Discussion of "Financial Fragility with SAM?" by Dan Greenwald, Tim Landvoigt & Stijn Van Nieuwerburgh

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  - Three types of agents: borrowers, depositors, bankers
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  - Aggregate endowment risk, and housing prefence shocks
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- Model mortgages as nominal perpetuities:
  - Benchmark: No indexation
  - Consider various SAM mortgages

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- What underlies the welfare results?
  - Indexation makes mortgages more costly
  - $\Rightarrow$ lower demand for housing
  - $\Rightarrow$ lower house prices
  - $\Rightarrow$ lower (deadweight) housing maintenance costs

Overview of Results

- SAM indexed to aggregate house prices:
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  - Has minimal effects on mortgage default
  - Increases bank default risk
  - Increases aggregate welfare
- SAM indexed to "local" house prices:
  - Improves risk-sharing
  - Significantly reduces mortgage default
  - Decreases bank default risk
  - Decreases aggregate welfare

What is a financial recession?

- Financial recession in the model driven by increase in variance of housing quality shock, ω and negative preference shock for housing ξ and drop in income.
  - House prices fall $\sim 8\%$
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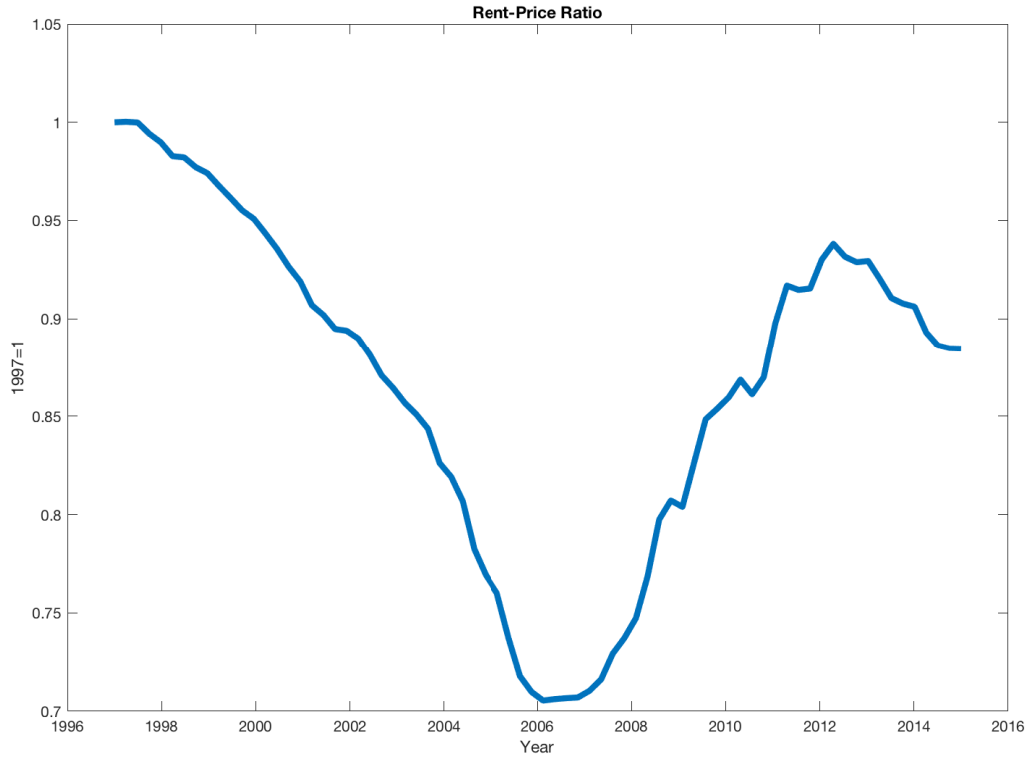
- Is this the right way to think about what drives a crisis?
- Debt-financed bailout more contractionary than tax financed?

House prices and quality shocks

- How much of default is driven by p_t vs ω_{it}?
- Would be nice to unpack change in ω vs ξ
- Is local indexation better targeted or is it insuring a different kind of shock?
  - ω_{it} is a *permanent shock* to housing stock
  - p_t is mean reverting value of housing
- Clearly desirability (and ability) to insure ω shocks different that movements in p_t
- Is this how we should think about local vs aggregate house prices?

Rent-Price Ratio

- What do the dynamics of the rent-price ratio look like?



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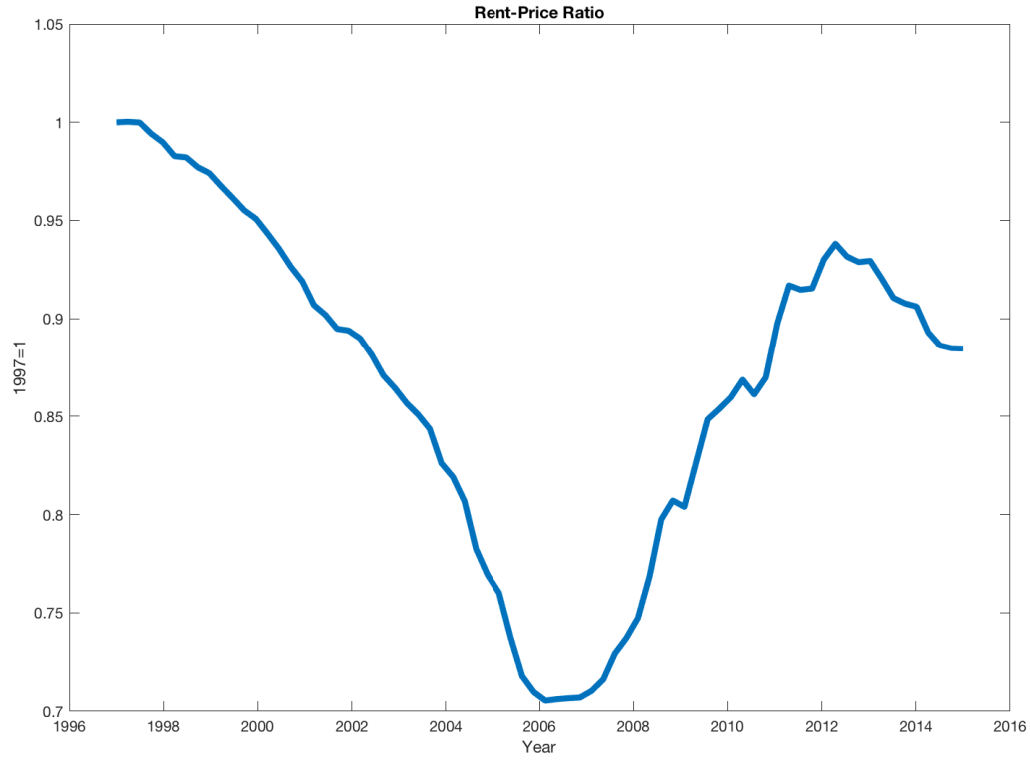

- Given fixed housing stock, conjecture: rents must fall at least at much as prices in the financial recesssion...
- How should we interpret p_t dynamics with counterfactual ρ_t/p_t dynamics?

Asset Space

- Housing is the only asset in positive net supply in the model
- Savers can only save through intermediated mortgages
- No capital in the economy, no government debt
  - Does this make savers consumption too sensitive to mortgage debt?
  - Does it make risk-fee rate too sensitive to mortgage debt?
- How much is risk-sharing limited by the restriction on the asset space?
- To what extent can households already replicate some features of SAM mortgages through asset markets?

Distributional Implications

- Limited heterogeneity in the model
  - Everyone is a homeowner
  - Borrowers have perfect consumption insurance against idiosyncratic risk
  - Foreclosure not really adverse event to household
  - Foreclosure doesn't depend on LTV

Indexation in Practice

- Given the availability of house price indices, why haven't we seen these contracts in practice?
- Authors implicitly assumed there exists a perfectly measured index for local house prices
- Hartman-Glaser & Hébert (2017) show that if:
  - Indices of a noisy measure of the risk households would like to hedge
  - Lenders have private information about the quality of the index
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- How predictive are local HPI for defaults? Liquidity effects? Idiosyncratic income risk?

Concluding Thoughts

- Very nice paper investigating SAM mortgages in GE
- Thought provoking results on financial fragility when indexing to aggregate house prices
- Clearly important to study in GE framework
- Look forward to seeing the next version