Some Facts About the Subprime Crisis

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Disclaimer

- I am speaking today as a researcher and as a concerned citizen
- not as a representative of:
  - The Boston Fed
  - or the Federal Reserve System

- When I say "we", I don't mean Ben and me.

Caveat

- Everything I'm about to say could be wrong:

  > *No one who cannot rejoice in the discovery of his own mistakes deserves to be called a scholar.*
  >
  > –Donald Foster

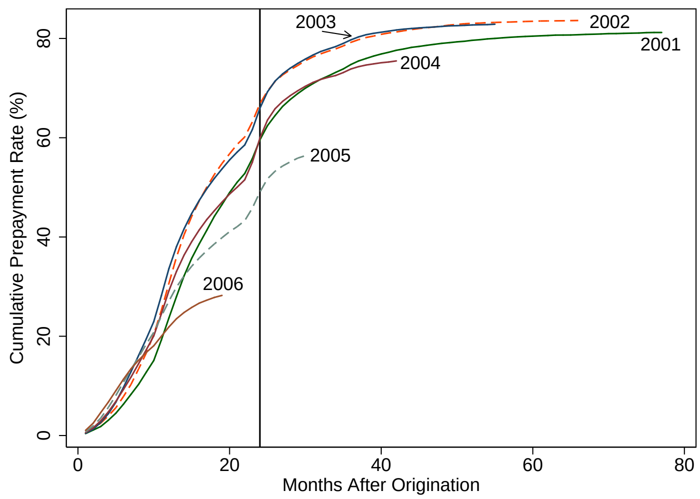
- Details can be found in three papers available at `www.bos.frb.org`
  1. Subprime Facts: What (we think) we know about the subprime crisis and what we don't (PPDP 08-02)
  2. Negative Equity and Foreclosure: Theory and Evidence (PPDP 08-03)
  3. Subprime Outcomes: Risky Mortgages, Homeownership and Foreclosure (WP 07-15)
- Mortgages are a bit personal for me right now
- Subprime is my life 5

Conventional wisdom

- Story goes something like this:
  - Borrower lured in by "below-market teaser"
  - Can afford the payments
  - Reset hits
  - Payment "explodes"
    - Lender makes money on the higher rate but...
    - Delinquency
  - Not accurate picture.

Do lenders make money at the reset?

- Subprime 2/28s.
- LP data for the whole country.
- Prepayment Probabilities for Subprime 2/28 ARMs, by Year of Origination

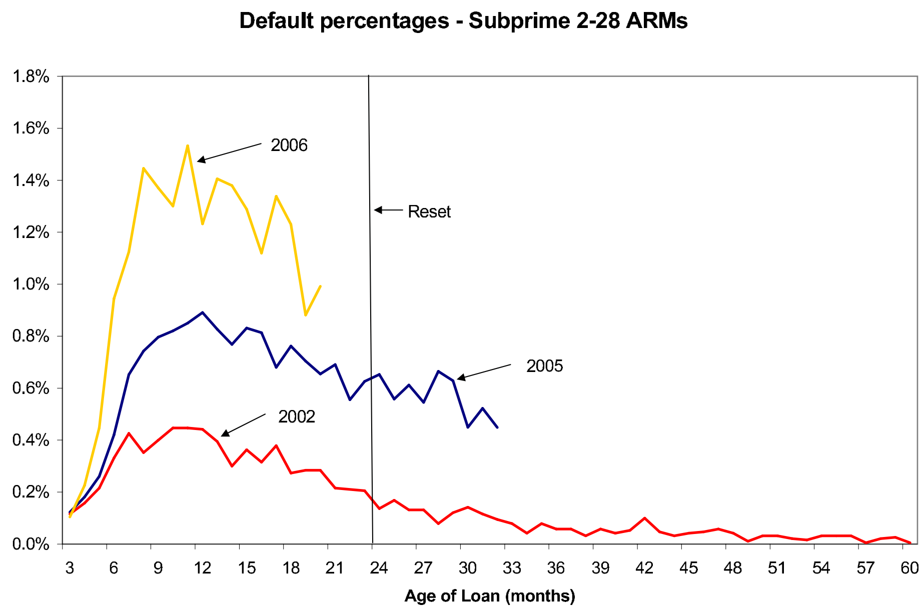


Subprime Business Model

- Extract high fees
- High interest rates prior to reset
- Borrowers refinances (or defaults) prior to reset.
- NOT the same as credit cards.

Do borrowers default at the reset?

- Subprime 2/28s just in MA, CT and RI.



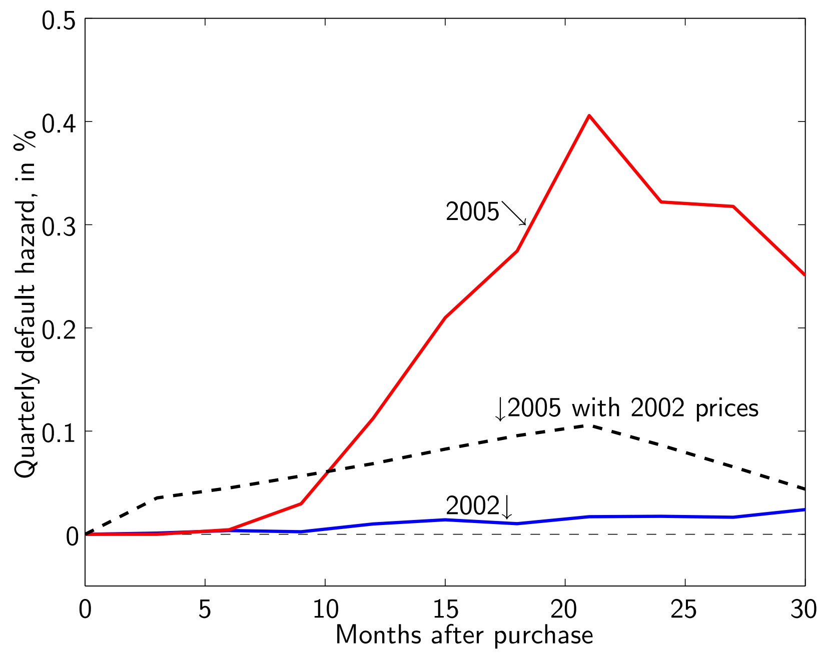
Rate adjustments not that big

- Whole country
- Subprime 2/28's, first lien.
- Source: LP (Prepared by the BOG)

Year of Origination	Initial (pre-reset) interest rate	1-year prime ARM rate	Margin of fully-indexed (post-reset) rate over benchmark rate	Fully indexed interest rate
2004	7.3	3.9	6.1	11.5
2005	7.5	4.5	5.9	10.5
2006	8.5	5.5	6.1	9.1
2007	8.6	5.7	6.1	9.1

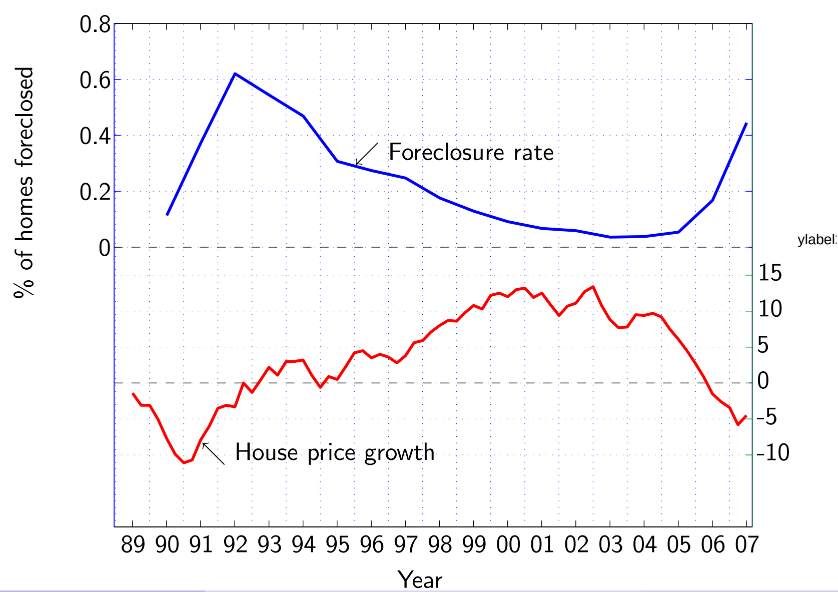
- And even this overstates the total payment change because there's typically a second lien with
  - FIXED RATE
  - 10-year amortization
  - Much higher rate

A counterfactual



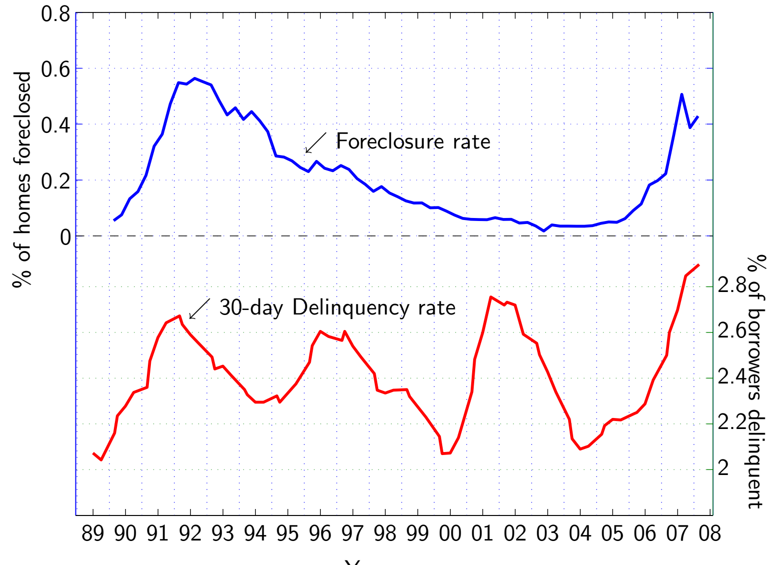
Overall Relationship

- Foreclosures and house prices in Mass., 1989-present. Source: Boston Fed and The Warren Group.



Reverse Causality?

- Foreclosures and 30-day delinquency rates in Mass., 1989-present. Source: Boston Fed, the MBA and The Warren Group.

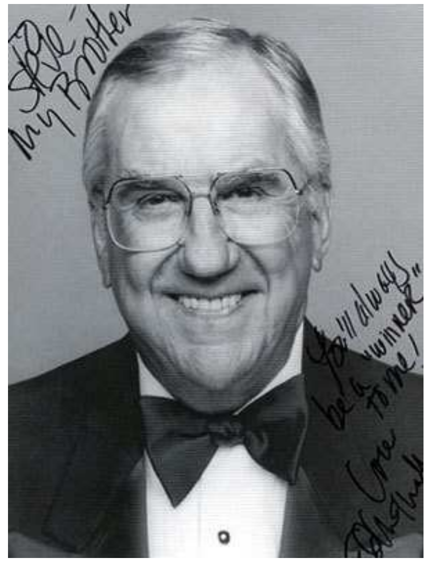


What causes foreclosure?

- Negative equity is necessary for default to make sense
  - If house is worth more than outstanding balance on mortgage
  - Sell!
  - In fact, servicers will usually force you to sell.
- But most people with negative equity don't default
  - IN 1991 in MA, we estimate that about 100,000 people had negative equity
  - Over the next three years, only about 7 percent lost their homes
- Irrational?
  - No!
- Negative equity is not sufficient for optimal default!
  - Even in a completely frictionless world.

What do these two men have in common?

Eric Rosengren



Ed McMahon

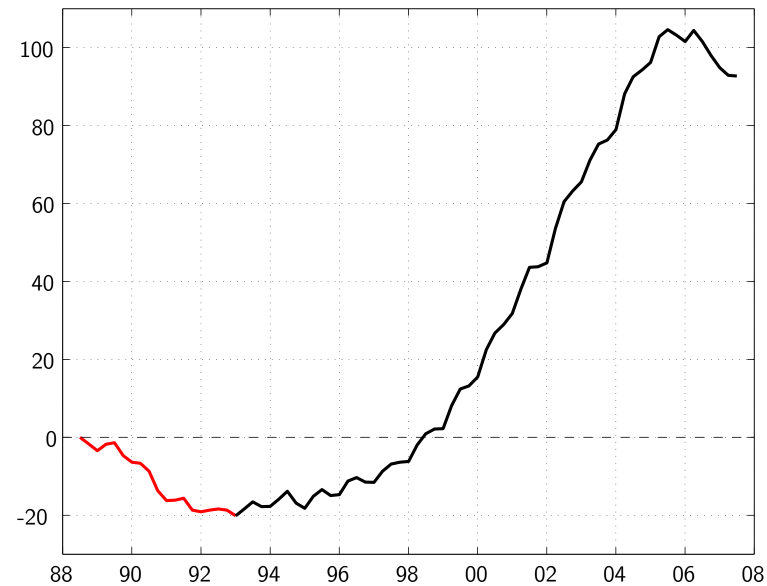
Ed and Eric

	Eric Rosengren	Ed McMahon
Booming voice	✓	✓
Memorable laugh	✓	✓
Silver hair	✓	✓
Negative Equity	in 1993	in 2008
Foreclosure	No	Yes

- Why the different outcome?
  - Different stochastic discount factor
  - Ed values consumption today relative to future more than Eric

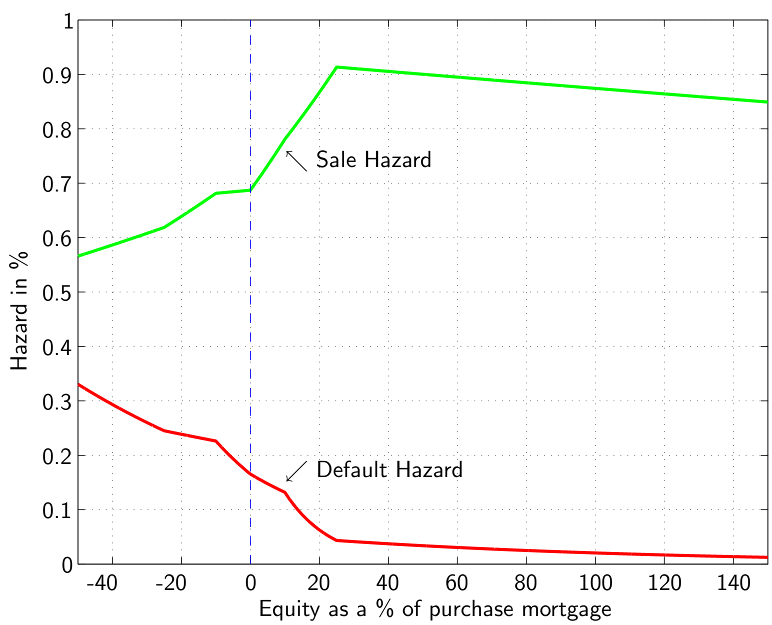
Outlook

- Cumulative appreciation for Massachusetts homeowner who bought in Q3, 1988.



Introduction
Resets aren't the problem
The house prices
Outlook
Our bottom line
Causality
Negative equity and foreclosure

- Foreclosures and house prices in Mass., 1989-present. Source: Boston Fed and The Warren Group.



Outlook

- Foreclosures and house prices in Mass., 1989-present. Source: Boston Fed and The Warren Group.