

# “Cream-skimming” in Subprime Mortgage Securitizations: Which Subprime Mortgage Loans were Sold by Depository Institutions Prior to the Crisis of 2007?

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- According to the authors:

*This paper provides evidence that banks leveraged asymmetric information (or an excessive optimism or breakdown of due diligence among investors) regarding the credit risk of subprime home purchase mortgages, to shift risk onto investors in the RMBS market.*

- In my opinion, this significantly overstates the empirical results in the paper.
  - Despite the extensive and impressive data gathering effort by the authors.

# Cream-skimming versus Adverse Selection in Mortgage Markets

- This paper is about “*cream-skimming*” not *adverse selection*.
- Adverse Selection:
  - Originators have (and use to their advantage) private information about the credit quality of their loans, which investors realize and take into consideration in their purchase decisions.
  - Likely to lead to low volume of sales and low credit quality of loans that are actually sold.
- “Cream-skimming”:
  - Originators have (and use to their advantage) private information about the credit quality of their loans, but investors *don't* realize it.
  - Likely to lead to low credit quality of loans that are sold relative to those that are retained.
  - Not clear whether volume of sales will be affected.

# Summary of Main Results

- Loan-to-income ratio positively correlated with likelihood of sale.
- “Neighborhood risk factors” positively correlated with likelihood of sale:
  - Fraction of subprime loans originated in census tract.
  - Fraction of subprime loans originated by subprime specialist in census tract.
  - Number of owner-occupied housing units in census tract.
- Future subprime mortgage delinquency rate in zip-code positively correlated with likelihood of sale.
- Authors interpret these findings as suggestive evidence of “cream-skimming”.
  - Hypothesize that these variables, while potentially observable, weren’t analyzed by investors in MBS.

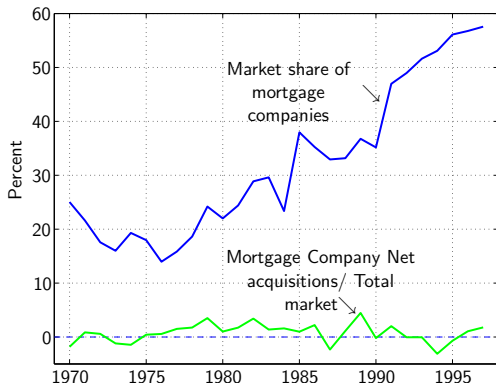
- Securitization has taken on a very bad reputation during the mortgage crisis:
  - ...by breaking the direct link between borrowers and lenders, securitization led to an erosion of lending standards, resulting in a market failure that fed the housing boom and deepened the housing bust.  
(Geithner and Summers, 6/15/2009)*
- Pseudo-technical term: “Originate-to-Distribute” or OTD model.
- Problem with blaming securitization and OTD for crisis:
  - 1 They are not new phenomena.
  - 2 There is a serious identification problem that nobody has adequately solved.

# A Brief History of “OTD”

- “OTD” is not new. Link between borrower and lender broken long ago.
- “Mortgage Companies”: stand-alone companies that originate but don’t hold mortgages.
  - The Mortgage Bankers Association was founded in 1909.
  - As far back as the 1950s, MCs accounted for 25 percent of new originations
  - And much of the institutional framework existed:
    - “Originate”
    - “Service”
- Mortgage Companies include
  - New Century
  - Option One
  - Countrywide
  - And many banks do much of their mortgage business through mortgage company subs.

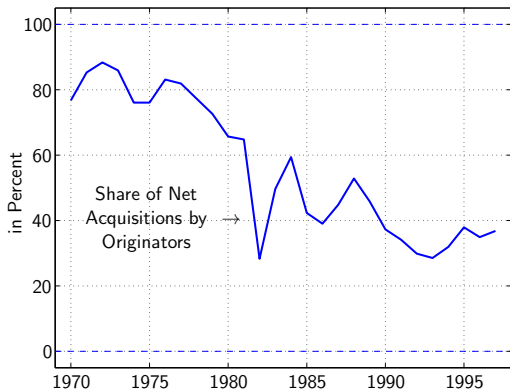
# The Growth of Mortgage Companies

- Mortgage companies accounted for a non-trivial share of originations in 1970.
- And their share grew steadily over the 1970s.
- And they held almost nothing on their books.



# The growth of “OTD”

- Originators provided a decreasing share of the funds for mortgage finance.
- Most “origination” was for the purpose of distribution in 1985.
- By the 1990s, it was more than 2/3.





# When did the link break?

- Only the phrase “Originate-to-Distribute” is new.
- The investor changed over time:
  - 1950: Life Insurance Company
  - 1970: GNMA
  - 1985: FNMA and FHLMC
  - 2000: Private Label Security
- But the link had been broken.
- If you want to make the case that “Private Label Securitization” was the problem
  - You need a much more subtle argument than that the originator didn't take on any credit risk.

- In order to determine the role of securitization in the crisis, you need to separate:
  - Effect of securitization on the expansion of mortgage credit and housing boom.
  - Effect of the housing boom on the volume of securitization.
- To my knowledge, nobody has successfully accomplished this task
  - To set the record straight, Mian and Sufi (QJE, 2009) does not achieve this goal.
  - While earlier versions of their paper claimed to tie securitization to the expansion of mortgage credit, later versions acknowledged that only a correlation had been established, as there was no instrument for securitization.
  - Authors should make this clear in the literature review of the paper.

- Let me offer an alternative explanation for the authors' empirical finding that depositories sold riskier loans:
  - MBS investors held very high expectations of future house price appreciation during the boom – they were more optimistic than originators.
  - This made all mortgages appear much less risky – especially loans in less stable neighborhoods.
  - Thus, demand for these loans increased, investors were willing to pay relatively more for them, and hence securitization activity in these places also increased.

- I'm skeptical about the findings/interpretation in the paper.
  - 1 Significant data issues.
    - HMDA is not a suitable dataset to use to address this issue – more on this below.
    - Severe data restrictions put representativeness of sample into question.
  - 2 Need to determine the information set of MBS investors.
    - How do we know that investors didn't demand additional compensation for riskier mortgages?
    - First step would be to see if there is any variation in the prices that investors paid for securities backed by different quality mortgages.
    - Some preliminary evidence on this from Adelino (2010).

- HMDA does not have detailed loan or borrower characteristics.
  - It's missing the two primary measures of borrower creditworthiness
    - Credit score (FICO)
    - Loan-to-value ratio
  - Also missing:
    - Type of mortgage (interest-only, hybrid-arm, option-arm, etc.)
    - Initial interest rate and information about the index rate for ARMs (and the margin)
    - Reset information – dates, amounts, etc.
- HMDA does not have complete information regarding the post-origination experience of loans.
  - Only picks up sale in same calendar year as origination ⇒ very little information on loans originated in Q4.
  - Does not distinguish between sale for securitization and sale between depository institutions.

- Quite severe sample restrictions:
  - Only keep mortgages used to purchase home – no refinances.
  - Only keep depository institutions.
    - Eliminates most subprime specialists – According to Figure 4 subprime specialists that were depositories account for less than 5% market share of “high cost” HMDA loans, while all subprime specialists account for 45-50% of high-cost loans.
    - Depositories only account for 30-35% of “high cost” HMDA loans.
  - Lose a bunch of observations from the census tract/zip code level merge.
- End up with less than 10% of original HMDA 2005 and 2006 dataset.

# Observable versus Unobservable

- I would argue all of the variables the paper focuses on are potentially observable to investors.
- Authors seem to agree, and instead argue that investors were unlikely to pay attention to them in their analysis.
  - Not entirely convincing.
  - Why would depository institutions perform a more rigorous analysis than investors?
  - What evidence do we have that this is in fact the case?
  - In my own research on this topic, I've found that the large institutional MBS investors performed an extremely rigorous analysis of both prepayment and credit risk.
    - Evidence from Gerardi et al. (Brookings, 2009) that institutional investors, using their detailed, loan-level datasets, could have forecasted the huge increase in defaults and foreclosures had they correctly forecasted the house price crash.

- Very important topic.
- Impressive amount of data work.
- But, not entirely convincing empirical analysis.
- To convince me, need:
  - Much better data (LPS?)
  - Evidence that investors did not price increased risk.