Discussion of "Housing Over Time and Over the Life Cycle: A Structural Estimation" by Wenli Li, Haiyong Liu and Rui Yao

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- Key results estimated are a housing adjument cost of 15% of house value, and an intratemporal elasticity of substitution between housing and non-housing consumption of 0.33.
- Elasticity different from macro studies: blame aggregation.
- Counterfactual analysis based on estimated structural model: how much consumption and homeownership changes after exogenous house price changes?

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- In principle, method is simple: find which moments are of interest and match them.

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- In practice, it might be good to think where identification might come from (Which moments to match?) and whether matching means vs medians matters.

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- Main difference in this paper (that I have not seen anywhere else) is the matching of moments over time simultaneously with the life cycle. More challenging but this means that assumptions need to be spelled out more clearly: macro shocks here enter only through house prices, is that sufficient?

Current Paper

- Main difference from structural estimations before is equation (2):

$$U(C_t, H_t; N_t) = N_t \left[(1-\omega) \left(\frac{C_t}{N_t} \right)^{1-\frac{1}{\zeta}} + \omega \left(\frac{H_t}{N_t} \right)^{1-\frac{1}{\zeta}} \right]^{\frac{1}{1-\frac{1}{\zeta}}}$$

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- Plus endogenous renter vs homeownership choice, plus a bequest motive.
- Labor income: Carroll (1997) process, reestimated for net labor income, permanent vs transitory shock decomposition as in Carroll and Samwick (1997).

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- Estimate for 3 cohorts, over 21 states, 11 moments for a total of 693 moments (section 3.3.1: would be good to explicitly state which are the 11 moments being matched).

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- Low mobility means high adjustment costs (15% of house value).
- Need a bequest motive plus reasonable discount factor (0.96) and risk aversion (6).
- Share parameter: $\omega = 0.000256$ and $\zeta = 0.33$.

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- Very small ω. This is identified through "CS and TS variation of house-value-income ratio and home-ownership rates". Cannot see how ω can be identified without any non-housing consumption information?
- Also, main result that can be cited extensively is that ζ is much lower than its estimates from macro studies. Reason given: aggregation bias. Maybe. To make the conjencture convincing, build up an aggregate series from micro data used here, and estimate what is estimated in other papers with macro data. Does conjencture then hold? Which part of aggregation bias should we be worried about in this case?

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- Figure 6 shows house value to income ratio but which part comes from endogenous house size choices and which from exogenous house price changes?

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- I would cite Deaton (1991) and Carroll (1997) as the calibration pre-cursors of the estimation.
- Question: any idea why the standard errors in the estimation are so small?