FEDERAL RESERVE BANK *of* NEW YORK

The Federal Reserve in the 21st Century
The U.S. Housing Market

Andrew Haughwout, Vice President, Research and Statistics

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The views expressed in this presentation are those of the presenter and not necessarily those of the Federal Reserve Bank of New York or The Federal Reserve System

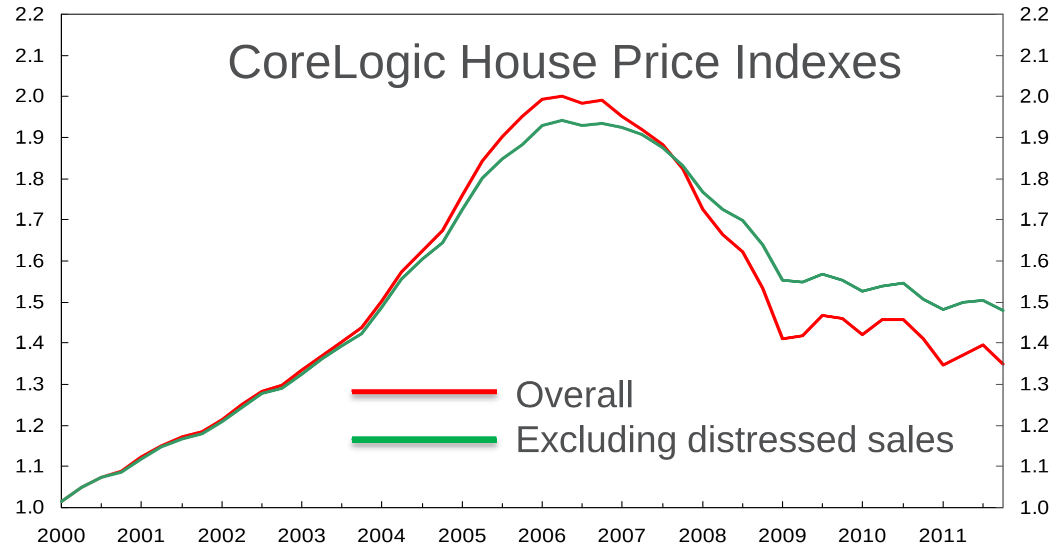
Overview:

- Unprecedented rise and fall in house prices across many markets have created significant real estate losses that must be recognized
    - Pro-cyclical lending standards contributed to boom
- Foreclosures continue to rise and are one way to recognize the loss
    - Can be an inefficient process in that involves added costs and less return on the value of the collateral
- Negative equity and high unemployment will continue to pressure default rates and foreclosures
- Foreclosures exert downward pressure on house prices and will delay the recovery in housing markets
- Government modification plans (for example, HAMP) not likely to significantly stem the flow of foreclosures

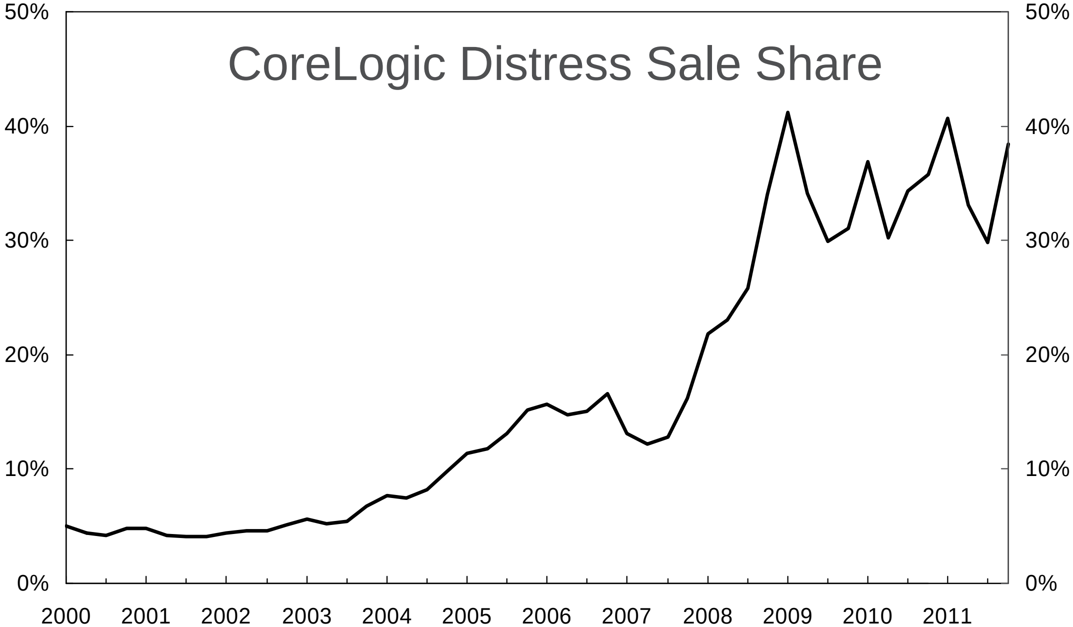
Outline

- The 2000s house price cycle and its effects
- How did this happen?
- Where are we now?
- What's next
  - Focus on modifications
- Conclusion

The 2000s housing cycle

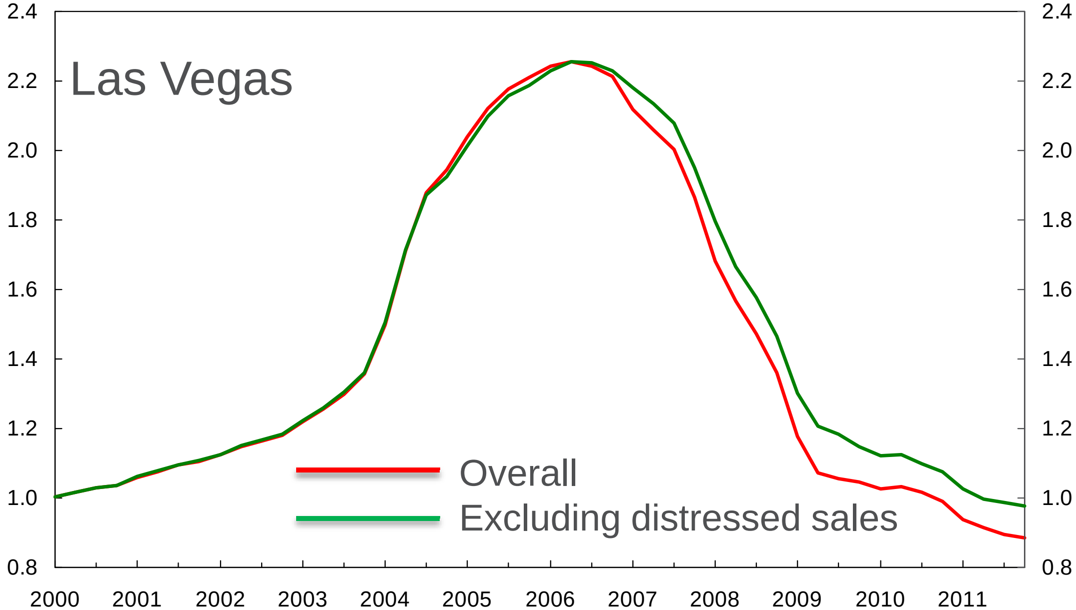


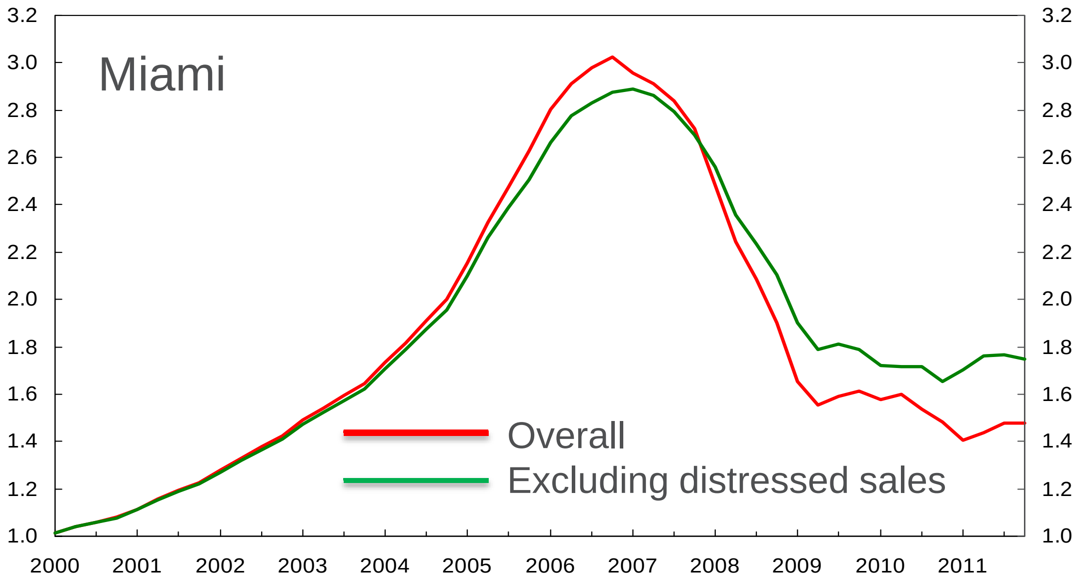
- From 2000 to the peak, house prices roughly doubled nationally
- House prices have fallen significantly from their peak
- In early 2009, but are declining again – especially for overall index



Source: CoreLogic

- Distressed sales became a significant fraction of overall sales over past four years
- Distressed sales put downward pressure on overall prices
- Distresses share has stopped growing, but still around 35% of all transactions, up from 5% in early 2000s

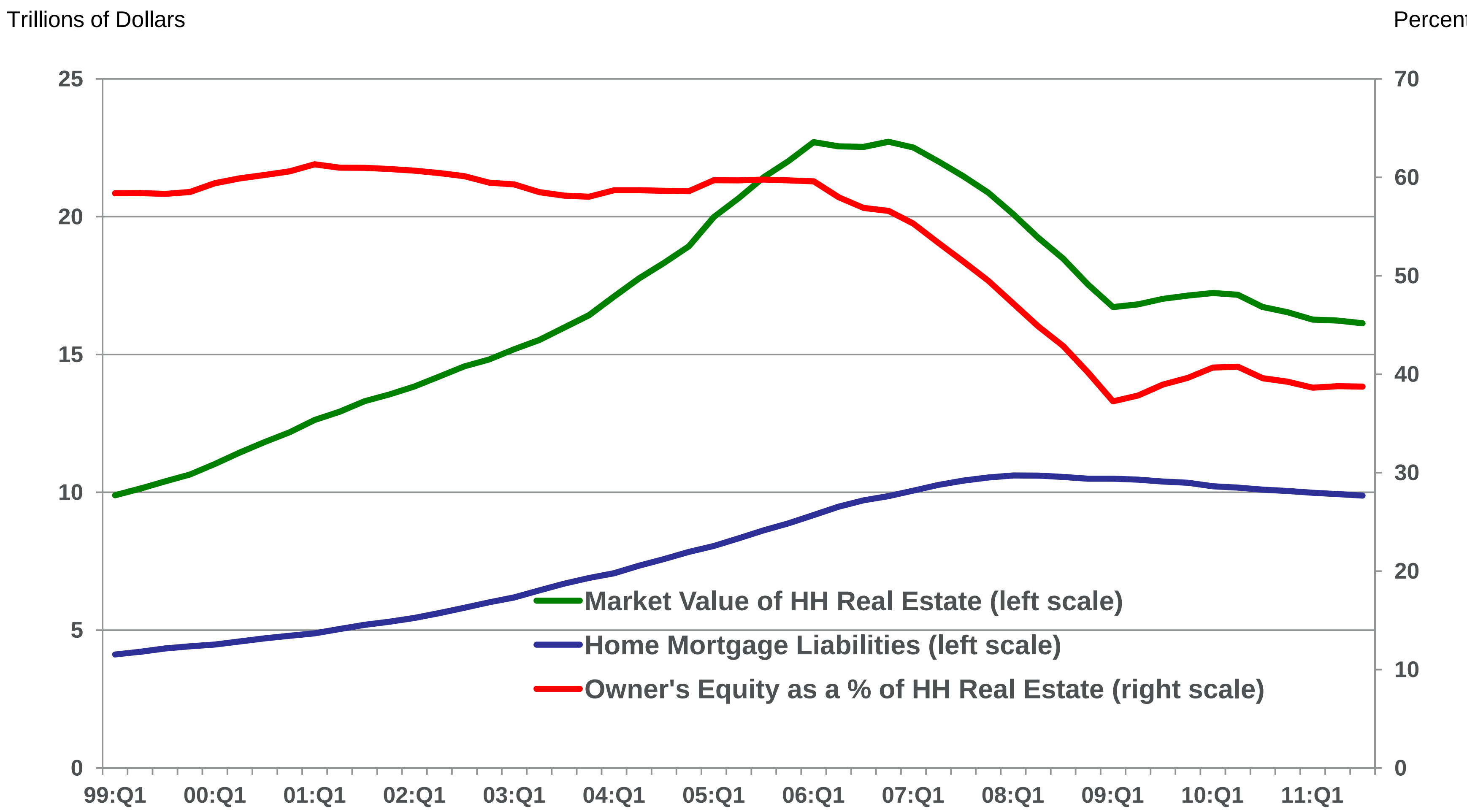


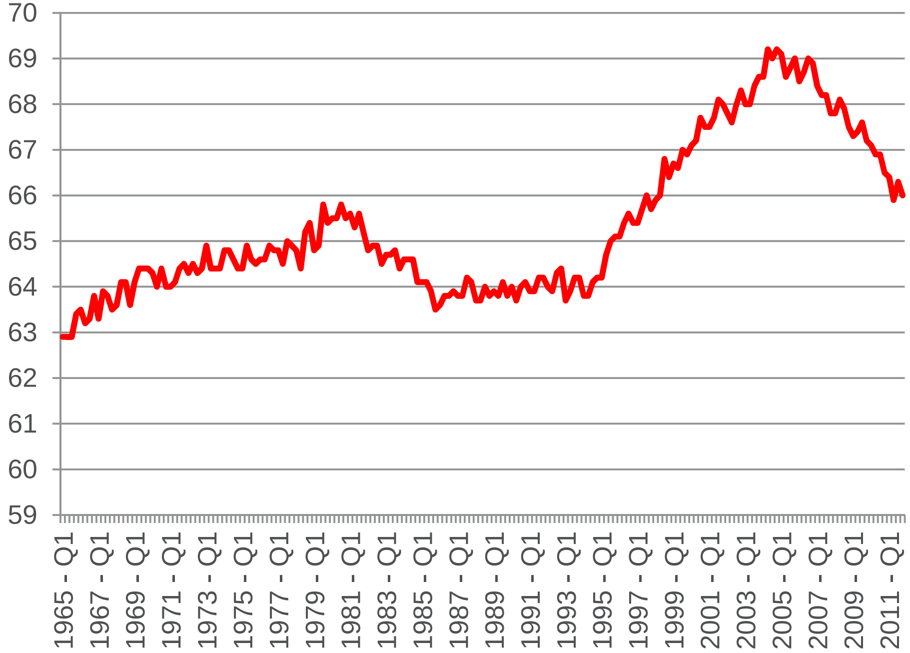


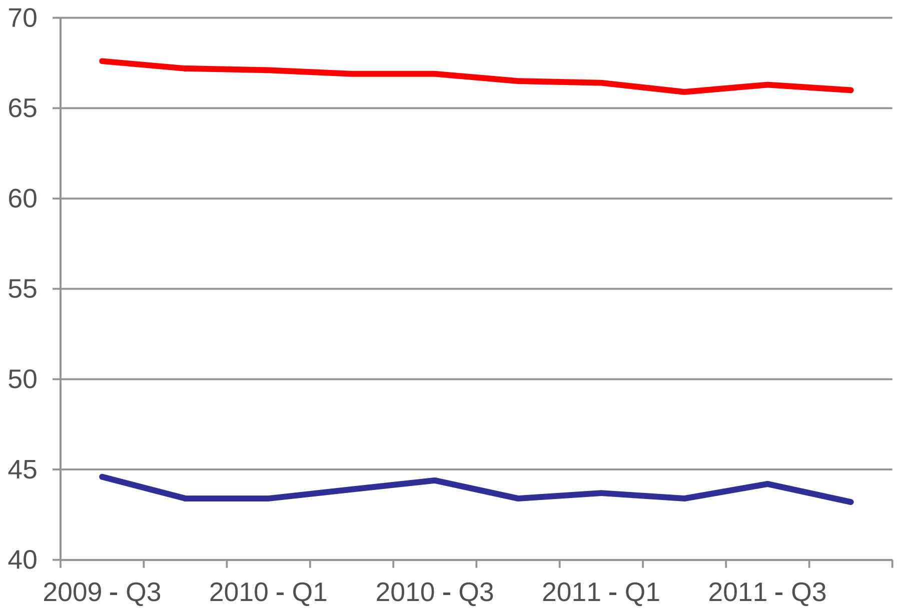
Source: CoreLogic,

- From 2000 to the peak, house prices more than doubled in Las Vegas and roughly tripled in Miami
- Nominal Las Vegas prices are below their 2000 level, and continue to fall
- Miami prices are at 2003 level and appear to have stabilized
- This rapid increase followed by decline in prices is indicative of a speculative bubble

An Enormous Decline in Housing Equity



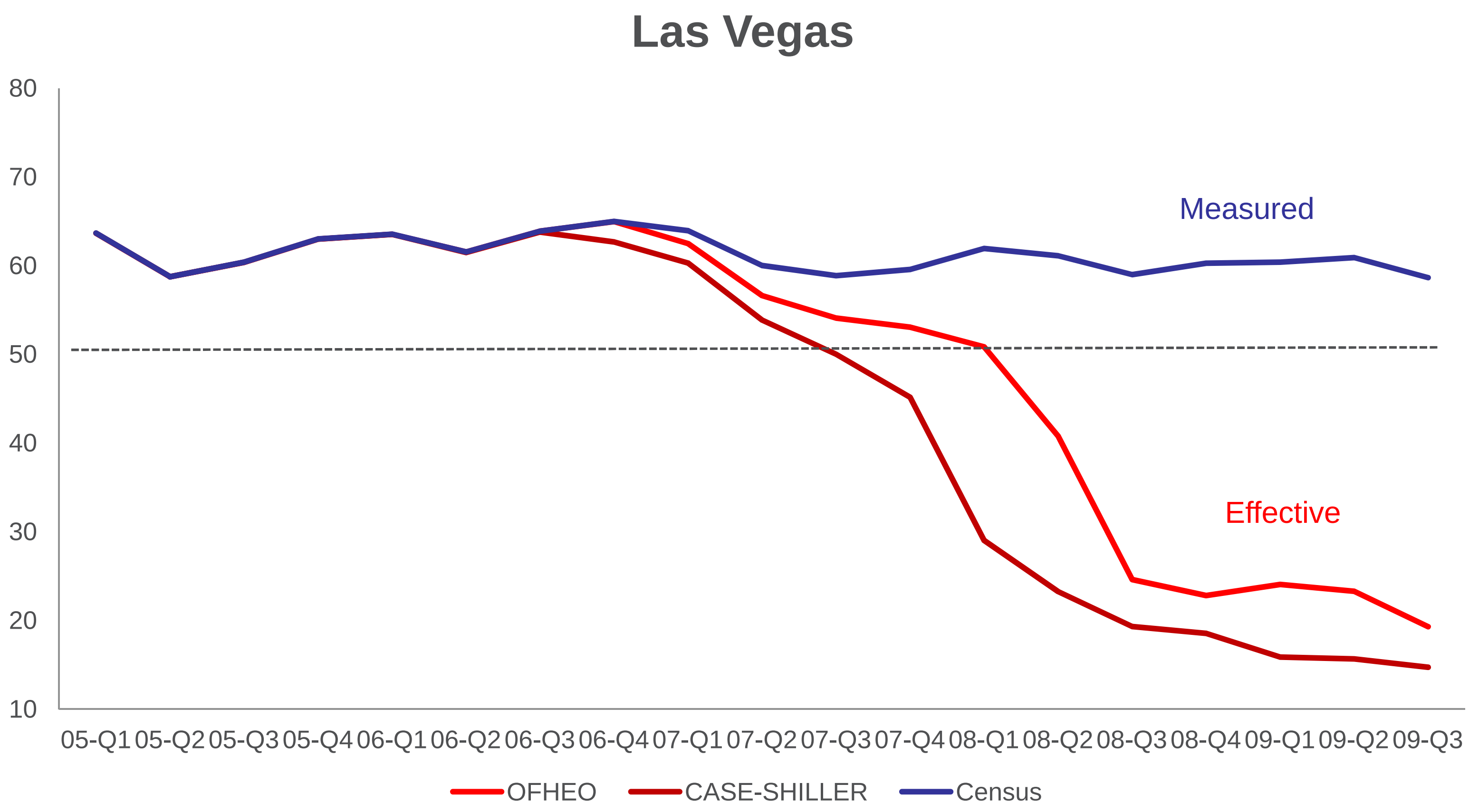




- Homeownership rate was between 63 and 66 percent for thirty years
- Homeownership peaked in 2004 Q4 after decade rise
- As housing bust unfolded it has declined by 3.1 percentage points to 66.0 (2011 Q4)
- Homeownership rate is back to its level in 1998 Q2

- Negative equity borrowers are “effectively” renters
- Adjust homeownership rate by subtracting out negative equity borrowers
- Effective rate is 43.2%: 23% below the measured rate (2011 Q4)

Source: Haughwout *et a*l. “The Homeownership Gap” *Current Issues*, 16 (5), May 2010



- Gap between measured and effective homeownership rates is very large in the worst hit metro areas.
- Effective rate in LV is below 20 percent – problem w. public goods provision.

Source: Haughwout *et a*l. “The Homeownership Gap” *Current Issues*, 16 (5), May 2010

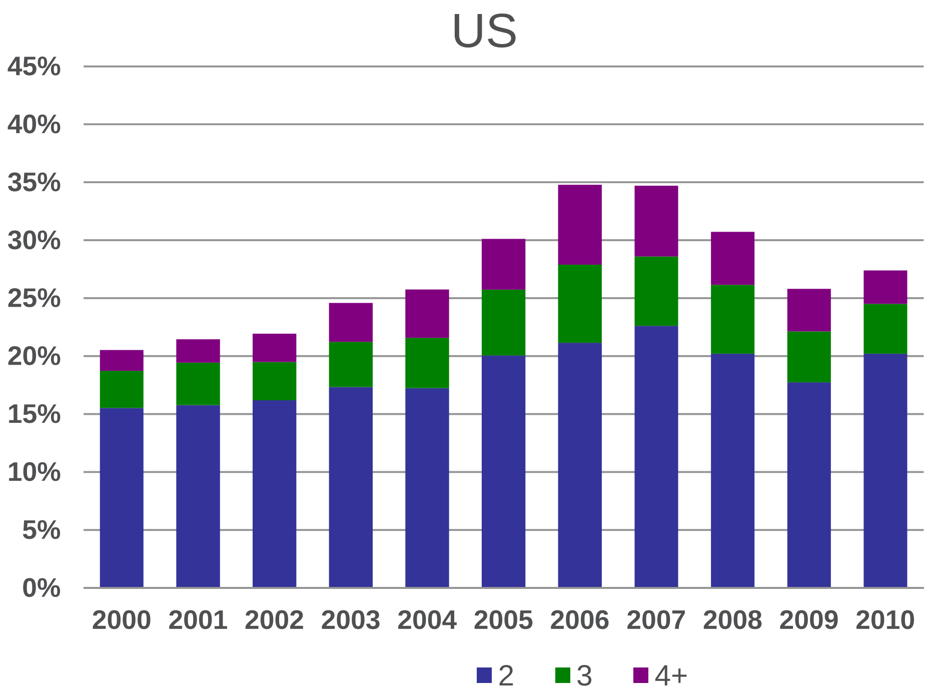
How did we get here?

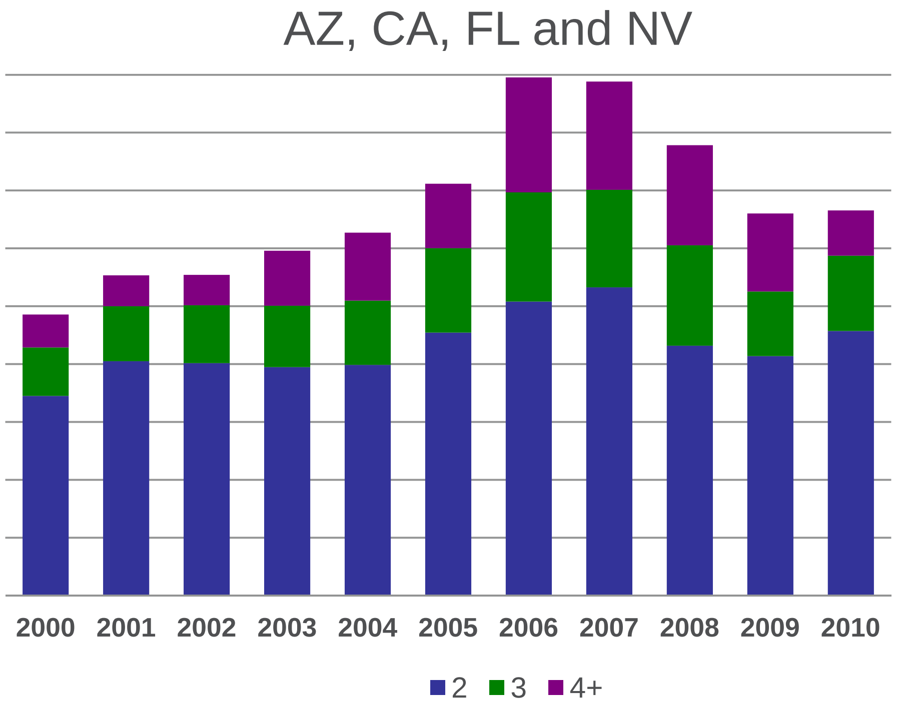
Subprime Mortgage Originations:				
		LTV		DTI
Year	50th	75th	90th	% 40+
2002	80	90	97	33
2004	85	95	100	41
2006	90	100	100	50

- As house prices increased, lenders relaxed the downpayments and allowed higher monthly debt burdens by borrowers.
- This weakening of lending standards tended to offset the higher prices allowing the boom to continue for longer
- Also, 2/28 & 3/27 hybrid ARMs were designed with roll over risk --- if lenders were unable or unwilling to refinance at first rate reset, then many borrowers would default since could not afford the higher payments.

Source: Haughwout *et al* “Juvenile Delinquent Mortgages.” *Journal of Urban Economics*, 64, 246-257, Sep 2008

Investor Shares in New Mortgage Origination





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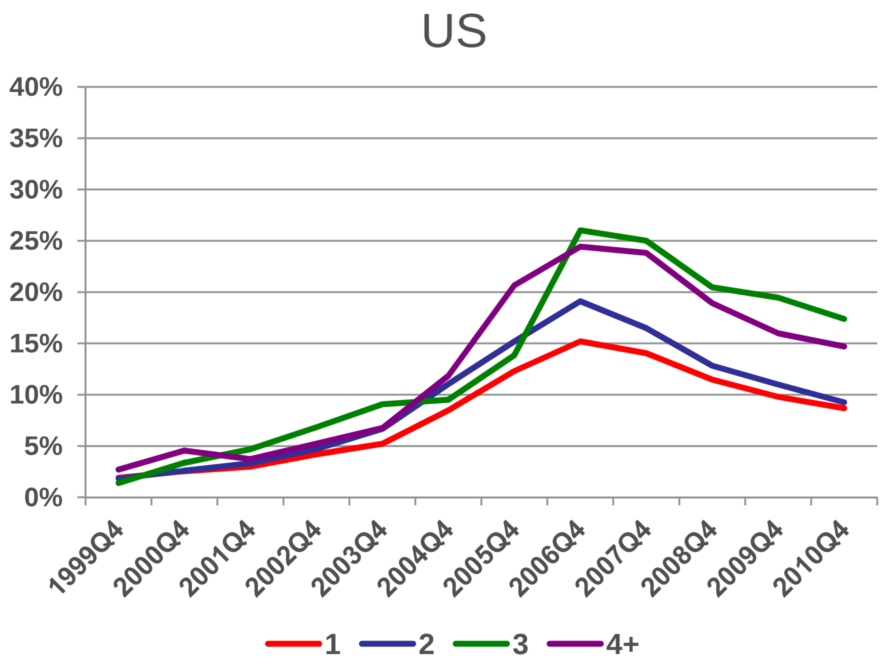
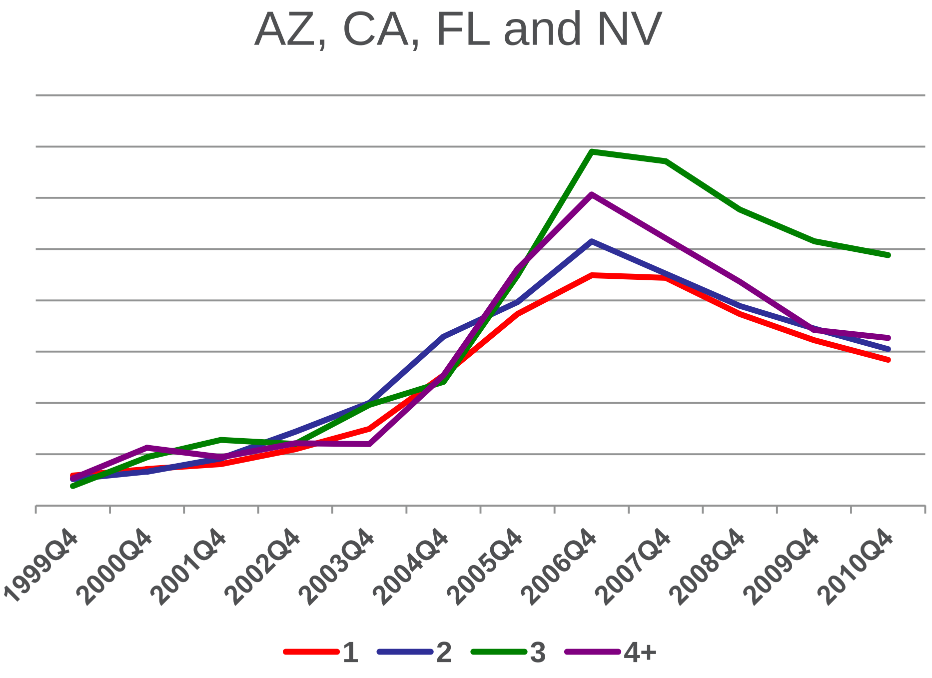
Source: FRBNY Consumer Credit Panel

Non-prime share, by number of first liens





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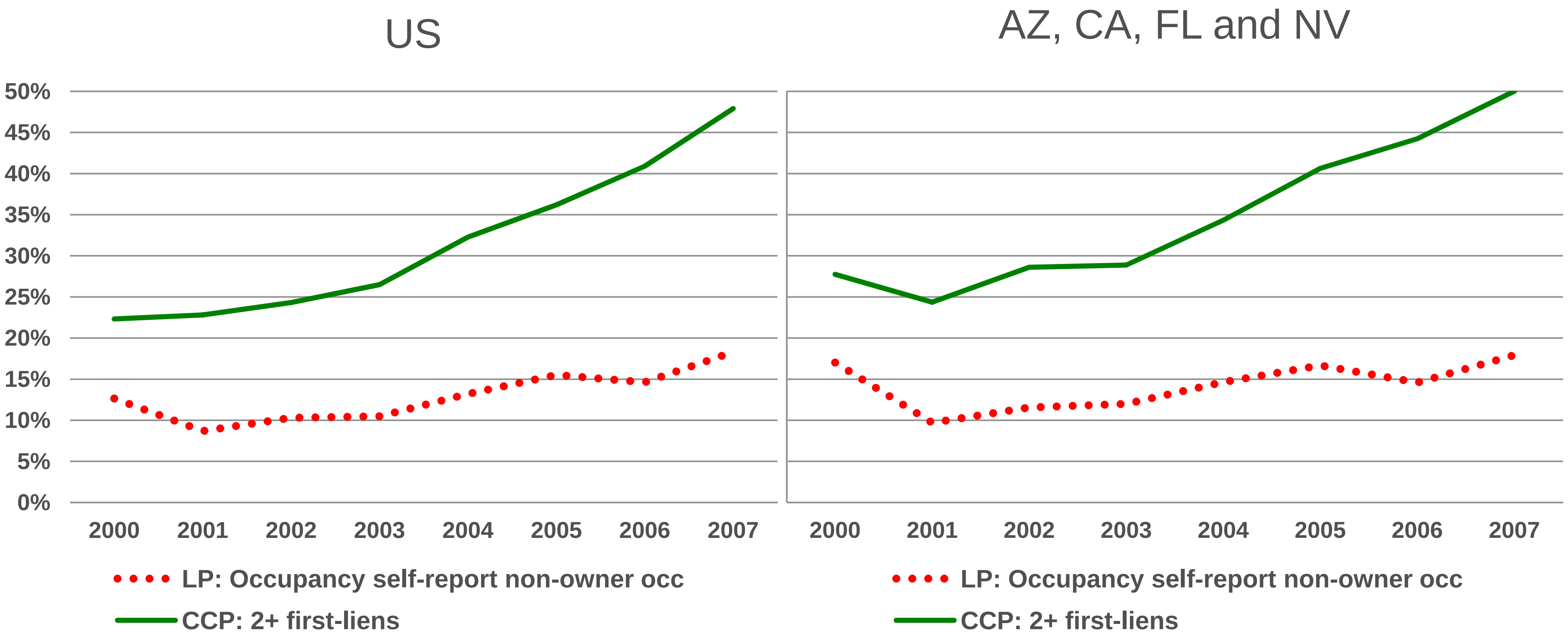
Source: FRBNY Consumer Credit Panel

How it worked



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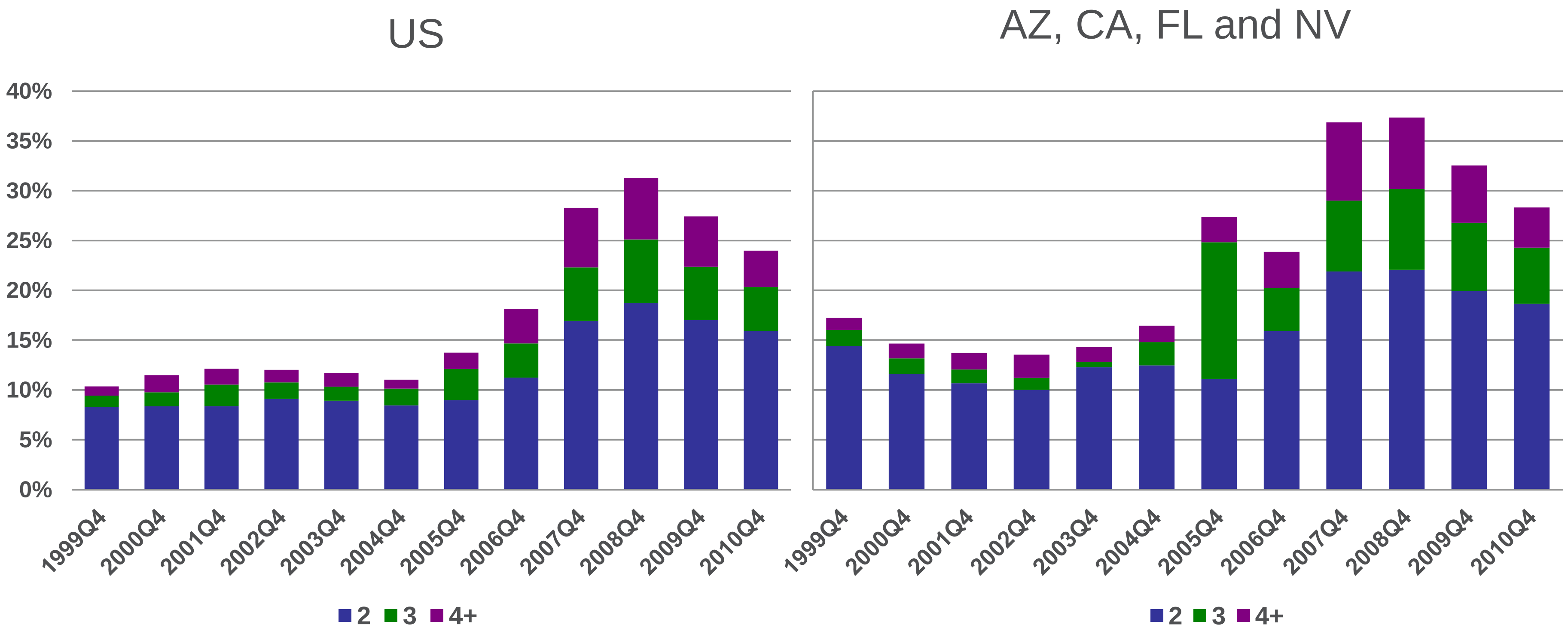
Source: FRBNY Consumer Credit Panel

Rapid deterioration in performance after prices peaked



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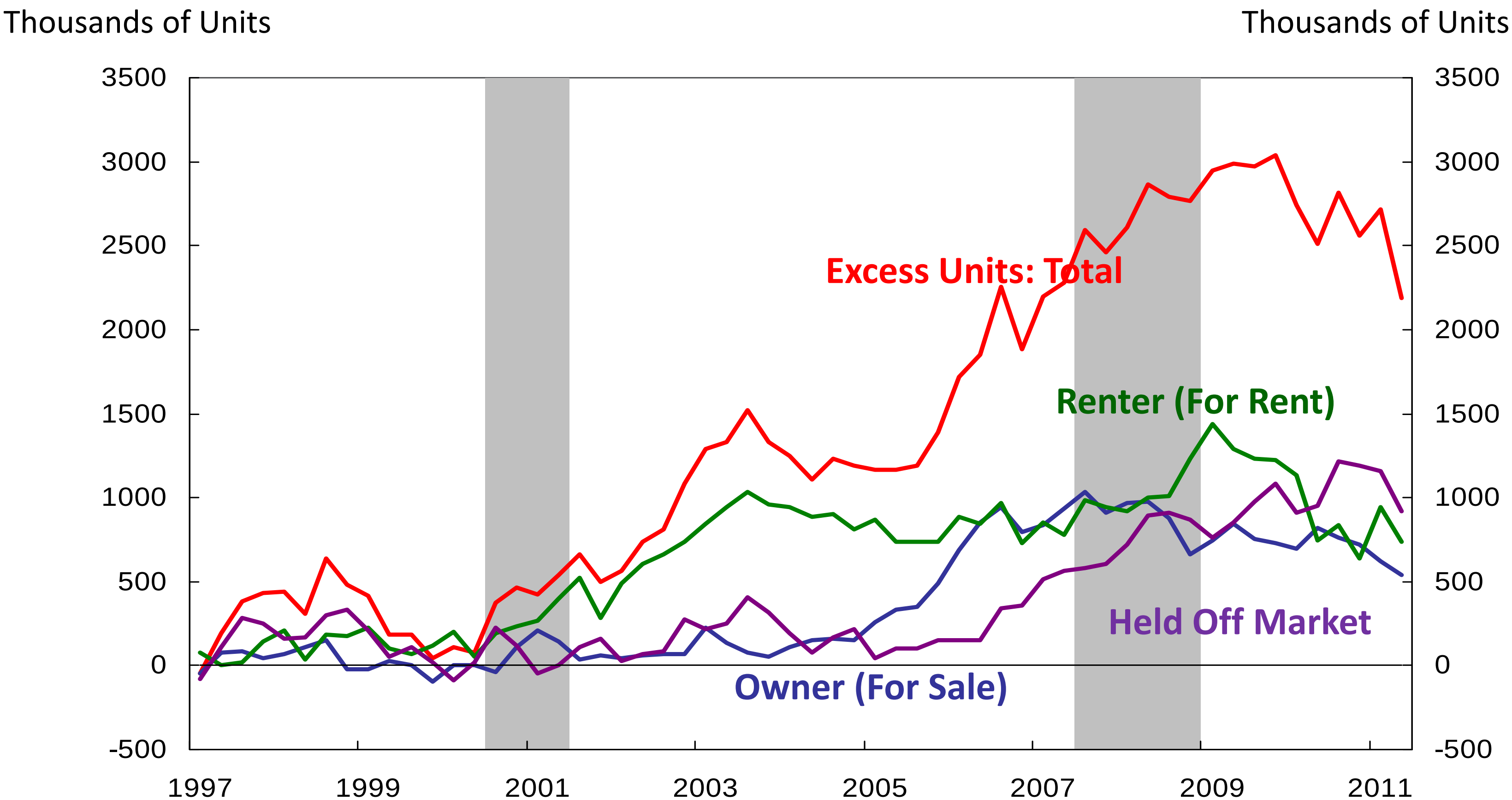
Source: FRBNY Consumer Credit Panel

Are we there yet?

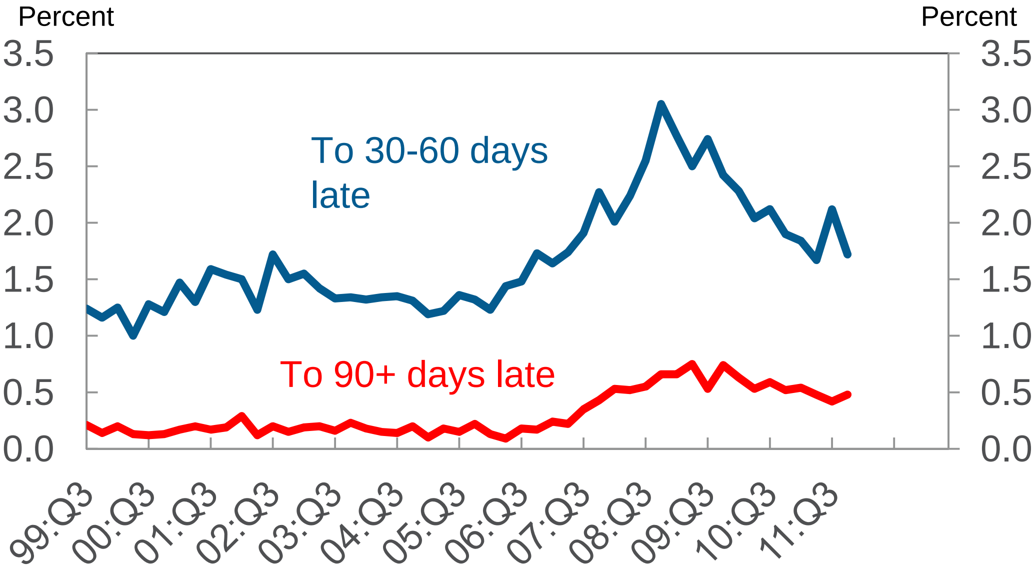
Excess Supply of Housing

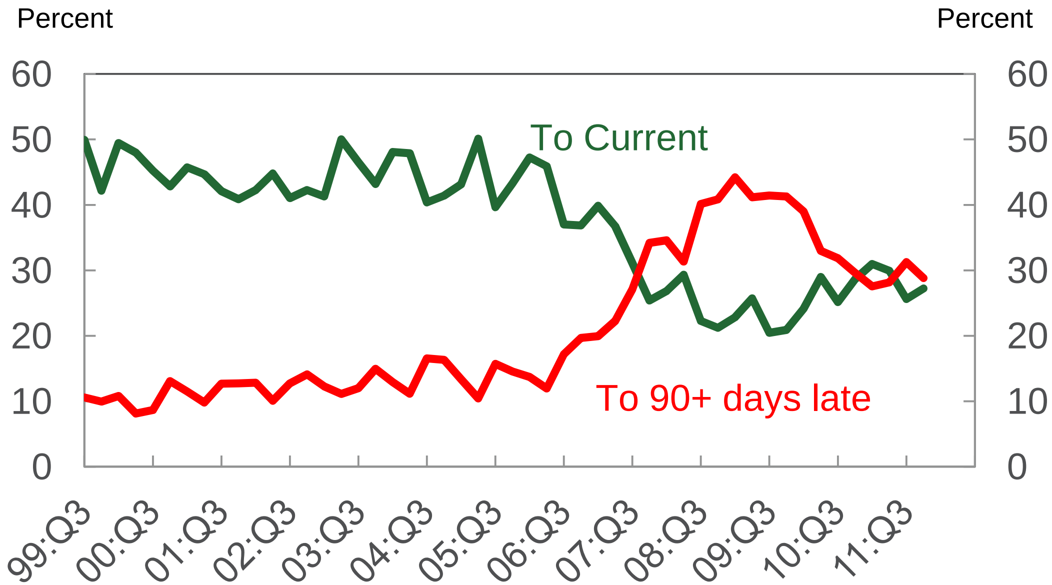


- Progress in reducing the number of “vacant and available for sale” homes
- Until recently, more than offset by growing volume of homes that are vacant but “held off market” – foreclosure pipeline
- Excess supply will exert downward pressure on house prices over near term

Source: US Bureau of the Census, Housing Vacancy Survey, and author’s calculations.

Note: Shading represents NBER recessions.





Source: FRBNY Consumer Credit Panel

- Equifax data on a random sample of households
- Representative of all mortgages regardless of if held in portfolio or sercuritzed
- Compares the delinquency status between two adjacent calendar quarters
- Rate of inflow into delinquency peaked in 2008Q4 at 3% and has declined to 1.9% in 2010Q4 – back to 2007Q3 level
- “Cure” rate decreased significantly; bottomed out at 20.5% in 2009Q3, but has not returned yet to pre-crisis levels
- Transition rate from delinquency to default jumped nearly 9% following Lehman bankruptcy as unemployment increased significantly

Determinants of mortgage default

- Ability-to-pay (debt-to-income, DTI): “cash-flow margin”
  - Consumption motive for owning a home – comparison of the cost of owning to renting
- Incentive-to-pay (loan-to-value, LTV): “equity margin”
  - Investment motive for owning a home
  - Having an equity stake means that the borrower faces 100% of the upside and downside house price risk
    - Provides the incentive to maintain the property
  - Expected LTV in future is important
- Willingness-to-pay (credit score):
  - How hard will the borrower try to prevent a delinquency/default given some degree of payment stress

Ability-to-pay

- Two sources of shocks that can affect the borrower's DTI
  - Payment shock
    - Interest rate resets under ARMs – for example 2/28, 3/27
      - Less of a concern with current low mortgage rates
    - Payment resets under Option ARMs (neg amortization)
  - Income shock (Reasons given for FHA claims)
    - Unemployment / underemployment (37%)
    - Divorce (2%)
    - Serious health problems (6%)
- Unsecured debt can increase the borrower's back-end ratio (20%).

Ability-to-pay: Payment shocks

Payment impact of IO/Option ARM resets

Mortgage Type	Payment Change (median, pct)	Reported DTI at orig. (%)†	Estimated DTI after payment change
Interest Only*	24	28	35
Option ARM**	18	37	44

Note. Among many other caveats (see below) assumes no change in income between origination and recast.

**Among IO loans that have not yet recast*

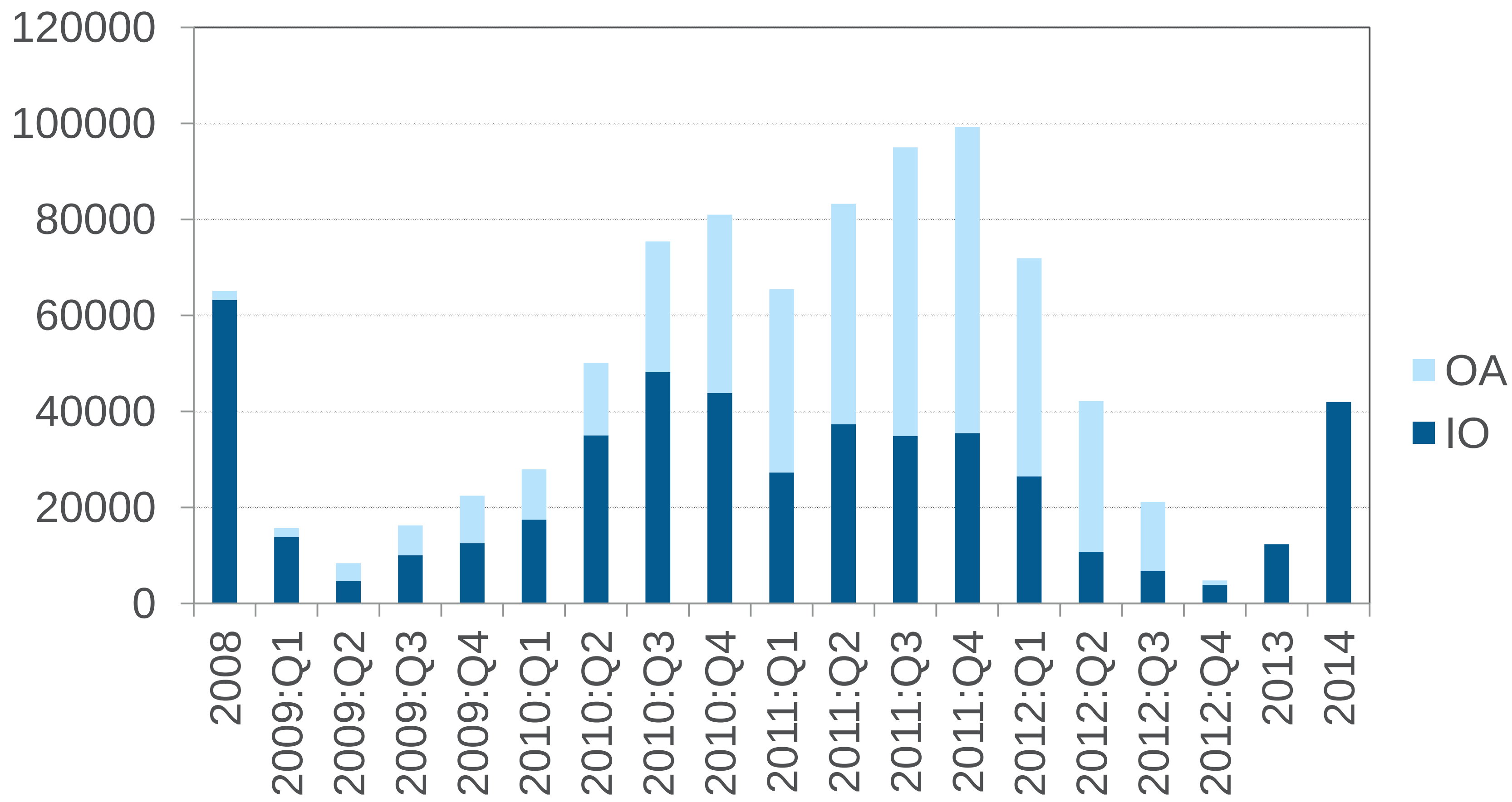
*** Among OAs scheduled to recast in 2010—2012; assume MTA remains at current levels*

†Among full doc loans with valid reported DTIs; should be front-end DTIs

Estimates based on data from First American CoreLogic, Lender Processing Services and assumptions about loan terms. Calculations done by Shane Sherlund at the Board of Governors

Ability-to-pay: Payment shocks

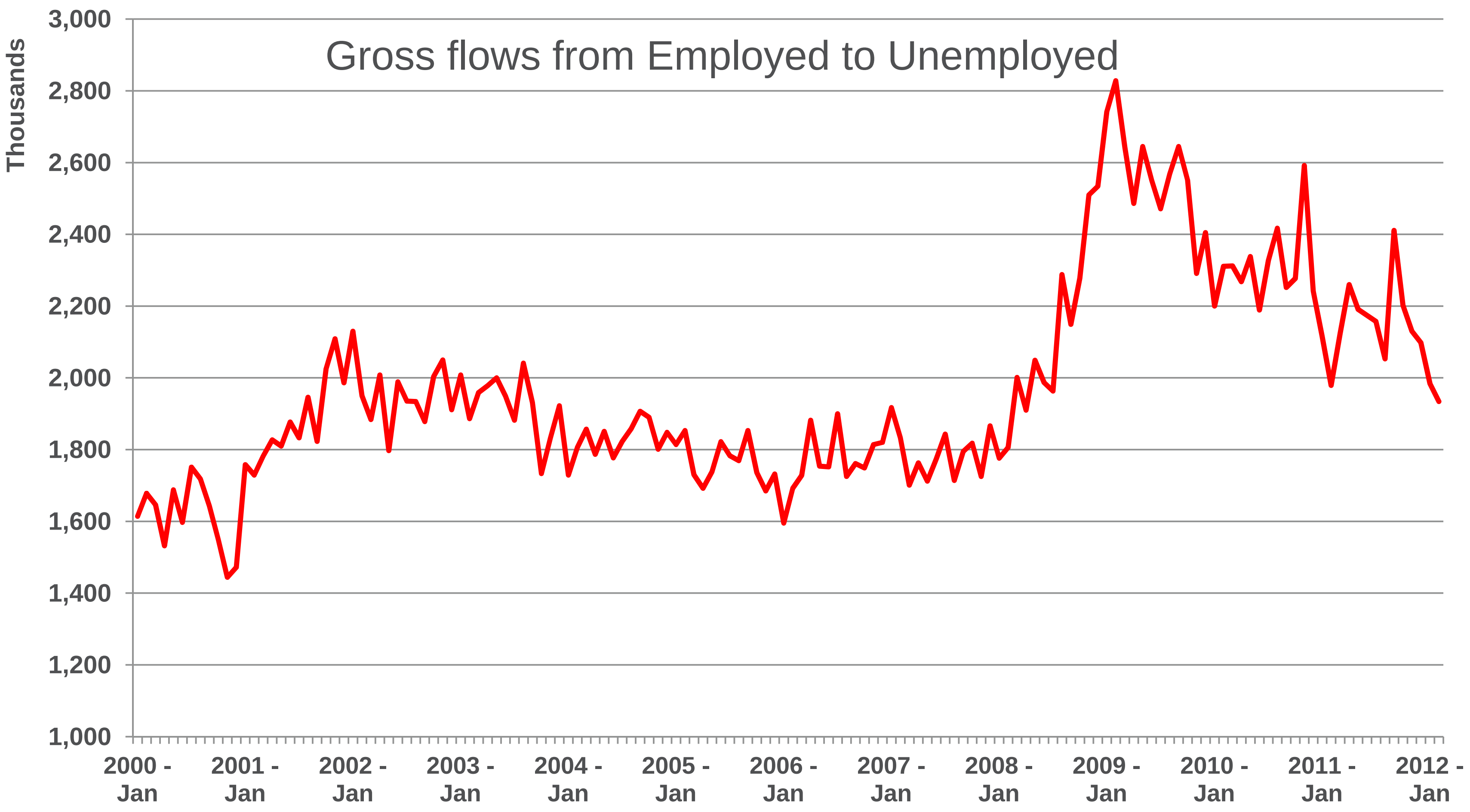
- Recast schedule for OAs and IOs in Alt-a pools (2008 – 2014)



ource: First American CoreLogic; Shane Sherlund, BOG

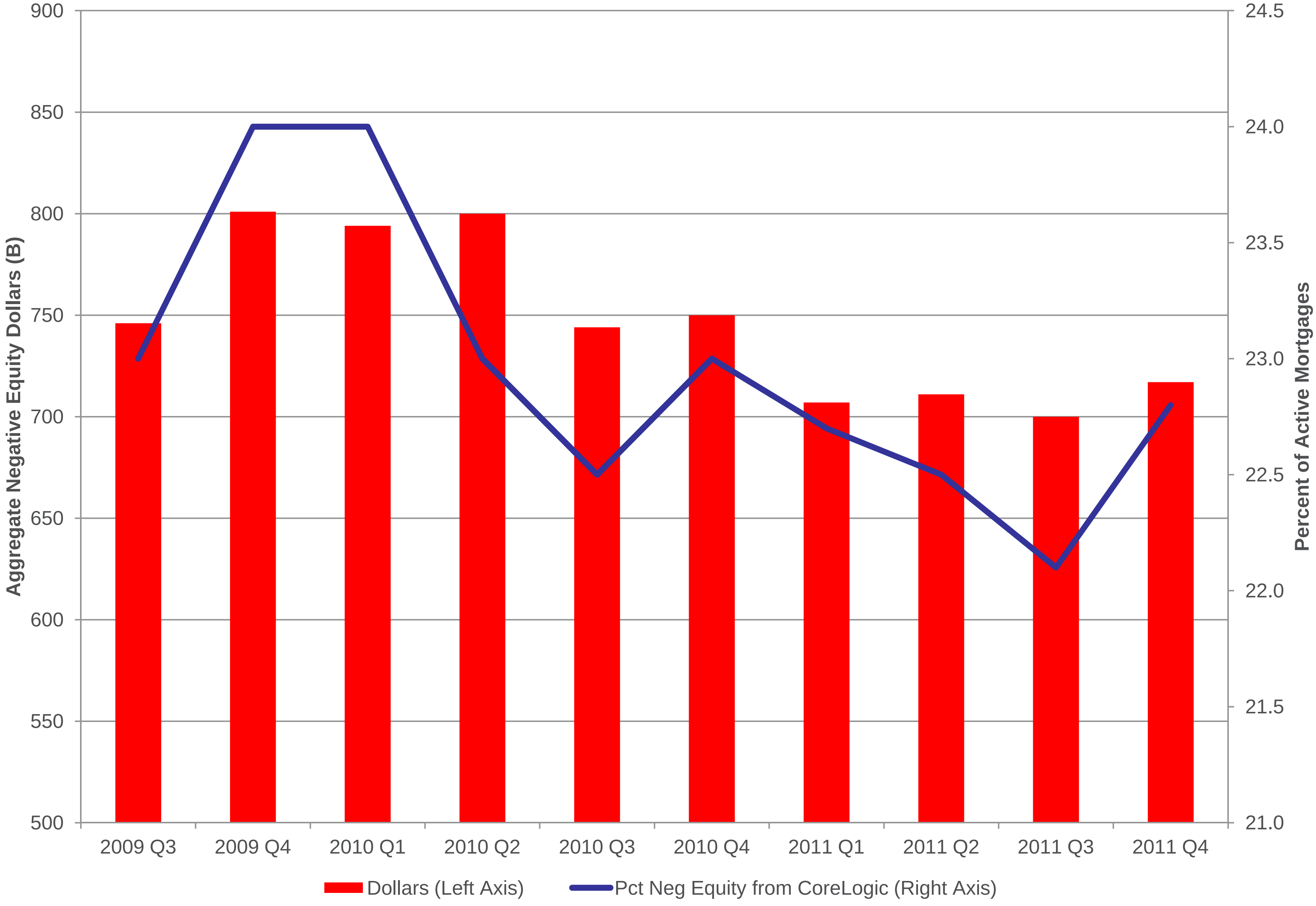
Note: Option ARM recast schedule computed assuming index rates remain extremely low

Ability-to-pay: Income shocks

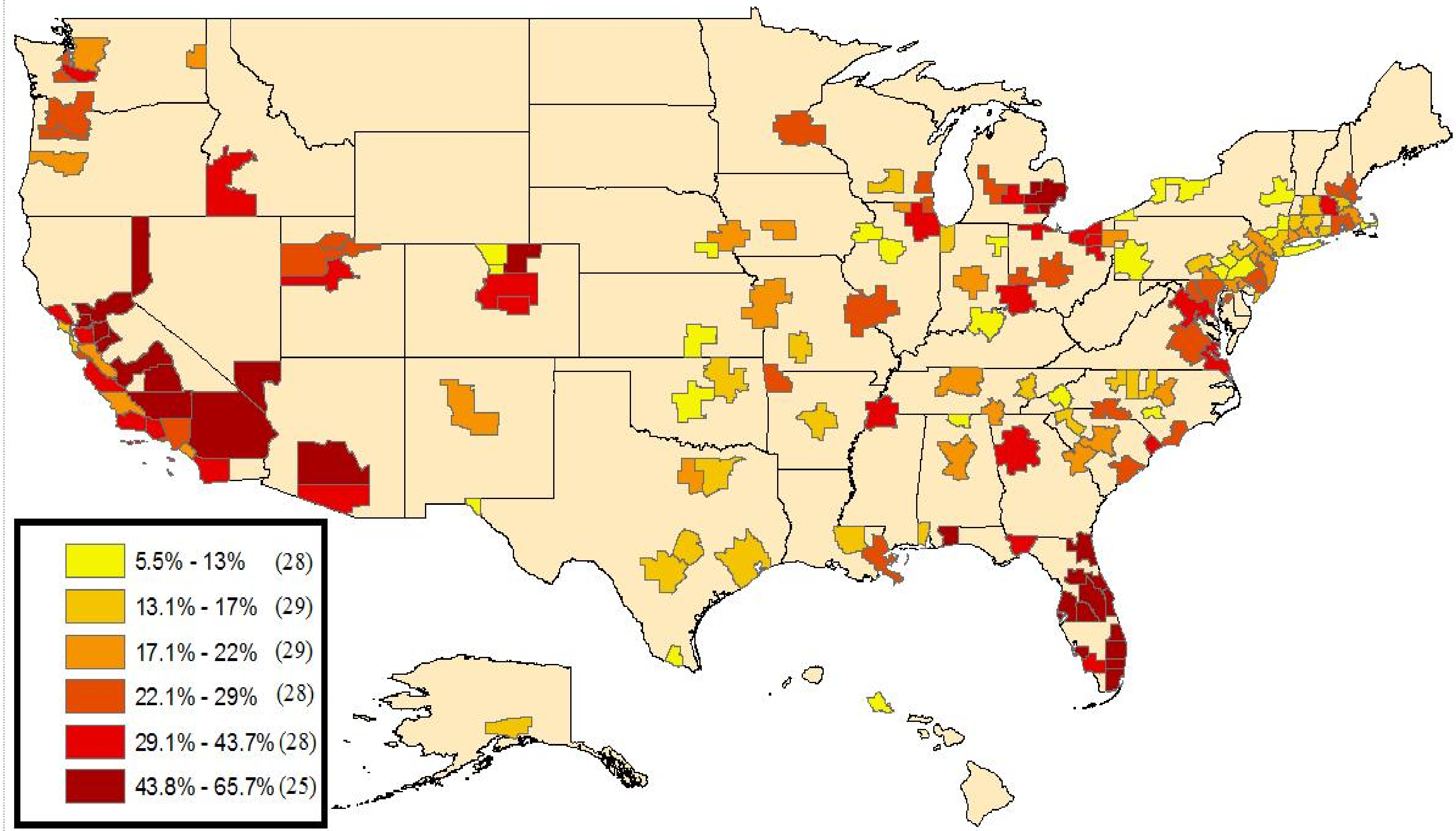


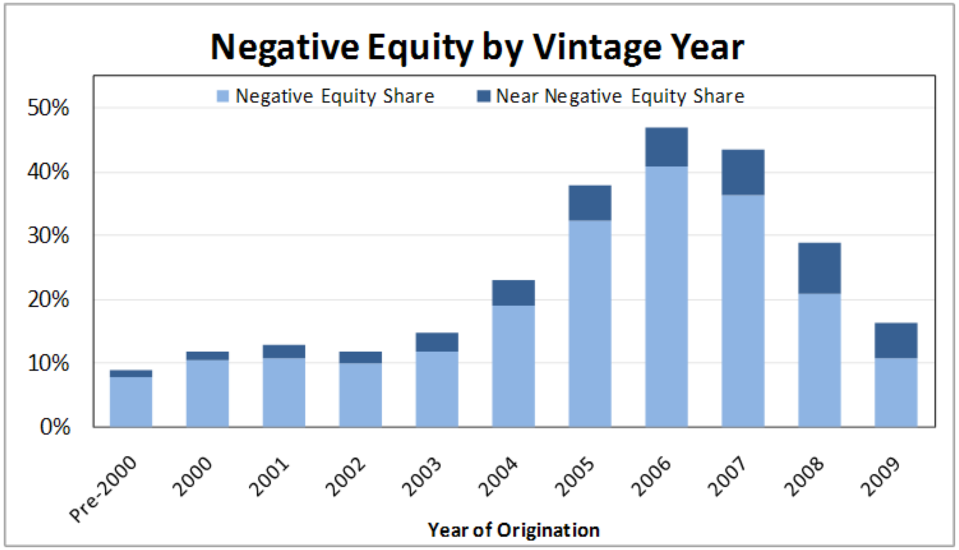
- Sharp rise in the job loss rate
- Job losses have been declining of late, but still near 2 million per month

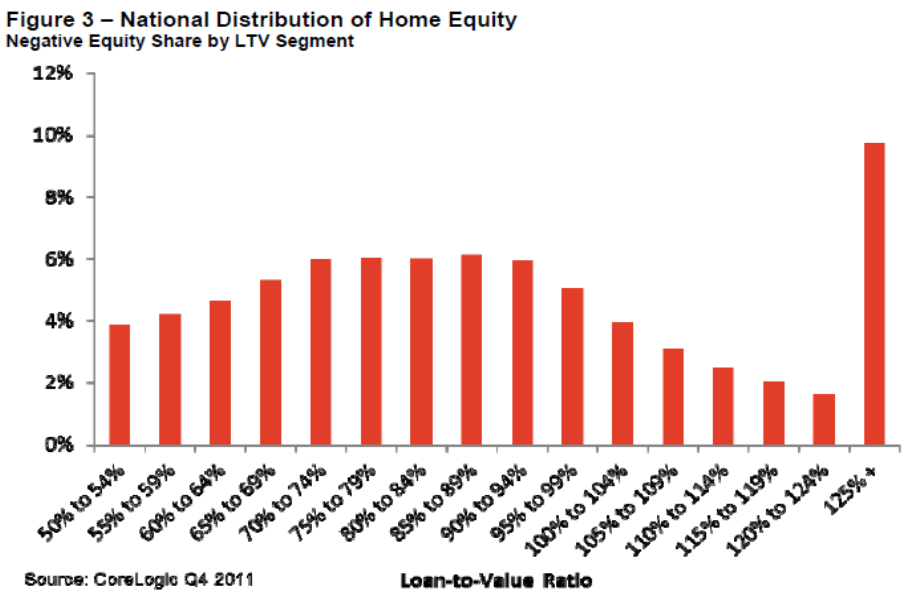
Incentive to pay: Negative Equity Debt Overhang



Low borrower equity rates are widespread



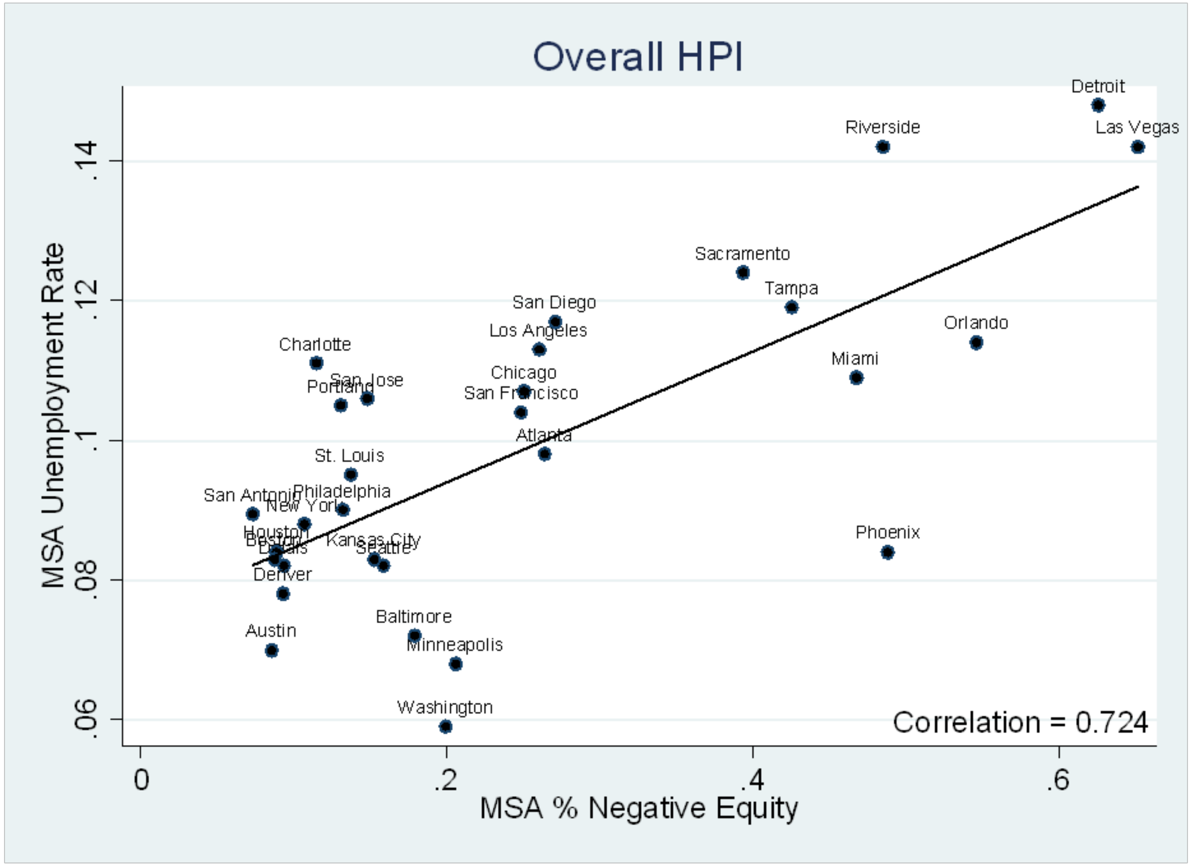




Source: CoreLogic

- Steep price declines have created a large population of borrowers with negative equity
- Extent of negative equity is most severe for 2005 – 2007 vintages – started w. less equity and exposed to more price declines

- Default behavior may depend on severity of negative equity
- Default should also depend on a borrower’s expected equity position in the future when a move is anticipated – “strategic”
- Nearly 10% have current LTV>125 – debt amortization not enough to erase over 5 years



- Combination of borrower in negative equity and job loss leads to default
- Limited scope by lenders to provide forbearance
- Weak housing and labor markets tend to occur together
- Correlation between % negative equity and MSA unemployment rate is .724

Source: LoanPerformance and LPS mortgage data, BLS MSA unemployment rates

Foreclosure prevention: modifications

- HAMP program focuses on DTI and not LTV
    - Lower interest rate and extend term to hit target DTI of 31%
    - Principal forbearance (not forgiveness) can be used to help hit the target DTI – another form of interest rate reduction
    - Focus is on reducing the monthly payment – “ability to pay”
    - Borrowers in negative equity reduce their maintenance efforts – can increase the depreciation rate by 1 – 3% per year
- Study of subprime modifications we find that re-default rates are significantly lower if reduce monthly payments by cutting principal
    - Sample of 7,894 subprime modifications (pre-HAMP)
    - Find that the 12-month re-default rate (57% average) is reduced by twice as much if DTI is met through reducing principal rather than interest rate – re-default defined as 90-day delinquent

Source: Haughwout *et al* “Second Chances: Subprime Mortgage Modifications and Re-default.” FRBNY *Staff Report* No. 417, December 2009.

Mortgage modification: effects on mobility

- Households in negative have a lower mobility rate
  - 2-year mobility rate is 3.5 percentage points (35%) lower
  - Based on American Housing Survey: 1985-2007 (pre-crisis)
- "In-place" subsidies further reduce household mobility
  - Every $1,000 in in-place subsidy lowers 2-yr mobility by 1.4 percentage points – examples include Prop13 tax subsidy in CA
  - Below market mortgage interest rate (HAMP) create an in-place subsidy -- principal forgiveness does not
- HAMP style modification can reduce household mobility by over fifty percent – combination of not dealing w. negative equity and creating interest rate subsidy
- NB: A point about housing mobility, not labor mobility
  - Remaining question about whether housing is an important friction in labor market

Source: Ferreira *et al* "Housing Busts and Household Mobility." *Journal of Urban Economics*, 68 (1), 34-45, July 2010.

HAMP Report:

- <u>**Report Highlights (December 2011)**</u>
  - **Over 933 thousand Homeowners Granted Permanent Modifications (763K active)**
  - 79 thousand active trial modifications
  - 79% of all trial mods were 60+ DD at the outset of the trial (21% < 60DD and/or at imminent risk of a default)
  - 98% feature interest rate reductions
  - 59% offer term extensions
  - 30.5% include interest forebearance
- NB: 2009-2011Q1, 20% of portfolio mods reduced principal; 0% of Fannie, Freddie, Ginnie.

Source: HAMP Servicer Performance Report Through December 2011; Mortgage Metrics Reports

HAMP Report: Con't

Loan Char.	Before Mod	After Mod	Med Decr
Front-end DTI	45.3%	31%	14.4%
Back-end DTI	77.2%	**59.9%**	14.7%
Med Monthly Payment	$1,431	$829	$531

Predominant Hardship Reasons for Permanent Mod	
Loss of income	65.9%
Excessive obligations	11.6%
Illness	3.3%
Other	21.2%

Note: Loss of income includes job loss as well as hours reductions

Current 12-month re-default (90+DPD) rate is 15% -- significantly below experience for private modifications

Source: HAMP Servicer Performance Report Through December 2010

Conclusion

- Unprecedented rise and fall in house prices across much of US
- We’ve learned a lot about how we got here
  - Relaxed underwriting
  - Investors played a big role
- Still not much good news to report
  - Low homeowner equity remains widespread
- Housing remains a major concern