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Viola Angelini, Agar Brugiavini and Guglielmo Weber

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Viola Angelini, University of Groningen
Agar Brugiavini, Università Ca' Foscari di Venezia
Guglielmo Weber, Università di Padova and CEPR

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ABSTRACT

The Dynamics of Homeownership Among the 50+ in Europe*

We use life history data covering households in thirteen European countries to analyse residential moves past age 50. We observe four types of moves: renting to owning, owning to renting, trading up or trading down for home-owners. We find that in the younger group (aged 50-64) trading up and purchase decisions prevail; in the older group (65+), trading down and selling are more common. Overall, moves are rare, particularly in Southern European countries. Most moves are driven by changes in household composition (divorce, widowhood, nest-leaving by children), but economic factors play a role: low income households who are house-rich and cash-poor are more likely to sell their home late in life.

Viola Angelini
Department of Economics,
Econometrics & Finance
P.O. Box 800
9700 AV Groningen
THE NETHERLANDS

Email: v.angelini@rug.nl

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Agar Brugiavini
Dipartimento di Economia
Università Cà Foscari di Venezia
Dorsoduro 3246
Venezia
ITALY

Email: brugiavi@unive.it

For further Discussion Papers by this author see:
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Guglielmo Weber
Department of Economics "M. Fanno"
University of Padua
Via del Santo 33
I-35121 Padova
ITALY

Email: guglielmo.weber@unipd.it

Introduction

Housing is the most widely held asset for individual investors and, therefore, an important component of household wealth in many European countries. Over 70% of households aged 50 or over are home-owners, and this fraction is relatively stable at older ages. Understanding the reasons why individuals choose to own their home, and fail to reduce housing equity by trading down or moving into rented accommodation in the last years of their life is an interesting research agenda for economists and social scientists in general and has important policy implications in ageing societies.

Compared to other forms of savings for old age, homeownership offers some advantages. Purchasing a home is similar to purchasing an annuity to insure housing consumption (by owning their home, consumers can insure against the risk of rent inflation, Sinai and Souleles, 2005). Moreover, the home may be seen as a secure asset in case of need and perceived as a substitute for the purchase of long term care insurance. It is also a family asset that may be transmitted to the next generation. These advantages are weighted against the drawbacks of over consumption in old age (for those who are house rich and cash poor), low portfolio diversification (the price risk may be important if all assets are in the home), and illiquidity (drawing equity in case of need is not easy).

In order to preserve a good standard of living, elderly individuals should release home equity, by either taking up a mortgage, or by downsizing, or by selling and moving into rented accommodation. The life cycle model of saving under borrowing constraints predicts a hump shaped homeownership age profile (Artle and Varayia, 1978). The ownership rate increases with age as people save and become home-owners, and declines in old age as people draw on their housing equity. This is in sharp contrast with what we observe in the data, as stressed by Venti and Wise (1994).

We know from the first two waves of the Survey of Health, Ageing and Retirement in Europe (SHARE) that large fractions of households report difficulties making ends meet. This is particularly true of renters, but is quite common among home-owners as well. In fact, Angelini, Brugiavini and Weber (2009) argue that the failure to use financial instruments that reduce home equity (like mortgages or reverse mortgages) late in life is partly responsible for financial hardship among elderly Europeans. The alternative way to reduce home equity, which involves trading down on the housing ladder, is reportedly rarely used, but evidence on this point is mostly anecdotal.

Chiuri and Jappelli (2010) use repeated cross section data to show that few households cease to be home owners late in life.

In this paper we use in life-history data from the third wave of SHARE (known as SHARELIFE) to estimate age-tenure profiles and transition probabilities from owning to renting or to owning a smaller unit in old age. SHARELIFE is a unique data source that exploits recall information on respondents' life histories in a number of domains, including home moves, changes in demographics (marriage, divorce, birth of children and their nest-leaving), changes in jobs and retirement, periods of unemployment, hunger, poor health and financial hardship, as well as living conditions at age ten. The recent volume edited by Börsch-Supan et al. (2011) gives a first, partial account of the many domains covered by the survey.

Thanks to the richness of the data, we are able to address the issue of housing mobility over the life cycle, compare the homeownership age profiles of those currently fifty or more years old across countries and cohorts, and study what makes households more likely to move and change their housing tenure. Of particular interest is the question of whether and to what extent "house rich, cash-poor" elderly households draw down housing wealth during retirement. We show in this paper how the downsizing decision is related to a number of shocks that affect individuals, but also to the availability of mortgage instruments and an adequate level of income.

Our estimation strategy focuses on housing transitions in the second half of the life cycle. For this reason, we use the life history data to construct a panel, where each individual appears at all ages past age 50 up to current age. For instance, we ask: What is the chance that 60-year old individuals change their housing tenure choice within a year, as a function of time-invariant characteristics, initial conditions (as of age 60) and changes in relevant variables?

Housing choice transitions are characterized as follows: a first group of individuals has no change or moves from rent to rent; a second group moves from rent (age 60) to own (age 61); a third group changes from own (age 60) to rent (age 61), a fourth group trades down by selling and buying a cheaper home, a fifth group instead trades up by selling and buying a more expensive home.

Conditioning variables are time invariant characteristics (such as living conditions and school performance at age 10, that capture long-term access to resource), level variables (demographics, employment status, health, permanent income, stress, financial distress, all taken at age 60) and their changes between 60 and 61 (nest leaving by the children, bereavement, divorce, retirement, changes in stress, financial distress etc).

In our analysis we first document some patterns in the data concerning mobility and home-ownership age profiles for three different cohorts (generations) in thirteen European countries. We then investigate patterns of housing transitions by running a simple logit regression for renters, whose choice is whether to stay renters or become owners, and a multinomial logit for owners, who face a wider choice set, that includes trading up, down, moving into rented accommodation or staying in their present accommodation. This analysis highlights the need to explain why so few elderly home-owners release equity by trading down or moving into rented accommodation.

We therefore discuss results from a model that provides us with a richer framework of analysis to investigate the determinants of the choice of 65+ homeowners to sell and become renters, recently developed in a path-breaking paper by Nakajima and Telyukova (2011). That paper stresses the role of housing wealth in explaining limited wealth decumulation past retirement age in the US. Our empirical analysis on European data brings out the importance of economic variables, but also confirms the overarching role played by changes in health and demographics late in life.

The paper is organized as follows: in Section 1 we present the data and provide some graphical evidence and descriptive statistics on number of moves by age and country and home-ownership age profiles. In Section 2 we document the number of transactions over the life course and present estimation results of the transition probabilities past age 50 separately for current owners and current renters, by age band (50-64, 65 and over). This section highlights the need for a more thorough investigation of the probability of moving from home-ownership to renting late in life that is carried out in Section 3. Section 4 concludes.

1. Some facts on residential mobility and home-ownership rates.

In this paper we use data from the third wave of SHARE (the Survey of Health, Ageing and Retirement in Europe), which includes information on the life histories of almost 30,000 respondents in 13 European countries, ranging from childhood major health events, to accommodation and parental background, to complete work, accommodation and health histories during adulthood.

These data provide information on individual respondents since they left their parental home. This implies that we have information on housing tenure choices made by respondents and their spouses over the course of their lives only when this was accompanied by a physical move to a different place of residence (or domicile). Changes in housing tenure that were not accompanied by a move are not recorded. Thus we do not observe the purchase of the place of residence from the landlord – private or public as it may be – or its inheritance on the one hand; home reversion contracts on the main residence (also known as the sale of the naked ownership) on the other.

We do know about moves that do not involve a change in housing tenure, for instance those that involve the sale of the old home and purchase of a new one, and can even tell if such a move involved a positive or negative cash outlay, given that individuals report sale and purchase prices of the homes they owned.

What we can very well investigate with these data is individual housing mobility. A first indication of housing mobility is given by the total number of homes individuals ever had in their lifetime (so far). This information can be compared across countries.

Figure 1 shows that there are major differences across European countries: Northern Europeans report an average number of 6 to 8 different main residences over their life course, while Southern and Eastern Europeans typically report less than four. Given that this includes the parental home, an average Greek, Polish or Czech apparently moved only once after the time of nest-leaving.
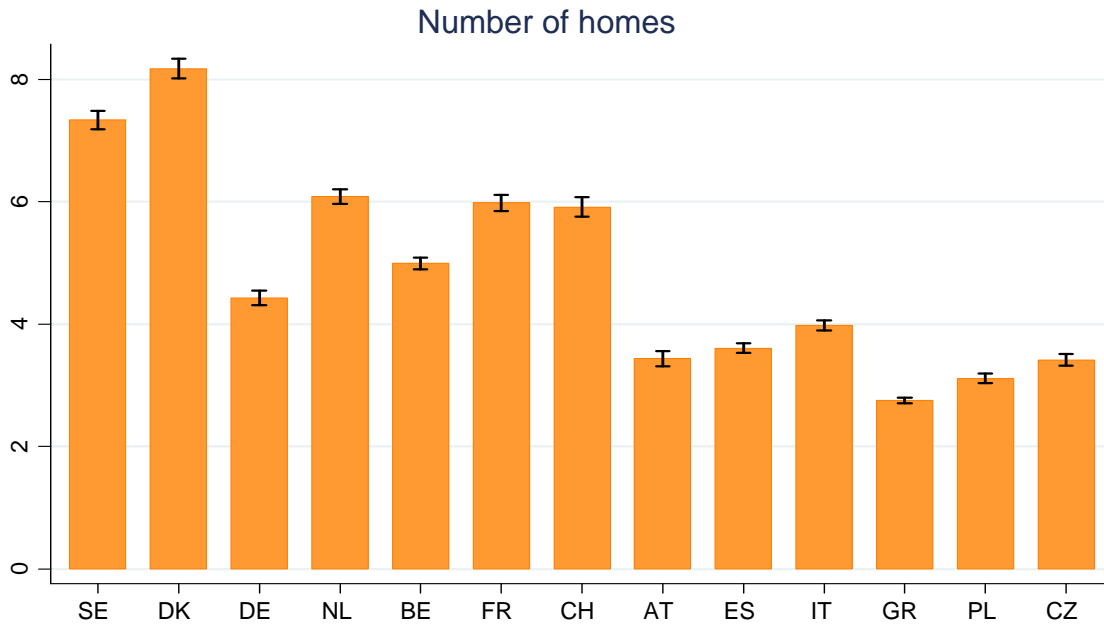
Figure 1 Average numbers of main residences by country

If we are interested in what people do in relatively older ages, it makes sense to look at the number of main residences owned or rented after age 50. We know from previous studies that non-durable consumption peaks around that age (Attanasio, Banks, Meghir and Weber, 1999), and household size also tends to decrease after that age (with important cross country differences). Figure 2 shows that in most countries a majority of individuals never change main residence after they reach age 50: only in Denmark, Sweden and the Netherlands the average number of main residences exceeds or comes close to the 1.5 mark.
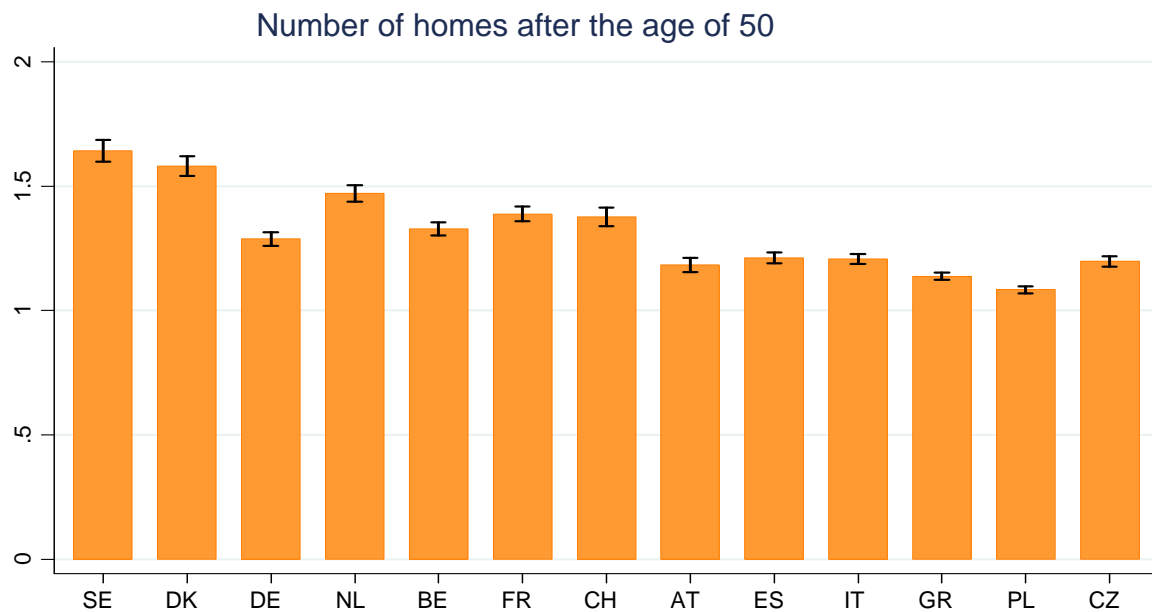
Figure 2 Average numbers of main residences by country past age 50

An issue we can investigate using our data is the prevalence of home-ownership across countries – in fact, we are able to plot age profiles for at least three cohorts of individuals, something that cannot be done using cross-section or even short panel data, as stressed in Angelini, Laferrère and Weber (2011).

Figure 3a presents home-ownership age profiles for three different generations (or year-of-birth cohorts). Cohort 1 consists of individuals born before 1935, cohort 2 of individuals born between 1935 and 1944 and cohort 3 of individuals born between 1945 and up to 1954. An individual is defined as a home-owner if he or she owned at least part of the main residence at the time of his or her latest move (as explained above, changes in ownership that do not involve a move are not recorded in the data).

The age profiles look quite similar nearly everywhere: an increase in homeownership up to age 50-59, then a levelling up and a small moving out of ownership in old age, after 70 in Denmark, Sweden and the Netherlands, and rather after age 80 in the other countries (except Poland and Greece where no moving out of homeownership is apparent).

The figure shows marked cohort effects in some, but not all, countries: the Netherlands, Sweden, France and the Czech Republic display three distinct lines, at least until relatively late ages. In other countries (France, Spain and Switzerland) there is a marked difference between the oldest cohort and the other two.

A point worth making is that these plots refer to individual ownership: a wife who lives with her husband will be considered a home-owner only if she owns at least part of their home. Some of the cohort (and even age) effects could thus be due to different laws/customs involving joint or separate ownership of a couple's main residence, and may also be affected by bereavement (a woman may become home-owner when her husband dies). As a way to check for the importance of this issue we plotted home-ownership age profiles by gender. For most countries the plots are very close to those reported in Figure 3a. In four countries, instead, we detect some differences (based on figure A1). For these countries, we display gender specific age profiles in Figure 3b.

We see that the countries where gender differences are noticeable are Sweden, Denmark, Spain and Italy. Cohort effects are much stronger for women in the first three countries, for men in Italy. Only in Denmark (and to some extent Sweden) the negative cohort effect for the oldest cohort of women persists to the end of the age range. In Spain there is convergence of the three lines around age 60, while the negative cohort effect for the oldest cohort of Italian men persists until late ages.

Because of the evidence shown above, we check in our empirical analysis if estimation results are the same for men and women (they normally are).
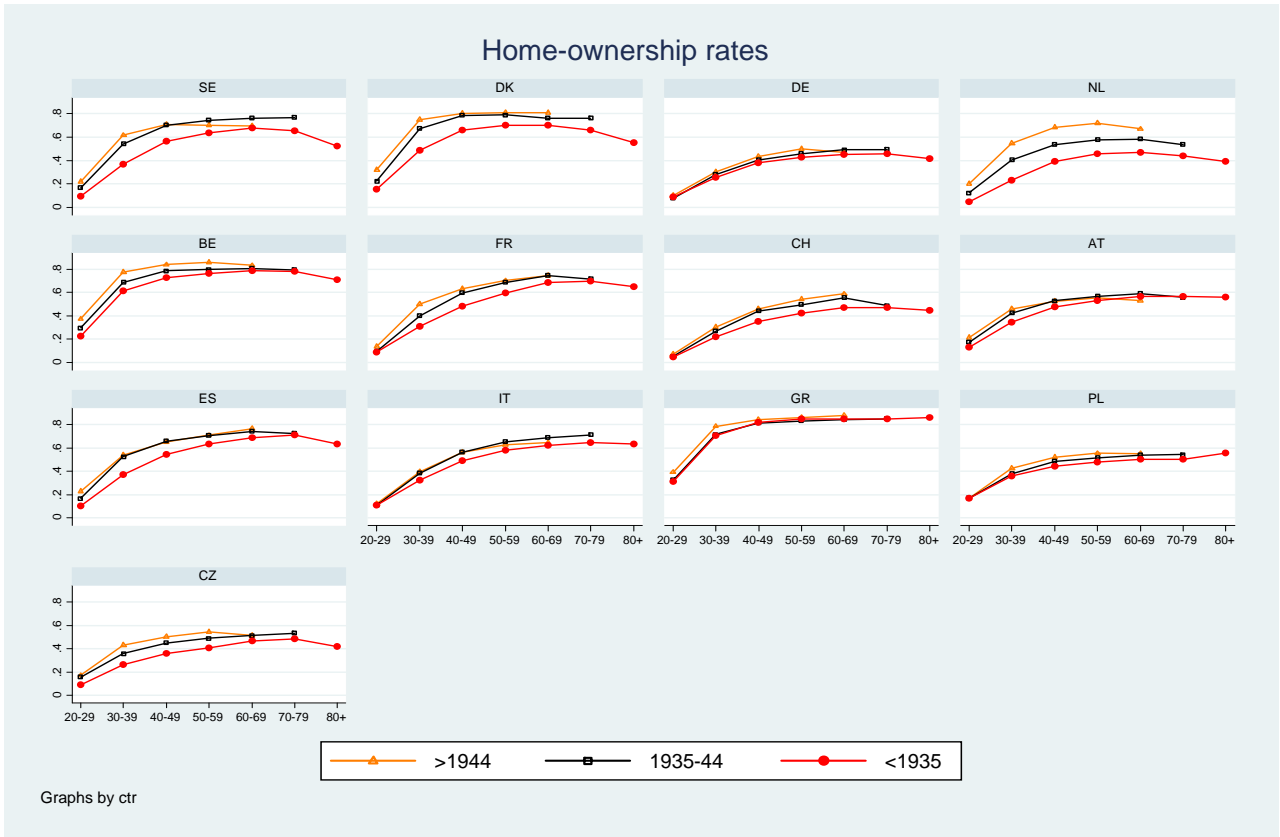
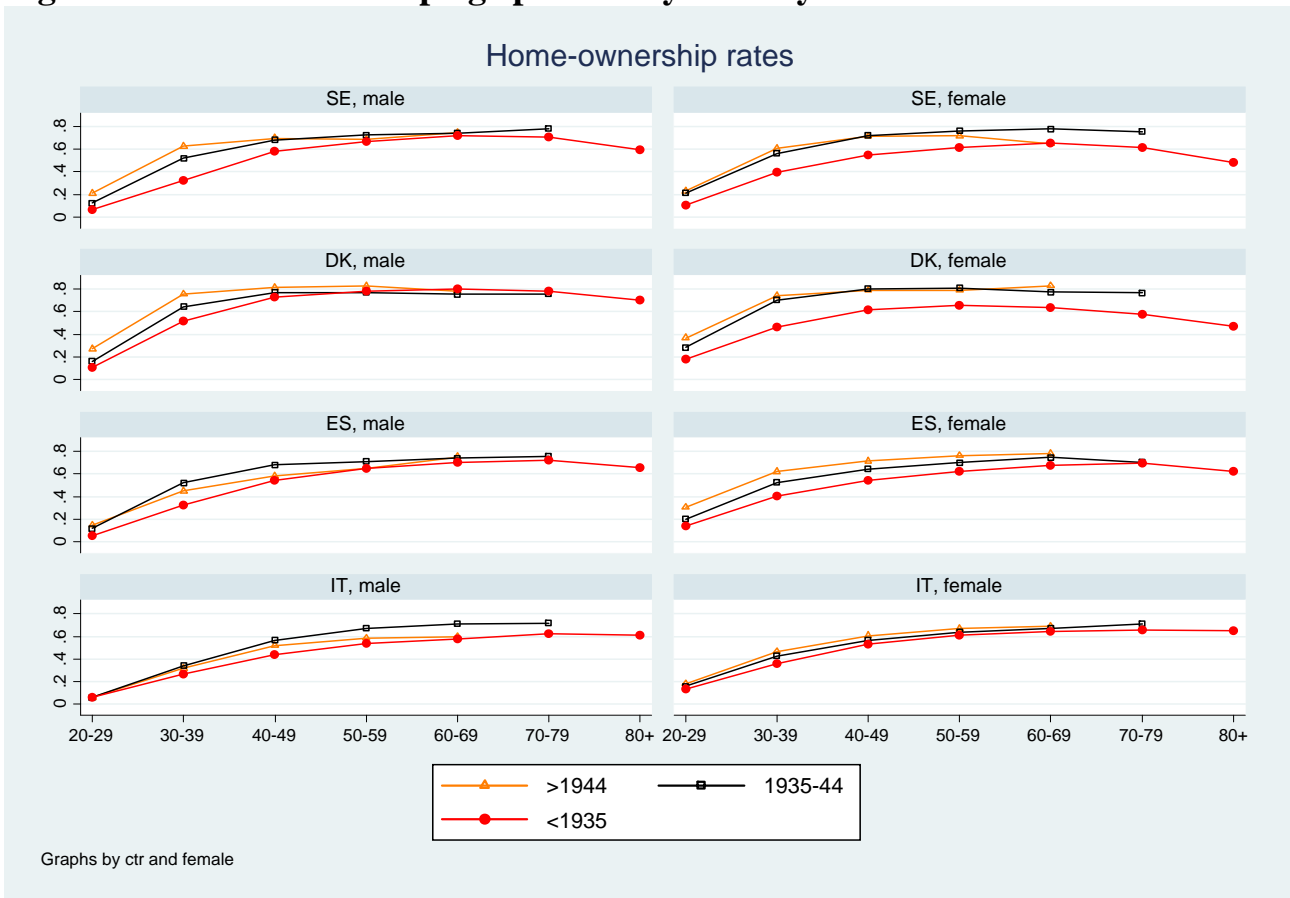**Figure 3a Home-ownership age profiles by country and cohort**

Figure 3b Home-ownership age profiles by sex, country and cohort

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2. Housing Transitions and Transition Probabilities

One of the interesting issues we intend to investigate is what makes people more likely to move, particularly if this move involves a change in housing tenure or a change in the financial resources available to an individual (trading down or trading up). The best way to address this question is to create a panel out of the life-history data in which each individual contributes as many observations as there are years of age.

The type of question the data so arranged can help addressing is the following: what is the chance that a 60-year old (say) changes its housing tenure choice within a year, as a function of both initial conditions (as of age 60) and of changes in relevant variables?

We can define our dependent variable Δy that denotes changes in housing choice as follows: it takes value 0 if there is no change or there is a move from rent to rent over the period; value 1 if there is a change from rent (age 60) to own (age 61); value 2 if there is a change from own (age 60) to rent (age 61), value 3 if own-own down, value 4 if own-own up. Note that there is no natural ordering of these transitions, so the values we attach to it are entirely arbitrary.

Conditioning variables are level variables prior to the period (demographics, health, financial hardship at age 59) and their changes between 59 and 60 (nest leaving, bereavement, divorce, retirement, better or worse health, start or end of financial hardship). Also, we consider early life conditions indicators, that proxy for access to life-time resources, and a set of country, age and time dummies.

In practice, for computational convenience and given the low incidence of transitions over single years of age, we take larger age brackets: 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80 and over. If more than a change occurs between ages 55 and 60, we ignore it, and focus on the change between ages 55 and 60. Initial conditions are computed at 55, changes between 55 and 59 for those who do not change in between, between 55 and a-1 if a change occurs at age a.

In Table 1 we report the actual number of transitions that we record for each age bracket. For most individuals we see no change within any age bracket. This is in line with the relatively low housing mobility among the 50+ as observed in Figure 2. However, we do observe a number of transitions, and these are the subject of our empirical investigation.

Table 1 Housing transitions by age bracket

Age bracket	Housing transitions					
	no change	rent-own	own - rent	own down	own up	Total
50-54	21,936	553	210	218	212	**23,129**
55-59	19,817	407	128	198	138	**20,688**
60-64	15,861	280	115	141	92	**16,489**
65-69	11,789	136	105	83	51	**12,164**
70-74	8,231	45	79	45	22	**8,422**
75-79	5,107	23	59	29	12	**5,230**
80+	2,607	6	57	15	8	**2,693**
Total	**85,348**	**1,450**	**753**	**729**	**535**	**88,815**

First of all, we see many transitions from rent to own prior to age 65 – we stress that "rent" includes here any type of accommodation that is not at least partly owned by the respondent. These transitions are most frequent in France, Switzerland, Spain, Italy and Sweden. Some could be due to inheritance because of loss of parents – however, in the age brackets 50-64 inheritance accounts for 11% of all moves from renting to owning. This type of transitions becomes less frequent past age 65.

The opposite transition, from owning to renting, is also relatively common – and becomes the most common at ages over 65. This type of transition can be considered a form of down-sizing or trading down, at least in wealth terms (unfortunately we do not know the number of rooms of each accommodation, only of the current one).

The 65 years of age cut-off roughly corresponds to retirement age in most European countries, and marks a natural watershed in asset accumulation decisions. Table 1 also suggests that individuals younger than 65 are more likely to be trading up in the housing market, while individuals past age 65 are instead more likely to be trading down in the housing market.

For these reasons, in the sequel we report descriptive statistics and (later) parameter estimates of transition equations by broader age groups: all observations on individuals aged less than 65 on the one hand, 65 or over on the other hand.

In Table 2 we report descriptive statistics for the variables used in our estimation. We can distinguish three groups of explanatory variables:

i. a first group of variables captures demographic characteristics (female, married, number of children and number of children living at home) and events (widowhood, divorce and nest leaving in the five years under consideration) which typically affect housing decisions,

ii. a second group measures general conditions (poor health, financial hardship) and their changes (better health, worse health, start of financial hardship, end of financial hardship) before the time when the housing change takes place

iii. a third group of variables (many books, overcrowding, good at math, good at literature) represents the "early conditions" in life, as measured at the age of 10.

Finally the variable "loan to value ratio" measures the accessibility to credit markets for older individuals who are home-owners.

Table 2 Descriptive statistics by age group

	Younger than 65		Older than 65	
	Mean	St. dev.	Mean	St. dev.
Home-owner	0.676	0.468	0.663	0.473
No change	0.962	0.191	0.976	0.152
Female	0.540	0.498	0.546	0.498
Number of children ever	2.214	1.355	2.303	1.510
Married	0.888	0.316	0.747	0.435
Widowhood	0.021	0.145	0.050	0.217
Divorce	0.008	0.088	0.002	0.044
Nr children at home start yr	1.068	1.221	0.409	0.901
Nest leaving	0.259	0.438	0.058	0.233
Poor health	0.119	0.323	0.186	0.389
Worse health	0.084	0.277	0.046	0.209
Better health	0.069	0.254	0.081	0.273
Hardship	0.067	0.251	0.049	0.216
Start of hardship	0.013	0.115	0.005	0.068
End of hardship	0.015	0.122	0.005	0.071
Early life conditions				
Many books	0.294	0.456	0.225	0.417
Over crowding	0.298	0.458	0.338	0.473
Good at maths	0.328	0.469	0.314	0.464
Good at verbal	0.336	0.472	0.324	0.468

Table 2 shows that two thirds of the individuals are home-owners, and the proportions are quite similar across the two age-bands. For most individuals no transition occurs over each the five-year period, but inaction is slightly more common among the 65+. The proportion of females is almost identical (around 54-55%), and the number of children respondents ever had is slightly larger for the 65+, but not by a wide margin (2.3 instead of 2.2). Marriage is much more common among the younger group – many more are single past age 65 because they lost their spouse some time in the past. The proportion of individuals who recently (past 5 years) lost their spouse ("Widowhood") is 2.1% in the younger group, 5% in the older one. A recent divorce is instead quite rare (less than 1%), particularly for the 65+. Important differences emerge when we look at the number of children living with the respondents – 1.068 for the younger group, 0.409 for the older one – and who left the parental home over the 5 years (0.259 versus 0.058). Poor health (self-reported) is much more common among the 65+, but health seems to improve more/worsen less for the 65+ than for the younger age group. Financial hardship affects roughly 5-6% of the sample, and is more common among the younger, and changes in financial hardship are mostly concentrated among the younger age group. Finally, early life conditions were better for the younger group, while relative school performance at age ten in mathematics and literature is quite stable.

In tables 3, 4 and 5 we report parameter estimates and standard errors of a simple model that explains transition probabilities. This model should be seen as a way to describe the data and highlight correlations that deserve further investigation – something that is done in the next section.

Table 3 presents estimates of a multinomial logit where the categories are "own to rent" (column 1), "own down" i.e. downsize (column 2) and "own up" (column 3), the reference group are individuals who report no change and remain owners of the same home. These estimates are carried out on the sample of individuals aged 50-64.

The results show that the demographic events are very important for changes in housing arrangements in the younger age group, particularly the events "widowhood" and "divorce" make it more likely to move into rented accommodation or to trade down (or even to trade up) while being married increases the probability of remaining owners of the initial home. Nest leaving by children increases the probability to remain in the initially-owned home, presumably because for the younger age group nest leaving (of one child) does not necessarily mean that all children have left.

Poor health makes a move more likely, perhaps because individuals need to find a home more suitable to their health condition. However, if health deteriorates, then moving becomes less likely because individuals might not be in the condition to undertake housing changes when ill. The

"early life conditions" do not seem to play a major role in this specification and the "loan to value ratio" is marginally significant only for the "own up" category, though with a negative sign (suggesting that trading up is financed through own funds and is not related to credit markets conditions).

In Table 4 we present the same specification for the older age group. The "married" dummy has a significant negative sign for the "own to rent" category and widowhood is also very significant (with a positive sign). By and large the demographic variables detecting relevant demographic events are much less important for the older age group. Poor health (and a deterioration of health) makes it more likely to move in the older group, possibly to a nursing home (which is part of the "rented" accommodation category). Early conditions do not seem to be important determinants of moves at older ages; our estimates suggest that having many books at the age of ten reduces the probability of moving into rented accommodation.

Table 5 presents estimates based on a logit regression for the transition "rent to own" for individuals who are initially renting. Column 1 is for observations of individuals younger than 65 and column 2 for observations older than 65.

Demographic events such as divorce increase the probability of moving from "rent" to "own" for the younger group, being married also increases this probability while "nest leaving" has the opposite effect (remain in rented accommodation). Once again "poor health" has a positive effect on the probability of a move while some of the "early conditions" seem to have a positive effect, suggesting that individuals who enjoyed better conditions early in life are more likely to become owners before age 65. We cannot control for loss of parents in the regression, but we know that only 11% of moves from renting to owning in the younger age group are related to receiving the home as a gift or bequest.

The move from renting to owning among the 65+ is quite rare, and very hard to predict. The only significant variables are the gender of the respondent (females are less likely to purchase), health improvement and the loan to value ratio (with a negative sign, contrary to what one may expect, possibly capturing the effect of other macro variables).

Table 3 – Estimates of multinomial logit for home-owners aged less than 65

COEFFICIENT	(1) Own rent	(2) Own down	(3) Own up
Female	0.107	-0.0218	-0.290***
	(0.11)	(0.097)	(0.11)
Number of children	0.0909*	0.210***	-0.0603
	(0.051)	(0.047)	(0.055)
Married	-0.714***	-0.104	0.218
	(0.17)	(0.18)	(0.21)
Widowhood	1.284***	0.818***	-0.641
	(0.25)	(0.26)	(0.58)
Divorce	3.445***	1.514***	0.910**
	(0.19)	(0.30)	(0.42)
Nr children in starting yr	0.0459	-0.0716	-0.0106
	(0.065)	(0.060)	(0.066)
Nest leaving	-1.129***	-0.798***	-0.962***
	(0.17)	(0.15)	(0.17)
Poor health	1.075***	1.096***	0.885***
	(0.18)	(0.16)	(0.19)
Worse health	-1.824***	-1.921***	-2.277***
	(0.39)	(0.38)	(0.51)
Better health	-3.437***	-2.392***	-1.872***
	(0.62)	(0.36)	(0.37)
Hardship	0.522*	0.639***	-0.119
	(0.27)	(0.24)	(0.34)
Hardship start	0.0813	-0.636	-15.82***
	(0.48)	(0.74)	(0.13)
Hardship end	-0.965	-1.372**	-1.402
	(0.63)	(0.63)	(1.06)
Loan to value ratio	0.00184	-0.00405	-0.0113*
	(0.0076)	(0.0062)	(0.0065)
Many books	0.0556	0.252**	0.128
	(0.12)	(0.11)	(0.12)
Over crowd	0.208	-0.00863	0.0439
	(0.14)	(0.14)	(0.15)
Good maths	0.135	0.0774	0.138
	(0.12)	(0.11)	(0.12)
Good verbal	-0.0523	0.0793	0.0901
	(0.12)	(0.11)	(0.12)
Constant	-3.124***	-3.087***	-2.158***
	(0.73)	(0.61)	(0.65)
Observations	36155	36155	36155

All specifications include a full set of country, age bracket and decade dummies
Reference group: no change - Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4 – Estimates of multinomial logit for home-owners aged 65 and over

COEFFICIENT	(1) Own rent	(2) Own down	(3) Own up
Female	0.151	0.165	-0.0228
	(0.14)	(0.18)	(0.24)
Number of children	-0.0315	0.159**	-0.182*
	(0.055)	(0.077)	(0.098)
Married	-0.504***	-0.259	0.409
	(0.16)	(0.21)	(0.33)
Widowhood	0.907***	0.274	0.169
	(0.22)	(0.38)	(0.48)
Divorce	2.708***	1.538	-23.90
	(0.55)	(1.07)	(379120)
Nr children in starting yr	0.189**	-0.0883	0.342**
	(0.095)	(0.16)	(0.15)
Nest leaving	-0.231	-0.657	-1.056
	(0.38)	(0.75)	(0.74)
Poor health	0.841***	0.846***	0.414
	(0.18)	(0.25)	(0.38)
Worse health	-0.339	-16.82	-0.601
	(0.39)	(2152)	(0.72)
Better health	-2.653***	-1.765***	-1.548*
	(0.61)	(0.56)	(0.80)
Hardship	0.0493	-16.11	0.146
	(0.40)	(2317)	(0.74)
Hardship start	1.206*	-16.75	-16.80
	(0.65)	(7107)	(10840)
Hardship end	-16.86	-0.525	-17.30
	(5281)	(7490)	(9575)
Loan to value ratio	-0.00684	0.0219*	0.00582
	(0.0082)	(0.013)	(0.014)
Many books	-0.456***	-0.131	0.151
	(0.16)	(0.19)	(0.27)
Over crowd	0.220	-0.00577	0.0478
	(0.15)	(0.22)	(0.29)
Good maths	-0.138	0.0545	-0.0537
	(0.15)	(0.19)	(0.27)
Good verbal	-0.0667	0.0519	0.399
	(0.15)	(0.19)	(0.27)
Constant	-1.475*	-5.885***	-5.435***
	(0.87)	(1.32)	(1.58)
Observations	16708	16708	16708

All specifications include a full set of country, age bracket and decade dummies
Reference group: no change - Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5 – Estimates of logit for renters (by age group)

COEFFICIENT	(1) rent_own	(2) rent_own
Female	-0.145*	-0.683***
	(0.076)	(0.20)
Number of children	0.00630	0.0636
	(0.035)	(0.080)
Married	0.575***	0.342
	(0.12)	(0.26)
Widowhood	0.279	0.494
	(0.23)	(0.39)
Divorce	1.203***	0.996
	(0.26)	(1.08)
Nr children in starting yr	0.0293	0.00407
	(0.044)	(0.13)
Nest leaving	-0.648***	-0.0908
	(0.11)	(0.38)
Poor health	0.923***	-0.130
	(0.14)	(0.39)
Worse health	-1.601***	-0.855
	(0.25)	(0.60)
Better health	-3.477***	-2.442**
	(0.47)	(1.07)
Hardship	-0.167	-0.758
	(0.18)	(0.60)
Hardship start	-0.447	-14.02
	(0.36)	(1071)
Hardship end	-1.735**	-13.18
	(0.73)	(1251)
Loan to value ratio	0.00244	-0.0261**
	(0.0053)	(0.012)
Many books	0.342***	0.0528
	(0.087)	(0.26)
Over crowd	-0.0396	0.198
	(0.091)	(0.21)
Good maths	0.222***	-0.239
	(0.084)	(0.24)
Good verbal	0.217**	0.310
	(0.086)	(0.24)
Constant	-3.106***	-2.184
	(0.52)	(1.38)
Observations	17296	8507

All specifications include a full set of country, age bracket and decade dummies
Reference group: no change - Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

3. Why don't elderly Europeans draw down home equity?

We saw in section 2 that there is some downsizing past age 65, but that this is relatively rare. Table 1 reveals that there are 300 transitions from home-ownership to rented accommodation, and 172 moves from a more expensive to a less expensive home. Given that we observe a total of 28509 potential transitions (most of which characterized by no change), the incidence of downsizing is a mere 1.65% over each 5-year period. Estimation results in Table 4 suggest that poor health and the loss of a spouse make people more likely to move from owning to renting, whilst being married and having many books as a child make people less likely to take this option.

If we want to understand why so few downsize, and in response to what changes people choose to downsize, we need a formal theoretical model. Most of the literature on demand for housing simply assumes the presence of a bequest motive to explain why the elderly do not downsize, but this is far from convincing, given that liquid wealth can as easily be bequeathed. For instance, Attanasio et al. (2011) leave housing tenure choice past age 60 unexplained, for lack of a plausible economic rationale of the wide-spread home-ownership in old age.

In a path-breaking paper, Nakajima and Terlukova (2011) have addressed the issue of home equity release late in life in a full-blown life-cycle model under uncertainty. In their model, that captures the salient features of the US welfare system and stylized facts from US micro data documented in Venti and Wise (2004), retired households face health risks, medical expenses risks and longevity risks (as in De Nardi, French and Jones, 2010), affecting both spouses. Their incomes are stable in real terms (except when either spouse dies) and house price inflation is known in advance by consumers. A distinctive feature of their model is the separation between housing wealth and financial wealth. Financial wealth can be held by all, housing wealth only by home-owners (other real estate and own business are ignored). Home-owners can sell and become renters, but pay a large transaction cost when they do – renters cannot become home-owners, but can change their consumption of housing services at no cost.

Crucial to their analysis are three assumptions they make:

1) home-owners enjoy housing services more than renters (there is a "pride of ownership" term in the utility function) – this is meant to capture the insurance properties of home-ownership, tax-advantages granted to home-owners, the fundamental rental externality discussed by Henderson and Ionnades (1983), as well as the extra freedom owners have of adapting their homes to their changing needs;

2) renters cannot borrow, home-owners can, but are subject to collateral constraints that change with age;

3) both home-owners and renters have a bequest motive.

They estimate a number of preference parameters (including risk aversion, pride of ownership, and the strength of the bequest motive) as well as the size of collateral constraints. Their estimates imply that borrowing becomes less and less easy for home-owners as they age, in line with observed debt behaviour of the different cohorts considered in their study.

In their analysis downsizing is typically triggered by a major life event like the loss of one's spouse or deteriorating health (that brings about the need for extra medical expenses), particularly in old age, when home equity release becomes more difficult. Selling one's home is also necessary to qualify for means-tested medical insurance – a feature that is meant to represent the way Medicaid works in most states of the US.

Their results point to the key role played by the bequest motive. A standard life-cycle model with longevity risk can explain 30-40% of the observed median net worth of the post-retirement cohorts they consider in their application. With a bequest motive this fraction increases with age, rising to at least 65% of median net worth for the youngest cohort and at most 90% for the oldest. Health and medical expenditure risks play some role for younger old, but not an important one for the other cohorts (at least at the median). Collateral constraints are also important and explain more of median net worth holdings than pride of ownership.

The results from structural estimation cited above are entirely based on US evidence. The question arises as to what extent these are driven by particular institutional details, such as means-tested free access to medical care in old age, or access to equity release schemes for elderly home-owners.

In this section we therefore provide prima-facie evidence for European countries on what affects the probability of selling their home for elderly consumers by taking into consideration some economic variables that the theoretical model suggest are likely to play a role.

In particular, we investigate the role of the following factors in triggering a transition from owning to renting (broadly defined to include all sort of housing arrangements other than ownership):

1) For individuals in poor health – whose medical or personal care expenses are projected to increase over the years – moving into rented accommodation releases wealth;

2) For individuals who lost their spouse, pension income may fall, plus the desired balance between non-durable consumption and housing services is affected, making them more likely to downsize

3) Home-owners whose life-expectancy has been reduced (because of a health shock, say) will also be induced to move from owning to renting;

4) Individuals high on housing wealth and low on financial wealth (house-rich cash-poor, according to the definition of Mitchell and Piggot, 2003, and Venti and Wise, 2004) are more likely to move into rented accommodation, particularly as they grow old.

Finally, individuals who enjoy a higher life-time wealth are more likely to have financial wealth as well as housing wealth, and are therefore less likely to be induced to trade down by financial considerations.

In Table 6 we explore the role played by the illiquid nature of housing wealth in prompting a move from owning to rented accommodation after age 65. We focus on those owners who either made no move or moved into rented accommodation during the five-year interval– we therefore drop from our sample those who rented at the beginning of the period, and those who engaged in an own-own transition during the period.

For each individual we compute the ratio of housing wealth to current income at the beginning of the period. Our theoretical model suggests that a high ratio should induce a move into rented accommodation, if financial forms of housing equity withdrawal are not available.

The numerator of this ratio, the value of housing wealth at the beginning of the period, is either known, for those who sold during the period, or can be imputed, by inflating or deflating the 2006 self assessed house values as reported in a previous wave of SHARE. Inflation/deflation was implemented by using country-specific house price indices.

The denominator of this ratio is given either by current pension income, or by the pension income that was earned at the beginning of the period. Given that pension incomes are typically stable in real terms, except in case of the loss of a spouse, when income typically decreases by 40%, we can construct a measure for all individuals.

The resulting house-income ratio has a median of 5.25, a 25th percentile of 2.10 and a 75th percentile of 9.92.

Table 6 – Probability of moving into rented accommodation for the 65+ as a function of the house value to income ratio

VARIABLES	(1) Own - rent	(2) Own – rent
Female	0.202	0.211
	(0.146)	(0.145)
Number of children	0.0260	0.0228
	(0.0582)	(0.0579)
Married	-0.571***	-0.578***
	(0.165)	(0.164)
Widowhood	0.843***	0.865***
	(0.250)	(0.246)
Nr of children in starting yr	0.0879	0.0960
	(0.106)	(0.105)
Nest leaving	-0.287	-0.306
	(0.463)	(0.463)
Poor health	0.927***	0.945***
	(0.204)	(0.202)
Worse health	-0.0752	-0.0686
	(0.396)	(0.395)
Better health	-2.559***	-2.580***
	(0.631)	(0.631)
Hardship	0.291	-
	(0.460)	
Hardship start	1.210*	-
	(0.735)	
Loan to value ratio	-0.00149	-0.00186
	(0.00965)	(0.00963)
Many books	-0.455***	-0.460***
	(0.161)	(0.161)
Over crowding	0.182	0.188
	(0.160)	(0.159)
Good maths	-0.0837	-0.0825
	(0.155)	(0.154)
Good verbal	-0.0712	-0.0837
	(0.155)	(0.154)
House-income ratio/10000	0.282*	0.282*
	(0.170)	(0.171)
Constant	-1.845*	-1.789*
	(0.957)	(0.955)
Observations	12,440	12,496

All specifications include a full set of country, age bracket and decade dummies
Reference group: no change - Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7 – Probability of moving into rented accommodation for the 65+ as a function of house-rich cash-poor indicators

	(1)	(2)	(3)	(4)
Female	0.195	0.214	0.195	0.214
	(0.15)	(0.15)	(0.15)	(0.15)
Number of children	0.0269	0.0239	0.0269	0.0241
	(0.059)	(0.058)	(0.058)	(0.058)
Married	-0.611***	-0.589***	-0.611***	-0.590***
	(0.17)	(0.17)	(0.17)	(0.17)
Widowhood	0.880***	0.867***	0.880***	0.868***
	(0.25)	(0.25)	(0.25)	(0.25)
Divorce	2.671***		2.671***	
	(0.60)		(0.60)	
Nr children in start year	0.0883	0.0950	0.0883	0.0949
	(0.11)	(0.11)	(0.11)	(0.11)
Nest leaving	-0.259	-0.301	-0.259	-0.301
	(0.47)	(0.47)	(0.47)	(0.47)
Poor health	0.921***	0.941***	0.921***	0.941***
	(0.21)	(0.20)	(0.21)	(0.20)
Worse health	-0.145	-0.0951	-0.145	-0.0945
	(0.40)	(0.40)	(0.40)	(0.40)
Better health	-2.554***	-2.586***	-2.554***	-2.586***
	(0.63)	(0.63)	(0.63)	(0.63)
Hardship	0.248		0.248	
	(0.47)		(0.47)	
Hardship start	1.148		1.148	
	(0.73)		(0.73)	
Loan to value ratio	0.00325	0.00243	0.00325	0.00238
	(0.0096)	(0.0095)	(0.0096)	(0.0096)
Many books	-0.482***	-0.474***	-0.482***	-0.474***
	(0.16)	(0.16)	(0.16)	(0.16)
Over crowd	0.150	0.176	0.150	0.177
	(0.16)	(0.16)	(0.16)	(0.16)
Good maths	-0.0894	-0.0757	-0.0894	-0.0759
	(0.16)	(0.16)	(0.16)	(0.16)
Good verbal	-0.0662	-0.0793	-0.0663	-0.0800
	(0.16)	(0.16)	(0.16)	(0.16)
Low income	0.00178	0.0211		
	(0.31)	(0.31)		
House-rich cash-poor	-1.170***	-1.145***	-1.170***	-1.148***
	(0.38)	(0.37)	(0.38)	(0.37)
House rich-cash poor x Low income	0.925*	0.878*	0.926**	0.896**
	(0.53)	(0.52)	(0.47)	(0.46)
Constant	-2.298**	-2.215**	-2.298**	-2.209**
	(0.95)	(0.95)	(0.96)	(0.95)
Observations	12,440	12,496	12,440	12,496

All specifications include a full set of country, age bracket and decade dummies
Reference group: no change - Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6 shows that this variable has a marginally significant positive effect on the probability of moving into rented accommodation, after controlling for the same set of explanatory variables of Table 5. The effect is unchanged if we drop the financial hardship variables from the specification, as shown in column (2).

Table 7 reports parameter estimates of a specification that includes instead a low income indicator (lowest quartile), a "house-rich cash-poor" indicator, that takes value 1 if the ratio is in the top quartile, and their interaction. We see that the low income indicator is not significant, the house-rich cash-poor indicator has a negative effect, but its interaction with low-income has a significantly positive effect.

The negative effect of the "house-rich cash-poor" dummy is apparently counterintuitive. It can be explained if we consider that for most individuals a high home value is associated with high financial wealth (that we do not observe)

The positive effect of the interaction between the house-rich cash-poor dummy and the low income dummy is in line with the notion that the cash value of the home is tapped in by low income households by moving into rented accommodation. For low income people, their home can be a way to finance their consumption in old age.

A question that comes to mind is how individuals who are house-rich and cash-poor and have low income make ends meet. A possibility is that they receive help from their children. Based on data on financial transfers reported in the second wave of SHARE, this is not a common occurrence. Among home-owners aged 65 or over only 3.67% report having received financial help worth 250 Euros or more over the previous 12 months. This fraction is slightly higher among low-income individuals who are house-rich and cash-poor (4.32%), but too low to suggest that informal insurance across generations is a wide-spread phenomenon that can explain why low income home-owners do not trade down or cash in on their home in older ages.

4. Conclusions

This paper has addressed two related topics: residential mobility among mature households in Europe, and home-ownership patterns in old age.

We have exploited a unique data set, the life history wave of SHARE, to identify the key patterns in residential mobility of European 50+ individuals. The retrospective data show some marked differences in mobility across countries and age. Residential mobility is higher in Nordic countries, and particularly low in Mediterranean countries. Transitions from rented accommodation to home-ownership are relatively common until retirement age, whilst moves from owing to renting and from more expensive to less expensive homes are rare, but become relatively more important past retirement age.

Our econometric analysis reveals that moves from home-ownership to rented accommodation before age 65 are largely driven by demographic events (particularly divorce and loss of spouse), while the reverse move is also negatively affected by financial hardship, nest-leaving by children and poor health, and positively affected by a more educated home environment during childhood. Moves later in life are more frequently explained by health-related factors. Moves from home-ownership to rented accommodation are more likely for those in poor health and for those who divorced or whose spouse died, but much less likely for those who grew up in a more educated environment. Trading down or up decisions for home-owners are more difficult to explain.

The topic of home-ownership patterns in old age has attracted much attention by economists for a number of reasons. First of all, the life cycle model with imperfect credit markets predicts that home-owners should either trade down or move into rented accommodation in old age, as a way to smooth consumption. Secondly, failure to tap in home equity in old age may create financial problems to home-owners at times of need. Given the limited access to debt markets for the elderly in all countries, failure to sell one's home and to move into rented accommodation may result in financial hardship and inability to cover health care costs. The evidence we provided in the paper shows that changes in health and loss of spouse are key determinants of the decision to sell one's home past age 65, but that house-rich cash-poor consumers are also more likely to sell if their income is sufficiently low.

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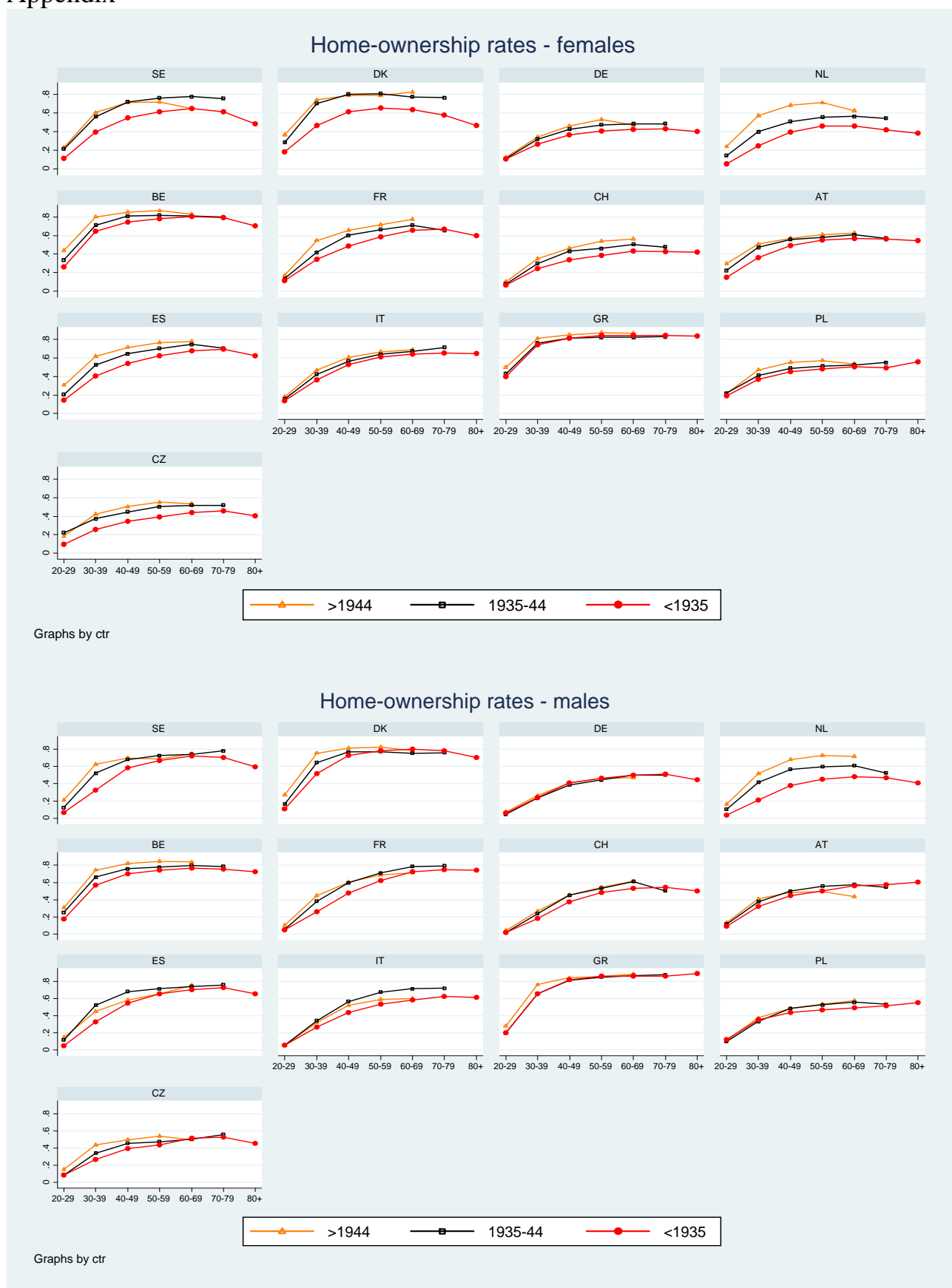
Appendix

Figure A1. Home-ownership age profiles by sex, country and cohort