Discussion of "Credit Supply and the Housing Boom" by Justiniano, Primiceri, and Tambalotti

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Overview

- The housing boom was a result of looser lending constraints:
  - increase in supply of credit
  - lower R, higher debt, higher house prices, constant LTV ratio
- Not looser collateral constraints:
  - increase demand for credit
  - higher R, higher debt, lower house prices(!), higher LTV ratio
  - may have triggered crisis

The model

- Borrowing constraint

$$D \leq \theta p h$$

- Lending constraint

$$L \leq \bar{L}$$

- Focus on the region where borrowers want to borrow, and lenders lend, as much as possible

$$\theta p \bar{h} = \bar{L}$$

- Credit market clears via $p\bar{h}$

House values and the interest rate

- Simplify: $\theta = 1$ and $u'(c) = 1$, $p_{t+1} = p_t = p$
- Consider increasing h and paying it back tomorrow with lower c

$$\beta_b v'(\bar{h}) + \beta_b(1-\delta)p = \beta_b R p$$

- If $R \downarrow \Longrightarrow \ p \uparrow$
- This is the unconstrained pricing equation for houses!
  - Houses are valued as collateral only if $\theta > 1$

Lending constraint

- Looser lending constraint works like an exogenous shift to the supply of credit

$$\theta p\bar{h} \uparrow = \bar{L} \uparrow$$

- Higher $\bar{L} \implies$ lower R, higher debt $\bar{L}$, higher $p\bar{h}$, but constant LTV ratio θ

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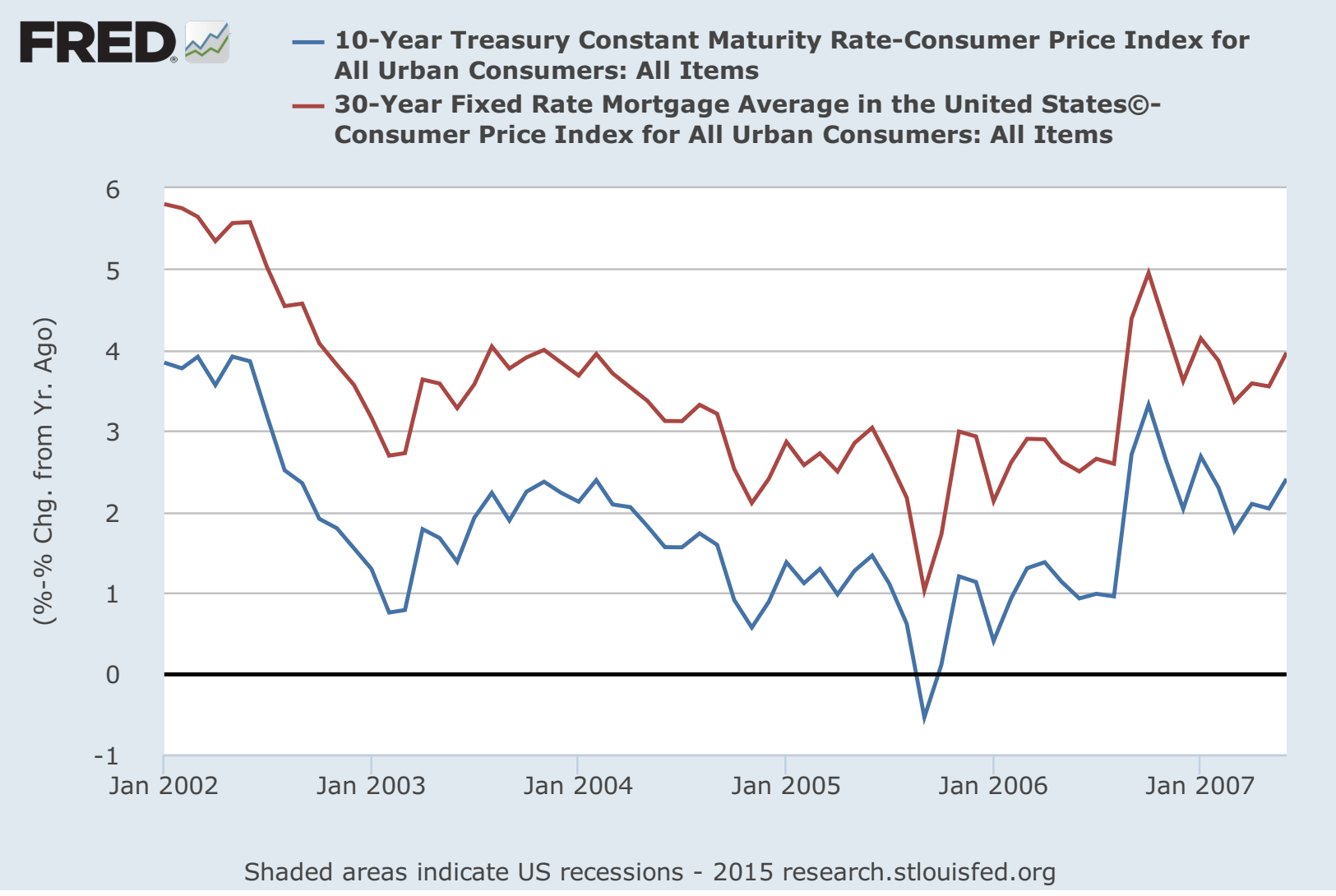
- Looser lending constraints could represent
  - financial innovation/ regulatory changes redirect funds from Treasuries to mortgages
  - higher supply of savings (e.g. "global savings glut")

Interest rate spread



Collateral constraint

- Looser collateral constraint acts as a shift in demand for credit

$$\uparrow \theta p\bar{h} \downarrow = \bar{L}$$

- Higher $\theta \implies$ higher R, constant debt $\bar{L}$, lower $p\bar{h}$ (!), higher LTV θ

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- But collateral constraint θ can also affect supply of credit and lead to lower equilibrium interest rates

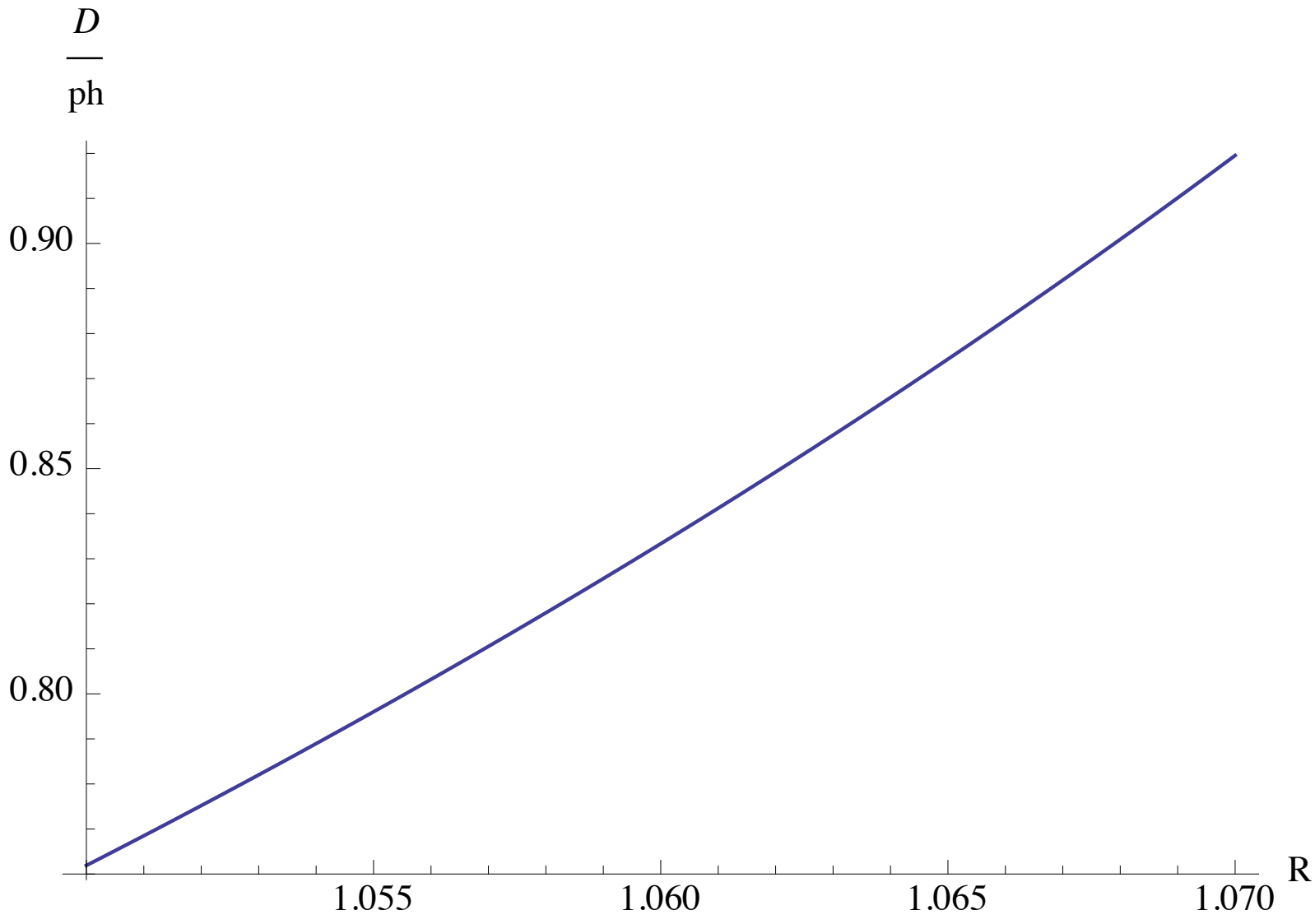
A toy example with default

- Borrow D with house as collateral $ph = e + D$
- With probability $1 - \pi$ pay back $D \times R$
- With probability π default, bank gets up to θph

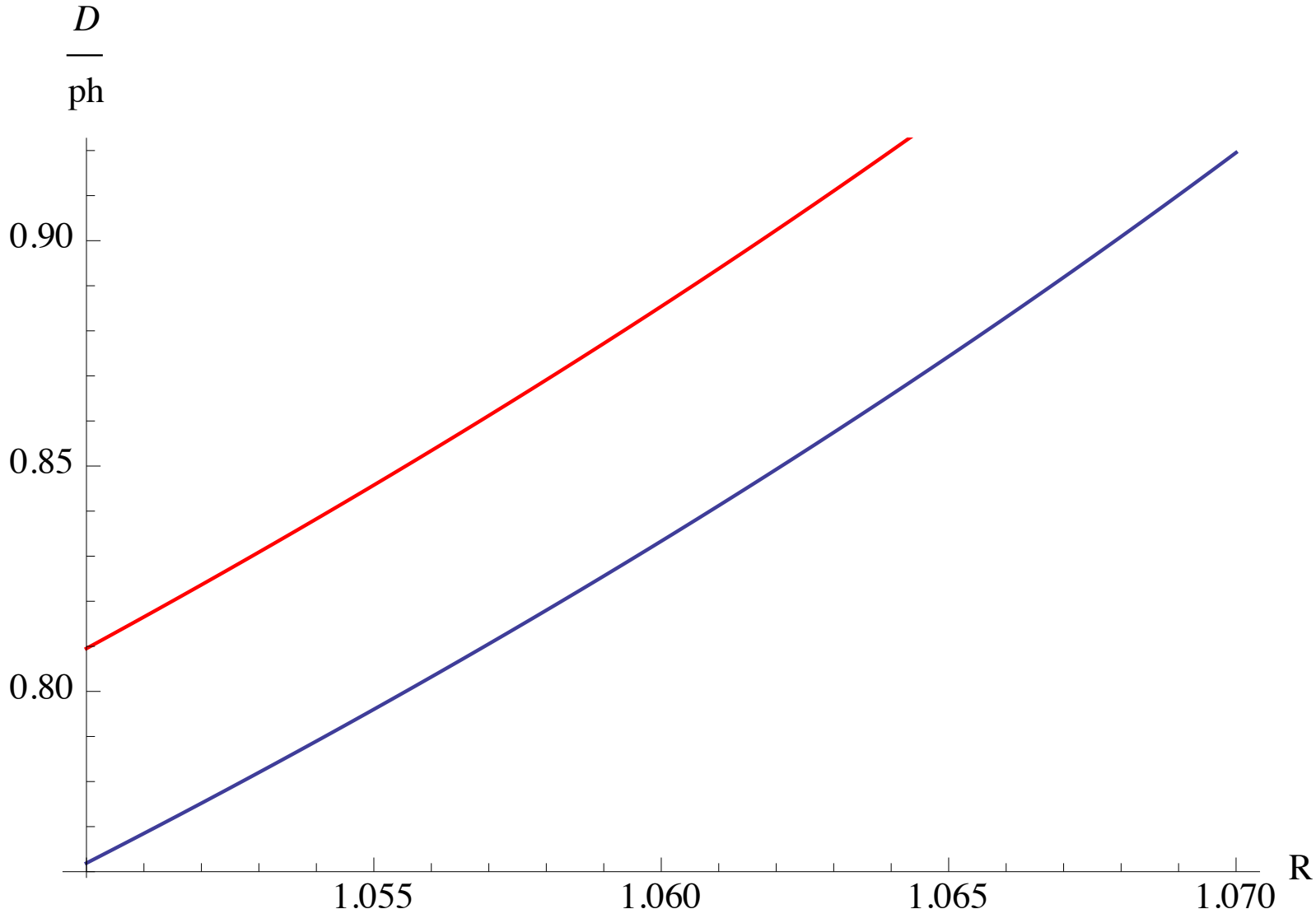
$$rD = (1 - \pi)DR + \pi\theta ph$$

$$\frac{D}{ph} = \frac{\pi\theta}{r - (1 - \pi)R}$$

LTV ratio as a function of R



If houses are better collateral: $\theta \uparrow$

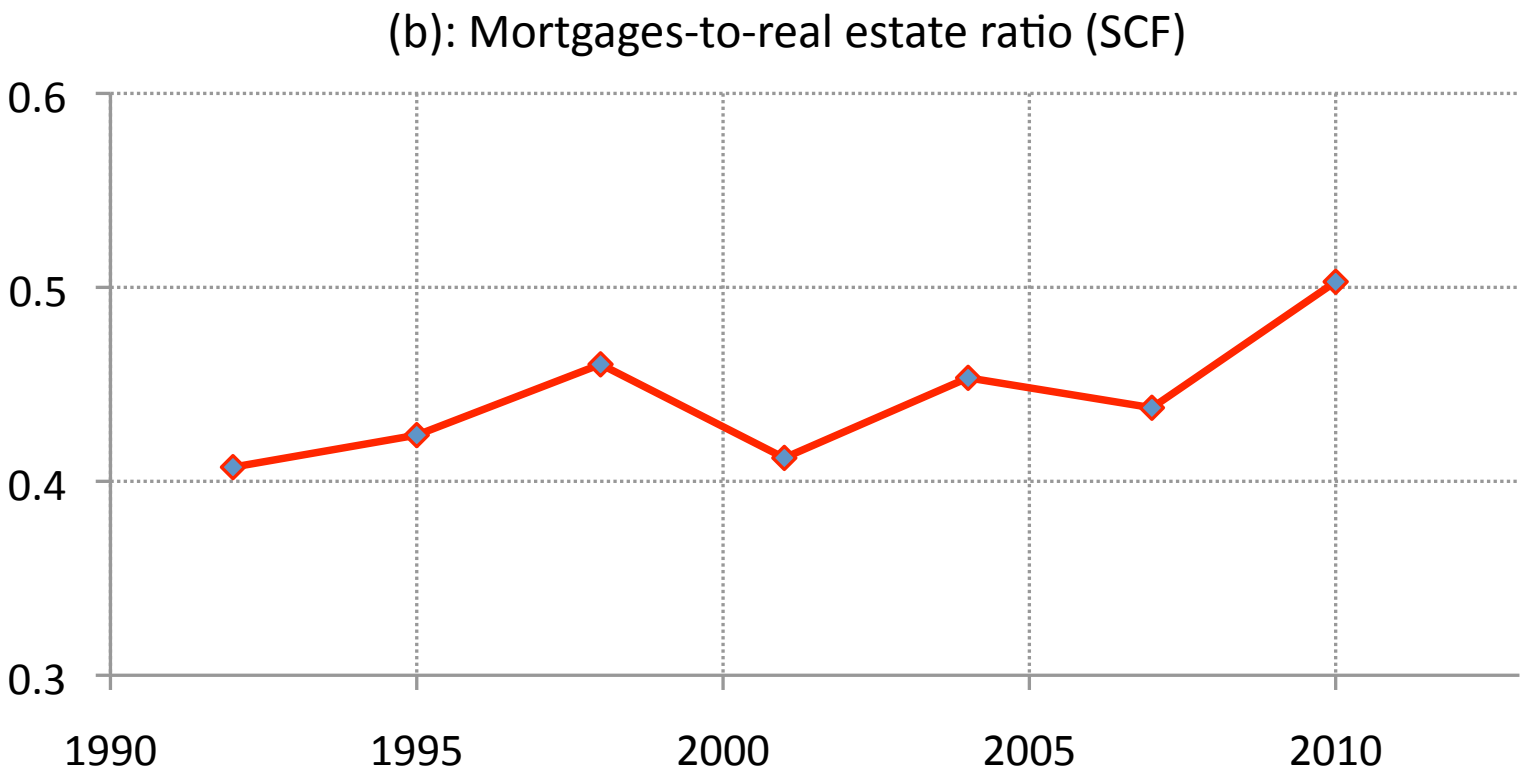


We can have $\theta \uparrow \Longrightarrow \ R \downarrow$

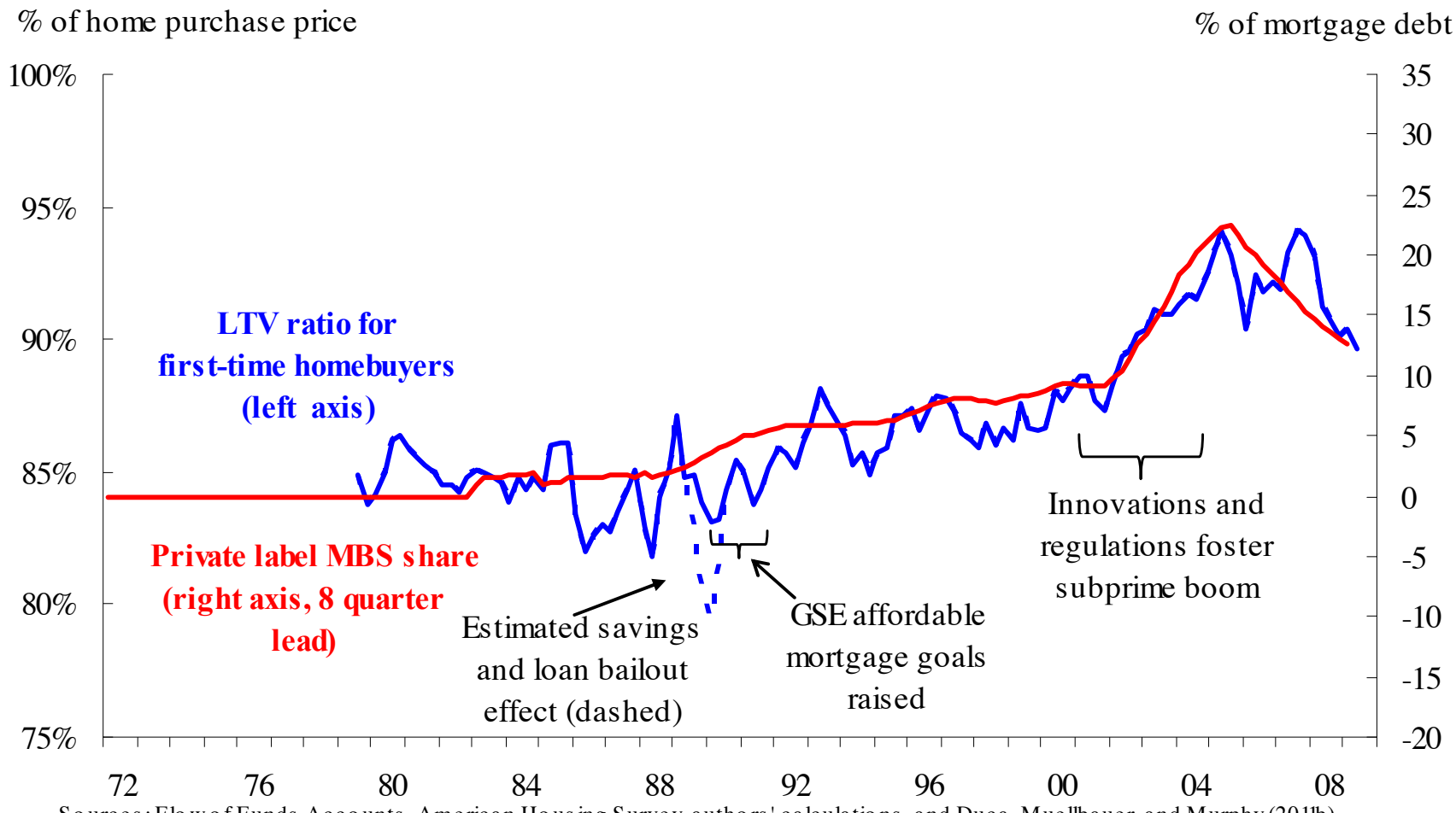
Mortgage heterogeneity

- Large variety of mortgage contracts
  - interest rate
  - LTV ratio
  - adjustable vs. fixed rate,
  - prepayment penalties, etc.
- Change in composition: growth of non-traditional mortgages
  - e.g. subprime, alt-A

Fact 3: constant aggregate LTV ratio



Composition effect?



Sources: Flow of Funds Accounts, American Housing Survey, authors' calculations, and Duca, Muellbauer, and Murphy (2011b).

Conclusion

- Housing boom driven by increase in supply of credit
  - I would put more emphasis on supply of total savings, rather than Treasuries vs. mortgages, e.g. "world savings glut"
- Looser collateral constraints could also increase the "supply of credit"