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Saving up or settling down: Home ownership over the life cycle ☆

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ABSTRACT

In a Bewley model with endogenous price volatility, home ownership and mobility across locations and jobs, we assess the contribution of financial constraints, housing illiquidities and house price risk to home ownership over the life cycle. The model can explain the rise in home ownership and fall in mobility over the life cycle. While some households rent due to borrowing constraints in the mortgage market, factors that affect propensities to save and move, such as risky house values and transactions costs, are equally important determinants of the ownership rate.

1. Introduction

What accounts for the steep, upward life cycle profile of home ownership in the United States? There are several popular explanations: borrowing constraints in the mortgage market that prevent young households from purchasing housing; the illiquidity of owner-occupied housing that makes rental housing preferable for young, mobile households; and changes in the hedging motives of households when housing is risky.

In this paper, we build a life cycle model that can explain the observed rise in home ownership over the life cycle while also matching the fall in mobility and the rise in wealth over the life cycle. The model, which features risky house values and borrowing constraints, encompasses the above, popular explanations for home ownership. We are thus able to assess how important savings motives (life cycle, precautionary and down payment accrual), hedging/insurance motives and mobility concerns are to explaining why some working-age households rent while others own.

Each explanation has found supporting evidence in the data. Young households are more mobile than older households: they are more likely to move to a new home (Fig. 5), to move to a new U.S. state and to move for self-reported "job reasons" (Fig. 7). Similarly, young renters are more mobile than young owners (Fig. 6). Young households are also poorer, with lower wealth and income, on average, than middle-aged households (Fig. 9).

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We find that removing the down payment requirement for buying a house does not make home ownership that much more attractive. In fact, removing the transactions costs of home ownership has a larger affect on home ownership rates, particularly in general equilibrium. We find little evidence that home ownership is a special source of insurance for households.

Our contribution is on two fronts. Models of home ownership choices over the life cycle in general equilibrium (e.g. Gervais, 2002; Chambers et al., 2009a) study incomplete markets settings in the tradition of Aiyagari (1994) and Bewley (1984). We extend the literature by endogenously incorporating location choice, ownership and house price risk into a GE model of housing. These additions are key to generating the observed patterns of household mobility, without which there is no way to measure the importance of housing illiquidity. Moreover volatility in prices is obviously necessary for generating hedging motives.

To generate volatility and mobility, we situate a Bewley-type model of earnings shocks in incomplete markets in a Lucas and Prescott (1971)-like island model of housing and labor markets. Exogenous stochastic variation in the quality of the local labor market will create endogenous household mobility and movements in house prices and rents.

Heterogeneous agent, incomplete-market models with non-constant prices typically feature infinite-dimensional state variables in the agents' decision problems, and thus afford only approximate solutions (as in, for instance, Krusell and Smith, 1998). Our economy, which follows from a simpler setting in Halket (2012), has an exact stationary equilibrium in which the price of housing in a location in equilibrium is dependent only on the location's productivity. This allows us to characterize prices and allocations without having to keep track of distributions over households at every location.

On the quantitative front, we evaluate consumer behavior in the presence of housing and location choice using the baseline model. Despite the many reasons to study home ownership,[2] there is little consensus on which determinants of the relative value of owning versus renting offered are quantitatively meaningful. While explanations like borrowing constraints are known to explain why some households choose to rent, we do not know whether it can explain why most renters choose to rent. We provide a dynamic, stochastic, general equilibrium model, parametrized to match U.S. data from before the recent housing boom and bust, which can measure the relative importance of several prominent theories.

We conduct a series of counterfactual experiments to evaluate the relative impact of various factors in the ownership choice decision. We find that households that are financing constrained are more likely to adjust along the intensive margin than the extensive margin, as in Ortalo-Magne and Rady (2006); about twice as many first-time home buyers in the model would buy larger houses rather than buy earlier in their life cycle if down payment requirements were relaxed. Therefore, lower down payment requirements lead to only small changes in the home ownership rate; consistent with the findings in Chambers et al. (2009b).

Moreover households in the model can also adjust along a margin novel to the literature: when down payment requirements are high, they can choose to live in a location with lower house prices. As such, we find that lowering the required down payment increases the dispersion across locations of house prices. The intuition is as follows: households weigh the tradeoff of living in high productivity locations with the high cost of housing in those locations, leading to limited[3] positive assortive matching. Young households in particular sort strongly since they have relatively little wealth. Credit constraints limit sorting: the inability to borrow against future earnings reduces a wealth-poor but high ability household's desire to move to expensive locations. When constraints are partially relaxed, more young households want to live in productive locations pushing up the price of housing in those locations and decreasing the price in low productivity locations.

Changes in the cost of mobility have larger effects on home ownership patterns. Households that expect to move soon, either for family or career (earnings related) reasons, rent to avoid paying the high transaction costs for buying and selling a house. When the relative transaction costs of moving into rental and owner-occupied housing are equalized (in the base economy, owner-occupied housing is much more costly), housing consumption and prices go up. Home ownership also increases by 25 percent more than the increase that occurs with no down payment. Home ownership choices are as much about "settling down" (i.e. lower expected future mobility) as "saving up" (i.e. being able to afford a down payment).

Young households would like to insure themselves against future labor earnings shocks; young households that save anything do so for primarily precautionary reasons. By buying a house with a mortgage, a household is instead taking a leveraged position in an illiquid asset that is positively correlated with its labor earnings. So, home equity is less useful than liquid wealth for precautionary savings for young households – as Ejarque and Leth-Petersen (2009) finds. In our model with incomplete markets, *ceteris paribus*, owner-occupiers will optimally hold more wealth than renters, in part for insurance reasons. Many young households rent because owning a home means accruing home equity and thus financial wealth at a point in their life cycle where households would rather be borrowing against their future earnings – as in Chen (2010), which finds that more liquid savings accounts (i.e. reducing social security pensions) would increase home ownership. As a household's intertemporal marginal rate of substitution changes as it ages, so will its willingness to hold the extra precautionary savings that owning compels and thus its willingness to own, similar to the findings for income-linked assets in Fuster and Willen (2011).

[2] Home ownership plays a key role in many studies of, among others, the response of consumption to changes in housing wealth (Case et al., 2005; Campbell and Cocco, 2007), household portfolios (Flavin and Yamashita, 2002), investment volatility (Fisher and Gervais, 2007), the regional mobility of households and the propensity to default (Ferreira et al., 2010; Sterk, 2010), and house price dynamics (Ortalo-Magne and Rady, 2006).

[3] "Limited" in part due to the transaction costs of moving and in part due to wealth effects.

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