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House Prices and Consumer Spending
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General remarks:

- Consumption represents more than two thirds of GDP.
  - In the recent U.S. recession there was a large and persistent weakness in consumer spending, large changes in house prices.
  - How do changes in house prices affect consumption?

Many different estimates in the literature:

- Case, Quigley, and Shiller (2005, 2013): large wealth effects of the housing market, smaller of the stock market.
- Attanasio and Weber (1994), Attanasio, Blow, Hamilton, Leicester (2009): small wealth effects, common casualty hypothesis.
- Campbell and Cocco (2007): large wealth effects, MPC out of housing wealth equal to 0.08.
- Carroll, Otsuka, and Slacalek (2011): short run MPC equal to 0.02, long run response equal to 0.09.
- Mian, Rao, and Suffi (2013): MPC equal to 0.05.
- Christelis, Georgarakos, Jappeli (2015): MPC equal to 0.01.
- Angrisani, Hurd, and Rohwedder (2015): MPC equal to 0.07.

Why these different estimates?

Empirical:

- Differences in the data used: aggregate versus micro data; sample period covered; etc.
- Differences in the estimation approach: Euler equation estimation versus consumption function estimation (Cristini and Sanz, 2014).
- Need (better) models to guide the empirical work. This paper!

Theory:

This paper	The literature
Substitution effect	
Income effect	Wealth effect
Endowment effect	
Collateral effect	Collateral effect
	Common factors

Cobb-Douglas preferences

What is the elasticity of substitution between housing and non-durable consumption?

- C-D preferences: income and substitution effects cancel out.
- Simplifies the analysis. To what extent is it driving some of the results in the paper?
- And what is this the empirical evidence on the value for the elasticity of substitution between housing and non-durable consumption when we assume more general CES preferences?

Estimates from the literature:

- Pakos (2011): 0.083.
- Flavin and Nakagawa (2008): 0.13.
- Gomes, Kogan, and Yogo (2009): 0.60.
- Davis and Martin (2009): 1.25.
- Piazzesi, Schneider, Tuzel (2007): 1.25.
- Bajari, Chan, Krueger, Miller (2013): 4.55.
- It would be great to bring the literature on the wealth effects of house price changes and this literature closer.

Common factor hypothesis

Very little discussion in the paper on the common factors

- House prices may respond to future income prospects to which current consumption also responds provided that households are not borrowing constrained (King, 1990, Pagano, 1990).
- Financial liberalization may drive up house prices and stimulate consumption by relaxing borrowing constraints on all consumers (Attanasio and Weber, 1994, Muelbauer and Murphy, 1997).
- Campbell and Cocco (2007): predictable changes in house prices are correlated with predictable changes in consumption also for renters.
- Other channels Sterk (2015): a reduction in house prices reduces geographical mobility and creates distortions in the labor market.
- How to think of common factors in the context of this paper?
  - Increase in house prices coincides with a positive income shock.
  - Increase in house prices coincides with a relaxation of the down payment constraint.
  - Increase in house prices coincides with a decrease in the cost of borrowing.

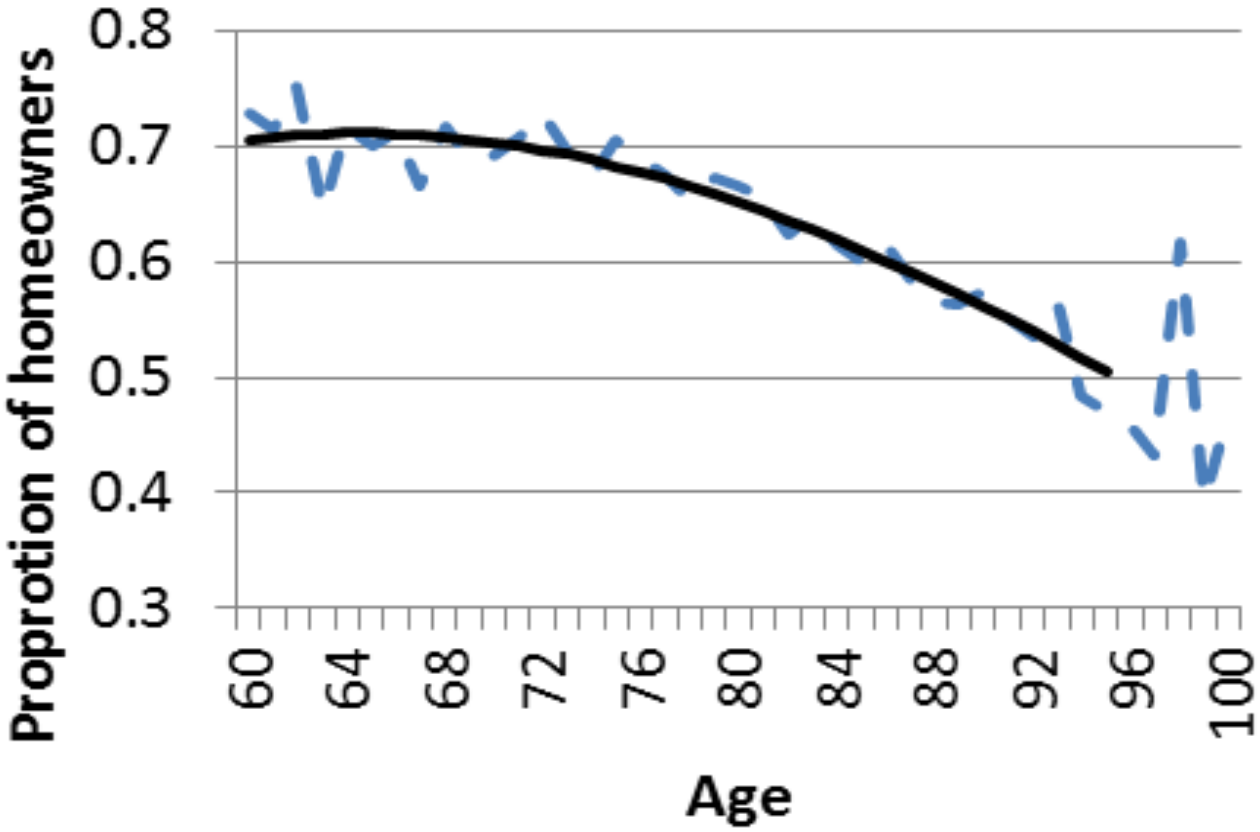
  (One step towards endogeneizing house prices in the model)
- What is the consumption response in these cases? How much larger would the MPC be?

More specific comments I

- Collateral constraint based on next period's house prices and not current house prices.
  - No mortgage default.
  - But how is default ruled out?
  - Shock sufficiently small that no individuals with negative home equity?
- What is happening with the old in the model?
  - Wealth effects should be particularly large for the old. (e.g. model by Attanasio, Leicester, and Wakefield, 2011).
  - Why is that not the case in this model? Bequest motive? How strong is it?
  - Are you giving the young the wealth that the old bequeath? It could help you match the data better.
  - In general, matching the behaviour of the old is particularly difficult. Leading explanations in the literature: bequest motives and precautionary savings motives.

Age and homeownership rates

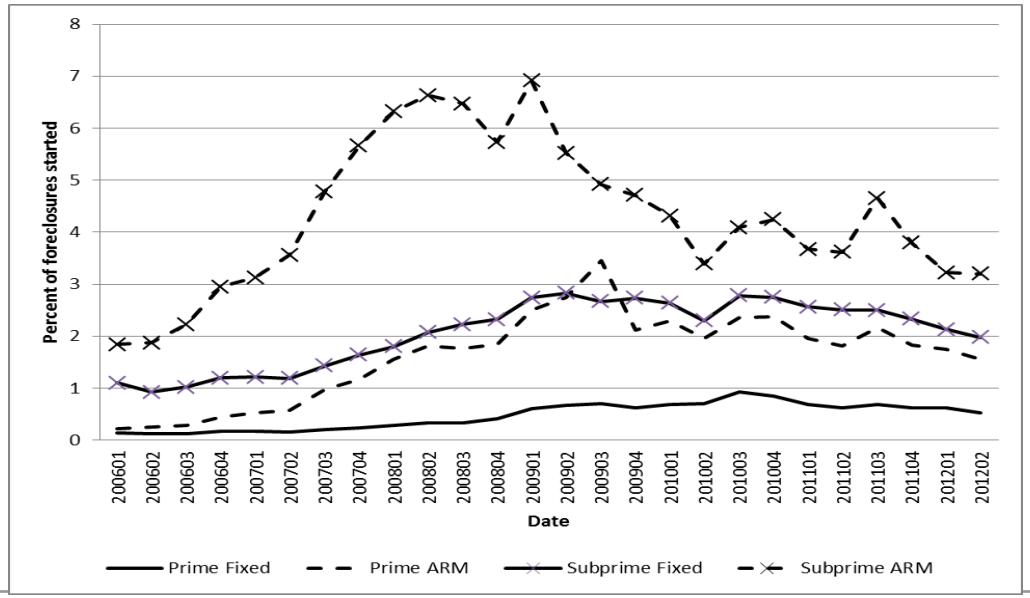
- Age-homeownsership rates in HRS data (controlling for cohort effects):



- Willingness of old households to substitute housing consumption for other consumption?
  - And is it about housing in general?
  - Or about their specific house, i.e. the house that they have lived in for a number of years?

Consumer heterogeneity

- The model tries to match age profiles from 2001 SCF data.
  - Cohort and age effects interpreted purely as age effects?
  - Are demographics taken into account when estimating the age profiles to match?
- Not very keen on bubble experiment.
- Heterogeneity in consumer preferences or in the ex-ante characteristics of their human capital
  - Seems to be important when looking at the data.
  - How much does it affect the model implied MPCs?
  - In the recent U.S. housing downturn there were higher default rates on adjustable rate mortgages in spite of the low interest rate environment.



Foreclosures started by loan type (percent). The data are from the *National Delinquency Survey* of the Mortgage Bankers Association.

Concluding remarks

- Important question
- Nice model
- Can try to use it to guide the empirical analysis
- Think more about the role of the elasticity of substitution between housing and non-durable consumption.
- And the common factors/correlations within the model.
- I look forward to reading the next version!

THANK YOU