

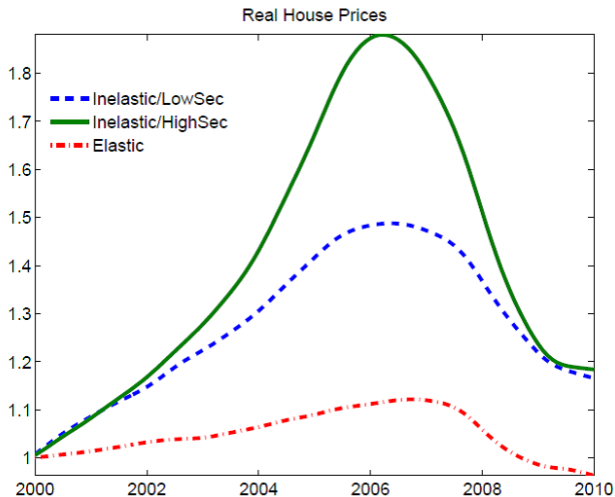
Discussion of “Credit Cycles with Market-Based Household Leverage”

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What caused the 2000s boom-bust cycle?



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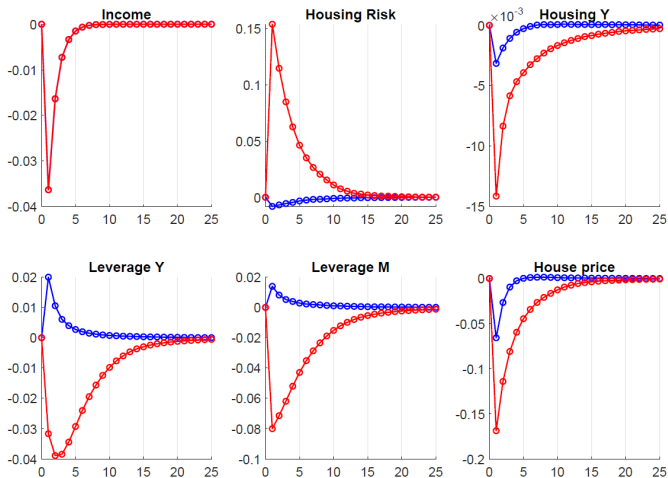
- Two (complementary) views of the housing boom-bust: credit supply vs. house price expectation channel.
- Large body of theoretical papers in support of both views:
 - Credit view: Favilukis et al. (2017), Justiniano et al. (2017),... and Greenwald-Guren (2019)
 - Expectation view: Kaplan-Mitman-Violante (2016), Kozlowski-Veldkamp-Venkateswaran (2020)
- Vast empirical evidence in support of both views:
 - Credit view: Mian-Sufi (2009), Di Maggio Kermani (2017)
 - Expectation view: Adelino-Schoar-Severino (2016), Willen-Foot-Loewenstein (2019)
- Despite this massive literature, almost all theoretical papers model credit supply as a relaxation of hard borrowing constraint.
 - Corbae-Quintin (2015) is an exception. But even there, mortgage choices are very limited.

This paper

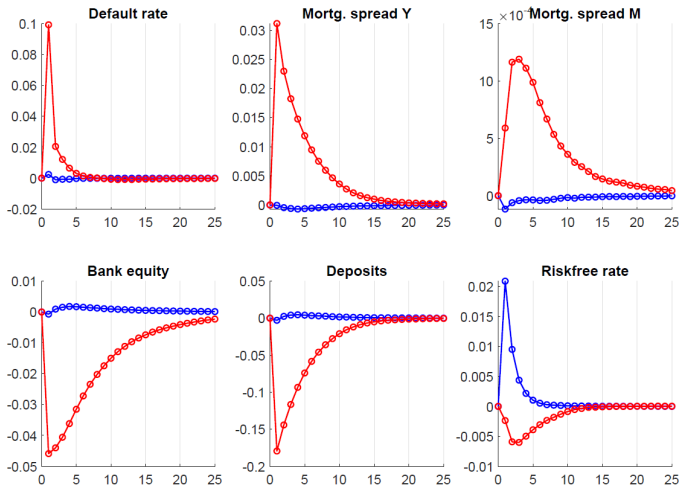
- Endogenize the choice of leverage by explicitly modeling the supply and demand of mortgages.
- Mortgages are supplied by constrained financial intermediaries.
 - Financial intermediaries commit to a dividend payout policy and raising capital is costly \Rightarrow FIs are constrained.
 - Financial intermediaries face a capital requirement constraint \Rightarrow Riskier mortgages have higher capital requirements.
- Hard credit constraint is replaced by a credit surface.
 - Higher leverage/higher borrower risk is associated with higher interest rate.
 - higher interest rate reflects both higher probability of default and higher cost of capital.
- Initial housing risk \Rightarrow increase in defaults \Rightarrow reduction in FI equity \Rightarrow further increase in mortgage spreads.

Normal recession vs. housing recession

- Blue: Normal Recession, Red: Housing Recession

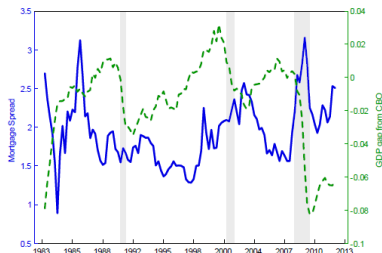


Normal recession vs. housing recession



Comment 1: how large was the change in mortgage spreads in 2000s?

- The central mechanism in the paper is the endogenous change in mortgage spreads (or credit surface).
- Would be great to start with showing more direct evidence on the changes in credit surface during 2000s.



Mortgage spread of 30 Yr FRM with LTV = 80%
source: Walentin 2015

- Changes in credit surface should be the main parameter that disciplines the model's parameters.

Comment 2: Endogenous vs. exogenous increase in spreads

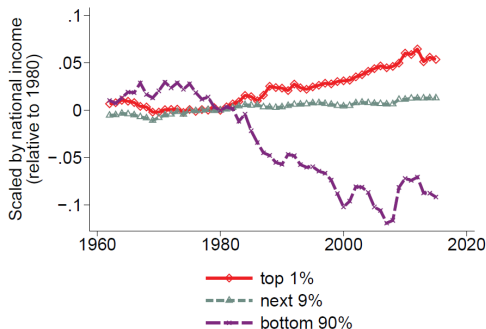
- In the model, in a housing recession spreads increase b/c:
 - exogenous part: Housing volatility $\uparrow \Rightarrow$ Default risk \uparrow
 - endogenous part: Defaults $\uparrow \Rightarrow$ Bank capital $\downarrow \Rightarrow$ spread \uparrow
- Would be great to do a simple decomposition of change in mortgage spread to:
 - The exogenous part (risk neutral pricing) = $LGD \times \Delta Default$
 - endogenous part = Total change in spread $- (LGD \times \Delta Default)$

Comment 3: Importance of GSEs and QE

- During the period after the financial crisis more than 85% of all new mortgages were insured by GSEs.
- Given the government backing of GSEs, their pricing of credit risk should be close to the risk neutral case.
 - GSEs can reduce the amplification of the housing recession significantly.
- MBS purchases by the Fed reduced the mortgage spread further more.
 - By 2012, if anything, credit spreads for conforming loan with $LTV \leq 80\%$ is even lower than its level in 2006.
- This may limit the importance of this channel in explaining the downturn.
- As of now, the increase in the mortgage spread during the crisis is more than 4 times what is in the data.

Comment 4: Do we need a full GE model?

- The data suggests that the funding for the housing boom had two main sources:
 - Global saving glut
 - Domestic saving glut (Kumhof-Ranciere-Winant 2015, Mian-Sufi-Straub 2020)
- Both of these groups are not competing in the housing market.



Other comments

- Elasticity of housing supply: In the model housing is fixed.
 - Inelastic regions housing boom was twice larger than the average housing boom.
 - Important in quantifying how much of the aggregate fluctuation is driven by the model prediction.
- Short term debt vs. long term debt.
- Exogenous dividend policy and the sluggish recapitalization of banks.
 - It takes banks more than 10 years before they recapitalize.
 - Most banks in the US they recapitalized by mid 2009.