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Can age help to explain heterogeneity in southern European home ownership patterns?[1] [2]

Authors:

Alda B. Azevedo, aldazevedo@gmail.com

Centre d'Estudis Demogràfics, Universitat Autònoma de Barcelona

Institute of Ageing, University of Lisbon

Julián López-Colás, jlopez@ced.uab.es

Centre d'Estudis Demogràfics, Universitat Autònoma de Barcelona

Juan A. Módenes, juanantonio.modenes@uab.cat

Departament de Geografia, Universitat Autònoma de Barcelona

Centre d'Estudis Demogràfics, Universitat Autònoma de Barcelona

Short Abstract

This paper aims to explain the role of age as keystone to the heterogeneity in home ownership patterns in Cyprus, Greece, Italy, Malta, Portugal and Spain. Making use of the EU-SILC micro-data (2005 and 2009) the empirical analysis is guided to: (1) capture the main traits of tenure status; (2) rank the variables that best explain home ownership positioning age group in each country; (3) analyse the influence of age group in the likelihood of be home owner in each country. The results affirmatively answer the research question. On the one hand, due to historical differences in housing markets, cohort effects turned age into a major element of heterogeneity, especially in middle and old age groups. On the other hand, despite the globalized world, economic cleavages arising from the current economic crisis are creating asymmetries in access to the home ownership that affect particularly the younger age groups.

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Introduction

After some early proposals in the 1990s (Bonoli 1997; Ferrera 1996), and the contributions of Allen *et al.* (2004), Leal (2004) and Hoekstra (2005), among others, there has been a recognition of Greece, Italy, Portugal and Spain as a homogeneous group with strong differences from all the other European countries. The southern model of housing is distinct from the European context in five indicators: the high rates of home ownership across all social strata, high rates of second homes, deficient rental markets and social rental housing stock, important role of the family in providing housing and self-provision in housing access (Leal 2004; Allen 2006; Ronald 2007; Poggio 2008). Nevertheless, these characteristics should be interpreted as the result of a particular form of social production of ownership - where family, market and state interact - rather than as a strictly geographical construct.

Given that the same residential system may be found in more than one welfare state regime (Kemeny 2006), the analysis of housing systems benefits from assigning a more central role to the tenure status (Kemeny 2001). In southern Europe this is a particularly promising approach, as tenure status plays a central factor in these countries' socioeconomic makeup. Consequently, home ownership is a key factor. Even though it is not necessarily the best tenure option (Kemeny 1981), home ownership has usually been considered an important indicator of good living conditions. It has even become a final aim of most households' housing careers.

In almost all western and high-income countries, national home ownership rates have been increasing in recent decades due to the availability and accessibility of mortgages, the support of the welfare state and the construction boom (Ronald, Elsinga 2012). However, this increase did not occur linearly in southern European countries (hereinafter SEC) which may have led to changes in the homogeneity that the literature acknowledges this group. Additionally, the recent global economic crisis has hamper access to housing, especially through home ownership, by poorer or more vulnerable households. These historical developments impinge differently, i.e. not homogenously, in populations. For instance, while young households may be more severely affected by the recent economic developments; more mature households, which accessed housing in the past, during times of economic prosperity, may have a more stable position. For that reason, such effects may be visualized in age heterogeneity, either within a population or between populations.

In this context, this paper aims to understand to what extent age can help to explain the heterogeneity in home ownership patterns in Cyprus, Greece, Italy, Malta, Portugal and Spain. With the European Union Statistics on Income and Living Conditions (EU-SILC) as its data source, this study specifically intends to: (1) capture the main traits of tenure status; (2) rank the variables that best explain home ownership positioning age group in each country; (3) analyse the influence of age group in the likelihood to be home owner in each country. Accordingly, we assume as main hypothesis that age sensitivity to be home owner is crucial to explain the specific home ownership patterns of SEC when compared with the rest of Europe, and, increasingly, it is behind the growing diversity among this group of countries.

Data and methods

Bearing in mind the former underlying aim, this study was based on the household heads information offered by the cross-sectional EU-SILC micro-data. Two survey rounds have been selected: 2005 and 2009. In 2005, 26 countries participated in EU-SILC and a total of 197,657 households were interviewed. In 2009 the survey was applied to 223,428 households in 29 countries. The SEC represent 24.77% (48,957 households) and 23.14% (51,710 households) of the sample in 2005 and 2009, respectively.

Although more recent rounds are available, given that the annual survey follows a four-year rotational design sampling method with 25 per cent of replacement each year, the data in these two rounds come from two completely different populations.[3]

The data source has two main limitations for 2005. Despite EU-SILC implementation in Malta in that year, only the 2009 data is available. Italian data for that year make no distinction between outright home ownership and home ownership with a mortgage or loan.[4] Considering Italy's weight in the data and its importance to SEC behaviour, the present analysis merged these two categories of home ownership for all countries. Nonetheless, EU-SILC is a harmonized and representative dataset, making it the most appropriate data source for the purposes of our study.

[3] According to the stepwise method results, the year of survey is explanatory only in the European model (higher risk of ownership in 2009 than in 2005 by 0.858). Thus, the two periods were combined in the regression analysis.

[4] The variable *Tenure status* in EU-SILC (HH020) does not distinguish the owner's payment status. Another variable in the survey enables to identify the outright owners, *Arrears on mortgage or rent payments. Flag* (HS010F). The label '-2' explicitly refers to 'outright owners or rent free during the last 12 months' and combined with HH020 differentiates the two types of property. Variable HS010F has no data on Italian households.

To carry out the empirical work, we ran logistic regressions for eight models (EU, southern Europe, Cyprus, Greece, Italy, Malta, Portugal and Spain) to understand the effect of demographic, socioeconomic, contextual and residential variables in tenure status (see Table 2 for the complete list of variables). The logistic model was stated in terms of *Y*=1 (be owner). Table A1 (Appendix) summarizes the absolute frequencies of the independent variables.

Three variables were included as control rather than independent variables because they were redundant, as follows: household composition and degree of urbanization (both connected with dwelling type) and year of contract (connected with quality dwelling). [5]

Noncollinearity between the independent variables was tested and covariates were excluded from the models. [6] Two complementary methods were used. First, a forward stepwise conditional regression was applied to test for relationships between the variables. Independent predictive variables with log-likelihood values below 0.1 per cent of relative gain were excluded as not significantly explanatory (Menard 1995).

Secondly, the Enter method was used to test the statistical significance of each Exp(β) in the model. The final set of variables was tested for non-iteration, ensuring independence of the variables selected. To correct the discrepancy of the sample relative to the population, the analysis was conducted with the weighted sample. The asterisks indicate the unweighted results that achieved significance.

Home ownership in Cyprus, Greece, Italy, Malta, Portugal and Spain

In 2009, outright home ownership was the most frequent tenure in SEC (Figure 1). The combined ratio of outright home ownership and home ownership with a mortgage or loan puts Spain at the top (82.8%), followed by Italy (76.1%) and Portugal (75.8%). This is the result of housing policies encouraging home ownership, flexibility in credit availability and, more recently, the construction boom that emerged in the post-dictatorship states.

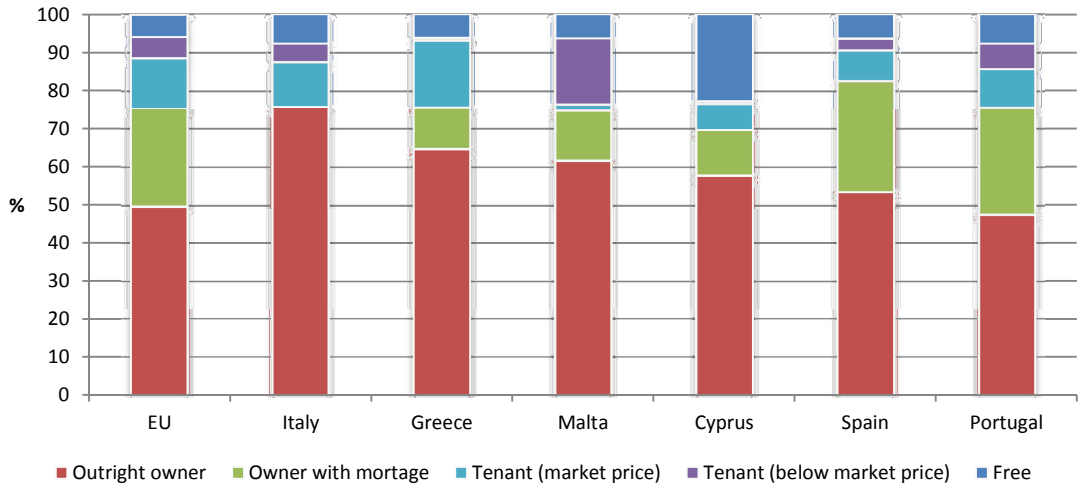
Other tenure categories are more present in Greece, Malta and Cyprus. In Greece, a sizeable rental market (17.3%), compared with the other SEC, is the result of the almost complete lack

[5] Some countries did not report or may have misinterpreted the questions: degree of urbanization, dwelling size and region. Therefore, degree of urbanization was used as control variable, dwelling size was replaced by household composition and also used as control variable and the region was excluded from this analysis.

[6] Collinearity existed as follows: in Greece, covariates year, education and social environment; in Spain, year and education; in Cyprus, year and social environment; and in Malta, social environment.

of a social housing supply. Cyprus also has a very small social rental market; however, the role of the family in the direct provision of housing, which is stronger than anywhere else (Minas *et al.* 2013), explains why they have the highest rate of free tenancy (22.5%). In comparison, and mostly due to the political legacy of British colonialism (Vakili-Zad, Hoekstra 2011), Malta is - by far - the country with the largest social rental market (17.1%).

Figure 1: Tenure status rates by households (%), European Union and southern European countries (*).



(*) As can be seen in Figure 1, Italy's micro-data for 2009 merges the categories 'owner' and 'owner with mortgage' into a single category; this raises some methodological restrictions in this study, which will be discussed ahead.

Source: EU-SILC micro-data, 2009, own calculations.

When considering home ownership with pending payments, heterogeneity emerges. In Spain and Portugal, this tenure status is more frequent than in the other SEC, a continuing divergent trend since the 1990s (Trilla 2001). The EU-SILC 2009 data on population by tenure status published by Eurostat clearly confirm this pattern. [7] Furthermore, the residential mortgage debt-to-GDP ratio has been rising at a constant pace and at a higher rate in the SEC than in the European Union (EU). The sharpest increase was in Cyprus, from 5.8% in 2000 to 71.3% in 2011, surpassing Portugal and Spain (66.6% and 62.1%, respectively) (European Mortgage Federation 2012) and highlighting social changes in the intergenerational transfer of housing.

High rates of ownership are mainly the consequence of small rental markets (Allen *et al*. 2004; Módenes, López-Colás 2012), not so much of large ownership markets, as we will see later. There are two main reasons for the lack of interest from SEC governments in developing an efficient social and private rental sector. Successive public policies promoted home ownership as a means to ensure social stability, and more prosaically, managing a public rental stock has

[7] The proportions of population living in owned dwellings with a mortgage, ordered from higher to lower, are Spain (32.8%), Portugal (29.9%), Cyprus (16.8%), Italy (15.4%), Greece (15.4%) and Malta (15.2%) (Eurostat, SILC, table 'ilc_lvho02').

been a challenge for public institutions (Allen *et al*. 2004). In fact, both reasons are closely related to the promotion of unbalanced economic production systems based, in the end, on housing construction (Bielsa, Duarte 2011). Therefore, ownership is also indirectly encouraged by the lack of real investment alternatives for households (Castles, Ferrera 1996). The goal of social stability aligns with the active involvement of family and the expansion across all social strata to shape a housing system based absolutely in home ownership (Cabré, Módenes 2004; Poggio 2012).

The Spanish rental market is particularly small. In addition to the above-mentioned reasons, this is also the peculiar result of a long history of protectionist policy measures for the benefit of existing tenants (Cabré, Módenes 2004). In this framework, over time, family ties have been decisive in providing housing through various means, such as financial support (Allen 2006; Mandic 2012; Mulder, Billari 2010; Poggio 2008), intergenerational transfer (Leal 2004; Poggio 2008) and extended co-residence (Mandic 2012; Módenes, López-Colás 2012). The closer the residential location of family members, the stronger these intergenerational relations and ties are, which in turn influences the level and types of support available (Poggio 2008).

Home ownership can have a palliative effect on public expenditure for older people, which might be one of the reasons why governments have encouraged this tenure status (Doling 2012). Initially described by Kemeny (1981), the 'big trade-off' is the inverse relationship between the amount of public expenditure in pensions for older people and the level of the rate of home ownership. However, Greece, Italy, Portugal and Spain follow a different pattern, with relatively high pensions and high home ownership rates. Assets, housing resources and welfare pensions are concentrated in favour of the elderly (Castles, Ferrera 1996). Intergenerational family financial transfers to young people are essential for social cohesion, replacing almost absent public policies (Stamsø 2010) and supporting the problematic access to housing experienced by young adults in southern Europe (Castles, Ferrera 1996). A strategic delay in family formation and a low fertility rate complete the picture of ways to adapt to their housing reality (Mulder, Billari 2010).

Which variables best explain the patterns of home ownership in SEC?

On the one hand, the predictors show that ownership in SEC can be explained by a number of common factors; on the other hand, within this apparent homogeneity the explanation of ownership makes the case for heterogeneity (Table 1). As the log-likelihood values decrease (Table A2), the strongest predictors, and those that improve the accuracy of the model, can be

identified. Ownership is so widespread among SEC households that diversity is explained by several variables, any of them totally decisive. This analysis highlights a difference from the European model, as some of the most explanatory variables in the SEC model make a weaker contribution to explaining ownership than in the rest of Europe. To sum up, individual opportunity to access home ownership is not very important in the SEC because of the highly widespread propensity to own a home once a household is formed.

Comparing the ranking of variables in the EU and SEC models, the singularity of the latter is striking (Table 1). While the most explanatory predictors in the EU are residential (dwelling type) and socioeconomic (income), demographic predictors take the lead in the SEC, especially migration and stage of life (citizenship and age group). Accordingly, those are the two main predictors in the Italian, Greek and Spanish models, followed by the socioeconomic and residential variables (income and dwelling type). In Cyprus and Malta, the order is the inverse. Their diversity in home ownership can be explained by socioeconomic and residential predictors, followed by the demographic ones.

Portugal, in comparison, has its own distinct pattern, where the residential variables (dwelling quality and dwelling type) are the most explanatory predictors, followed by income.

Thus, the SEC can be subdivided in two groups: Italy and Spain with identical patterns and Greece with a very similar one vs Cyprus and Malta with almost identical features and Portugal with some similarities.

Table 1: Characteristics of the regression models of home ownership by sociodemographic and residential characteristics using likelihood values (-2LL), European Union and southern European countries, 2005/2009.

EU	Southern	Cyprus	Greece	Italy	Malta	Portugal	Spain
Dwelling type	Citizenship	Income	Age group	Citizenship	Income	Dwelling quality	Citizenship
Income	Age group	Dwelling type	Citizenship	Age group	Dwelling type	Dwelling type	Age group
Age group	Income	Age group	Dwelling type	Income	Dwelling quality	Income	Income
Citizenship	Dwelling type	Citizenship	Income	Dwelling type	Education	Age group	Dwelling type
Dwelling quality	Southern	Dwelling quality	Dwelling quality	Dwelling quality	Citizenship	Citizenship	Dwelling quality
Year	Dwelling quality	Education	-	Education	Age group	Social environment	-

Note: Significant variables are listed in descending order based on the -2LL likelihood values shown in Table A2 (Appendix).

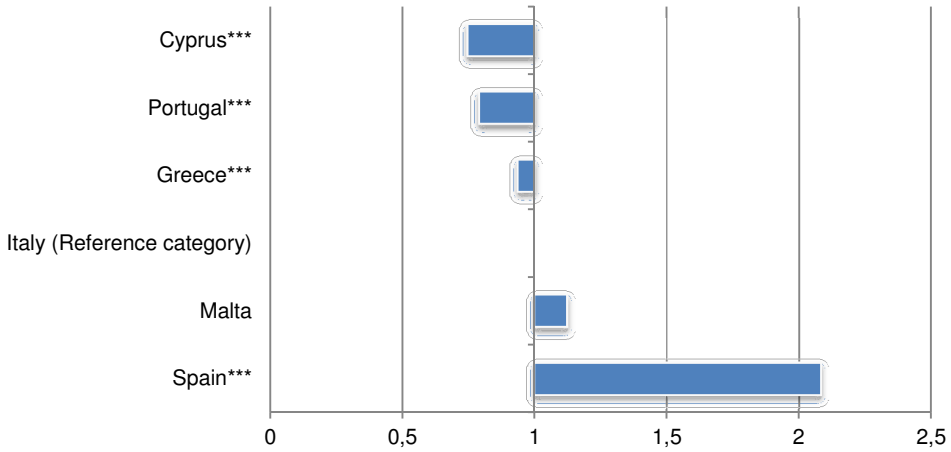
Source: EU-SILC micro-data, 2005 and 2009, own calculations.

Can age explain heterogeneity in southern European home ownership patterns?

Once the significance of predictors was determined for each model, the Enter method was used to understand to what extend age can explain heterogeneity in southern European home ownership patterns.

The results for the SEC model, where countries are treated as independent variables, show that the risk of ownership in southern Europe is not evenly distributed across these six countries; the difference is significant at *p*=0.01 for all countries except Malta (Figure 2). Taking Italy as baseline, the Spanish are 2.082 times and Maltese are 1.124 times (n/s) as likely as Italians to experience ownership, while the relative risk is below 1.0 in Greece (OR=0.937), Portugal (OR=0.791) and Cyprus (OR=0.746).

Figure 2: Odds ratios of home ownership by country (logistic regression model), southern European countries, 2005/2009.



Significance level: *<0.10; **<0.05; ***<0.01.

Source: EU-SILC micro-data, 2005 and 2009, own calculations.

Table 2 highlights a general European trend where there is a straightforward relationship between high income and home ownership; and where living in a dwelling with adequate quality raises the propensity of home ownership. Additionally, there are perceptible restrictions to home ownership access at younger ages (under 34 years). Taking into account the differences in the methodology used, these results are aligned with previous findings (Kurtz, Blossfeld 2004).

In the SEC, the sociodemographic variables play a more important role in explaining the rate of home ownership compared to Europe as a whole, mainly due to the reduced socioeconomic

heterogeneity influence. Additionally, a larger set of variables is required, partly due to ownership being widespread in households of all social strata. Moreover, there is a wider native-foreign gap than in the European overall and decreased propensity for home ownership in the oldest cohort due to the timing of the housing market expansion.

In the SEC overall, the forthright European relationship between dwelling type, age and home ownership is recognizable, but less intense because apartments are frequently owner-occupied in this region. Thus, with a renewed methodology based on individualized approaches for each country, some of the main conclusions about SEC housing proposed by Hoekstra (2005) are confirmed.

As to elements of heterogeneity in the SEC, differences arise in access to ownership due to the multiple possible interactions between family, market and state. Despite previous evidence that the Portuguese residential system is restrictive regarding access to home ownership by immigrants (Malheiros, Fonseca 2011), our results indicate (OR=0.279) that other SEC may be even more restrictive. However, at least in Spain and Greece, when this access is granted there are no observed differences in housing values between foreigners and the overall population of home owners (Kolb *et al.* 2013).

Due to collinearity and stepwise regression results, the odds for educational attainment are available only for three countries: Cyprus, Italy and Malta. In Italy and Malta, education increases the odds of being a home owner, as expected. Nevertheless, it is worth noting that in Cyprus, although having a secondary education increases the likelihood of being a home owner (OR=1.415), there is practically no difference between having a level of education higher than secondary and the reference category (OR=0.997). Haliassos *et al.* (2008) found a negative relationship between higher levels of education and home ownership. The authors related this finding to five factors: social customs, late establishment of accredited universities in Cyprus (1992), and individuals with a university education have a shorter working life, may not accept or request housing as a gift and education funding from parents and other family members may serve as an alternative to housing provision (Haliassos *et al.* 2008).

Unlike previous researchers who found that income is not a statistically significant variable in explaining home ownership in Cyprus (Haliassos *et al.* 2008; Minas *et al.* 2013), in our results, Cyprus stands out with respect to income, being closer to the European trend than to the SEC trend.

With regard to the residential variables, home ownership in Spain, and to some extent in Portugal, is almost as highly associated with apartment buildings with ten or more units as it is with detached houses. On one hand, this highlights the importance of home ownership in these countries; on the other, it results from their construction boom of the recent decades. Additionally, this result may be associated with better conditions in the apartments compared to detached houses in the housing stock, a conclusion previously obtained by Hoekstra (2005).

In Portugal, the existence of problems in the quality of the dwelling (OR=0.381) and in the surrounding social environment (OR=0.725) decreases the likelihood of home ownership. Although the odds for the social environment are not statistically significant for Portugal, in the other country models this variable was not even sufficiently explanatory to be included in the final set of variables. Previously, Hoekstra's (2005) findings positioned Portugal as the country with the highest average number of problems in dwelling. This may be an outcome of the expansion of the housing market in Portugal in recent decades, which has been characterized by an increase in new construction at the expense of the rehabilitation of existing housing stock and by the predominance of new housing designated for home owner occupation (Guerra 2011).

Finally, answering affirmatively to our research question, since the expansion of ownership did not happen simultaneously across the SEC and housing policies differ between these countries, two features are recognisable in the odds ratios for age. First, the odds ratios in the Greek, Italian and Spanish models show that housing resources favour the older cohorts, a conclusion previously reported by Castles and Ferrera (1996). Additionally, the Greek pattern reflects fluctuations both in housing policy, with regard to the access to credit and in the construction, with the boom after the Second World War (Anastassiadis, Tsoukala 2006).

Secondly, in Cyprus, and to some extent in Malta, the results show the middle-aged groups have greater tendency for home ownership. The older cohorts still retain the behaviour of a restrictive housing market, while the younger cohorts display a behaviour similar to the other SEC.

Table 2: Odds ratios of home ownership by sociodemographic and residential characteristics (logistic regression models), European Union and southern European countries, 2005/2009.

		Odds (Exp(β))							
Predictor	Label	EU	SEC	Cyprus	Greece	Italy	Malta	Portugal	Spain
Citizenship	**Native**	1	1	1	1	1	1	1	1
	Foreign	0.378***	0.149***	0.226***	0.083***	0.158***	0.198***	0.279***	0.137***
Age	**35-44**	1	1	1	1	1	1	1	1
	<25	0.250***	0.320***	0.225***	0.096***	0.501***	0.305**	0.196***	0.269***
	25-34	0.602***	0.655***	0.683***	0.430***	0.682***	0.656*	0.513***	0.661***
	45-54	1.241***	1.261***	1.047*	1.773***	1.270***	0.763	1.129	1.247***
	55-64	1.752***	1.895***	1.191**	2.591***	2.088***	0.504***	1.319*	1.932***
	65-74	2.050***	2.307***	0.725*	3.253***	2.757***	0.512**	1.265**	2.487***
	>75	2.115***	2.306***	0.354***	2.988***	2.988***	0.417***	1.162*	2.100***
Educational attainment	**Lower than secondary**			1		1	1		
	Secondary			1.415***		1.361***	1.505***		
	Higher than secondary			0.997*		1.411***	1.996***		
Income	**Lower**	1	1	1	1	1	1	1	1
	Lower-middle	1.806***	1.491***	1.554***	1.188	1.521***	1.324***	1.087	1.576***
	Upper-middle	3.176***	2.217***	2.899***	1.558***	2.312***	1.827***	1.555***	2.258***
	Upper	5.839***	3.520***	5.330***	2.451***	3.380***	2.602***	3.135***	3.424***
Dwelling type	**Detached**	1	1	1	1	1	1	1	1
	Semi-detached	0.345***	0.584***	0.425***	0.428***	0.578***	1.07	0.502***	0.971
	Apt. building < 10 dwellings	0.092***	0.347***	0.235***	0.243***	0.362***	0.501**	0.350***	0.472***
	Apt. building 10 > dwellings	0.123***	0.446***	0.274***	0.249***	0.373***	0.297**	0.702***	0.822***
Dwelling Quality	**Adequate**	1	1	1	1	1	1	1	1
	At least one problem	0.687***	0.618***	0.727***	0.767***	0.693***	0.517***	0.381***	0.573***
Constant		3.347***	2.642***	2.908***	3.734***	2.118***	4.939***	4.567***	3.558***
Nagelkerke R Square		0.194	0.291	0.269	0.334	0.191	0.155	0.174	0.172
N		391375	*93726*	*6610*	*12447*	*39711*	*3524*	*9520*	*25748*

Significance level: *<0.10; **<0.05; ***<0.01.

Source: EU-SILC micro-data, 2005 and 2009, own calculations.

Conclusions

The results confirm the research hypothesis aforementioned. The age of the household head has an important role in the explanation of the specific home ownership patterns of SEC when compared with the rest of Europe, and, increasingly, clarifies the diversity among this group of countries. While in the EU, home ownership is explained mostly through residential and economic predictors (dwelling type and income); in the SEC, demographic predictors (age and citizenship) are the most explanatory, and both are likely related to family ties.

Even though age is the most explanatory predictor in the SEC, its relative contribution is even higher in the general European model. In SEC, the family support in housing provision dilutes the importance of the life cycle in access to ownership. In the rest of Europe, access to home ownership is a matter of the biographical demographics and the economic evolution of the household. To most SEC households, home ownership is an initial requirement for household formation and the need to adapt to later changes in life cycle is relatively unimportant. In this context of delayed household formation and simultaneous access to home ownership, availability of family resources is a key factor. This is a topic to explore further at the micro level.

Due to historical differences in housing markets, cohort effects placed age, at the top and bottom of the population pyramid, as the major element explaining heterogeneity.

In summary, Italy and Spain share several features and Greece has a similar pattern with regard to age distribution of housing resources. Consequently, in these countries the older generations are favoured and the strongest predictors of home ownership are citizenship and age group. In comparison, Cyprus and Malta show strong similarities in income and dwelling type as predictors of home ownership. In turn, Portugal shares some of their similarities but has an almost unique pattern, in which residential variables contribute most to the explanation of home ownership patterns.

Finally, future research is needed to explore in depth the relationship between life course and home ownership. These patterns reflect the age distribution of home ownership, which concentrates age-period-cohort effects, bringing together the influence of the economic context, housing policies, housing supply, credit availability and the resulting family response that is particularly important in the SEC.

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Appendix

Table A1: Distribution of participant households in EU-SILC by predictors, European Union and southern European countries.

		EU	SEC	Cyprus	Greece	Italy	Malta	Portugal	Spain
Predictor	Label	*n*	*n*	*n*	*n*	*n*	*n*	*n*	*n*
Year	2005	197594	48957	3746	5568	22032	-	4615	12996
	2009	223259	51710	3145	7036	19614	3641	4961	13313
Citizenship	Native	380466	96554	6318	12037	40157	3558	9426	25058
	Foreign	16602	3588	572	538	1216	82	139	1041
Age	<25	12371	1337	34	338	681	20	48	216
	25-34	44223	8339	619	975	3512	249	600	2384
	35-44	75187	17836	1289	2029	7474	549	1433	5062
	45-54	86342	19757	1547	2313	7739	752	1890	5516
	55-64	80120	18828	1375	2221	7508	937	1897	4890
	65-74	65231	17764	1125	2350	7341	606	1927	4415
	>75	53730	16802	902	2378	7391	528	1777	3826
Educational attainment	Lower than secondary	139488	56542	3043	6502	23768	2583	6269	14377
	Secondary	161378	22181	2075	3089	11662	490	752	4113
	Higher than secondary	105738	16880	1647	2567	5512	471	787	5896
Income	Lower	104706	24980	1721	3121	10342	909	2393	6494
	Lower-middle	104813	24980	1722	3117	10345	910	2394	6492
	Upper-middle	104879	24987	1722	3120	10346	910	2395	6494
	Upper	104854	24983	1722	3119	10344	910	2394	6494
Social environment	Adequate	280789	64294	4153	8499	26814	1812	6265	16751
	At least one problem	139851	36368	2738	4105	14832	1828	3311	9554
Dwelling type	Detached	164705	27825	3403	4790	11143	219	4113	4157
	Semi-detached	83574	22140	1939	1254	8763	1801	2595	5788
	Apt. Build. < 10 dwellings	58152	23757	862	4021	10689	1517	1637	5031
	Apt. Build. 10 > dwellings	110107	25631	518	2530	10039	83	1186	11275
Dwelling Quality	Adequate	320293	74993	4397	9478	31248	3084	6701	20085
	At least one problem	100536	25674	2494	3126	10398	557	2875	6224

Source: EU-SILC micro-data, 2005 and 2009, own calculations.

Table A2: Likelihood values (-2LL) of the regression models of home ownership by sociodemographic and residential characteristics, European Union and southern European countries, 2005/2009.

EU	
Predictor	-2LL
Dwelling type	390132.51
Income	372849.54
Age group	360067.31
Citizenship	358331.04
Dwelling quality	356823.25
Year survey	355993.76
Social environment	-
Education	-

SEC	
Predictor	-2LL
Citizenship	96702.33
Age group	94030.57
Income	91372.65
Dwelling type	89596.12
Southern	88294.97
Dwelling quality	87635.56
Social environment	-
Education	-
Survey year	-

Cyprus	
Predictor	-2LL
Income	7110.71
Dwelling type	6812.37
Age group	6639.97
Citizenship	6511.55
Dwelling quality	6482.74
Education	6455.87

Greece	
Predictor	-2LL
Age group	11648.34
Citizenship	11049.41
Dwelling type	10598.72
Income	10461.39
Dwelling quality	10436.58

Italy	
Predictor	-2LL
Citizenship	42714.63
Age group	41484.02
Income	40183.57
Dwelling type	39162.69
Dwelling quality	38959.46
Education	38852.77
Social environment	-
Survey year	-

Malta	
Predictor	-2LL
Income	3748.60
Dwelling type	3665.81
Dwelling quality	3625.50
Education	3596.87
Citizenship	3571.68
Age group	3538.33

Portugal	
Predictor	-2LL
Dwelling quality	8290.88
Dwelling type	8008.08
Income	7771.79
Age group	7650.95
Citizenship	7610.98
Social environment	7591.53

Spain	
Predictor	-2LL
Citizenship	22002.14
Age group	21455.18
Income	20855.89
Dwelling type	20658.09
Dwelling quality	20461.32
Social environment	-

(-) Variables excluded from the final models due to explanatory gain below 0.1%.

Source: EU-SILC micro-data, 2005 and 2009, own calculations.