characteristics



- Hypothesis that subprime lending allowed for the distribution to be stable is interesting
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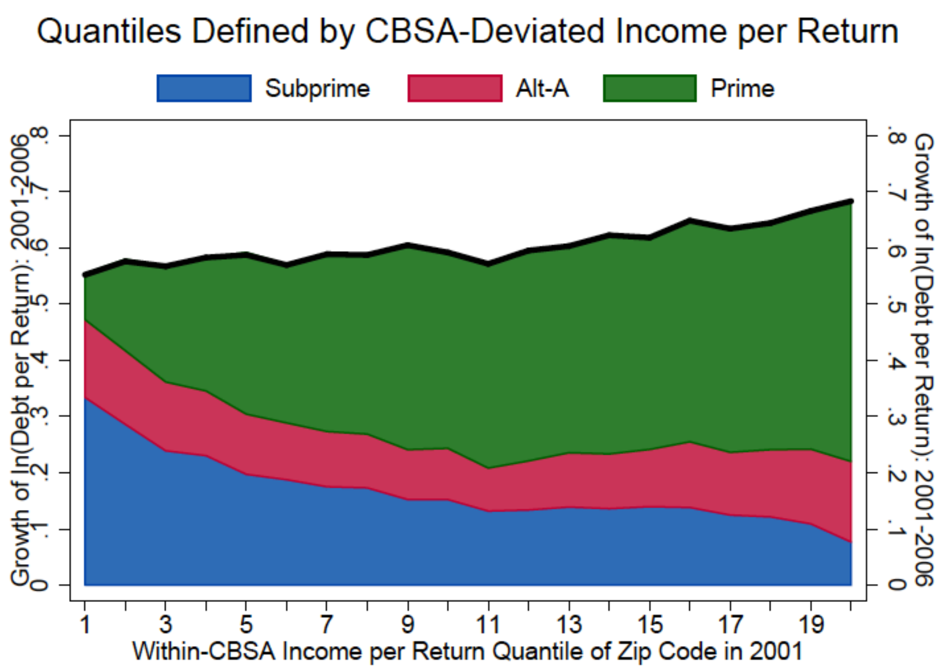


- Hypothesis that subprime lending allowed for the distribution to be stable is interesting
- **[Suggestion] Explore more the composition of borrowers: FICO scores, age, etc.**

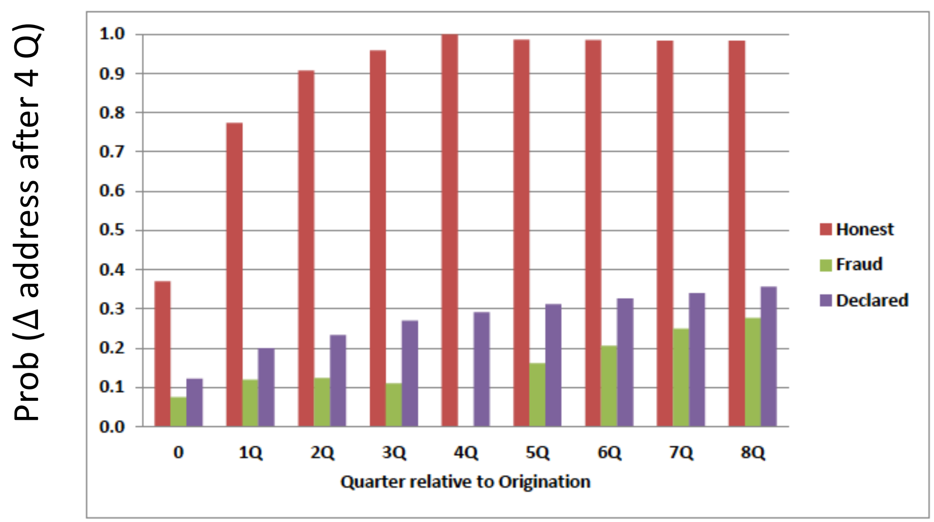
Owner Occupancy Fraud and Mortgage Performance

Ronel Elul and Sebastian Tilson, Federal Reserve Bank of Philadelphia

Using a unique dataset they identified honest and fraudulent owner occupancy status

- Honest: ownership status, and Δ address after 4 quarters
- Fraudulent: ownership status, no and Δ address after 4 quarters, >1 first liens

Allow them to look at within zip code frauds, different from previous studies



Owner Occupancy Fraud and Mortgage Performance

Ronel Elul and Sebastian Tilson, Federal Reserve Bank of Philadelphia

- They show that fraudulent owners perform worse ex-post (higher default rates more "strategic" behavior)
- Originator do not detect the fraud, interest rate are lower for fraudulent borrowers than for declared investor
- Owner fraudulent status wide spread, highlight the role of primer borrowers in the boom and bust

[Comments] Owner Occupancy Fraud

- Results focus on defaults in 2008
  - Assumes that shock affected everyone when prices drop in 2008
  - .
- Patterns are by types of borrowers
  - Analysis focus on comparing different types
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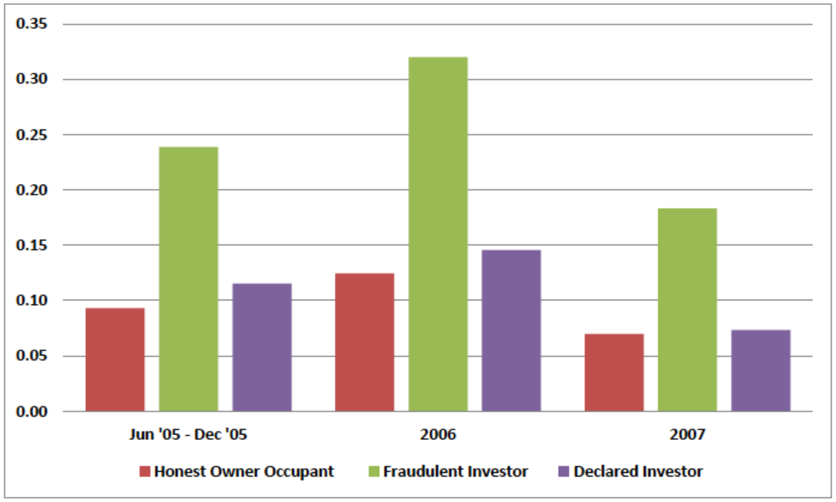
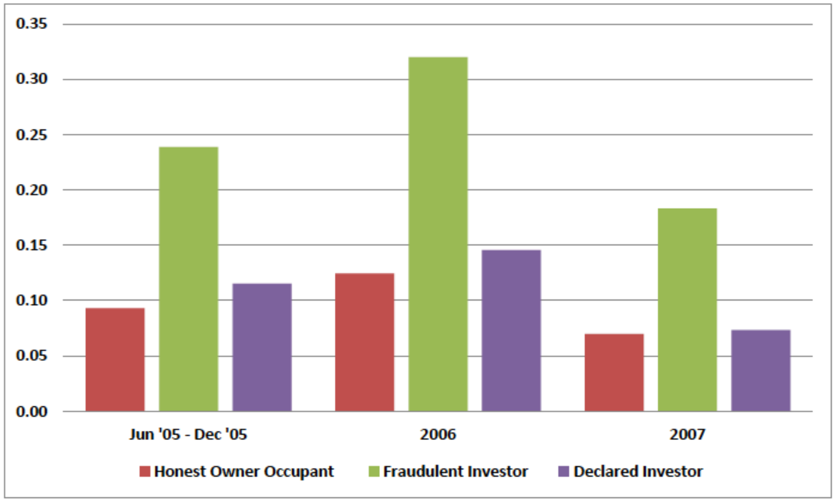


Percent Seriously Delinquent or Foreclosed as of December 2008 by Borrower Type

[Comments] Owner Occupancy Fraud

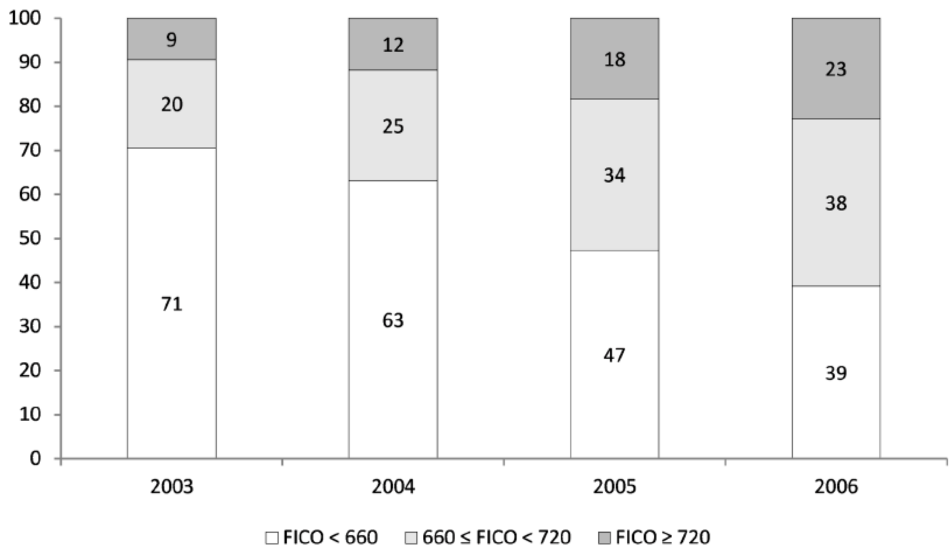
- Results focus on defaults in 2008
  - Assumes that shock affected everyone when prices drop
  - **[Suggestions] Use cohort approach and default T periods after origination'**
- Patterns are by types of borrowers
  - Analysis focus on comparing different types
  - **[Suggestions] To closely related to new facts about the crisis look at patterns across fico distribution**



Percent Seriously Delinquent or Foreclosed as of December 2008 by Borrower Type

[Comments] Owner Occupancy Fraud

- Magnitude
  - How much of this shares are coming from fraudulent owners?
  - **[Suggestion] Look at fraction of the defaults associated to frauds**



Fraction of delinquent dollars per cohort by **FICO scores**

[Comments] Owner Occupancy Fraud

- Strategic borrowers
  - The analysis focus on conditional on default to look at bank card utilization
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- Robustness
  - .
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[Comments] Owner Occupancy Fraud

- Strategic borrowers
  - The analysis focus on conditional on default to look at bank card utilization
  - **[Suggestion] Look at monthly payment to identified "strategic borrowers"**
- Robustness
  - **Are the classification robust to changes in address horizons?**
  - **Are regression robust to LPM, incidental parameters problem when using fixed effect on non-linear regressions**

A new narrative of the crisis

Credit expansion across the income distribution

- Credit expansion due to economy wide increase of leverage, not just poor or marginal borrowers (Adelino et al 2016)
- Foote et al. (2016) confirm that this was the case even when looking at the stock and extensive margin

Delinquencies wide spread

- Consistent with a view that systemic build-up in risk led to wide spread defaults once the economy slowed down (Adelino et al 2016)
- Elul and Tilson (2016) suggest that borrowers speculation and subsequent defaults was widespread with prime borrowers playing and important role.

- What generated a credit expansion? It is still an open question

Important Policy Implications

- More focus on macro-prudential implications
  - A lot of regulation after the crisis focuses on micro-prudential regulation, for example screening of marginal borrowers
  - 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?
  - How to absorb or distribute losses once a crisis occurs?