# Housing boom-bust

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Housing boom-bust cycle during early 2000s

- during 2000-2006
  - house prices and price/rent ratios increase by almost 50%
  - household debt/GDP takes a discrete step up
  - homeownership rate increases from 65% to almost 70%

- during 2007-2011, these trends get reversed
  - house prices and price/rent ratios fall
  - households reduce their debt, in part through default
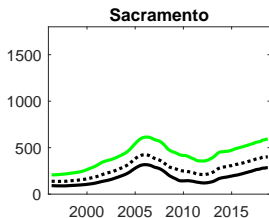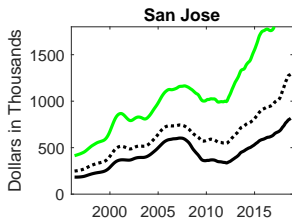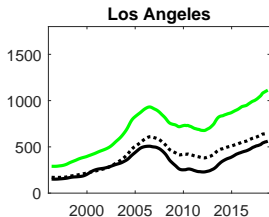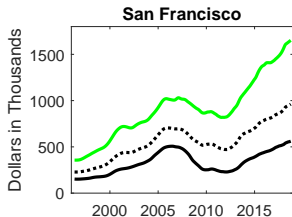 - homeownership rate below 64%

Household debt/GDP
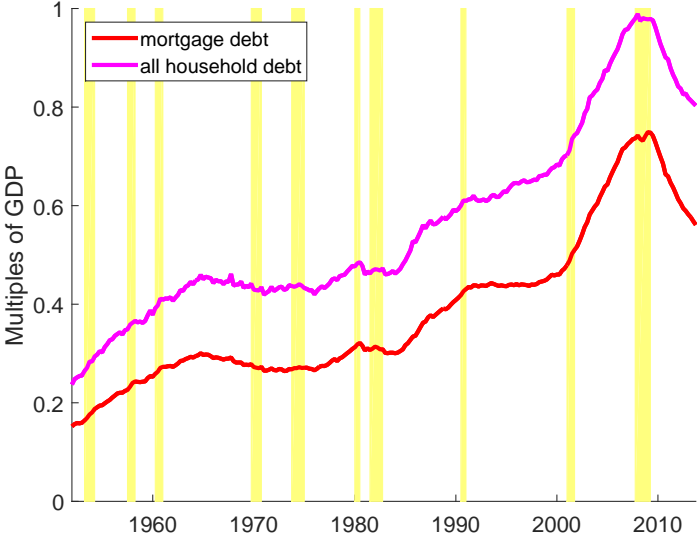
Stronger boom in cheaper segments: San Diego County
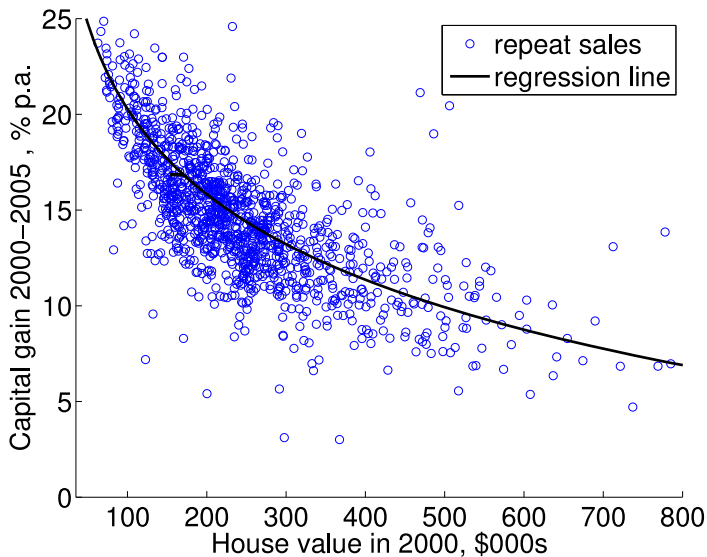
Stronger boom in cheaper segments: other metro areas

- 2006/2000 price ratio
- metro: top/middle/bottom
- SF: 1.8/2.1/2.5
- LA: 2.3/2.7/2.9
- SJ: 1.6/1.8/2.0
- Sa: 2.3/2.6/3.0

Cross sectional patterns

- Study house prices within commuting zones such as metro areas

- Patterns are different from previous cycles

  - late 1970s/early 1980s national housing boom-bust cycle
    - *weaker* boom in cheaper segments
    - high nominal mortgage rates during Great Inflation
    - Poterba (1991) higher deduction in higher income tax brackets

  - California boom-bust in the early 1990s
    - *weaker* boom in cheaper segments

Quantitative study of the causes for the boom

- model of how market prices assign houses to buyers
  within a metro area, Landvoigt, Piazzesi and Schneider 2015

- measure distribution of income, wealth and age
  among buyers from American Community Survey in 2000 and 2005

- measure distribution of houses that were bought from deeds

- expectations about the future from surveys:
  - real rates were expected to mean revert after 2005
  - expect house prices to continue to grow with rents

Cause # 1: Easier Credit

- lower real interest rates: 3% real rate in 2000, 1% in 2005

- lower spreads between borrowing and lending rates:
  2% in 2000, 1.3% in 2005

- lower downpayments: 20% in 2000, close to zero in 2005 Keys,
  Piskorski, Seru and Vig 2014

$\rightarrow$ poorer households borrow more, bid up prices of cheap homes

  "subprime narrative" Mian and Sufi 2009, 2011

  2-28 mortgages, no doc loans, NINJA mortgages
  lender incentives: securitization, push towards "ownership society"

  alone not enough to explain the entire increase in house prices in
 cheap segments

Cause # 2: Composition effect

- distribution of buyers does not change much from 2000 to 2005

- more transactions in cheap segments in 2005 compared to 2000

$\rightarrow$ middle class buyers bid up prices in cheap segments

- consistent with "new narrative"
    - Adelino, Schoar & Severino 2016, 2017, Albanesi et al 2017
    - more originations across the entire income spectrum
    - importance of mortgage defaults by higher income borrowers

- cheaper credit & composition effect quantitatively account for boom

- consistent with idea that financial innovation was unique and stays
  do not need crazy expectations, extrapolative beliefs

Cause # 3: Exuberance, especially in cheap segments

- optimists in illiquid search markets, Piazzesi and Schneider 2009

- housing markets are illiquid, less than 10% of houses trade every year

- high transactions costs: realtor fees, nonpecuniary costs

$\rightarrow$ few optimists are enough to drive up house values in transactions

- borrowers and lenders were overly optimistic
  - especially in cheap segments, inexperienced home buyers
  - more leverage/lending is a result of optimistic expectations

- Michigan Survey of Consumers (monthly, about 500 repondants)
  - *Generally speaking, do you think now is a good time or a bad time to buy a house?*
    "good", "pro-con", "bad, "don't know"
  - *Why do you say so?*
    respondents can give up to two reasons

Michigan Survey Expectations
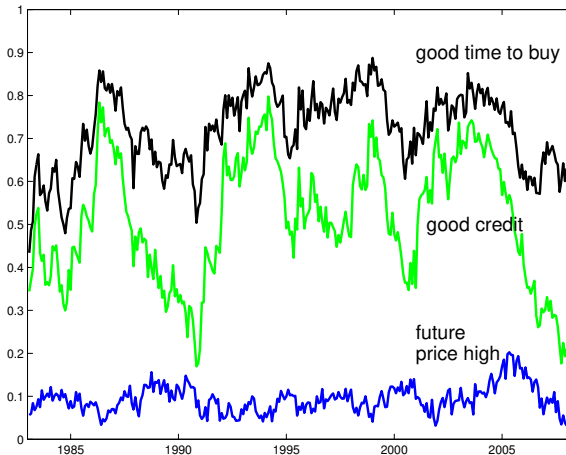
- momentum doubles from 10 to 20% during hot phase (2003-2006): future price high, still overall small number, enough?

Case and Shiller Survey of Homebuyers

- the few who buy are highly optimistic

Table 9. Survey Responses on Price Expectations, Sense of Excitement, and Talk, 1988 and 2003

Percent of responses except where stated otherwise

Question	Los Angeles		San Francisco		Boston		Milwaukee	
	1988	2003	1988	2003	1988	2003	1988	2003
Do you think that housing prices in the [city] area will increase or decrease over the next several years?								
Increase	98.3	89.7	99.0	90.5	90.2	83.1	87.1	95.2
Decrease	1.7	10.3	1.0	9.5	9.8	16.9	12.9	4.8
No. of responses	240	145	199	158	194	201	233	187
How much of a change do you expect there to be in the value of your home over the next 12 months?								
Mean response (percent)	15.3	10.5	13.5	9.8	7.4	7.2	6.1	8.9
Standard error	0.8	0.6	0.6	0.6	0.6	0.4	0.5	1.0
No. of responses	217	139	185	147	176	179	217	160
On average over the next 10 years, how much do you expect the value of your property to change each year?								
Mean response (percent)	14.3	13.1	14.8	15.7	8.7	14.6	7.3	11.7
Standard error	1.2	1.2	1.4	1.8	0.6	1.8	0.5	1.3
No. of responses	208	137	181	152	177	186	211	169