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Housing equity, residential mobility and commuting

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ABSTRACT

Highly productive economies require a flexible labor force with workers that move in accordance with the changing demand for goods and services. In times with falling housing prices, the mobility of home owning workers may be hampered by a lock-in effect of low or even negative housing equity. This paper explores the effect of housing equity on both the residential mobility and the commuting pattern of homeowners. We merge administrative registers for the Danish population and properties and get highly reliable micro data for our analysis. We find that low and negative housing equity substantially reduces residential mobility among homeowners. The negative effect of locked-in low equity families on labor market mobility may be mitigated by commuting. However, our results show that family heads in low or negative equity homes are not found to commute more than households with higher housing equity, but also that a considerable fraction of home owning family heads commute. The analysis of the joint decision of homeowners to commute or move shows that the option of moving, as an alternative to not moving and not commuting, is chosen by five to six percent of homeowners with low housing equity, while the option of not moving but commuting is chosen by 60%.

1. Introduction

A flexible labor market requires mobile workers that move in accordance with demand. The moves can occur between different types of workplaces within an area, between different types of jobs within firms, and between workplaces in different areas. The latter often requires geographical mobility beyond commuting. It is a well-established observation in the empirical literature that homeowners move less than tenants, and Oswald (1996) conjectured a positive relation between a country's unemployment rate and the rate of homeownership. While Nickell (1998), analyzing labor markets in OECD countries, was unable to confirm this, Oswald's relation was confirmed for U.S. data by Green and Hendershott (2001) for the middle age (35–64) classes. Green and Hendershott reckoned that homeowners may self-select as persons with high preferences for longer housing spells. If so, homeowners may compensate for this through a higher probability of finding and keeping local jobs. Van Leuvensteijn and Koning (2004) find stronger job commitment for Dutch homeowners, but also high job-to-job mobility. A strong preference for local jobs may give homeowners low reservation wages compared to tenants. On the other hand, if homeowners have longer employment spells, employers may invest more in their training and pay higher wages. Munch et al. (2006, 2008) find a negative correlation between Danish homeownership and the risk of unemployment, and a positive correlation between homeownership and the wage level.

Even though the relation between homeownership and the productive capacity of an economy may not be unilaterally negative, it seems that factors that temporarily make it more costly for homeowners to move will increase the gap between the actual and the potential output and reduce the welfare obtainable from the housing stock. One such factor could be a negative development of housing prices that reduces equity and pushes some homeowners under water. The association between the loan-to-value (LTV) ratios of homeowners and their mobility is the first focus of this study. However, reduced labor market flexibility for homeowners that are locked in because of low housing equity could be mitigated by an increase in their mobility through more commuting. This is the second focus of this study.

We use micro data from Danish administrative registers. This allows us to sort out the family and job related changes that are the most decisive factors behind many moves. An important difference compared to earlier studies is that we use families as economic units. Our data cover the years 2003 to 2010 for families with a family head of age 20 to 60 years in 2010. The dataset includes 466,179 families and above 2.5 million observations. The home values that we use are tax appraisal values for each home

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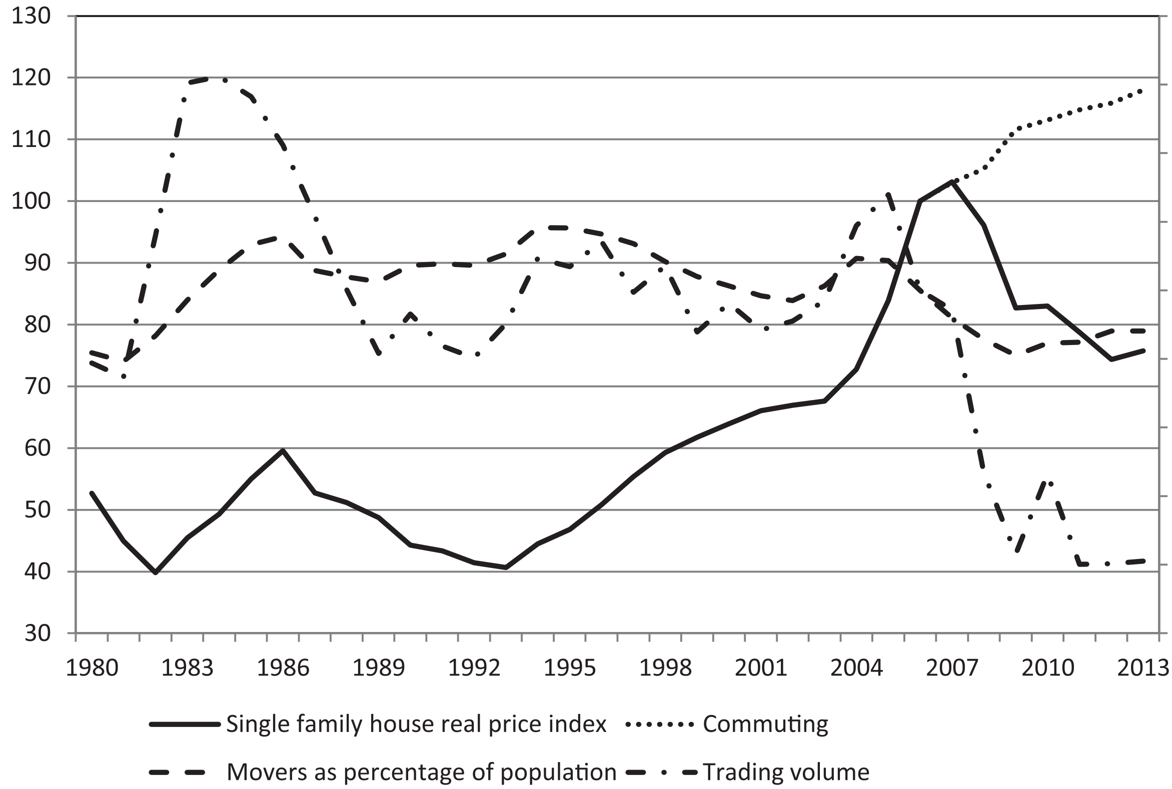

Fig. 1. Real housing prices, trading volume, and the percentage of movers and commuters 1980–2013.
Notes: Left scale: The price index is Statistic Denmark's SPAR price index for single family houses deflated by the consumer price index. The number of persons (not only family heads) commuting between municipalities and having a distance of 20 km and more as percentage of all working persons (only 2006–2013). Right scale: The number of persons who change their registered address per January 1 in two consecutive years as a percent of the population on January 1 of the first year. The annual number of traded single family houses in ordinary sales. All series are indexed with 2006 = 100.
Source: Source: StatBank Denmark, Statistics Denmark.

corrected by local sales price appraisal rates (the SPAR method). Our analysis is confined to families who do not own other real estate than their home. This and data on the families' debt backed by housing collateral enables us to calculate reliable LTV ratios for the families. The moves are based on registered address changes of the persons involved. We define a move as a shift of address for all the persons in a family. The novelty in our study is a triple control for labor market conditions at the individual, the local, and the country levels. There is a clear association between these labor market variables and mobility, which should be disentangled from the influence of the housing market.

Equity locked-in homeowners may increase their job mobility by commuting. This aspect seems not to have been included in earlier studies. Our registers contain information on the persons' workplace, which allows us to include commuting as an alternative to moving. The head of the family is defined as being a commuter when the workplace is in a municipality different from the residential municipality.

The Danish economy in general and the housing market in particular had experienced a long positive period when eventually the housing price bubble busted in 2007 and a subsequent steep drop in prices followed; see Fig. 1. On the labor market the unemployment rate bottomed out with a rate of 3.5% in 2008 and peaked in 2011 with 7.6% unemployment.[1]

Our results confirm the negative relation between homeowners' LTV ratio and their mobility found by other authors, but the same relation is not found for the commuting of family heads. However, a considerable fraction of home owning family heads commute. A joint decision analysis of moving and commuting shows for families with low housing equity that while moving as an alternative to not moving and not commuting is chosen for five to six percent, the option of not moving but commuting is chosen by 60%.

The paper is organized as follows: Section two gives an overview of previous economic studies on equity and mobility, and section three describes the Danish housing market and the special Danish mortgage system. Section four presents the econometric model and section five the data. After this section six gives the results of three logit regressions on moves by families over the years 2005 to 2010. In section seven we include the possibility to commute. Finally, conclusions are drawn in section eight.

2. Literature review

We restrict the following survey to studies on the relation between housing equity and mobility and exclude the strand of literature that sees default as the exercise of a put option. This option is irrelevant for the Danish case, as Danish mortgages are full recourse loans. A chronological overview of earlier empirical papers is followed by some words on what is new in our study.

Henley (1998) uses four waves of the British Household Panel Survey 1991–1994 and applies a duration model. He has a number of family related control variables, but does not include the usual mobility triggers of changes in the family variables. Besides this, variables on house characteristics and the employment situation are included. Regressions are done for homeowners and moving can be split into moving into ownership, into public sector rental, and into private sector rental. Housing equity is captured by three variables for outright ownership, the amount of equity in £, and

[1] OECD harmonized unemployment rates.