Securitization and Screening Incentives: Evidence from Mortgage Processing Time

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Motivation

• From originate-to-hold model to originate-to-distribute (OTD) model

• The rise of securitization
  - lack of screening incentives
  - responsible for the explosion of low-quality mortgage originations prior to the Great Recession
    → Keys et al. (2009), Keys et al. (2010), Mian and Sufi (2009), Purnanandam (2010), and Dell’Ariccia et al. (2012))
Motivation

• Very hard to test empirically

e.g. Keys et al. (2009)
  - FICO 620 rule for subprime mortgages
  - mostly on ex-post performance, although focusing on ex-ante incentives
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• A new measure of lending standards, a different identification strategy

  → application processing time at the loan level
Measurement

- Data: Confidential HMDA owned by the Federal Reserve Board

- Two important dates: application date and origination date
  - Application processing (screening) time for each loan
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- Two important dates: application date and origination date
  - Application processing (screening) time for each loan
- More careful screening = longer processing time (all else equal)
  - same lender, same county, same time, borrower characteristics
- Approved, home purchased loans only
Securitization and lending standards - identification

- We need to test how securitizability affects processing time.
Securitization and lending standards - identification

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• Conforming Loan Limit (CLL)
  - if < $417k, sold to the GSEs (conforming, agency MBS)
  - if > $417k, sold to the private investors (jumbo, non-agency MBS)
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• Private securitization break-down in mid 2007
  - liquid secondary markets for jumbo loans till mid 2007
  - no buyers after the breakdown
Private securitization breakdown

- Jumbo loans not likely to be securitized after the breakdown
- Longer screening time for jumbo, after the breakdown?
What we attempt to capture

- Knowing that you have to keep the loan, you spend more time screening before approving the application.
Year-by-year comparison

• For each year (2005 to 2009), we estimate:

\[ y_{icl_m} = \alpha_l + \alpha_c + \alpha_m + \beta \times Jumbo_{icl_m} + \gamma \times X_i + \epsilon_{icl_m}, \]  

• \( \beta \) captures the discontinuity at the CLLs

Discrete Change in Processing Time at the CLL

![Graph showing discrete change in processing time at the CLL from 2005 to 2009.](image)
Bunching around the CLLs

- Borrowers are not randomly assigned across the CLLs
- Can’t do RD
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- Can’t do RD
  - Diff-in-diff-in-diff instead
Cross-sectional comparison

- Linking with bank characteristics (Call Reports)

- The gap in processing time for jumbo and non-jumbo mortgages widened after 2007, more so among
  - banks with low capital

Assumption: bias from borrower selection did not change differentially between the treatment and the control groups post 2007.
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  2. banks with an OTD-based business model
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Some more cross-sections...

- Low capital banks should have become more careful
- OTD banks should have been more affected
Summary

- Novel measure of ex-ante lending standards
- Banks screen loans less carefully if to be securitized
- Low-quality mortgage originations prior to the crisis...