

Endogenous Life-Cycle Housing Investment and Portfolio Allocation

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Summary

Motivation

- Housing investment might crowd out risky assets
- Shed light on
 - ① Low stock market participation
 - ② Low equity holdings
- Other studies set household preferences exogenously

Contribution

- Epstein-Zin preferences (EZ): disentangle relative risk aversion (RRA) and elasticity of intertemporal substitution (EIS)
- Estimate RRA and EIS

Summary

Model

- Life-cycle model
- Households consume numeraire and housing goods
- 3 asset classes
 - ① Save bond (& mortgages)
 - ② Risky equity
 - ③ Risky housing
- 3 types of risk
 - ① Labor income
 - ② Equity prices
 - ③ House prices

Summary

Calibration

- Choose RRA and EIS to match
 - 1 Equity market participation
 - 2 Equity investment shares
 - 3 Homeownership

Quantitative Findings

- Housing investment crowds out investment in risky assets
- Fit level of equity market participation and homeownership
- EZ preferences are not too important

Discussion

Important question, powerful model to tackle it

Focus / Contribution

- Crowd-out is established in literature
- Focus on quantitative contribution (→ see later)
- Emphasize difference to literature, especially Yao and Zhang (2005)

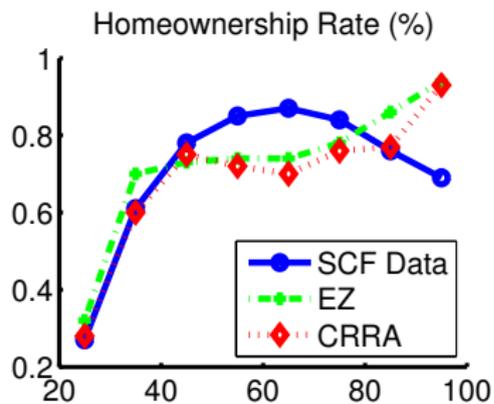
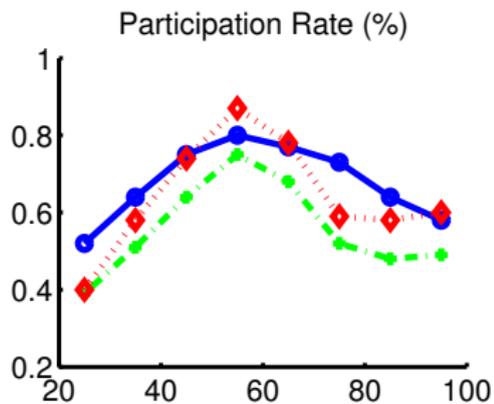
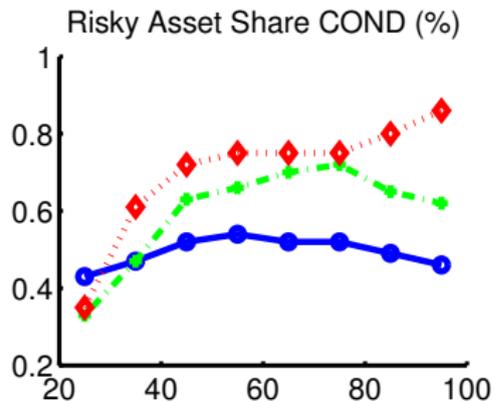
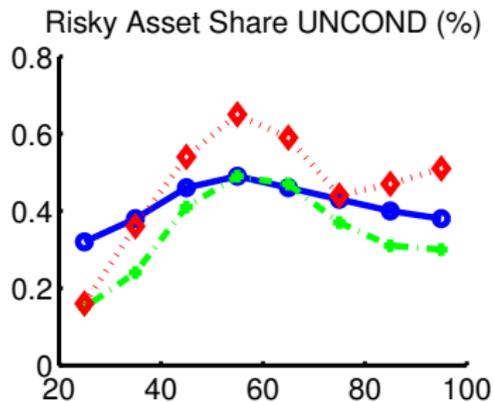
Calibration

- 1 Improved fit of low participation rate and low risky investment share
 - ⇒ Directly targeted
 - 2 EZ does better than CRRA
 - ⇒ Additional degree of freedom in over-identified SMM
 - ⇒ Exogenous moments: debt/income ratios etc.?
- What is calibrated vs. what drives results?
 - ⇒ Preference parameters vs. frictions & inefficiencies
 - Discipline exogenous processes
 - ⇒ Price correlations, mortgage interest rate, ...
 - Income process controlling for gender, education, marriage?
 - EIS parameter noisy
 - ⇒ Not too different from inverse of RRA parameter

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Data Fit



Model

- Better fit homeownership
 - Moving shock
 - “More concave” bequest motive
- Empty budget sets for low house prices and low income?
 - Cannot stay in house (mortgage rate $>$ income)
 - Cannot move (mortgage $>$ house price)
- Timing: Does household observe current wage when choosing consumption and investment?

- Given the complex asset structure, it would be very interesting to explore the trade-offs of different assets in more detail.
- Reverse mortgage should increase old-age homeownership rates (and thus works against you).
- I think higher risk in house prices lets young households buy houses because – in some cases – prices drop low enough to afford a decently-sized house. I do not believe it is because young households are risk-loving. That would mean the value function is not concave.
- I don't understand Table 7. Which cost are varied and which rates are reported?