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Housing and Family Dynamics in Southern Europe

by

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ABBREVIATIONS

| | |
|----------------|---|
| AME | Average marginal effects |
| AT | Austria |
| BE | Belgium |
| BG | Bulgaria |
| CH | Switzerland |
| CY | Cyprus |
| CZ | Czech Republic |
| DE | Germany |
| DK | Denmark |
| ECHP | European Community Household Panel |
| EE | Estonia |
| EFF | Encuesta Financiera de las Familias |
| ES | Spain |
| EU | European Union |
| EU14 | European Union 14 countries |
| EU-SILC | European Union Statistics on Income and Living Conditions |
| FI | Finland |
| FR | France |
| GDP | Gross domestic product |
| GFC | Global Financial Crisis |
| GR | Greece |
| HFCN | Household Finance and Consumption Network |
| HFCS | Household Finance and Consumption Survey |
| HR | Croatia |
| HU | Hungary |

| | |
|--------------|---------------------------------------|
| IE | Ireland |
| IS | Iceland |
| IT | Italy |
| LT | Lithuania |
| LU | Luxembourg |
| LV | Latvia |
| MT | Malta |
| NL | The Netherlands |
| NO | Norway |
| OR | Odd ratio |
| PL | Poland |
| PT | Portugal |
| RO | Romania |
| S-NSI | Spanish National Statistics Institute |
| SE | Sweden |
| SEC | Southern European Countries |
| SI | Slovenia |
| SK | Slovak Republic |
| TFR | Total Fertility Rate |
| TR | Time ratio |
| UK | United Kingdom |
| USA | United States of America |

Chapter 1 Introduction

1.1 Aim and objectives

This thesis aims to enlarge the knowledge on the interrelationship between housing tenure, household formation and fertility in the beginning of the twenty-first century. More precisely, this research explores the determinants of housing tenure status, of non-household formation among active young adults and the impact of homeownership versus renting in the fertility behaviour in Greece, Italy, Portugal and Spain. Thus, it lies within the field of housing demography since it focuses “on the union of population and housing analysis” (Myers 1990: xv).

Considering housing tenure status as a key factor (Kemeny 2001), this research is guided by three specific objectives: (1) to explore the distinctive feature of the southern European housing system regarding homeownership and household formation patterns; (2) to explain the recent evolution of housing tenure distribution accounting for individual and contextual factors; and (3) to analyse the role of housing tenure status in fertility.

The focus on the southern European housing system is justified by the consensual acknowledgement in the literature that Greece, Italy, Portugal and Spain share a housing system that is distinct from central and northern European housing systems, and that those differences rely heavily on the role of the family in housing provision and in the redistribution of the welfare benefits among family members (Castles and Ferrera 1996). Adopting a divergence approach (Kemeny and Lowe 1998) this research looks at the southern European housing system beyond its homogeneity. It assumes that, when compared with other European countries, a certain degree of heterogeneity is found among southern European countries (SEC), and that these traits must be known in order to align the housing stock with the needs of the population.

The focus on the beginning of the twenty-first century is motivated by important shifts in housing patterns in the historical period framed by the Global Financial Crisis (GFC). Although changes in the population structure and in housing stock are inherently slow, changes in housing patterns are easier to monitor, making the

understanding of individual and contextual factors that are behind these shifts more appealing to study. Additionally, this time frame matches a new era of data collection in which the international comparative research has gained a new dimension resulting from the availability of European level surveys, conducted periodically and covering a wide range of thematic domains. Thus, this research takes advantage of the recently available wealth of data sources in order to achieve its objectives.

1.2 Background and significance

During the second half of the twentieth century, housing preferences towards homeownership converged in the majority of European countries. By the turn of the millennium, the SEC had become countries of homeowners – of one residence or more –, of small rental markets and of particularly small social rental stocks (Allen, Barlow, Leal, Maloutas and Padovani 2004). Certainly, the southern European housing system stands out by the role of the family in housing provision (Castles and Ferrera 1996). Such role may take the form of intergenerational solidarity, extended co-residence and family support in housing provision (Allen et al. 2004; Leal 2004; Allen 2006; Poggio 2008, 2012b).

Complementary, there was the acknowledgement of the “Mediterranean fourth world” (Esping-Andersen 1999), also entitled “Mediterranean welfare state regime” (Hoekstra 2005) or of the “familialistic welfare regime” (Poggio 2008). This body of literature, among others, contributed to emphasise the relevance of studying the interconnection between population and housing in the scope of the southern European housing system.

By exploring the distinctive feature of the southern European housing system in the beginning of the twenty-first century, this thesis tests the cohesiveness of the southern European group found by previous research. Additionally, it highlights the significance of heterogeneous patterns within the southern European group, which is usually largely considered as a homogenous group in the literature. Furthermore, the assumption that the homeownership rates in the SEC are high is challenged using renewed measures of tenure rates that take the level of household formation into account. Besides, under the same research objective, this thesis provides innovative

findings on the housing decisions of active young adults in the SEC and in other European countries representing different welfare state regimes (France, Germany and the UK).

Since the 1980s, while homeownership rates were still increasing in Europe, slight signs of a change towards rental choices began to appear in Spain (Holdsworth and Irazoqui 2002). Those signs became evident in the Spanish 2011 census, with the increase of rented-occupied dwellings from 11.4 per cent in 2001 to 13.5 per cent in 2011. Subsequent studies have confirmed that the Spanish housing system is under a change towards a new housing system where the overwhelming prevalence of homeownership may be questioned (Módenes and López-Colás 2014).

By means of explaining the recent evolution of housing tenure distribution in Spain, this research addresses the recent change in housing tenure trends. While accounting for both individual and contextual factors, this work adds to the current knowledge the influence of the internal geographic heterogeneity on individual housing choices. Moreover, this research provides insights on how economic cycles and housing booms and busts impact over housing behaviour.

Despite the continued displayed preference for owner-occupied dwellings, southern European young households are beginning to shift their housing decisions towards renting. Since housing and household are interconnected careers, when associated with the changing context, it is reasonable to complement the analysis on the factors that explain housing tenure status with the role of housing tenure status in demographic events, namely fertility. In spite of the fact of southern European extremely low fertility rates and the categorisation of Greece, Italy and Spain as having “difficult homeownership regimes”, and of Portugal as having an “elite homeownership regime” (Mulder and Billari 2010), housing tenure is still rarely considered a determinant of fertility behaviour in the literature on the SEC.

By analysing the role of housing tenure status in fertility by means of a comparative approach, this research helps to fill a gap in the literature. It also adds scientific background to support the influence of housing in fertility, which claims for the development of fertility-oriented housing policies. Furthermore, by comparing SEC among themselves and with two European countries with dissimilar fertility rates and

housing systems (France and Germany), this research adds to our knowledge that the strong positive relationship between homeownership and having a first-child birth is not a southern European exception, and that it changes over the life course and over time.

Doing justice to the dynamic feature of housing systems, there are strong reasons to believe that the southern European housing system is changing. This work explores these signs of change with regards to their impact on the known features of the southern European housing system by looking at it from different standpoints (micro and macro level) and by emphasizing housing tenure status both as an outcome and as a determinant of an event.

1.3 Research design

1.3.1 Research questions

This research has been designed in order to achieve the previously mentioned objectives. Five research questions were formulated, three of them with sub-questions. In the empirical research, those questions have been translated in research hypothesis that are tested using what was evaluated as the most appropriated data and methods.

- Have the recent contextual developments modified the factors that, according to the literature, explain high homeownership rates in the SEC?
- Can heterogeneous patterns in SEC be distinguished in these last years?
- Do the housing decisions of young active southern European adults differ from those in other European countries? If so, is this produced by a different range of alternatives available?
 - What about non-headship? Is non-headship a competitive housing option?
 - Which are the options with which non-headship would compete?
 - Which are the individual, the household and the residential characteristics of young active adults that opt for living in non-headship?

- May the contextual geographical heterogeneity influence on the probability of living in a rented-occupied dwelling?
 - Does the stability in housing prices increase this probability controlling for sociodemographic factors?
- Does the access to housing through homeownership increases the likelihood of first-child birth in southern European residential systems? Which are differences with other European countries?
 - Are homeowners more likely to have their first-child?
 - Have homeowners a lower time ratio to the birth of the first-child?
 - Has the relationship between homeownership and first-child birth changed in the last years?

1.3.2 Data sources and methods

In order to answer the research questions, a detailed scrutiny of the available data sources was conducted. Taking into account that no data source would completely fulfil the data needs of the thesis, four criteria were hierarchically defined:

1. Data accessibility for research purposes;
2. Adequacy to provide accurate answers to the research questions;
3. Availability of information at the individual and household level, and on their current residential features;
4. Comparability between, at least, four SEC (Italy, Greece, Portugal and Spain), when applicable.

This exploratory work led to a match between the research questions and the data sources. Altogether, the thesis uses the following data sources:

- European Union Statistics on Income and Living Conditions (EU-SILC), 2005, 2009 and 2012;
- Spanish Census of Population and Housing, 2001-2011;
- Spanish Survey of Household Finances (EFF), 2008;
- Eurosystem Household Finance and Consumption Survey (HFCS), 2008-2011.

Although the housing outcomes from EU-SILC data may present some misleading information (Stephens 2016), that does not apply to the classification between homeownership or renting, which is the main distinction in this thesis. Moreover, EU-SILC data “make it possible to conduct some extensive and interesting analyses of household structure, and it remains a useful—and, in many respects, a unique—source of data” (Iacovou and Skew 2011: 469).

However, EU-SILC data do not cover all the research questions of this research. When looking at the recent evolution of housing tenure distribution in Spain while accounting both for individual and contextual regional factors, namely the province of residence, the micro-data of the census is clearly a more representative and accurate source. The EU-SILC can also be misleading when the goal is to identify the first-child birth, since the survey only collects information about the household residents. For that reason, this research uses the EFF and the HFCS since these surveys inquire about the economically dependent children, whether living in the household or not. Since often the mother holds economic responsibilities over the child, even if living in a different household, by constraining the sample to women aged 18-49 years old, it is possible to have a higher degree of certainty in the identification of first-child birth.

The selection of the methodology followed the same line of reasoning, resulting in a great level of detail. A wide range of methods have been applied aside from introductory descriptive statistics: cluster analysis, logistic and probit regression models, alternative-specific multinomial probit regression models, multilevel logistic regression models and parametric frailty models. The selection of methods was not always straightforward. For instance, the use of nested logit models could have given an interesting insight on the housing tenure choices of the young active adults (Chapter 4), but there was no alternative-specific data available. The methods were insightfully selected according to the data available in order to acquire solid conclusions based on accurate analysis. A summary of the research design of the thesis is presented in Table 1.1.

Table 1.1 Overview of the research design

| Chapter | Specific objectives | Hypothesis | Data | Methods |
|---------|--|--|---|--|
| 3 | To explore the distinctive feature of the southern European housing system regarding homeownership and household formation patterns. | Southern European countries continue to share a number of common factors that greatly contribute in explaining housing patterns and, more specifically, homeownership. | EU-SILC (2005 and 2009) | Multivariate clustering |
| | | Sociodemographic patterns of current access to homeownership differ to some extent in the SEC. | | Binary logistic regression models |
| 4 | | The housing decisions of young active southern European adults differ from those in other European countries due to the wider range of alternatives available to them. | EU-SILC (2012) | Alternative-specific multinomial probit regression models |
| 5 | To explain the recent evolution of housing tenure distribution accounting for individual and contextual factors. | Stability in housing prices increases the probability of living in a rented-occupied dwelling. | Micro-data Spanish census (2001 and 2011) | Multilevel logistic regression models |
| 6 | To analyse the role of housing tenure status in fertility. | The access to housing through homeownership increases the likelihood of first-child birth in southern European residential systems. | EFF (2008) | Probit regression models |
| 7 | | When compared to tenants, homeowners are (1) more likely to have their first-child and (2) have a lower time ratio to the birth of the first-child. | HFCN (2008-2011) | Probit regression models; Parametric frailty models (generalized gamma accelerated failure-time form) |

1.5 Outline of the thesis

This thesis is organised in eight chapters. Chapter 1 focuses on the aims of the research, the background and in the summary of the research design. Chapter 2 covers the theoretical framework that supports the empirical work (Chapters 3 to 7). The empirical chapters are organised as independent pieces of research. For that reason, these chapters follow the structure commonly used in scientific articles: background, hypotheses, data and methods, results and discussion and concluding remarks. It is also within the scope of each empirical chapter that the detailed definition of terms, assumptions and limitations of every study are presented.

These empirical chapters may be grouped into two parts. In the first part (Chapters 3 to 5), homeownership is explored as a distinctive feature of the southern European housing system in relation to late household formation, while the recent evolution of renting accounting for individual and contextual factors is explained simultaneously. Consequently, in this first part of the research housing tenure status is treated as the outcome variable for which determinants are evaluated.

More precisely, Chapter 3 explores the new contextual background of homeownership in the twenty-first century and looks at the development of heterogeneity within the SEC group. Additionally, this chapter lifts the veil of homeownership rates in the SEC not being as high as the traditional measures of housing tenure status may suggest, since disregarding late and low household formation may be misleading.

Chapter 4 presents an in depth deconstruction of the perception that the SEC have high homeownership rates by analysing non-headship as an alternative housing tenure status and unravelling the determinants of non-headship among young active adults in a comparative perspective of welfare state regimes.

In Chapter 5 the increase in the proportion of rented-occupied dwellings, in Spain, between 2001 and 2011, is explained while taking into account both individual and contextual factors. It is demonstrated that the regional heterogeneity in the access to

renting is explained mainly by contextual factors and that the stability in housing prices increases the tendency for renting.

In the second part of the research (Chapters 6 and 7), housing tenure status is treated as an explanatory variable of the first-child birth. At an exploratory level, Chapter 6 focuses solely on Spain and covers the effect of homeownership in the first-child birth over time. This chapter shows that to be a home owner increases the likelihood of having the first-child birth, a relationship that in Spain is increasingly important over time.

The results of Chapter 6 sparked the interest in further exploring the effect of homeownership in the first-child birth. Thus, in Chapter 7 the attention is extended to the four SEC and compared with France and Germany. Moreover, aside from the effect of tenure in the first-child birth, Chapter 7 further explores this topic extending it to the effect of homeownership in the timing of the first-child birth.

Finally, Chapter 8 systematises the main findings of the thesis, reflects over the implications of the findings and outlines the path for future research.

Chapter 2 Literature Review

2.1 Introduction

This chapter aims to define the conceptual background that guides this thesis on the housing and family dynamics in southern Europe.¹ Accordingly, by taking an in depth look at previous contributions, this section provides the theoretical framework of housing demography, the different approaches to housing studies, the relation between housing and the welfare state regimes, the keystones that explain the southern European housing system, the advantages and disadvantages of homeownership and the principles of housing behaviour that are covered by this thesis. Furthermore, this chapter also identifies the gaps in the literature in order to contribute to the body of literature on the topic.

2.2 Housing demography

The relationship between housing and demography has been acknowledged in Europe from as early as the beginning of the nineteenth century. In the 1806 edition of *An Essay on the Principle of Population*, Malthus highlighted that the lack of appropriate housing was an obstacle to marriage and thus could act as a brake to population growth, a major concern at the time (Malthus 1998). In fact, during the first half of the nineteenth century, philosophers, architects and urban planners placed the housing topic in the spotlight due to the poor living conditions that migrants were facing in the main cities resulting from their pursuit for better job opportunities (Bonvalet, Laflame and Arbonville 2006).

After World War II, the housing issued reappeared in France in a renewed form resulting from a variety of factors: the absence of construction between the two World Wars, the devastation left by the II World War, the internal migration flow towards urban spaces

¹ Given the structure of this thesis, each empirical chapter (chapters 3 to 7) present and discuss the related literature. For that reason, this literature review aims to provide a general and introductory framework.

and the increase in the potential number of households (Bonvalet et al. 2006). Around the same time, Sauvy (1946) established causal links between housing and internal migrations, mortality and fertility. Reflecting on the French post-war period, Sauvy concluded that: 1) a shortage on housing discourages migration flows; 2) poor housing conditions directly affect mortality by facilitating the transmission of diseases such as tuberculosis; and 3) an increase in fertility rates leads to an increase in the demand for housing (Sauvy 1946).

Nonetheless, the concept of housing demography was only defined in 1990, in the United States of America with the publication of *Housing Demography: linking demographic structure and housing markets* edited by Myers. This collective effort was ground-breaking, filling the prevailing gap between the research on population and the research on housing. As a new scientific field, housing demography was in need of a concept. Following this conceptual need, Myers (1990) was kind enough to offer a preliminary definition of housing demography as the study of the union of population and housing and by arguing that housing demography “integrates households compositional processes, mobility between housing units, location in urban subareas, and housing market characteristics” (Myers 1990: 13).

Closely connected with his housing demography definition, Myers (1990) identified three common principles of the research on housing demography. The first is that housing demography looks at the “interconnections” between housing and population, both at the household and aggregate level. The second principle is that housing demography studies “longitudinal processes” that link individuals and their life course events to housing careers. The third principle focuses on the “spatial patterns”, i.e., the interactions between space, dwelling types and household types.

Consequentially, the research on housing demography may be classified into four general dimensions, namely:

Household formation and composition. This first dimension refers to the interrelationship between the population unit-based and the housing unit-based research. From the population perspective, researchers focus on the way the household composition impact

over housing choices, while from the housing perspective the focus is on the way the features of the housing stock impact on the use given by different household types.

Housing choices. The housing choices dimension frequently looks at the choices over tenure status, housing type and housing size. For Myers (1990), the demographic perspective on housing choices is of most-value since it sums up the household formation and composition, as well as the chronological dynamic that leads to different living arrangements over the life course.

Housing construction and inventory change. As for the housing construction and inventory change, housing demography plays an important role in understanding both the demand - supply dynamics and the way the housing stock interacts with the other dimensions of housing demography.

Spatial patterns and consequences. Finally, Myers (1990) identifies the analysis of the spatial patterns and consequences of housing processes. This dimension of housing demography focuses on smaller areas (neighbourhood, for instance). Myers considers this dimension very promising since housing stocks are normally stable and long-lasting while households are mobile and usually undergo compositional changes.

2.2.1 The concept and the practice

Despite Myers and colleagues (1990) efforts in defining the field of housing demography, the concept has never become as widespread as the authors could have possibly expected. Some exceptions from a near scientific field, human geography, are worth mentioning. Gober (1992), which has also contributed to the *Housing Demography: linking demographic structure and housing markets* edited by Myers (1990), reviews the literature on housing demography from a geographic perspective. Nash (1994) considers the work of Myers and his colleagues (1990) from the standpoint of population ageing. More recently, in a literature review on the evolution of the social geometry of the households, Buzar, Ogden and Hall (2005) use the work edited by Myers (1990) to address the change in household patterns (Gober 1990) and to study the relation between life course events with housing needs (Kendig 1990). Additionally, the authors highlight the importance of the work done

by Myers (1999) in contributing the understanding of urban effects in household geometries (Buzar et al. 2005).

From Myers narrative in the preface of *Housing Demography: linking demographic structure and housing markets*, the author identifies two main factors that may justify the reluctant use of the concept of housing demography. On the one hand, 'housing studies' is a very general concept and embraces different scientific fields (economy, urban planning, geography, demography, sociology, among others). Therefore, in a pragmatic perspective, when housing is the subject of the study or a determinant aspect in a given study, it reasonably fits under the housing studies umbrella.

On the other hand, demography is very frequently summarised as the study of the human populations and their dynamics of fertility, mortality and migrations (Pressat 1985). Nevertheless, from the first definitions suggested by Guillard (1855) and later on by Landry (1945), qualitative and social aspects of demography were taken into account. Thus, according to the more frequently used definition of demography, housing studies and demography do not seem to have much in common. From that standpoint 'housing demography' may appear to be a blurred term, despite the fact that the interconnections in which the field is focused are present in the literature long before Myers (1990) definition. The study of these three main demographic events - births, deaths and migrations - intersects with other sciences and, therefore, to a wider variety of demographic sub-fields (Siegel and Swanson 2004). Following Siegel and Swanson's (2004) classification of the sub-fields of demography, this thesis inserts itself within the field of basic demography and adopts a socioeconomic demography perspective. Regarding the applications of demography, the work of Caselli, Vallin and Wunsch (2006) provides an extraordinary overview of how diverse the topics covered by the demographic science can be.

There have been other attempts at creating a bridge between research on housing and research on population or households. However, it is important to note that these attempts did not use the concept of housing demography in the way it was defined by Myers (1990).

Clark and Dieleman (1996) wrote *Households and Housing: choice and outcomes in the housing market* in an attempt to establish the relationships between housing stock and households. The authors studied two different housing markets (The Netherlands and the USA) in order to understand households' choices over housing careers in combination with the evolution of the household composition and professional careers.

In 2006, Bonvalet et al. edited *Quelles familles? Quels logements? La France et l'Europe du Sud* with the objective to simultaneously analyse the impact of changes in family patterns on housing, and the effect of the urbanisation and industrialisation processes on the life standards of the families (Bonvalet et al. 2006). With colleagues from Greece, Italy, Portugal, Spain and Romania, the editors analysed the evolution of housing and household over the second half of the twentieth century. They concluded that these south European countries share similar links between housing, urbanisation and demography.

Despite these contributions, there has been a lack of studies that focused on the relation between population and housing. By perceiving a deficit in the literature on this interrelationship, Mulder (2006a) published the article "Population and housing: A two-sided relationship" providing an in-depth look at how population impacts on housing and how housing impacts over population, migrations, household formation and fertility in modern societies. While the work of Myers (1990) and Clark and Dieleman (1996) could be escaping from European demographers' radars, the same could not be said about Bonvalet et al. (2006) and Mulder (2006a).

In sum, although there seems to be some resistance to use the "housing demography" concept explicitly, the topic has not been absent from the demographers' interest. Quite the contrary. As will be shown in chapters 3-7, over time, the works that have explored the interrelationship between housing and family dynamics are a growing myriad. These works have greatly contributed to increase the comparative survey data that provides information on demographics, households and housing. In turn, data availability also has facilitated the appearance of new approaches in housing studies.

2.3 Linking convergence and divergence in housing studies

The research on housing was traditionally focused on single countries or regions. With no generalisation intentions, those studies were driven by a particularistic approach. During the 1970's, a critical approach filtered the classical studies about housing markets, coming from social scientists. At first, international comparative studies were especially focused on highlighting commonalities among countries that were considered to be following a unilineal pattern, or a unique pattern of development, consequentially adopting a universalistic approach. A more critical approach points to the possibility of different patterns according to specific national or regional contexts. The first contributes of Kemeny display a good illustration of this trend. After comparing the markets of Australia, Sweden and the United Kingdom in *The myth of homeownership*, Kemeny asserted that homeownership could not be considered as an inherently superior housing typology.

The studies that focused on a way to disentangle housing patterns in typologies seemed to be following a middle way approach between the first two extremes – a divergence approach. In their work, Kemeny and Lowe (1998) argue that in the divergence approach “have moved the debates from earlier highly particularistic analyses through the global generalisation approach that is currently dominant and towards the emergence of attempts at basic typologies of housing systems” (Kemeny and Lowe 1998: 162). This is the current paradigm of the comparative international studies on housing.

In terms of their quality, comparative housing studies can be rated on a scale ranging from ‘zero’ to ‘high’ (Oxley 2001). The ‘zero’ level includes the descriptive studies covering a single country, although they may deserve international consideration if they analyse representative cases. The ‘low’ level studies are those that have a descriptive or analytical approach on several countries. In the ‘middle’ level there are the studies with a relevant comparison component. Finally, the housing studies characterized as ‘high’ level compare

common and different features, follow an analytical approach, have an “explicit theory” and apply a “high level of empiricism” (Oxley 2001: 94).

Despite the existence of these three approaches - particularist, universalistic and middle range – they do not necessarily need to be mutually exclusive. Within the European countries, the convergence approach was popular for a long time (Kemeny and Lowe 1998). However, the analysis of housing patterns in characterising typologies has gathered more supporters since the 1990s, highlighting the importance of the divergence approach. The studies adopting the divergence approach look at the housing patterns considering different geographical areas and their evolution over time (Kemeny and Lowe 1998), which is the approach followed by this thesis.

2.4 Housing and the welfare state regimes

The role of housing in the welfare state has been a subject of an animated debate in the literature. Despite its central role in the population’s access to housing, it is often described in the literature as its ‘wobbly pillar’ referring to the expression used by Torgersen (1987). However, in the modern welfare state, housing has also been defined as an essential “cornerstone” (Malpass 2008). After reviewing the contributions of Harloe (1985, 1995, 2001) and Kemeny (1980, 1981, 1995, 2005), Malpass (2008) concludes that Torgersen (1987) fails to explain the increasing role of housing in the recent restructuring of the welfare state. Using the British case, Malpass argues that housing has enabled the restructuring of the welfare state, although without being process-driven, by offering solutions that would not be so easily accepted in a society with lower rates of homeownership. For Malpass (2008), paradoxically, housing can be considered a cornerstone of the modern welfare state for the reason pointed by Torgersen (1987) when arguing that housing was the wobbly pillar, “its capital intensive nature” (Malpass 2008: 16).

Despite differences in organization and structure of the welfare state, the four pillars - social security, education, health and housing - can be considered universal (Kemeny

2001), therefore allowing to examine and compare modern welfare states regimes through an accessible framework.

In *The Three Worlds of Welfare Capitalism* (1990), Esping-Andersen suggested a typology for the welfare state regimes, where the housing pillar was lacking. His typology was based on the level of decommodification, the system of social stratification and articulation between the state, the market and the family. As initially formulated by Esping-Andersen (1990), three welfare state regimes were distinguished:

Liberal welfare state regime. The liberal regime is found in Australia, USA, New Zealand, Canada, Ireland and in the UK. In this regime, state intervention is limited and reserved to the less privileged people. Stratification in liberal social policy is high and mainly based on income. This regime is strongly market-oriented meaning that welfare services are mainly provided by the private institutions.

Corporatist welfare state regime. The corporatist regime is found in Italy, Japan, France, Germany, Finland and in Switzerland. In this regime, the state is reasonably active in the provision of welfare services. Nevertheless, the semi-public and non-profit organizations also play an important role in supporting welfare services. Despite this external support, in this regime prevails a hierarchical social stratification. An important position is given to the family, often a favoured social group in the distribution of the welfare services.

Social-democratic welfare state regime. The social-democratic regime is found in Austria, Belgium, The Netherlands, Denmark, Norway and in Sweden. In this regime the state has the main role in the provision of high level welfare services equally to all individuals, the unit eligible to the welfare services. Since social benefits contribute to diminish inequalities, the social stratification is low.

As may be observed from the above, Italy was the only SEC included in the original typology of Esping-Andersen. Later, grounded on the claims of Leibfried (1992), Lessenich (1995) and Ferrera (1996) and Castles (1996), Esping-Andersen re-examined his typology and concluded that the strong familialism in SEC justifies an additional world of welfare: the Mediterranean fourth world (Esping-Andersen 1999).

For Allen et al. (2004) the recognition of a southern welfare state regime, although non-essential, contributes to identify “the key elements in the wider societal context which generate a specifically southern welfare system” (Allen et al. 2004: 71). The authors argue that Esping-Andersens welfare regimes fail when applied to housing, since they overvalue the market-state relationships and devalue the role of the family in welfare provision. However Esping-Andersen typology can have a more substantive use in housing research if welfare state regimes are considered as ideal-typical regimes. In that line of reasoning, Esping-Andersen typology is valuable in understanding where each specific country stands regarding the three dimensions of the welfare state regime: level of decommodification, stratification principle and program design principle (Allen et al. 2004).

The systematisation of the “Mediterranean welfare state regime” framed by the typology of Esping-Andersen was performed by Hoekstra (2005). Keeping Italy as a corporatist welfare state regime, Hoekstra characterized Greece, Portugal and Spain as having a low level of decommodification, similar to the liberal regimes, but with a dominant position of the family, which greatly differs from the liberal regime where the market plays that role. Regarding the stratification of the system, the Mediterranean welfare state regime shares similarities with the corporatist regime, i.e a system with a reasonably high stratification mainly based on social or occupational status (Hoekstra 2005).

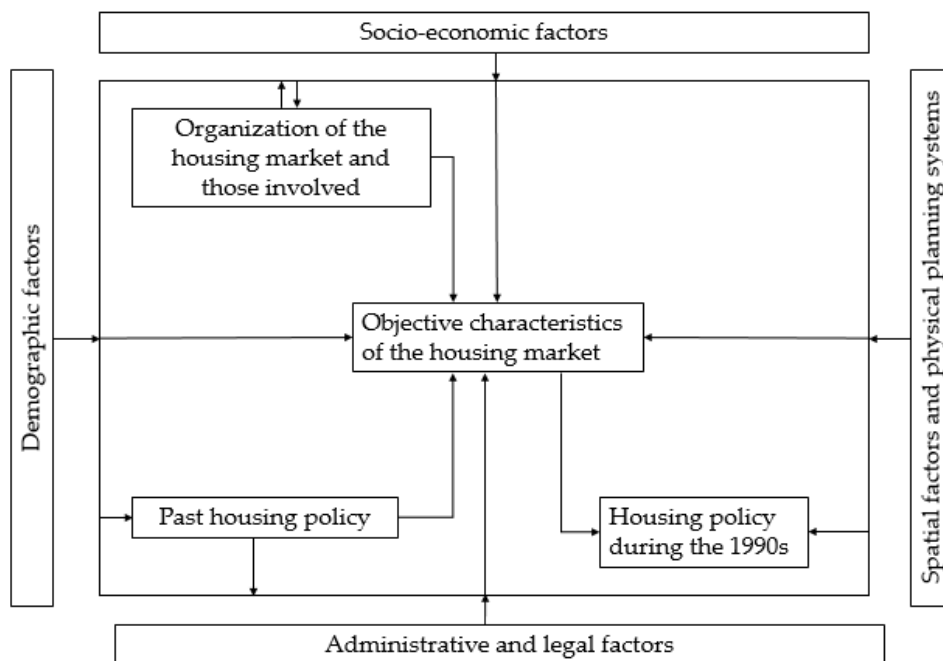
2.5 Southern European housing system

2.5.1 The concept of housing system

The concept of housing system has evolved since the first definition given by Priemus (1983) and built on the Bourne (1981) reflection on the concept. In that process, the contribution of Boelhouwer and Van Der Heijden (1992) through an international comparison of housing policy in seven west European countries was determinant. In the framework of this research project the authors identified a set of factors that would

provide a suitable comparative framework for the participant countries (Figure 2.1). Four of those factors are background factors: socio-economic, demographic factors, administrative and legal factors and spatial factors and physical planning systems. In turn, those interact with past housing policy, the organization of the housing market and the housing policy in the 1990s. Finally, the background factors, the past housing policies and the organization of the housing market, explain the characteristics of the housing market: “size of the housing stock, average household size, level of new construction, the tenure characteristics of households, and housing costs” (Boelhouwer and Van Der Heijden 1992: 17).

Figure 2.1 Background factors determining the structure of the housing market



Source: Adapted from Boelhouwer and Van Der Heijden 1992: 17.

Anchored to this research project several results contributed to the development of the study of housing systems (see Boelhouwer and Van Der Heijden 1993; Boelhouwer 1993). However, the main theoretical lesson that can be drawn is that housing systems are both diverse and dynamic. As such their study does not rely in universal comparative factors or

modules. Instead, the most suitable comparative framework is built on the features of the housing systems to be compared.

Currently, two factors are considered relevant in the operationalisation of a housing system: “the interaction between the actors and the institutions ‘within’ the housing system and the interaction between the housing system and the context” (Van Der Heijden 2013: 6). Accordingly, a change in one element will produce a change in their counterpart. Given that population and housing change over time and space, their interconnections are intrinsically dynamic at both the individual and the aggregate levels (Myers 1990, Mulder 2006a). At the same time, the contributions of several scholars interested in the study of housing systems made the concept of housing system dynamic in itself (Módenes and López-Colás 2014).

Furthermore, although initially the debate on housing systems has been mainly centred in understanding and comparing the European housing systems, over time, some authors have taken the initiative to enlarge the debate to other regions of the world and bringing together evidence from non-European housing systems. This is the case of Ronald and Doling who have analysed the, East Asia housing systems (see Ronald 2008 or Doling and Ronald 2014). These countries combine a family-oriented social structure with a state-lead system of provision.

2.5.2 Features of the southern European housing system

When addressing the southern European housing system, the work of Allen et al. (2004) is an essential piece due to their two arguments. First, “housing provision systems in southern European countries are sufficiently different from their northern counterparts to consider them as a separate group within Europe as a whole” (Allen et al. 2004: 3). Second, housing systems are part of wider societal scenario and, therefore, a comparative argument should follow three levels: “first, at the level of factual evidence on the nature of housing, welfare and family systems across Europe; second, as a critique of the ideas which underlie supposed pan-European comparisons; and third, by pointing out how many of the ideas in current comparative housing literature lead to a procrustean view of

housing systems in southern Europe by failing to draw the scope of their analysis widely enough" (Allen et al. 2004: 3).

Accordingly, the main contribution of Allen and her colleagues was to provide the first – and up to date the only – large scale project characterizing the southern European housing system. In the second chapter, where the authors discuss whether the SEC hold a distinct housing system, the reader can take a glimpse at the characterising traits of the southern European housing system:

- Housing tenure patterns;
- Relevance of homeownership;
- Relevance of second homes;
- Access to housing, family strategies and residential mobility;
- Housing production and promotion patterns.

In addition, the authors offer two additional contributions, enriching the debate on the southern European housing system. First, by questioning the application of the welfare state typology to southern Europe. Second, by disentangling the relationship between state, market, civil society and family. Thus, as an expectable extension of the domains of the southern European housing system, housing in Greece, Italy, Portugal and Spain differs from the European context in the indicators presented in the following sections.

High rates of homeownership

One of the main features of the southern European housing system is high homeownership rates across all social strata (Allen et al. 2004; Cabré and Módenes 2004; Poggio 2012). This feature is the result of long-term policies that encouraged homeownership to the detriment of other housing tenure options and the active role of the family in housing provision (Allen et al. 2004; Cabré and Módenes 2004; Bernardi and Poggio 2004).

Homeownership has been encouraged directly through means of subsidies or fiscal policies, while renting was penalised through the liberalisation of market prices (Cabré and Módenes 2004; Baldini and Poggio 2012). Indirectly, homeownership was also promoted through inefficient investment in housing alternatives for households (Castles and Ferrera 1996).

For instance, in Spain, the successive housing policies towards homeownership implemented after the end of the civil war (1936-1939) and reinforced after the II World War, constitute some of the features of a welfare state regime strongly supported by the family (Leal 2005). Additionally, the construction of new houses without taking into account their use or location, deviated the Spanish stock from the needs of the population and, thus, requires re-evaluation (Leal 2005). Consequently, the housing needs of new households and immigrants are particularly problematic since both groups are natural customers of the rental market until they are able to gather the necessary resources to become homeowners in a country where the rental supply is small and the social rental supply is scarce (Leal 2005). Furthermore, the housing distribution by the population led to social great inequalities (Trilla 2001; Cabré and Módenes 2004; Pareja-Eastaway 2010). Nevertheless, it is worth noting that in a “difficult home-ownership regime”, as Mulder and Billari (2010) characterised Greece, Italy and Spain, high rates of homeownership may be a consequence of familiar strategies in housing provision by postponing home parental leave (Allen et al. 2004) and, as a result may be misunderstood when family formation is not taken into account (Yu and Myers 2010).

Small private rental markets

Small rental markets are the reverse of high homeownership rates. Therefore, the explanation for the emergence of homeownership as the final aim of a householder career is the same that contributed to the decrease of rentership rates. While in the 1950s private renting was the most frequent tenure in most of the European countries, in the turn of the millennium homeownership had taken that place (Allen et al. 2004).

Renting became the housing option for those in temporary situations (Cabr e and M odenes 2004) or those who could not access credit to become homeowners but are not entitled to social housing. However, there are signs of changing patterns in favour of renting. In Spain, the more privileged young adults have started to show a preference for renting (Holdsworth and Irazoqui 2002), a preference that spread to other social strata making renting recover its importance among the housing choices of young adults since the new millennium (M odenes and L opez-Col as 2014). In Spain, the real estate sector drove the economy until the beginning of the GFC (Pareja-Eastaway and S anchez-Mart inez 2014). But the GFC shifted the perception of young adults on housing independence and in the relationship with housing towards convergence with European housing patterns (M inguez 2016). In the aftermath of the crisis, considerable pressure has been placed on the development of private and public markets in Spain. Several measures are in place to improve the Spanish private rental market, although future trends remain uncertain (Pareja-Eastaway and S anchez-Mart inez 2014).

Inefficient social housing

Social housing occupies a marginal position in the housing tenure distribution of the SEC (Priemus and Dieleman 2002). According to the Rosenfeld (2014), Portugal has a residual model of social housing, while Greece and Spain has generalist models with a current trend to residual. In these countries the share of social housing ranges from 0 to 4 per cent (Rosenfeld 2014).

The low rates of social housing in Spain and Italy are, to some extent, the result of selling the housing stock built as social housing to their residents. In these two countries, policies subsidise the less privileged households in order for them to become homeowners, while in other European contexts they would be eligible to social housing (Allen et al. 2004). In Italy the social housing policy takes a residual perspective, aiming to fulfil the needs of a minority of the less privileged population, the poorest households (Bernardi and Poggio 2004). In Portugal, a social housing stock was developed after the 1974 revolution that lead

to the implementation of a democratic regime. The main objective was to answer the housing needs of migrants that moved from the Portuguese rural areas and from the former colonies that were living in neighbourhoods of illegal constructions in Lisbon and Oporto with no minimum living standards (Guerra 2007). In Greece, public policies encouraged homeownership over social housing stock, especially in the post-civil war period, as means of social mobility and legitimation of political power (Allen et al. 2004). The lack of appropriate social housing stock is particularly problematic during periods of economic crisis because it pushes the private market to an additional function. On the one hand, it absorbs the candidates to whom access to homeownership was restrained. On the other, it absorbs the homeowners that entered in credit default. In Spain, the almost inexistence of social housing options gradually forced the private market to answer households needs that elsewhere would be inserted in the scope of the social housing market (Pareja-Eastway and Sánchez-Martínez 2016).

High rates of second homes

By the time Coppock edited *Second homes: Curse or blessing?* (1977) it was difficult to predict that the SEC themselves would also become countries with a high rate of second homes. The high stock of second homes when compared with the European average is a current feature of the southern European housing system (Allen et al. 2004; Módenes and López-Colas 2007a). The different designations given to a second home, over time and across countries, makes operationalisation of comparative research on secondary homes very difficult (López-Colás 2003). According to Allen et al (2004), the stock of second homes in southern Europe comprises three scenarios: a) the homes left vacant by the owners who migrated to urban areas looking for better job prospects; b) the homes of emigrants that return to their home-country during holidays and to where they plan to move after retirement, and c) particularly well located homes (beaches, mountains, historical cities) popular among northern Europeans tourists. For instance, in Portugal, the first two scenarios are predominantly found in the most depopulated, aged and poor

counties, i.e., mainly in the interior municipalities; while the third scenario is found in coastal municipalities, mostly in Algarve (Oliveira 2013). Regarding second home tourism in southern Europe, case studies in Alicante and in the Cyclades islands highlight positive aspects as economic growth and regional development, but underline the need for urban planning in order to ensure there are infrastructures and basic services that can deal with seasonal population without jeopardising the environment (Mazón, Laguna, Hurtado 2013; Karayiannis, Iakovidou and Tsartas 2013).

The relationship between homeownership and investment suggested by Castles and Ferrera (1996) is also appropriate in the case of second homes. Especially in the SEC where the lack of alternative investment meets the lack of trust in the welfare state provision; the paradox between high rate of vacant dwelling and high housing prices is partially explained by the high stock of second homes (Vakili-Zad and Hoekstra 2011; Hoekstra and Vakili-Zad 2011).

Important role of the family in providing housing and self-provision in housing access

Family systems in southern Europe greatly differ from the ones in northern Europe in their solidarity models, parental home leaving patterns and family formation patterns (Reher 1998). Reflecting on the European family systems, Reher (1998) distinguishes two family types that over time are not showing signs of convergence: weak and strong family ties. Those two types separate the Mediterranean countries, where family ties are strong and the family group prevails over the individual, from the north and central European countries, where the family ties are weak and the individual prevails over the family group (Reher 1998).

Housing and property are assets that pass through generations (Kurz and Blossfeld 2004). This is not exclusive of the southern European families. Previous research has found that throughout Europe, intergenerational transfers in the form of inheritances are common and “often considered as self-evident” (Doling and Elsinga 2013: 93). Yet, the high

commitment of the southern European family in that role turns it into one of the most characterising features of the southern European housing system when compared to the system in northern Europe (Allen et al. 2004).

Angelini, Laferrere and Weber (2013) studied the circumstances of first-time homeownership using the SHARELIFE micro-data. Comparing individuals by the year of birth (before 1935, between 1935 and 1944 and after 1944) and across the participant European countries, family support has been particularly relevant in the access to homeownership in Greece and Italy. Nevertheless, while in Italy the role of family support seems increasingly important through the generations, in Greece it appears to remain relatively stable. In Spain, the acquisition through a mortgage has been more relevant than family help (Angelini et al. 2013), but that is due to the dynamics of the Spanish housing market and the way families manage resources in order to guarantee access to mortgage for their young members, which can also be considered a type of family help.

Poggio (2008) identifies the types of family support in three groups: intergenerational transfers, financial and non-financial support and extended co-residence. The intergenerational transfers may take the form of inheritances or *inter vivos* transfers. The difference between these two types of transfers lies in fact that in the first there is no control on their timing and distribution while in the second the donors have room for adjustments in their transfers. Financial and non-financial support also differs, since non-financial resources are more geographically constrained than financial resources. Non-financial resources make part of an “informal production of homeownership” and assume the form of land, employment, self-construction or existing family houses. (Poggio 2008: 63). Finally, families may provide housing by means of co-residence. This form of housing support enables the optimization of household resources (as housing, income and care) in order to fulfil the individual’s needs. Alternatively, families may also provide accommodation for free or at a reduced price to their members. Hence, these forms of housing provision are also related with the transmission of homeownership (Poggio 2008).

Moreover, the branches of strong family ties and housing are multifaceted. Castles and Ferrera (1996) tested whether “the private ownership of housing and the public provision of aged pensions constitute alternative means of horizontal, life-cycle redistribution by which individuals guarantee their security in old age” (Castles and Ferrera 1996: 164). By comparing four SEC – Greece, Italy, Portugal and Spain – among themselves and with other OECD countries, the authors found that the SEC defy the trade-off between homeownership and old age pensions as they present high homeownership rates and relatively generous old-age pension systems. The key to unlocking the defiant behaviour of the SEC lies in the role of the family. Paradoxically, family contributes to the dilution of the uneven distribution of welfare resources. However, it may restrain family formation and fertility of young adults, resulting from the lack of prospects for housing provision external to familiaristic relations (Castles and Ferrera 1996). Additionally, Allen (2006) describes the southern European family as a “self-contained unit”, where networks work collectively in redistributing financial and non-financial resources derived from the state (Allen 2006: 270).

2.6 Homeownership versus renting in the southern European housing system

Europe saw a change in housing tenure preferences towards homeownership following the end of World War II (Ronald and Elsinga 2012). By cohort, the post-war period brought an earlier access to homeownership by young adults, possibly resulting from the expansion of access to credit or the improvements in the standard living conditions of the households (Angelini et al. 2013).

The housing tenure status of a household is the result of its revealed housing preferences, which often do not match the stated preferences since they are significantly less restrained than the revealed preferences (Jansen, Coolen and Goetgeluk 2011). Besides stated preferences, the revealed housing tenure status combines the household resources (income, wealth) with the housing market opportunities (tenure, type, size and location)

(Van Ham 2012). Nonetheless, whether a household opts for homeownership or renting, it will deal with the advantages and disadvantages of its choice, which is what we attempt to explore below.

One advantage of being a homeowner, when compared with being a tenant, is that homeowners own an asset that can be converted into income in periods of crisis along the life course of an individual. Yet, by doing so, the household is inevitably renouncing their home (Castles and Ferrera 1996). Further, the perception of converting a house in capital gains is not so straightforward since it is determined by the growth rate of real house prices. Thus, in general, households can convert their houses in capital gains in case of inheritance or if there is a residential change that implies a decline in the household living conditions (Boelhouwer et al. 2005). Though, the generalised postponement of childbearing and the increases in life expectancy shift inheritance chronologically to a life stage when usually it is already too late for the child usufruct of an inheritance in the transition into first-time homeownership (Kemeny 2001). Eventually those inheritances can benefit the grandchildren in their first-time homeownership. The same event dependency does not apply in the case of *inter vivos* transfers.

Obviously, regarding this advantage of homeownership, tenants are in great disadvantage since they are not able to convert the paid rents into capital gains and will not be able to leave housing as a legacy to their heirs. However, this does not necessarily mean that homeowners are wealthier than tenants. Recent works have found a negative effect of homeownership on wealth growth, while correcting for the presence of endogeneity, since homeownership is an underprivileged proxy for financial and real wealth (Kaas, Kocharkov and Preugschat 2016).

A second advantage of homeownership is that housing costs change greatly over the life course. Contrary to renting that are subject to costs relatively stable as a percentage of income, the housing costs of homeowners' decrease over the years until the house becomes debt-free. This means that, over time, tenants have a relatively stable disposable income after housing costs, whereas homeowners have an increasingly disposable income

that can be redirected to other expenditures, housing-related or not (Kemeny 2001). Hence, “there is a basic externality connected with the rental of a durable that, given equilibrium prices, makes it more attractive to own than to rent” (Henderson and Ioannides 1983: 99).

A third advantage of homeownership is that the main goal of southern European housing policies has been to encourage homeownership through financial and tax benefits. This happened because there was a lack of interest and ability in developing and maintain an efficient social and private rental sector (Allen et al. 2004).

Nevertheless, to be a homeowner also has its drawbacks in relation to being a tenant. First, even when receiving the solidarity of the extended family, an important part of the houses in southern Europe are bought through a mortgage or a loan. That implies a risk of arrears that varies according to the nature of the agreement made with the credit institution (Boelhouwer et al. 2005). For instance, for a long time, in Spain, there was not an appropriated mortgage risk awareness with the collusion of the economic and financial institutions and authorities (Echeverría 2008). Comprehensibly, in extreme circumstances, it is easier to terminate a tenancy contract than a mortgage or loan contract.

Second, the significant costs in the process of acquiring and selling a house, in addition to being a very time-consuming process, make house buying a long-term commitment (Allen et al. 2004; Mulder and Wagner 2001). Therefore, in the case of job changes, family dissolution or divorce, to be a homeowner will hamper the housing change in a way tenancy does not. This realisation makes individuals postpone home acquisition until they have a stable job and partner as well as more time to gather the resources to access to homeownership. Necessarily this dependency of events postpones family formation and childbearing (Clark, Deurloo and Dieleman 1994).

Third, the combination of a long-term commitment with the preference of southern European households for living in a familiar setting leads to low residential mobility (Allen et al. 2004). The relationship between high homeownership rates and high unemployment rates is not consensual. Research on the particular case of the United States of America have found that due to career rigidity, longer commutes and poor job

prospects, high homeownership rates impair the labour market (Blanchflower and Oswald 2013). Other research has shown that Spanish provinces with higher homeownership rates have lower unemployment rates (Rodríguez Hernández and Barrios García 2004). In spite of this debate, which may present important cross-national differences, low residential mobility impacts over the labour market maintaining the existing regional imbalances and increasing the commuting times and costs for the ones that changed job location, but are unwilling or unable to change their location of residence (Allen et al. 2004).

Finally, homeownership has higher maintenance costs than tenancy. Since tenants are subject only to utilization costs and eventually damages costs “tenants are assumed to pay less than owners at all rates of utilization” (Henderson and Ioannides 1986: 100). Nevertheless, in order to protect their assets, landlords tend to collect rents that cover some expected maintenance costs (Henderson and Ioannides 1983). For this reason, it is not so straightforward that tenants are exempt from maintenance costs.

Beside the above mentioned considerations on the *pros and cons* of homeownership and renting, there are demographic and social benefits of homeownership that, when combined, make it an appealing tenure status.

In most European countries, housing satisfaction is higher among homeowners (Elsinga and Hoekstra 2005). Although homeownership in southern Europe is a result of the familiaristic model of housing provision, southern European homeowners are more satisfied than tenants. However, there is a strong relation between housing quality and housing satisfaction (Elsinga and Hoekstra 2005), which refers back to the inefficiency of the private renting markets in the SEC. Moreover, tenants who become homeowners, whether in the same house or not, report an increase in housing satisfaction (Diaz-Serrano 2009).

Regarding the relationship between homeownership and fertility, there is a widespread knowledge that in north and central European countries first-time homeownership, marriage and first-child birth are frequently events chronologically close (Mulder and Wagner 1998; Feijten and Mulder 2002; Kulu and Vikat 2007; Öst 2012). It is a reasonable

consideration that access to housing determines fertility events in countries with a difficult or elitist access to housing, which is the case of the SEC (Mulder and Billari 2010; Ström 2010; Kulu and Steele 2013; Vignoli et al. 2013).

Previous findings also highlight a positive relationship between homeownership and children's scholar success since the responsibility and management skills of the homeowners are transferred to the children (Green and White 1997). Additionally, Harkness and Newman (2003) have found that since homeownership is closely related with lower residential mobility and household stability, the children of homeowners do better at school when compared to the children of tenants. Not surprisingly, in this relationship there is a social strata effect, where among the children of homeowners, those that are less privileged benefit more from homeownership than the more privileged ones (Harkness and Newman 2003).

According to Rossi and Weber (1996), homeowners are also more socially engaged in their communities and they invest more in their properties, which increases the value of the neighbourhood. The authors argue that homeowners self-perceive themselves as happier, with a higher self-esteem, and in better physical health when compared to tenants. Additionally, in elections, homeowners have higher rates of participation (Glaeser and DiPasquale 1998).

Although it may appear an apparently unlikely reversal in housing policies, an "ideological reorientation" towards rental could lessen the inequalities caused by the societies of homeowners. "Post-home ownership housing regimes" are characterized by exhaustion. Exhaustion of the home owners results from matters of affordability and the market trying to sustain value increases (Ronald 2008).

In sum, what can be drawn by this reflexion is that homeownership in the southern European housing system is a privileged housing tenure status not solely due to external factors, such as housing policies and the familiaristic model of housing provision, but also due to financial and social benefits associated with homeownership. The combination of these factors has been hampering the development of efficient private rental markets in

southern Europe that could fulfil the needs of the population over the life course. Consequently, the new valorisation of renting in the southern European countries after being hardly hit by the GFC period, which is traditionally marked by high homeownership rates, may be a sign of change.

2.7 Housing behaviour in southern Europe

The question of housing behaviour was initially addressed by Rossi (1955). When searching for the reasons of residential mobility in Philadelphia (USA), the author found that the need to fulfil the household housing needs as the life cycle and the household career progresses was an important motivation for residential mobility (Rossi 1955). From that initial contribution, the research on housing behaviour has been organised in two branches. The first branch of housing behaviour, mainly dominated by economists, has been analysing the evolution of housing prices and the way the features of a dwelling contribute to the price of the property. The other branch, in which this thesis is included, is dominated by urban planners, geographers and sociologists. In this branch, the focus is on understanding the housing choices that households do in terms of tenure status, type and size of dwelling and dwelling location (Clark and Dieleman 1996).

In this second branch of housing behaviour research, the life course perspective is an important instrument (Clark and Dieleman 1996; Mulder and Hooimeijer 1999; Van Ham 2012). Reviewing the literature on housing behaviour, Van Ham (2012) has categorized different approaches to explore housing behaviour: a) by life events, as leaving parental home, form a new household or having a child birth; b) by different sociodemographic groups, such marital status or ethnic minority; and c) by tenure choice as first-time home ownership.

When approaching housing behaviour from a life course perspective, some features of the SEC stand out. First, southern European young adults have a delayed residential emancipation (Jones 1995; Fernández Cordón 1997; Reher 1998; Castles and Ferrera 1996;

Holdsworth 2000; Billari 2004). By the turn of the millennium, the percentage of young adults aged 25-29 years still living in parental home was over 40 per cent in Greece, Italy, Portugal and Spain (Bonvalet et al. 2006). They also have a strong connection between leaving parental home and marriage (Jones, 1995, Fernández Cordón 1997; Reher 1998). Consequently, in the SEC the age at family formation is high and the fertility rates are extremely low (Eurostat).

There are two main causes for this specific pattern of the SEC that are strongly connected with the familiaristic feature of southern European societies. The first is economic. Southern European welfare states protect the employment status of the older generations, creating difficulties for young adults to find their place in the labour market (Fernández-Cordón 1997). Additionally, the strong family-orientation of the Mediterranean welfare state gives ample room to the state to provide less support to the youth (Mulder 2009). The second reason is cultural. Southern European families have strong family ties and share responsibilities with their members (Reher 1998). Thus, southern European young adults' emancipation is limited by the achievement of economic autonomy and stability and/or the family help in housing provision.

By the time of leaving parental home, the young adult or the new household will face housing choices along two types of context: within the macro context of market constraints and opportunities and the micro context of the household resources and restrictions (Mulder and Hooimeijer 1999). However, it is known that there is a two-way relationship between households and housing (Kulu and Steele 2013). In the SEC, given the difficult access to credit and high housing costs it is plausible to say that the housing features impact the fertility decisions of the household (Mulder and Billari 2010; Ström 2010; Kulu and Steele 2013; Vignoli, Rinesi and Mussino 2013).

Among the housing features, homeownership plays a key role in fertility decisions, since it substantiates a matured stage of the household career and economic stability, which are important to family formation and fertility (Clark et al. 1994; Mulder and Wagner 2001). In addition to homeownership, previous findings in Sweden have shown that the dwelling

type and size have a positive impact in first-child birth likelihood (Ström 2010). In Italy, the feelings of security about the housing conditions are an important predictor for the planning of first-child birth, even more so than housing tenure status (Vignoli et al. 2013). Although there are findings from country-specific studies on the relationship between housing, family formation and fertility in the SEC (Dalla Zuanna 2001; Jurado 2003; González and Jurado-Guerrero 2006; Vignoli et al. 2013), there is still the need to explore these relationships, or part of them, under a southern European comparative perspective, a gap that this study will contribute to compress.

2.8 Concluding remarks

This thesis can be framed in the field of housing demography. Given the interconnections in housing demography, we adopt a housing based approach to explore the “household demography and life course” interconnections in research practice (Myers 1990). Thus, this research lies in the enclave between “household formation and composition” and “housing choices”. It focuses on family dynamics by starting with housing decisions of active young adults, passing by the ones taken in the early stages of life in a partnership and ending in the effect of those decisions in fertility.

Despite the considerable and increasing body of literature on southern European housing system available in English, there is still ample room for progress in comparative research. On the one hand, an important part of the existing comparative literature refers mainly to research based on European surveys, focusing on all the participating countries and, consequently, paying little attention to the specific case of southern European countries.

On the other hand, there is the country-specific literature that provides in-depth knowledge of a single country as a representative of the southern European housing system. However, if Spain and Italy are fairly represented in English-language journals, Greece and Portugal are placed in a very unfavourable position. As a result, by using

mainly European surveys and focusing in the SEC, this thesis expects to balance the knowledge of the SEC providing comparative findings on these four SEC.

Chapter 3 Homeownership in southern European countries: similarities and divergent patterns²

3.1 Introduction

Population and housing are closely intertwined because “people live in households and households need housing” (Mulder 2006a: 403). This is a two-way interrelationship (Myers 1990): housing stocks and markets impinge upon population distribution and mobility at local or regional scales, whereas population structure and growth determine total demand for housing at higher scales. Political and economic structures, which can be summarized under the concept of welfare regimes, influence the set of preferences and restrictions that shape housing behaviour both at national and international scale. At the same time, welfare regimes essentially determine the type of housing supply that is available to the population.

Homeownership is a key factor within this framework. Even though it is not necessarily the ‘best’ tenure option (Kemeny 1981), homeownership is often considered as an important indicator of good living conditions. It has even become a final aim of most households’ housing careers. National homeownership rates have been increasing in recent decades in almost all western and high-income countries due to the availability and accessibility of mortgages, the support of the welfare state and the construction boom (Ronald and Elsinga 2012).

Micro-data from the EU-SILC, 2005 and 2009, is analysed in order to identify the common features and distinguishing elements of the housing patterns in Cyprus, Greece, Italy, Malta, Portugal and Spain. This period corresponds to the end of the recent financial and housing bubble, which was followed by the beginning of the economic crisis and the onset of austerity measures. Consequently, mortgage over-indebtedness and growing

² A version of this chapter will be published, in 2016, in *The Portuguese Journal of Social Science* Volume 15(2).

unemployment levels began to seriously affect countries such as Greece, Portugal and Spain (Módenes and López-Colás 2014), completely challenging the traditional, family-based relationship between housing and population in SEC (Allen et al. 2004). Additionally, following Mandic's (2012) perspective, this study adds Malta and Cyprus to the group of countries that the literature of housing studies traditionally considers as an exploratory approach. Within this recent context, the present research addresses two questions:

Have these new contextual developments modified the factors that, according to the literature, explain high homeownership in SEC?

Can one distinguish heterogeneous patterns in SEC during this period?

A somewhat hybrid methodology is required to articulate a macro analysis at the country level on the one hand, and individual logistic models using micro-data on the other. In this sense, the research follows a divergence approach (Kemeny and Lowe 1998), guided by a three-dimensional analysis: (1) to reassess the general European features; (2) to identify the factors that distinguish the SEC from the aggregate European pattern; and (3) to recognize the defining characteristics of each country within the SEC.

According to the theoretical framework, certain results are anticipated. Cohesive structural and traditional factors are expected to define the SEC as distinct from the European context. Homeownership and the corollary lack of efficient rental and social rental housing markets are to be the key common features of SEC. As elements of heterogeneity, specific behavioural differences are expected between individual SEC countries. These may occur in response to particular housing and financial markets trends at the country level. Should this behavioural heterogeneity have cohort effects, then further fundamental changes may be expected in SEC housing systems, opening up a path for gradual divergence (Malpass 2011).

3.2 Tenure status in southern Europe

Building on early proposals in the 1990s (Ferrera 1996; Bonoli 1997), the contributions of Allen et al. (2004), Leal (2004) and Hoekstra (2005), among others, Greece, Italy, Portugal and Spain have been recognized as a homogeneous group with strong differences from all the other European countries. Bridging the gap with Esping-Andersen's regimes (1990; 1999), these countries are characterized by a low level of decommodification, a relatively high level of stratification and the dominant position held by the family (Hoekstra 2005).

The southern model of housing is distinct from the European context in five indicators: the high rates of homeownership across all social strata, high rates of second homes, inefficient 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, 2012). 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. In this respect, Poggio's "familialistic welfare regime" seems to be an accurate portrayal (Poggio 2008).

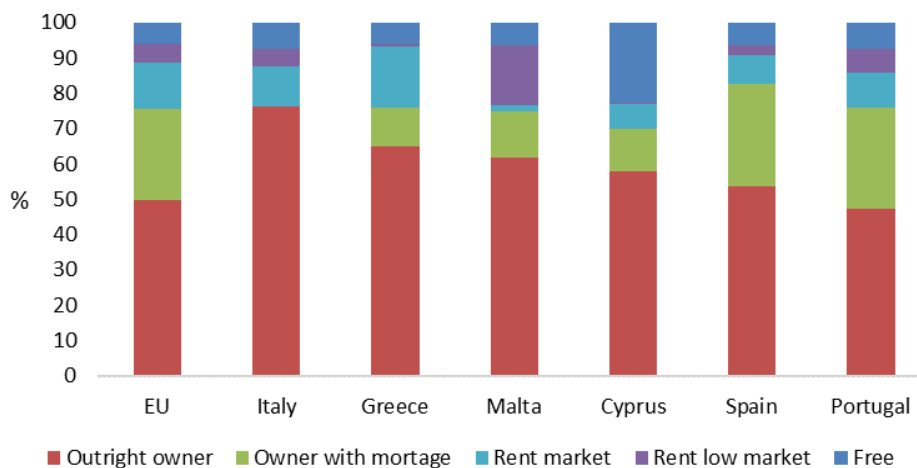
The decisive role of the family in housing provision arises from the social value of home and property in southern Europe: house and land are assets passed on from generation to generation. As such, these assets are typically preserved and expanded through family support (Allen et al. 2004), which in turn results in high rates of homeownership. Additionally, in a time of economic crisis, the role of the family can mitigate the impact of restrictions on access to credit, especially within families with medium-high or high income (Baldini and Poggio 2014).

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). This is a particularly promising approach in southern Europe, since tenure status plays a central factor in these countries' socioeconomic makeup.

In fact, outright homeownership was the most frequent tenure of households in SEC in 2009 (Figure 3.1). The combined ratio of outright homeownership and homeownership with a mortgage or loan puts Spain at the top (82.8 per cent), followed by Italy (76.1 per cent) and Portugal (75.8 per cent). This is the result of housing policies encouraging homeownership, 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. When compared with the other SEC, Greece has developed a sizeable rental market (17.3 per cent), which is a direct result of the almost complete lack of social housing supply. Cyprus also has a very small social rental market. However, the role of the family in the direct provision of housing is stronger than anywhere else in Europe, which explains why they have the highest rate of free tenancy (22.5 per cent). In contrast, and mostly due to the political legacy of British colonialism (Vakili-Zad and Hoekstra 2011), Malta is by far the country with the largest social rental market (17.1 per cent).

Figure 3.1 Tenure status rates by households (%), European Union and southern European countries, 2009



Note: 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 in section 3.3.1.

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

Heterogeneity emerges when considering homeownership supported by a mortgage. This tenure status is more frequent in Spain and Portugal 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 confirms this pattern.³ Furthermore, the residential mortgage debt-to-gross domestic product 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 per cent in 2000 to 71.3 per cent in 2011, surpassing Portugal and Spain (66.6 per cent and 62.1 per cent, 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 and 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 homeownership as a means to ensure social stability and managing a public rental stock has been a challenge for public institutions (Allen et al. 2004; Leal 2005). In fact, both reasons are closely related to the promotion of unbalanced economic production systems based on housing construction (Bielsa and Duarte 2011). Therefore, ownership is also indirectly encouraged by the lack of real investment alternatives for households (Castles and 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 absolutely based on homeownership (Allen et al. 2004; Cabré and Módenes 2004; Poggio 2012).

The Spanish rental market is particularly small. In addition to the reasons mentioned above, this is also the peculiar result of a long history of protectionist policy measures for the benefit of existing tenants (Cabré and Módenes 2004). The implementation of the

³ The proportions of population living in owned dwellings with a mortgage, ordered from higher to lower, are Spain (32.8 per cent), Portugal (29.9 per cent), Cyprus (16.8 per cent), Italy (15.4 per cent), Greece (15.4 per cent) and Malta (15.2 per cent) (Eurostat, SILC, table 'ilc_lvho02').

Decreto Boyer (*Decreto Boyer*) in 1985, divided the housing system in Spain into two branches for over two decades: a stagnant rental market and a long-standing real estate boom (Pareja-Eastaway and Sánchez-Martínez 2011). Within this framework, family ties have played a key role in providing housing through various means over time: financial support (Allen 2006; Poggio 2008; Mulder and Billari 2010; Mandic 2012), intergenerational transfers (Leal 2004; Poggio 2008) and extended co-residence (Iacovou and Skew 2010; Mandic 2012; Módenes and 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).

Homeownership 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, 2005), 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 homeownership. However, Greece, Italy, Portugal and Spain follow a different pattern, with relatively high pensions and high homeownership rates. Assets, housing resources and welfare pensions are concentrated in favour of the elderly (Castles and 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 and Ferrera 1996). A strategic delay in family formation and a low fertility rate complete the picture of ways to adapt to their housing reality (Poggio 2008; Mulder and Billari 2010).

In times of great change - such as the present - it is worthwhile to look at the changes underway in the SEC, which are particularly affected by the current economic crisis. Have these new contextual developments modified the factors that, according to the literature, explain high homeownership in SEC? Secondly, can one distinguish divergent patterns in SEC during this period?

To address these questions, two hypotheses have been formulated:

1. The SEC continue to share a number of common factors that greatly contribute in explaining housing patterns and, more specifically, homeownership. If this hypothesis is validated, a joint analysis of SEC would still be justified.
2. Sociodemographic patterns of current access to homeownership differ to some extent in the SEC.

3.3 Data and methods

3.3.1 Data source and sample

Bearing in mind the former underlying hypotheses, this study is based on the household heads information offered by the EU-SILC. The EU-SILC is an annual survey that collects harmonised data on income, poverty, social exclusion and living conditions in a growing number of European countries since 2003, both at the household and individual level. Two types of annual data are available: cross-sectional and longitudinal. For this study, two cross-sectional rounds have been selected: 2005 and 2009.⁴ 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. Even though the survey rounds are spread across a four-year interval, it is too short to expect substantive changes in residential patterns. The purpose of this research is a more moderate, cross-cutting approach, prioritising the strengthening of our data sample, and thus improving the analysis of the housing behaviours in SEC at the edge of the financial crisis.

The data source has two main limitations for 2005. First, despite the EU-SILC implementation in Malta in that year, only the 2009 data is available. Second, the Italian data for that year makes no distinction between outright homeownership and

⁴ For a detailed description of EU-SILC data, please see: <http://ec.europa.eu/eurostat/web/microdata/european-union-statistics-on-income-and-living-conditions>.

homeownership with a mortgage or loan.⁵ Considering Italy's weight in the data and its importance to SEC behaviour, the present analysis merged these two categories of homeownership for all countries. Nonetheless, EU-SILC is a harmonized and representative dataset, making it the most appropriate data source for the purpose of this study.

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 24.8 per cent (48,957 households) and 23.1 per cent (51,710 households) of the sample in 2005 and 2009, respectively.

3.3.2 Analytical model and methods

To carry out the empirical work, EU-SILC variables were selected to cover the three dimensions that, according to the literature, best explain homeownership at the individual level: demographic, socioeconomic and residential features.

For the demographic dimension, the age group, head-of-household variable reflects the main stages of the life cycle. Citizenship, recoded as native or foreign, is related to availability of family networks and personal resources and to institutional preferences.

For the socioeconomic dimension, comparative educational attainment and household income variables were developed. The income variable was additionally coded as a dichotomous indicator of poverty according to the national standard. State involvement in housing markets is represented by the proportion of social rental dwellings.⁶

⁵ 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. From the 2011 round onwards, the variable HH021 distinguishes both forms of home ownership: outright owner and owner paying mortgage.

⁶ Due to misreported values in EU-SILC, the ratios for Bulgaria and France are from Eurostat.

The residential dimension is based on conventional tenure status rates (calculated in relation to total households). As suggested by Yu and Myers (2010) the tenure status rates were complemented by headship rates, adding household formation to an updated concept of access to homeownership. As a result from its close connection with the tenure status, dwelling type was also used as an explanatory variable. To understand the relation between ownership and housing quality, the dichotomous variables dwelling quality and social environment were created.⁷

First, to confirm that a coherent group is formed by the countries of southern Europe, multivariate clustering is used to detect homogeneous groups of European countries (cases) with respect to housing patterns in the EU-SILC 2009 round. The small sample size ($N=29$) undermines an exploratory factor analysis or principal component analysis to reduce and classify the relationship between variables (Osborne and Costello 2004). This provides an additional reason for choosing variables from the literature that emphasize the residential and socioeconomic dimensions, taking into account the population structure (see Table 3.1, in section 3.4.1, for the complete list of variables). Ward's hierarchical method is articulated with the non-hierarchical K-Means method. While Ward's method determines the optimal number of groups, the K-Means method is used to assign each case to the most suitable group.

Second, using the 2005 and 2009 EU-SILC rounds, logistic regressions for eight models are estimated (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 3.4, in section 3.4.2, for the complete list of variables). The

⁷ The variable dwelling quality was created from the original EU-SILC variables: leaking roof, damp walls/floors/foundation, or rot in window frames or floor (HH040); bath or shower in dwelling (HH080) and problems with the dwelling: too dark, not enough light (HS160). Social environment was created from the original variables: noise from neighbours or from the street (HS170); pollution, grime or other environmental problems (HS180); and crime violence or vandalism in the area (HS190).

logistic model was stated in terms of $Y=1$ (be homeowner). Table A.3.1 in Appendix summarizes the absolute frequencies of the independent variables.

Due to their redundancy, three variables were included as control variables as follows: household composition and degree of urbanization (both connected with dwelling type) and year of contract (connected with the quality of the dwelling).⁸

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

Secondly, the Enter method is used to estimate the effect of each independent variable in the likelihood of being homeowner. The final set of variables is tested for non-iteration, ensuring independence of the variables selected. The data analysis was performed using the IBM SPSS Statistics 20 software.

3.4 Results and discussion

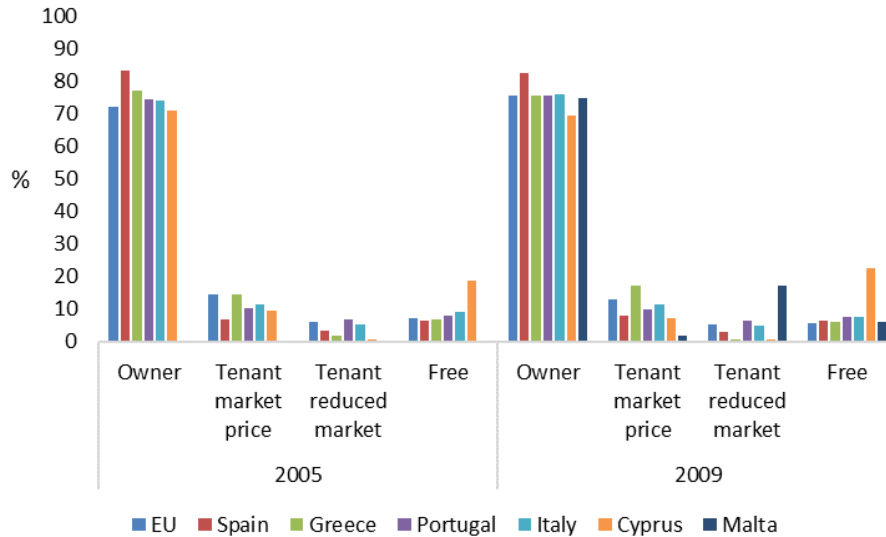
3.4.1 Clustering European housing patterns at macro level

In 2005 and 2009, Spain presented the highest rates of homeownership (83.3 per cent and 82.8 per cent, respectively) of the SEC while Cyprus presented the lowest (71.0 per cent and 70.0 per cent, respectively) (Figure 3.2 below and Table A.3.2, in Appendix). In comparison, the rent market in Cyprus decreased sharply, mainly due to the increased free tenancy, which was already the highest in the SEC group in 2005 due to the aforementioned reasons. These two countries have the smallest rental and social housing

⁸ Some countries did not report: 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.

markets. However, while in Spain the absence of any alternative tenure reinforces the weight of ownership, in Cyprus the proxy is free tenancy.

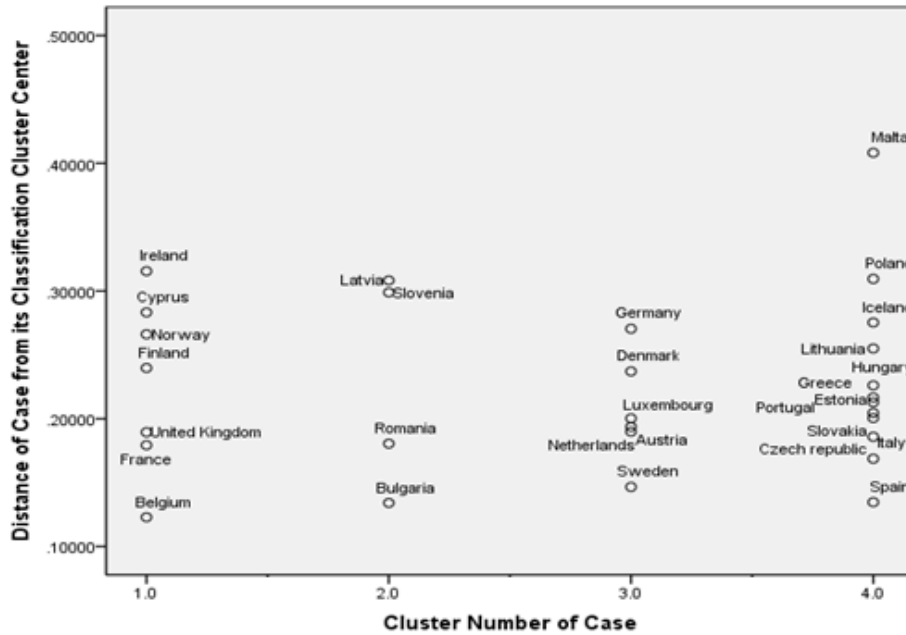
Figure 3.2 Tenure status rates (%), European Union and southern European countries, 2005 and 2009



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

With the aim to disentangle the homogeneous housing patterns that can be found in Europe, four clusters were defined in the 2009 data (Figure 3.3). The results emphasize the effect of the residential variables, the keystone of this study. These variables are the source of the distinction between the present classification and previous findings (Esping-Andersen 1990; Hoekstra 2005; Fenger 2007).

Figure 3.3 Distance of case from the center of its classification cluster, K-Means method, European countries, 2009



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

Cluster 4 is the largest cluster (12 countries) containing the SEC (Cyprus excluded) and most post-socialist countries. Note that Hoekstra's analysis was focused on the relationship between tenure, dwelling type and dwelling quality (Hoekstra 2005). However, he did not have access to the appropriate data for the post-socialist countries. Therefore, Hoekstra's Mediterranean welfare regime cluster (Italy, Spain, Portugal and Greece) appears grouped with other countries in the present clustering (Hoekstra 2005). Iceland falls in the same cluster, most likely due to the effects of the economic crisis that erupted in 2008.

Table 3.1 presents the characteristics of each cluster according to the median and the standard deviation.

Table 3.1 Median (Md) and standard deviation (s), cluster analysis variables

| Variables | Clusters | | | | | | | |
|-----------------------------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|
| | 1 | | 2 | | 3 | | 4 | |
| | <i>Md</i> | <i>s</i> | <i>Md</i> | <i>s</i> | <i>Md</i> | <i>s</i> | <i>Md</i> | <i>s</i> |
| Owner | 0.69 | 0.04 | 0.84 | 0.05 | 0.58 | 0.05 | 0.78 | 0.03 |
| Tenant at market price | 0.12 | 0.02 | 0.04 | 0.02 | 0.37 | 0.04 | 0.07 | 0.02 |
| Tenant at reduced price | 0.14 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 |
| Free | 0.01 | 0.03 | 0.07 | 0.04 | 0.02 | 0.03 | 0.06 | 0.03 |
| Detached dwelling | 0.72 | 0.06 | 0.55 | 0.04 | 0.56 | 0.04 | 0.44 | 0.06 |
| Non-household formation | 0.59 | 0.08 | 0.61 | 0.04 | 0.59 | 0.05 | 0.63 | 0.08 |
| <25 years | 0.03 | 0.07 | 0.04 | 0.05 | 0.03 | 0.03 | 0.01 | 0.08 |
| 45-54 years | 0.19 | 0.07 | 0.19 | 0.06 | 0.20 | 0.08 | 0.19 | 0.08 |
| 65 years and over | 0.25 | 0.06 | 0.30 | 0.01 | 0.26 | 0.04 | 0.28 | 0.05 |
| Low income | 0.28 | 0.05 | 0.22 | 0.02 | 0.33 | 0.07 | 0.25 | 0.06 |
| High income | 0.23 | 0.11 | 0.30 | 0.15 | 0.21 | 0.11 | 0.26 | 0.09 |
| Adequate dwelling quality | 0.81 | 0.06 | 0.55 | 0.07 | 0.81 | 0.06 | 0.78 | 0.05 |
| Adequate social environment | 0.67 | 0.04 | 0.57 | 0.06 | 0.66 | 0.04 | 0.65 | 0.03 |
| Poverty index | 0.53 | 0.06 | 0.44 | 0.08 | 0.58 | 0.07 | 0.49 | 0.05 |
| Social rent | 0.08 | 0.08 | 0.07 | 0.10 | 0.03 | 0.04 | 0.05 | 0.11 |

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

Countries in Cluster 4 have a medium-high rate of homeownership in common with the corresponding medium-small rental market and a small social rental housing market. In these countries, non-detached dwellings (mostly apartments) are more common. The quality terms stand for a medium-low quality, both for dwelling quality and social environment. After crossing the results for non-household formation and age group under 25 years, it is clear that household formation is more severely restricted at younger ages in these countries.

These outcomes highlight that the SEC still share common features despite the fact that in 2009 these were also shared with other countries. In reality, several factors are required to explain why homeownership is so widespread in these countries, some of which are difficult to measure, such as the effect of public policies (in post-socialist countries) or the effect of family support in the provision of housing (in SEC). Since these features play an

important role in the access to housing, they reduce the importance of other variables, making countries with very diverse backgrounds structurally close in terms of housing characteristics. Thus, due to the geographical, historical, political, social and cultural ties, the first hypothesis is confirmed: it remains justified to study the SEC as a separate block.⁹

It is worthwhile to bring in the fresh perspective of Yu and Myers (2010) in order to better understand the true weight of homeownership in the SEC. Conventionally, the ownership rate is defined by the ratio of owner-occupied households to the sum of the owner and renter-occupied households. Therefore, an eventual increase in homeownership, as recently experienced in most countries, does not necessarily mean that tenants changed to owners, neither does it mean better access to household formation in homeownership (Yu, Myers 2010; Módenes 2012). If economic difficulties make household postponement more likely and this is more frequent among individuals with a higher predisposition to rent their home (due to some degree of social stratification by tenure, for instance), the conventional ownership rate may increase, but obviously the context may be worse, not better.

Yu and Myers (2010) suggest an alternative measurement of the tenure rate, dividing house owners by the population universe rather than the household universe to obtain what they call “owner headship rate”.¹⁰ Consequently, it is possible to measure access to household formation and how this interacts with tenure options. In its more elementary alternative, three complementary rates can be calculated: owner headship rate, rent headship rate and non-headship rate (Table 3.2).

⁹ Despite agglomeration of Cyprus in cluster 1, the initial group of six countries was maintained in the exploration of housing features.

¹⁰ More detailed description of these indicators in Yu and Myers, 2010.

Table 3.2 Different perspectives of tenure rates (%), European Union, southern European countries and clustering results, 2009

| | Headship | Owner headship | Renter headship | Non-headship | Homeownership |
|-----------|----------|----------------|-----------------|--------------|---------------|
| EU | 38.91 | 29.43 | 9.48 | 61.09 | 75.58 |
| Cluster 1 | 40.50 | 29.42 | 11.08 | 59.50 | 72.43 |
| Cluster 2 | 36.58 | 32.30 | 4.28 | 63.42 | 88.30 |
| Cluster 3 | 41.89 | 26.20 | 15.69 | 58.11 | 62.51 |
| Cluster 4 | 37.64 | 29.94 | 7.70 | 62.36 | 79.55 |
| SEC | 37.85 | 29.26 | 8.59 | 62.15 | 77.30 |
| CY | 33.88 | 23.62 | 10.26 | 66.12 | 69.73 |
| ES | 36.21 | 29.96 | 6.25 | 63.79 | 82.75 |
| GR | 39.01 | 29.62 | 9.39 | 60.99 | 75.92 |
| IT | 39.76 | 30.26 | 9.50 | 60.24 | 76.11 |
| MT | 35.72 | 26.76 | 8.96 | 64.28 | 74.92 |
| PT | 38.12 | 28.91 | 9.21 | 61.88 | 75.83 |

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

A comparison between the rates shows similar values for cluster 4 and the SEC. The SEC have a slightly higher renter headship rate and the corresponding lower homeownership rate than cluster 4. These countries also have a problematic household formation (low headship rates) and similar owner headship rates to the rest of Europe. The main difference is in the renter headship rates, showing the deficit of this housing option to young households in SEC.

Regarding owner headship and non-headship rates, the SEC are quite homogeneous, however this is not entirely clear from the homeownership rates (Table 3.2 above and Table A.3.3 in Appendix). Nevertheless, the analysis shows that the origin of these internal discrepancies has to be identified in the relative differences in renter headship rates among SEC, not in access to ownership. Wherever there are more opportunities to access rental housing, household formation is higher and, paradoxically, traditional homeownership rate is lower (as in Greece, but headship in ownership is here actually as high as in the rest of SEC). Particularly homogeneous are the owner headship rates of Greece, Italy, Portugal

and Spain. In this group, Spain stands out from the rest due to the small rental market. The SEC are not distinguished by a particularly high homeownership with this approach. In the next section, the consistency of this SEC block will be tested at the micro level.

3.4.2 Comparing factors explaining homeownership at household level: homogeneity and heterogeneity in SEC

Although SEC homeownership is not particularly high when all individuals are considered, there is a widespread tenure status if only actual households are taken into account. On the one hand, once the household is created, 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 3.3). As the log-likelihood values decrease (Table A.3.4), 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, none of them totally decisive on their own. This analysis highlights a difference from the European model, as some of the most explanatory variables in the SEC model (e.g., age group) make a weaker contribution to explaining ownership than in the rest of Europe. To sum up, individual opportunity to access homeownership 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 uniqueness of the latter is striking (Table 3.3). 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 homeownership 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: in the first group we have Italy and Spain with identical patterns and Greece with a very similar one, while in the second group we have Cyprus and Malta with almost identical features and Portugal with some similarities.

Table 3.3 Characteristics of the regression models of homeownership by sociodemographic and residential characteristics using likelihood value, European Union and southern European countries, 2005 and 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 likelihood-value results shown in Table A.3.4 (Appendix).

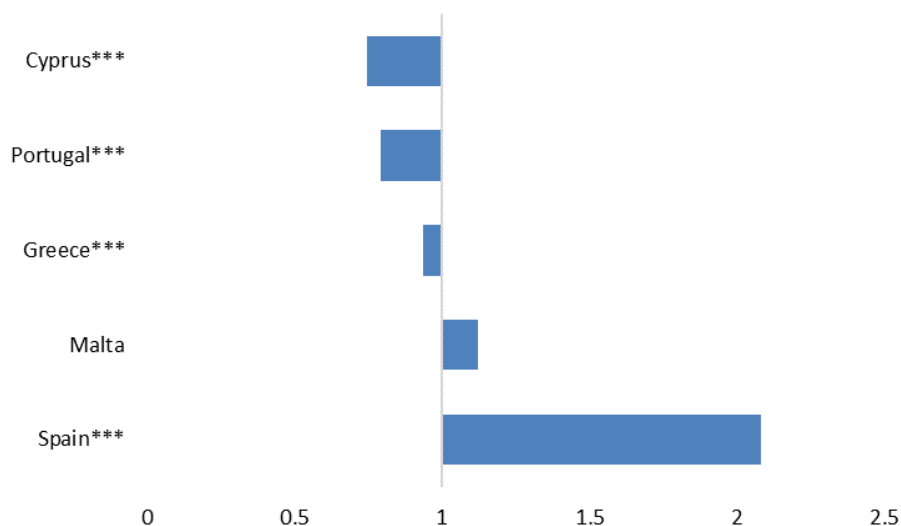
Source: EU-SILC micro-data, 2005 and 2009. Own calculations.

Once the significance of predictors was determined for each model, the Enter method was used to understand the relationship between sociodemographic variables and tenure patterns. Following the stepwise method, 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.

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 3.4).

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 3.4 Odds ratios of homeownership by country revised from logistic regression model, southern European countries, 2005 and 2009



Notes: Significance level * <0.10 ; ** <0.05 ; *** <0.01 . Reference category: Italy.

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

Table 3.4 highlights three levels of analysis: general European trend, SEC specificities and elements of heterogeneity in the SEC.

At the first level of analysis, with regard the general European trend, there are two straightforward relationships. The first is between high income and homeownership; the second is between living in a dwelling with adequate quality and homeownership. Additionally, there are noticeable restrictions to homeownership access at younger ages (under 34 years). Taking into account the differences in the methodology used, these results are aligned with previous findings (Kurtz and Blossfeld 2004; Nico, 2010; Andrews and Sánchez 2011).

Table 3.4 Odds ratios of homeownership by sociodemographic and residential characteristics (logistic regression models), European Union and southern European countries, 2005 and 2009

| Predictor | Label | EU | SEC | CY | ES | GR | IT | MT | PT |
|--|-------|----------|----------|----------|----------|----------|----------|----------|----------|
| Citizenship (ref. native) | | | | | | | | | |
| Foreign | | 0.378*** | 0.149*** | 0.226*** | 0.137*** | 0.083*** | 0.158*** | 0.198*** | 0.279*** |
| Age (ref. 35-44) | | | | | | | | | |
| <25 | | 0.250*** | 0.320*** | 0.225*** | 0.269*** | 0.096*** | 0.501*** | 0.305** | 0.196*** |
| 25-34 | | 0.602*** | 0.655*** | 0.683*** | 0.661*** | 0.430*** | 0.682*** | 0.656* | 0.513*** |
| 45-54 | | 1.241*** | 1.261*** | 1.047* | 1.247*** | 1.773*** | 1.270*** | 0.763 | 1.129 |
| 55-64 | | 1.752*** | 1.895*** | 1.191** | 1.932*** | 2.591*** | 2.088*** | 0.504*** | 1.319* |
| 65-74 | | 2.050*** | 2.307*** | 0.725* | 2.487*** | 3.253*** | 2.757*** | 0.512** | 1.265** |
| >75 | | 2.115*** | 2.306*** | 0.354*** | 2.100*** | 2.988*** | 2.988*** | 0.417*** | 1.162* |
| Educational attainment (ref. lower than secondary) | | | | | | | | | |
| Secondary | | (1) | (1) | 1.415*** | (2) | (2) | 1.361*** | 1.505*** | (1) |
| Higher than secondary | | (1) | (1) | 0.997* | (2) | (2) | 1.411*** | 1.996*** | (1) |
| Income (ref. lower) | | | | | | | | | |
| Lower-middle | | 1.806*** | 1.491*** | 1.554*** | 1.576*** | 1.188 | 1.521*** | 1.324*** | 1.087 |
| Upper-middle | | 3.176*** | 2.217*** | 2.899*** | 2.258*** | 1.558*** | 2.312*** | 1.827*** | 1.555*** |
| Upper | | 5.839*** | 3.520*** | 5.330*** | 3.424*** | 2.451*** | 3.380*** | 2.602*** | 3.135*** |
| Dwelling type (ref. detached) | | | | | | | | | |
| Semi-detached | | 0.345*** | 0.584*** | 0.425*** | 0.971 | 0.428*** | 0.578*** | 1.07 | 0.502*** |
| Apt. building < 10 dwellings | | 0.092*** | 0.347*** | 0.235*** | 0.472*** | 0.243*** | 0.362*** | 0.501** | 0.350*** |
| Apt. building 10 > dwellings | | 0.123*** | 0.446*** | 0.274*** | 0.822*** | 0.249*** | 0.373*** | 0.297** | 0.702*** |
| Dwelling Quality (ref. adequate) | | | | | | | | | |
| At least one problem | | 0.687*** | 0.618*** | 0.727*** | 0.573*** | 0.767*** | 0.693*** | 0.517*** | 0.381*** |
| Constant | | 3.347*** | 2.642*** | 2.908*** | 3.558*** | 3.734*** | 2.118*** | 4.939*** | 4.567*** |
| Nagelkerke R ² | | 0.194 | 0.291 | 0.269 | 0.172 | 0.334 | 0.191 | 0.155 | 0.174 |
| Number of observations | | 391,375 | 93,726 | 6,610 | 25,748 | 12,447 | 39,711 | 3,524 | 9,520 |

Note: Significance level: *<0.10; **<0.05; ***<0.01. (1) Excluded due to collinearity with income. (2) Excluded due to relative explanatory gain below 0.1 per cent.

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

In the SEC, the sociodemographic variables play a more important role in explaining the rate of homeownership when 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 homeownership in the oldest cohort due to the timing of the housing market expansion.

Overall, in the SEC, the forthright European relationship between dwelling type, age and homeownership 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.

Regarding 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 homeownership by immigrants (Malheiros and Fonseca 2011), our results indicate (OR=0.279) that other SEC may be even more restrictive. However, previous findings show that 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 homeowners (Kolb et al. 2013). These results can be influenced by the duration of stay in the host country. This information is not collected by the EU-SILC. It is commonly accepted that recent immigrants in the SEC correspond to the majority of individuals with foreign citizenship for two reasons. First, the attraction effect of the economic growth experienced in the first years of the twenty-first century led to positive immigration flows. Second, long-term immigrants tend to apply for the citizenship of the host country. In their work, López-Colás, Azevedo and Módenes (2016) found that when considering the headship rates suggested by Yu and Myers (2010) in Spain (computed as in section 3.4.1) the probability of being home owner is similar for long-term immigrants and Spanish nationals.

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 (measuring the relationship between ownership and life course). 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 in both housing policy, with regard to the access to credit, and in construction, with the boom after the Second World War (Anastassiadis and Tsoukala 2006).

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

Due to collinearity and stepwise regression results, the odds for educational attainment are available only for three countries: Cyprus, Italy and Malta. As expected, in Italy and Malta, education increases the odds of being a home owner. 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 homeownership. 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 homeownership 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, homeownership 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. This is a direct result of the construction boom experienced in recent decades and highlights the importance of homeownership in these countries. 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 homeownership. 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).

The logistic regression results confirm that demographic features play an important role in homeownership. Their interaction with residential and economic variables in individual models allows better comprehension of those similarities and dissimilarities that are present under the apparent SEC homogeneity compared to the rest of Europe.

3.5 Concluding remarks

The study results confirm the hypotheses put forward: at the outset of the current economic downturn, the SEC can be simultaneously considered homogeneous when

compared with the European context and heterogeneous as a group. The macro patterns in housing at the European level identified the emergence of a structural proximity between the southern and post-socialist European countries. These countries share medium-high (classical) rates of homeownership, medium-small rental and small social housing markets, medium-low dwelling quality and strong restrictions on household formation at younger ages. In this sense, the approach taken by Yu and Myers (2010) makes it clear that homeownership may have been overestimated in these countries, as more traditional measures of tenure do not take into account their low and late household formation (which can be revealed by calculating headship by tenure rates instead of household tenure rates). It is not so much that SEC and post-socialist countries have a high level of ownership, but rather that they have, in fact, a very low household formation.

Although SEC and post-socialist housing patterns are relatively close, these countries are heterogeneous in relation to other features. This justifies a separate analysis of the SEC group at the individual level. Despite sharing some important trends with the rest of Europe, the SEC display their own patterns of individual predictors of homeownership, which in turn confirms our first hypothesis. In the EU, homeownership is explained mostly through residential and economic predictors (dwelling type and income) while in the SEC, demographic predictors (age and citizenship) are the most explanatory, and both are likely related to family ties.

Even though age is an important explanatory predictor in the SEC, its relative contribution is even higher in the general European model (2.8 and 3.6 per cent, respectively).¹¹ 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 homeownership is a matter of biographical demographics and economic evolution of the household. To most SEC households, homeownership 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

¹¹ Relative contributions computed from the log-likelihood values in Table A.3.4, in Appendix.

formation and simultaneous access to homeownership, availability of family resources is a key factor. This is a topic to explore further at the micro level.

Family ties can also lift the veil on the explanation for the native-foreign gap. Recent immigrants are usually detached from their family networks and expected to provide financial support for family members in their home country, not the reverse. In a housing system where family networks are one of the main agents of housing provision and access to homeownership, the lack of such resources impact very negative their chances to reproduce the general behaviour of the overall society. As a result, they are induced to develop their own housing strategies, very often at the very edges of marginality. Thus, the native-foreign gap is wider in the SEC than in the rest of Europe.

Even when the residential predictors have a similarly broad response in the EU and the SEC, some differences exist. This might be the case for the relationship between homeownership and dwelling type. In the European model, homeownership is highly associated with detached dwellings, reflecting the weight of northern European countries in the sample. In the SEC, homeownership is diluted throughout all dwelling types, suggesting that being an owner is more important than the dwelling type.

With respect to the second hypothesis of this study, the use of individual models produced evidence of heterogeneity within the SEC. 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. Other predictors include citizenship, dwelling type and social environment.

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 homeownership are citizenship and age group. In comparison, Cyprus and Malta show strong similarities in income and dwelling type as predictors of homeownership. In turn, Portugal shares some of their

similarities but has an almost unique pattern, in which residential variables contribute most to the explanation of homeownership patterns.

Finally, future research is needed to deepen our understanding, through longitudinal analysis, of the available sources on converging or diverging patterns. An experiment could be conducted through a quasi-panel design where longitudinal cohorts are built from repeated cross-sectional data similarly to the work of Myers (1999) with the USA census data. This approach would allow a distinction of age from cohort effects and estimate cumulative changes, which, in turn, would unravel whether housing patterns are converging or diverging.

Chapter 4 Non-headship as a competitive housing tenure option? Choices of active young adults in southern Europe, France, Germany and the UK

4.1 Introduction

Housing tenure studies using cross-sectional data in the 1970s were focused solely on homeownership or in explaining homeownership and renting choices separately (Dieleman, Clark and Deurloo 1994). During the 1980s, the work of Henderson and Ioannides (1986) was ground-breaking by treating tenure choice (homeownership and renting) and housing consumption as a linked decision and by adding individual predictors such as age, marital status, ethnicity and education. This was a determining step towards bridging the gap between the research of economists and demographers on housing tenure choice.

Recently, housing studies have widened the range of options considered. In their work, Yu and Myers (2010) estimated the probability of an individual aged 18 or over to be non-head, renter head or owner head. By doing so, the authors added a new element to the studies of housing tenure – household formation. Arundel and Ronald (2015) studied “semi-dependent housing”, such as parental co-residence or shared living, across different welfare regimes and housing systems. While studying the effect of the GFC on the living arrangements of young European adults (18-34 years old), Lennartz, Arundel and Ronald (2015) also distinguish three options of housing tenure: homeownership, renting and co-residence, i.e. living with parents.

All of the studies mentioned above use cross-sectional data as an approach to deal with revealed housing tenure choice (Clark and Dieleman 1996). Revealed housing tenure choice (revealed preference) differs from housing tenure preference (stated preference) in the sense that the first is the result of several factors that restrain the household options

(preference, market, functioning affordability, state regulation, social strata, etc.), while the latter is reasonably unrestrained (Jansen, Coolen, and Goetgeluk 2011).

Chapter 3 has showed that at the outset of the economic crisis, when compared with other European countries, the SEC continue to be a homogenous group with high rates of homeownership resulting, to some extent, from high rates of non-headship. These findings suggest that, when considering non-headship as a housing option, the range of options in the SEC is somehow wider than in other European countries. Nevertheless, little is known about non-headship in Europe, especially from a comparative perspective (Mulder 2009; Arundel and Ronald 2015). This is exactly the gap that this study intends to tackle.

Consequently, this chapter aims to understand the housing tenure options of young active adults aged 25-39 years old in four SEC (Greece, Italy, Portugal and Spain) by comparing them with three European countries (France, Germany and the UK), which are representative of the corporatist and liberal welfare state regimes.

The southern Europe housing patterns challenge the welfare state regimes, as defined by Esping-Andersen (1990), since they neglect that southern European patterns combine features of more than one welfare state. More specifically from the corporatist and liberal regimes, but still with their own characteristics (Allen 2006). Nevertheless, the welfare state regime typology provides an interesting perspective to compare housing systems and their outcomes in housing tenure choice of young adults, especially when complemented by the Mediterranean welfare state regime (Hoekstra 2005).

Using micro-data from the 2012 round of the European Union Statistics on Income and Living Conditions (EU-SILC), this study attempts to test the hypothesis that housing decisions of young active southern European adults differ from those in other European countries due to the wider range of alternatives available to them. Moreover, by using the EU-SILC round with a reference period of 2011, this study attempts to demonstrate that in times of economic uncertainty, job instability and restrictions to credit associated with the peak of the GFC, to live in non-headship can be an appealing housing option for young

adults in the SEC. The rationale behind this hypothesis is that once being active, young adults are able to make autonomous decisions regarding their housing tenure status. Additionally, given that intergenerational relations have changed towards a more enjoyable and comprehensive co-residence (Swartz and O'Brien 2009), to live in non-headship may be an effective choice. In order to test our hypotheses, alternative-specific multinomial probit regression (ASMPR) models were estimated by country, with a three option response: non-headship, ownership, or tenant. Based on the framework of this study and on the specificities of the southern European context, two questions arise if the hypothesis is confirmed:

Which are the individual, the household and the residential characteristics of young active adults that opt for living in non-headship?

Being non-headship a competitive housing option, which are the options with which non-headship competes?

4.2 North-South models of non-headship

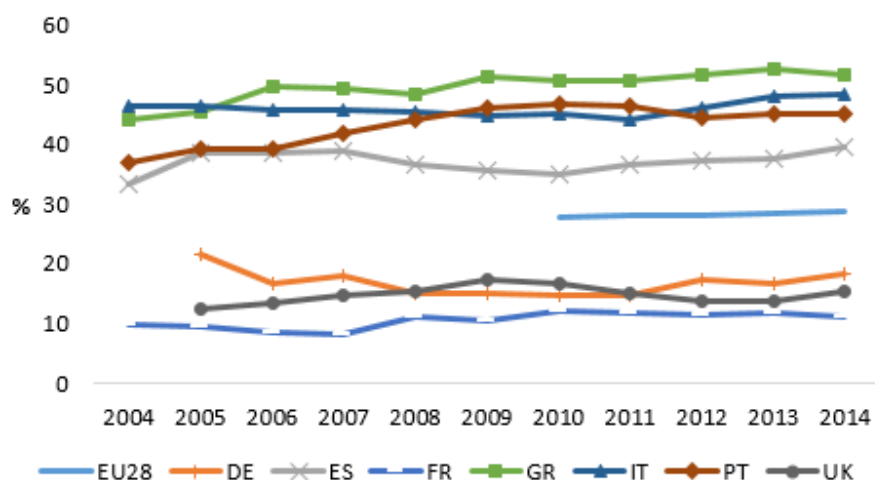
In a linear life cycle approach, leaving the parental home is a milestone in the transition to adulthood that separates the stage when housing decisions were tied up to parental decisions from the stage when young adults are in charge of their own choices, with a higher degree of freedom (Clark and Dieleman 1996). There are several reasons that lead young adults to leave the parental home: to form a partnership, to live independently, to study or to get a job (Holdsworth 2000). While some individuals leave definitely, others return to the parental home for the reasons linked to the motivation to leave: divorce, school-related or job-related reasons (Goldscheider and Goldscheider 1999; Aassve, Cottini, and Vitali 2013). Young adults also leave the parental home at different ages. There is a general consensus in the literature that southern European adults leave the parental home at older ages than their Northern European counterparts (Jones 1995; Fernández Cordón 1997; Reher 1998; Castles and Ferrera 1996; Holdsworth 2000; Billari 2004). Furthermore, extended co-residence is a defining feature of the southern European

housing system (Iacovou and Skew 2010; Mandic 2012; Módenes and López-Colás 2012). In Italy, in 1990, 52 per cent of the young adults aged 18-34 years were living in parental home. In 1998, this percentage had increased to 59 per cent (Giannelli and Monfardini 2000). In Portugal, near 30 per cent of the cohort born between 1976 and 1980 were living in parental home at the age of 30 (Nico 2011).

In Spain, in 1991, approximately 65 per cent of economic independent single young adults were living in parental home (Miret 1997). Nevertheless, a longitudinal analysis of the Spanish trends along the twentieth century contributed to the deconstruction of two conceptions (Miret 2005). First, although there is a contemporaneous postponement of the age at parental home leaving, in Spain this is far from the postponement observed among the cohorts born before 1940. Secondly, although the residential emancipation of Spanish young adults was frequently connected to family formation, it was not rare to leave parental home for other reasons (Miret 2005).

An impressive share of European young adults postpones home parental leave, however, there is a clear distinct pattern in the SEC when compared with the EU, France, Germany and UK (Figure 4.1). Despite the relatively stable levels of co-residence with parents, France experienced an increase, perhaps due to its low trend prior to 2007. Besides, when comparing 24 European countries in the period between 2005 and 2011, the co-residence with parents only increased meaningfully in France, Hungary and Sweden, which means that trends in co-residence can be quite resistant to economic cycles (Aassve, Cottini, and Vitali 2013).

Figure 4.1 Proportion of young adults aged 25-34 living in parental home (%), selected European countries, 2004-2014



Source: Eurostat (source: EU-SILC) [ilc_lvps08].

While there is substantial work done on the determinants of leaving parental home and homeownership, the literature on non-headship is scarce. In 2010, Yu and Myers drew attention to how the comparison of homeownership rates can be misleading when the effect of household formation, or, to be more precise, non-household formation, is neglected. By doing so the authors ignited a new discussion that focused around the importance of non-household formation that surpassed its effect in the homeownership rates spreading to related topics as the need to understand the features of the individuals that live in non-headship.

The indicators suggested by Yu and Myers (2010) were applied in Chapter 3, confirming that in the SEC, late and low family formation are the main reasons behind high homeownership rates. Additionally, Azevedo, López-Colás and Módenes (2013) reproduced the same exercise for 29 European countries and concluded that while homeownership rates are overvalued in southern and most of eastern Europe, they are undervalued in northern and most western Europe.

At the micro level, Mitchell, Wister and Gee (2002) investigated the likelihood for Canadian young adults aged 25-34 years old to live in the parental home. Using the

Canadian General Social Survey as a data source, the authors tested a wide set of independent variables that can be organized across two dimensions: the household and the individual. In the household dimension, the authors included family type, educational level of both parents, and the number of siblings. The individual dimension is comprised by age, gender, marital status, mother tongue, religious attendance, main activity, educational level, perceived health status and emotional closeness to parents. Since the General Social Survey has very limited residential information, the authors did not include this dimension. The main conclusion drawn by the authors of this study is that emotional closeness to parents, especially to the mother, is a major determinant of co-residence with parents.

At the macro level, using EU-SILC from 2007 and 2012, Lennartz et al. (2015) evaluate the impact of the GFC in the living arrangements of young adults in 15 European countries in order to find explanations for cross-national homogeneity and heterogeneity traits. By clustering young adults aged 18-34 years by housing tenure status - co-residence with parents, owners, tenants¹² - the authors reached a four cluster solution with the SEC all grouped in the same cluster. France and Germany are grouped with Austria in the "Continental European – renting" and the UK with Belgium, Luxembourg and The Netherlands in the "Continental European – owning". Finally, Denmark, Sweden and Finland form the "Nordic countries" cluster. Lennartz et al. (2015) found that, despite the high impact of the GFC in the southern European labour market, there was not a large decline in homeownership rates. The authors suggest that this finding is related to the high levels of co-residence with parents prior to the GFC. Additionally, they find a strong association between the decline of homeownership rates and low housing prices. The greater decrease in homeownership rates observed in Denmark, The Netherlands, Sweden, the UK, Spain and Portugal may be related to credit restrictions associated with

¹² The differences between this study and Lennartz, Arundel and Ronald (2015) approach to housing tenure status typology using EU-SILC data are discussed in sections 4.4.2 and 4.5.2.

the GFC. Finally, the results also show that the British “Generation Rent” is also evident in Denmark and Spain (Lennartz et al. 2015).

Also with the help of EU-SILC data, Arundel and Ronald (2015) investigated the role of semi-dependent living across different welfare state regimes and housing contexts. Focusing on young adults aged 18-34 years old, the authors find a statistically significant differences between the welfare state regime and co-residence, independent living and shared living rates. However, the results of linear regressions for each housing tenure status are significant only between the liberal regime and shared living. Additionally, Arundel and Ronald (2015) find a strong correlation between shared living and average annual private rent as a proportion of median equivalised income. It is important to note that the last two mentioned studies analyse non-headship or “semi dependent housing” at the macro level being, admittedly, exploratory.

Given the lack of literature exploring the individual, household and residential determinants of non-headship in Europe and relying on the fact that young adults who postpone parental home leave are in a disadvantage to their counterparts regarding the factors that contribute to this decision, the literature on leaving the parental home may provide an adequate background to understand the patterns of non-headship.

It is important to note that co-residence, *per se*, should not be seen with a bad connotation or as a reason for discontent. Despite the fact that during the 1980s, literature on parental satisfaction with co-residence suggests a low level of parental satisfaction, Aquilino and Supple (1991) found high levels of parent satisfaction in those living with their adult children at home, particularly when the children are in the labour market. For a young adult living in the parental household, there is a need to establish a functioning communication network that allows for negotiation to take place. In this negotiation, the young adult and the parental figures need to establish the role of each member of the household with regards to household responsibilities, basic rules of lifestyle, behaviour and family interaction (Aquilino and Supple 1991).

The reasons behind the north-south differences in the patterns of leaving parental home have grasped the interest of several researchers. By comparing the patterns of leaving parental home between northern and southern Europe, Jones (1995) concludes that southern European young adults leave home a later age, mainly to begin their own family, while northern European young adults leave home at a later age, mainly to complete higher education or to enter the labour market. The latter factor of heterogeneity will not be presented in our findings, since we focus on active young adults in order to guarantee that the revealed housing tenure status of the young is the result of a choice.

Fernández-Cordón (1997) uses data from the Labour Force Survey to analyse the trends on residential and work status by comparing Spain, Greece and Italy with France, Germany and the UK during the period between 1983 and 1994. The author concludes that the reasons for the delay in the achievement of full autonomy in the southern European adults go beyond cultural values and rely also in the difficulties of entering the labour market. Fernández-Cordón (1997) also adds the imbalance between functional groups, which results from welfare states that protect the older age groups leaving younger generations unattended with no means to face the effects of economic recessions.

Castles and Ferrera (1996) had also stressed the age distributional gap in the functioning of the welfare states in Greece, Italy and Spain. The authors justified the southern European pattern with the role of the family, namely the importance of kinship networks, intergenerational solidarity, extended co-residence and family support in housing provision when a young couple gets married. Thus, to some extent, the intra-familial transfers seem to compensate the distributional gap in housing and welfare expenditure (Castles and Ferrera 1996).

Holdsworth (2000) performs a direct comparison of patterns for leaving parental home in Spain and the UK as a representative exercise of northern and southern European differences. When controlling for similar backgrounds, Holdsworth (2000) confirm Jones' (1995) findings, and adds that, when compared to the British, the Spanish from more

privileged backgrounds are less driven to leave home in order to live independently. Hence, the Spanish leave the parental home under the framework of a new household formation, while the British do it as a step into adulthood. Nevertheless, the author's results also stress the importance of cultural norms in leaving parental home. In Spain, postponement is connected with the scarcity of economic individual resources to form a family and the early leave is not a culturally conventional transition supported by extra-familiar structures as the housing market or the welfare state regime. On the other hand, in the UK, there is a greater range of possibilities since leaving parental home until family formation. Thus, the link with economic resources is more complex. Due to the dynamic paths of parental leave, in Britain, young adults may rely on the welfare regime and its institutional factors that have evolved to ease the plurality of transitions.

Also relating the welfare state regime with the decision of leaving parental home, Aassve, Billari, Mazzucco and Ongaro (2002) used the European Community Household Panel (ECHP) data and placed emphasis on employment and income of the young adult. The authors have found that these are relevant predictors of leaving parental home in southern Europe due to the weakness of the welfare state regime. In turn, in continental European countries the level of earnings is not that important.

With the use of a two level approach and in an attempt to discuss the diversity in the transition to adulthood in Europe, Billari (2004) divides the European patterns on age at leaving parental home between two extreme cases: the "latest-late" formed by the SEC and the "earliest-early" formed by northern European countries. The author concludes that the explanation for the extreme cases lies, in general, on the welfare state, cultural differences and economic and policy factors (Billari 2004).

The relationship between leaving parental home and the chances of being poor in Greece, Italy, Portugal and Spain is approached by Parisi (2008). Using the ECHP data, the results show that southern European young adults delay parental home leaving because it will lower their wealth (Parisi 2008).

In a renewed approach to the topic, Mandic (2008) studied the structural determinants¹³ of leaving home in 25 European countries and reached a solution of three clusters: north-western, south-western and north-eastern. The north-western cluster¹⁴ is characterized by having the greatest opportunities to headship, which results in younger ages at leaving parental home. The north-eastern cluster¹⁵ is distinct by exceptionally adverse opportunities to headship, which results in high, although not extremely high ages at emancipation. The south-western cluster¹⁶ has fewer opportunities for independent housing, resulting in extremely high ages at leaving parental home (Mandic 2008).

Contemplating the Spanish case, Leal (1997) identifies three reasons that explain internal regional differences in the patterns of leaving parental home. First there is a familiar reason, i.e. the lessening of authoritarianism and the permissiveness with the lifestyles of young adults contribute to explain the low rates of young adults leaving their parental home. Second, there is an educational reason where young adults with higher educational attainment levels leave parental home later than those with lower educational capital. The third reason is economic, which is often accompanied by two complementary factors: access to a stable job and access to housing (Leal 1997).

Mulder (2009) identifies two main reasons for the diversity in the trends of home parental leave. First there are the institutional factors that relate to the welfare state. The social democratic welfare state regime (north European countries) provides great support to individuals in several aspects, including leaving home at early ages. In the liberal welfare state regime (e.g. the UK), there is also an orientation towards the individuals but they tend to be less generous than the social democratic regime. The corporatist welfare state

¹³ Demographic factor, labour market, welfare state involvement, housing market, general availability of housing, extent of the involvement of family in welfare production, percentage receiving support by family in emergency, occurrence of home-leaving.

¹⁴ Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, The Netherlands, Sweden and the United Kingdom.

¹⁵ Estonia, Latvia, Lithuania, Poland and Slovakia.

¹⁶ Cyprus, Greece, Hungary, Ireland, Italy, Luxembourg, Portugal, Slovenia and Spain.

regime (e.g. France and Germany) is more oriented towards the family with reasonable support. The southern European, or as Hoekstra (2005) named it, the Mediterranean welfare state regime, is greatly oriented to the family and relies on the family to provide the support that the state is not able to offer. By extension, the welfare state regimes also operate at the public policy level, i.e., they impact on fiscal, housing or labour market policies.

The second explanation for the diversity of home parental leave patterns relies on cultural differences that can be geographically demarked. In this regard, Mulder (2009) alludes to the line drawn by John Hajnal (1965), based on the European marriage patterns, from Trieste to Saint Petersburg. This line distinguishes a west “characterized by nuclear families, late age at marriage, early age at leaving home and servanthood as an important stage in the life cycle” from an east where “early and universal marriage and extended families were the rule (Mulder 2009: 206). Additionally, Mulder (2009) also refers the Reher line (1998), based on the European family ties, which distinguishes the northern countries with weak family ties and high level individuality from the southern countries with strong family ties and long-standing obligations between generations.

All in all, the literature on home parental leave provides abundant insights both for the explanation of the postponement of leaving parental home and for the differences in the patterns of leaving parental home. Yet, leaving parental home does not necessarily mean a transition to headship.

While not very common, young adults may remain in non-headship status in a shared household. In Europe, the share of individuals aged 25-39 years old living in a non-family nucleus and not living alone is extremely low. According to the 2011 Census, this percentage ranges from 3 per cent in Portugal to 10 per cent in the UK. In the intermedium positions falls France with 5 per cent, Germany, Italy and Spain with 6 per cent and Greece with 7 per cent (Census Hub, Eurostat). The residual relative weight of shared living

among young adults may well explain why the literature on this topic is almost restricted to the British case.

The motivating force influencing the decision for young adults to live in a shared housing is often, but not solely, economic and it is unlikely to be a permanent housing solution. Thus, young adults sharing housing see their experiences more as a product of the needs of their lifestyles than as the results of an economic constrain (Heath 2009).

4.3 Data and methods

4.3.1 Data source and sample

This study uses information on the individuals of the cross-sectional micro-data from the EU-SILC, 2012 round. In 2012 round, 31 countries participated in EU-SILC and a total of 613,151 individuals were interviewed. The EU-SILC data has two main general advantages: harmonized data for a large set of European countries and a rich set of data on the individuals, households and dwellings. For the purposes of this study, the 2012 round, has the advantage of having the *ad-hoc* module on Housing conditions in addition to the main questionnaire. However, the EU-SILC data also has the well-known disadvantage of cross-sectional data: the information collected refers to the time of the survey and not to the time of the event of interest. Thus, this study focuses on the revealed tenure choice of the household in relation to a set of predictors that characterize the individuals and household at the time of the survey, which does not necessarily match the characteristics at the time of the housing choice. For instance, a homeowner may have been a tenant for a period after leaving parental home and be, at the time of the survey, on his/her second dwelling as headship.

For that reason, this study does not refer to the housing choices made at the time of leaving parental home. Instead, this study focuses on the determinants of housing tenure decisions of active young adults, giving particular emphasis to non-headship. Under this rationale, an eventual change in some of the characteristics of the individuals or

households does not discredit our results, as those changes are not sufficiently relevant to be triggers for moving.¹⁷

To test the hypothesis of this study, the sample consists of active young adults¹⁸ aged 25-39 years living in Greece, Italy, Portugal, Spain, France, Germany or in the UK (21,459 individuals). In this study, the countries are modelled individually and complemented with two overall models, EU14¹⁹ and SEC. The selection of the countries followed two criteria: to be representative of their welfare state regime and of their housing systems. By doing so it is expected that this study can provide a comparative perspective that can contribute to a better understanding of the specificities of the Mediterranean welfare regime and southern European housing system. Thus, the UK represents the liberal welfare state regime; Germany, France and Italy represent the corporatist; and Greece, Portugal and Spain the Mediterranean welfare state regime. Unfortunately, none of the countries from the social democratic welfare state regime meet the minimum of cases criteria by housing alternatives to be included in the study at the country level. Denmark, the Netherlands and Sweden were excluded for not having enough cases of tenants at reduced price / free accommodation. Finland was excluded for not having enough cases of non-headship. This has a meaning *per se*: in the social democratic welfare state regime, to be tenant at reduced price or in a free accommodation or to live in non-headship are not effective housing options.

By selecting the active young adults, this study focuses on the cases where to live in non-headship is, with a higher degree of certainty, a voluntary option. By not considering inactive young adults, this study is excluding the cases of non-headship where housing tenure status may be influenced by their inactive status (being in education or being

¹⁷ On triggers for moving, see Mulder (1996).

¹⁸ Individuals who self-defined their current economic status as being employee working full-time, employee working part-time, self-employed working full-time (including family worker), self-employed working part-time (including family worker) or unemployed.

¹⁹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, The Netherlands and the UK.

disabled). Although important, this methodological option is not without consequences. Acknowledging that entering the labour market is one of the key-stones in the differences between northern and southern European models of non-headship, by cancelling that effect this study expects to find small differences in the determinants of non-headship and great differences at the overall level. Additionally, given the strong relation between residential emancipation and working career in the north and central European countries, the sample size of active young adults living in non-headship from those countries may compromise obtaining statistically significant results.

The age group considered, 25-39 years-old, attempts to encompass young adults after completing their studies and to take into account the late, and sometimes boomerang, household formation that characterizes southern European young adults. Also, aiming at guaranteeing the validity of the results produced by this study and in order to prevent overrepresentation, in cases where the young adult lives in a partnership only the female member of a partnership is considered in the sample.²⁰

4.3.2 Analytical model and methods

In the framework of this study, a young adult is considered as living in non-headship when living in a dwelling with their parents and not being the person responsible for the household²¹ or if sharing the dwelling with other persons and not being the person responsible for the household. In turn, a young adult is considered as living in headship if he/she is the responsible person for the household or if he/she is the spouse of the person responsible for the household.

To test the hypothesis of this study, three wide-ranging options are considered: non-headship, tenant and owner.²² Contrary to the work of Lennartz et al. (2015), that considered young adults with free accommodation as living with parents, this study merges the categories tenant at market price, tenant at reduced price and accommodation

²⁰ For this reason, the analytical model does not consider the covariate gender of the young adult.

²¹ Variables Person 1 and 2 responsible for the accommodation (HB080 and HB090).

²² From the original variable Tenure status (HH021).

provided free in one single category using the criteria that these young adults live in headship, but are not homeowners. In tune with the work of Lennartz et al. (2015), in order to test its hypothesis, this study also merges outright owners and owners paying mortgages.

To understand what the options that compete with non-headship are, this study disassembles a more wide-range definition of tenure used to test our hypothesis and uses a five-outcomes response variable: outright owner, owner with mortgage, tenant at market price, tenant at reduced price or free accommodation, and non-headship. In this case only the categories 'tenant at reduced price' and 'free accommodation' were merged in one single category using a criteria of low housing costs.

Based on the literature and taking advantage of the EU-SILC data, the analytical model assumes that housing tenure decisions can be explained by three dimensions: individual, household and residential. The individual dimension covers the characteristics of the young adults. Considering that housing tenure decisions are closely linked with life course, the model uses citizenship (native or foreign), age in five-years groups, educational attainment recoded in three levels (lower than secondary, secondary and tertiary), individual gross earnings^{23 24} (recoded according to the quintiles observed in country of the young adult) and the number of years since individual began its first regular job.

The household dimension covers the characteristics of the family of the young adult, the characteristics of the young adult parents or the characteristics of the non-family household according to the young adult housing tenure status. The predictors considered

²³ The model uses the data on income (at the individual and household level) under the assumption that no significant changes in income occurred between the young adult decisions and the reference period (the year of 2011). Although this is a strong assumption, to exclude information on income from the model would results in a partial approach to household status and housing tenure status decisions.

²⁴ The model uses gross earnings instead of net earnings since data for the UK is not available. The individual gross earnings are the sum of the income from employment, self-employment and unemployment benefits (PY010G, PY050G and PY090G).

in this dimension are the partnership status of the young adult, if the individual experienced at least one housing change in the last 5 years, and the household equivalised income²⁵, recoded according the quintiles by country.

The residential dimension covers three independent variables. The degree of urbanization was recoded into urban and rural²⁶ and introduced in the model as “an indicator for the housing market and spatial context” (Mulder, Clark and Wagner 2002: 567). The dwelling type, a distinctive trait of the SEC (Hoekstra 2005), is used as a binary variable: apartment or detached and semi-detached house. Finally, the model also considers the housing occupation²⁷, i.e. if the house is overcrowded.

With regards to the methods, this study uses alternative-specific multinomial probit regression (ASMPR) models, to analyse the determinants of housing tenure status in the previously mentioned three-options response. When compared with the multinomial logistic regression²⁸, the ASMPR has the advantages of not assuming that all individuals face the same set of options and of relaxing the independence of irrelevant alternatives (assumptions that the random errors are independent). When it comes to housing choices, the decisions of the individuals are dependent on the opportunities, thus we consider the ASMPR a more appropriate method. Despite its name, it is possible to estimate ASMPR models without alternative-specific variables by defining the correlation to be independent and the standard deviations to be homoscedastic (StataCorp. 2013a).²⁹ To conduct an

²⁵ Generated variable included in the EU-SILC dataset as variable HX090.

²⁶ From the original variable Degree of urbanisation (DB100), the thinly populated areas were considered as rural and the densely populated area and intermediate area were recoded as urban.

²⁷ Generated variable included in the EU-SILC dataset as variable HX120.

²⁸ Used previously by Leppel (1989), Clark and Mulder (2000) and Yu and Myers (2010).

²⁹ In an exploratory stage of this study, we tried to explain housing decisions of young adults estimating nested logit regression models with random utility maximization. However, no alternative-specific data was available. For example, it was not possible to know the number of rooms that a household would have available if it had decided to be tenant instead of homeowner. A way to deal with this limitation it would be to create variables that make individual features and alternatives interact (for instance homeowner * number of rooms). Nevertheless, this is an approach that can serve to fulfill the need to add an important variable for which no alternative-specific data

analysis using ASMPR models entails a preparatory work with the EU-SILC dataset. First, each observation must to be expanded by the number of available options. Then, the options need to be defined (for example, owner, tenant, non-headship). Following variable identification, the decision made by the individual must be generated. The data is then set for the estimation.

Since this study is interested in comparing groups (countries), the marginal effects were estimated by setting the predictors to their means (Williams 2009). The results are presented in their exponentiated form. The estimation of the marginal effects has the additional advantage of providing information on the base alternative which eases the interpretation. The data analysis was performed using the Stata 13 software (StataCorp. 2013b).

4.4 Results and discussion

4.4.1 Descriptive results

The descriptive results highlight substantial cross-national dissimilarities in household tenure options of young adults (Table 4.1). Among active young adults aged 25-34 years old, the rates of non-headship range from 7.7 per cent in Germany to 44.1 per cent in Greece.³⁰ Moreover, following what is known from the literature, the large majority of those living in non-headship are living in the parental home. To live in non-headship in other living arrangements is most popular in the UK (10.8 per cent) and least in Greece (1.3 per cent). Thus, the majority of the sample live in headship (77.3 per cent) and among those, homeownership is the most frequent choice ranging from 27.6 per cent in Greece to 48.8 per cent in Spain. The exception is Germany where to be tenant is the most frequent tenure choice (67.0 per cent).

is available. To base a model merely on built interacting variables would undermine the fundamental feature of the nested logit regression.

³⁰ The frequencies of non-headship by type are presented in Table A.4.1, in Appendix).

Table 4.1 Frequencies and averages of household status and predictors used in the multivariate analysis, 2012

| | EU14 | SEC | ES | GR | IT | PT | DE | FR | UK |
|--|------|------|------|------|------|------|------|------|------|
| Headship (%) | | | | | | | | | |
| No | 22.7 | 33.3 | 28.1 | 44.1 | 35.9 | 35.4 | 7.7 | 7.8 | 18.1 |
| Yes | 77.3 | 66.7 | 71.9 | 55.9 | 64.1 | 64.6 | 92.3 | 92.2 | 81.9 |
| Housing tenure (%) | | | | | | | | | |
| Non-headship | 22.7 | 33.3 | 28.1 | 44.1 | 35.9 | 35.4 | 7.7 | 7.8 | 18.1 |
| Tenant | 38.2 | 24.9 | 23.1 | 28.3 | 26.8 | 21.6 | 67.0 | 47.4 | 35.8 |
| Owner | 39.1 | 41.8 | 48.8 | 27.6 | 37.3 | 43.0 | 25.3 | 44.8 | 46.1 |
| Citizenship (%) | | | | | | | | | |
| Native | 89.8 | 88.4 | 85.4 | 91.3 | 89.4 | 95.2 | 96.8 | 96.3 | 85.9 |
| Foreign | 10.2 | 11.6 | 14.6 | 8.7 | 10.6 | 4.8 | 3.2 | 3.7 | 14.1 |
| Age group (%) | | | | | | | | | |
| 25-29 years | 32.4 | 30.1 | 29.8 | 32.5 | 29.6 | 31.8 | 32.2 | 35.5 | 37.2 |
| 30-34 years | 36.1 | 35.9 | 37.9 | 34.9 | 34.6 | 34.2 | 37.5 | 31.6 | 35.3 |
| 35-39 years | 31.5 | 34.0 | 32.3 | 32.6 | 35.8 | 34.0 | 30.3 | 32.9 | 27.4 |
| Education level attainment (%) | | | | | | | | | |
| Lower than secondary | 15.9 | 26.6 | 29.3 | 13.7 | 23.0 | 42.4 | 5.8 | 8.6 | 4.5 |
| Secondary | 42.4 | 38.4 | 25.4 | 49.2 | 51.1 | 29.7 | 49.4 | 43.9 | 42.6 |
| Higher than secondary | 41.7 | 35.0 | 45.3 | 37.1 | 25.8 | 27.9 | 44.8 | 47.5 | 52.9 |
| Individual gross earnings (%) | | | | | | | | | |
| Low income | 17.9 | 20.0 | 19.9 | 20.7 | 21.1 | 14.2 | 20.6 | 19.0 | 14.0 |
| Medium-low income | 21.6 | 24.0 | 24.0 | 18.9 | 26.1 | 19.3 | 24.7 | 24.6 | 18.0 |
| Medium income | 22.9 | 24.4 | 23.6 | 24.9 | 25.6 | 22.2 | 24.4 | 25.0 | 23.9 |
| Medium-high income | 19.6 | 19.4 | 20.0 | 25.8 | 16.5 | 24.0 | 19.4 | 19.4 | 25.8 |
| High income | 12.5 | 12.2 | 12.5 | 9.8 | 10.7 | 20.3 | 10.9 | 12.0 | 18.3 |
| Years since began first regular job (average) | 10.5 | 10.3 | 10.7 | 9.0 | 9.9 | 12.2 | 11.2 | (1) | 10.2 |
| Living in partnership (%) | | | | | | | | | |
| No | 70.7 | 69.8 | 69.1 | 63.7 | 72.7 | 64.7 | 71.2 | 77.3 | 71.5 |
| Yes | 29.3 | 30.2 | 30.9 | 36.3 | 27.3 | 35.3 | 28.8 | 22.7 | 28.5 |
| Housing change in the past 5 years (%) | | | | | | | | | |
| No | 62.0 | 78.1 | 73.3 | 82.8 | 82.3 | 76.5 | 49.3 | 44.2 | 41.8 |
| Yes | 38.0 | 21.9 | 26.7 | 17.2 | 17.7 | 23.5 | 50.7 | 55.8 | 58.2 |

Chapter 4 Non-headship as a competitive housing tenure option? Choices of active young adults in southern Europe, France, Germany and the UK

| | EU14 | SEC | ES | GR | IT | PT | DE | FR | UK |
|---|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| Household equivalised income (%) | | | | | | | | | |
| Low income | 14.0 | 14.9 | 17.0 | 13.7 | 13.9 | 11.4 | 18.4 | 15.3 | 10.0 |
| Medium-low income | 14.0 | 15.6 | 15.7 | 15.4 | 15.8 | 14.5 | 14.5 | 19.9 | 13.3 |
| Medium income | 18.0 | 20.8 | 20.5 | 16.7 | 22.1 | 20.7 | 17.8 | 25.0 | 16.2 |
| Medium-high income | 22.5 | 23.9 | 22.0 | 23.8 | 25.0 | 28.3 | 23.9 | 23.5 | 23.6 |
| High income | 25.9 | 24.7 | 24.9 | 30.4 | 23.2 | 25.1 | 25.4 | 16.2 | 37.0 |
| Degree of urbanisation (%) | | | | | | | | | |
| Urban | 81.1 | 79.1 | 76.1 | 64.9 | 85.6 | 75.9 | 77.7 | 68.1 | 90.6 |
| Rural | 18.9 | 20.9 | 23.9 | 35.1 | 14.4 | 24.1 | 22.3 | 31.9 | 9.4 |
| Dwelling type (%) | | | | | | | | | |
| Apartment | 54.6 | 62.4 | 73.2 | 66.3 | 53.3 | 50.3 | 71.9 | 43.6 | 25.0 |
| Detached / semi-detached house | 45.4 | 37.6 | 26.8 | 33.7 | 46.7 | 49.7 | 28.1 | 56.4 | 75.0 |
| Overcrowded dwelling (%) | | | | | | | | | |
| No | 88.6 | 83.7 | 94.3 | 68.8 | 74.9 | 89.0 | 92.4 | 92.0 | 93.4 |
| Yes | 11.4 | 16.3 | 5.7 | 31.2 | 25.1 | 11.0 | 7.6 | 8.0 | 6.6 |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 | 2,345 | 3,594 | 2,422 |

Note: (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations with weighted sample.

Regarding the sociodemographic features of the respondents, the sample has a balanced distribution of individuals across the considered age groups. The same does not apply to the educational attainment level, where the category lower than secondary is under-represented due to the generalisation of the secondary level as the compulsory education. In this picture, Portugal stands out with 42.4 per cent of the sample with an education level lower than secondary. This figure is in line with a high mean of years since the beginning of the first regular job, 12.2.

Since both individual gross earnings and household equivalised income are based on the quintiles by country observed in the EU-SILC 2012 data, the distribution of these variables stresses the inequality between the young adults and the overall population of a given country. Young adults living in the UK and in Portugal appear to be in a more privileged

position than the overall with approximately 30 per cent of the sample in the medium-high and high income categories. The case of the UK may be explained by better living conditions for the young adults (lower unemployment rates, less impact of the crisis in economic growth). The case of Portugal may result, once again, from the longer working careers suggested by the variable average years since began regular first job.

In general, the percentage of individuals married or cohabiting is considerably lower than the percentage of those not living in a partnership. The higher shares of young adults living in a partnership are found in Greece (36.3 per cent) and the lowest share in France (22.7 per cent). Regarding recent residential mobility, the UK has the highest percentage of individuals that experienced at least one housing change in the last 5 years (58.2 per cent) and Greece the lowest (17.2 per cent). With regards to household equivalised income, the young British are in a much more privileged position than their counterparts with 60.6 per cent of the sample in the higher categories of income.

The majority of the individuals in the sample live in urban areas, ranging from 64.9 per cent in Greece to 85.6 per cent in Italy. With regards to the dwelling type, which was recoded in detached or apartment, some countries stand out by their balanced distribution (Italy, Portugal and France), others by the concentration on the apartments (Spain, Greece and Germany) and still others by the high frequency of detached houses (UK).

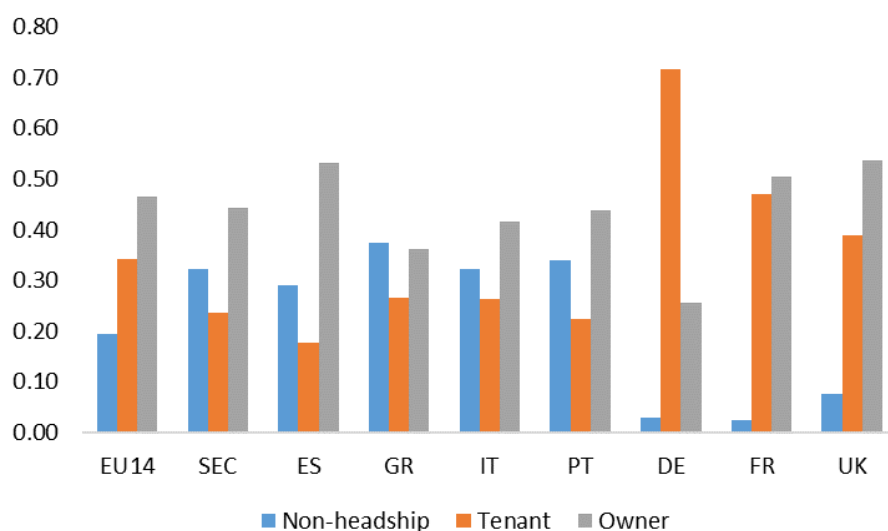
Finally, one third of the sample in Greece and one quarter in Italy live in overcrowded dwellings. These is an important feature when taking into account the age range considered in the sample, 25-39 years-old. Thus, these descriptive results alert to particularly difficult access to housing by Greeks and Italians.

4.4.2 Is non-headship an effective housing option for the young adults in SEC?

Figure 4.2 gives an overview of the importance of southern European families in housing support, even when it is by means of co-residence. When comparing the EU14 and SEC overall, the latter stands out by a higher probability of living in non-headship (0.32 versus 0.20) and a smaller rental market than the first (0.23 versus 0.34).

As expected from the descriptive analysis, among the headship alternatives, the overall probability of a young adult aged 25-39 years live in homeownership is highest in all countries except Germany, in which being tenant has the highest probability (0.72). With regards to living in non-headship, the Greek young adults have the higher probability (0.37), surprisingly almost the same as the likelihood of being homeowner (0.36). The most prominent feature is that southern European young adults have a probability of living as non-headship of 0.29 and higher whereas in France, Germany and in the UK that probability is residual (0.07 and below).

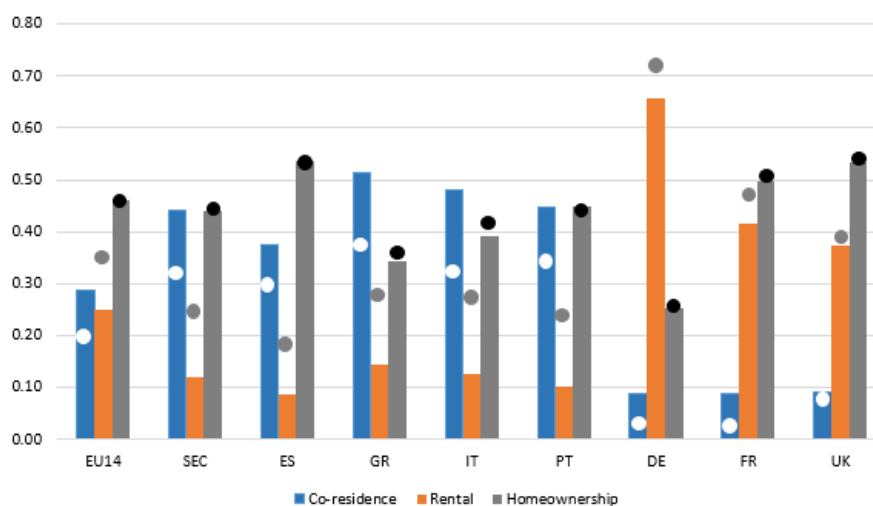
Figure 4.2 Overall probability of a young adult choosing one out of three housing tenure status options, ASMPR models, selected European countries, 2012



Source: EU-SILC, 2012. Own calculations.

As previously mentioned, Lennartz et al. (2015) applied a definition of homeownership, rental and co-residence different from the one used in this study (see section 5.4.2). Thus, it is worth to replicate the previous analysis using their definition to understand the differences in perceptions of housing tenure status. Figure 4.3 presents in bars the overall probability of a young adult choosing each housing tenure status options as defined by Lennartz et al. (2015). The dots near the bars correspond to the overall probabilities as defined in this study and presented in Figure 4.2.

Figure 4.3 Comparison between the overall probabilities of a young adult choosing one out of three housing tenure status options using different definitions of non-headship, ASMPR models, selected European countries, 2012



Source: EU-SILC, 2012. Own calculations.

The results reinforce the fact that the SEC follow a pattern distinct from the EU14 due to a higher probability of living in non-headship. In line with the results presented in Figure 4.2, the young adults living in the SEC have a high probability of living in non-headship, while in France, Germany and the UK that probability is extremely low.

If we consider the results by group of countries, in the north European countries, the higher the probability of renting, the lowest the probability of living in non-headship, just the opposite of what happens in the SEC. This confirms that non-headship is a housing option.

Nevertheless, the position of the dots in Figure 4.3 highlight that the definition of non-headship, tenant and owner is not innocuous to the representation of each housing tenure status. These provide different pictures of each tenure status. With regards to non-headship, since the authors consider the young adults living in parental home and the ones living in an accommodation for free as being in co-residence, the probabilities for co-residence largely overestimate the probabilities of living in non-headship. Despite the

validity of the argument used by the authors to merge these two statuses³¹, when studying non-headship, to live in an accommodation provided for free, with or without interdependence of the family, is not comparable to live in the parental home, since the former already had access to housing and the latter had not.

The overestimation of non-headship is just the reverse of the underestimation of the probability of being a tenant. Finally, resulting from the similarities in the definitions of homeownership, the differences are very small.

Thus, the hypothesis that the housing options of the active young southern European adults differ from those in other European countries due to the existence of a wider range of alternatives, namely live in non-headship, is confirmed. Southern European young adults have at their disposal three housing tenure options, while those in France, Germany and the UK make their housing choices out of a set of two alternatives.

To understand to what extent housing systems may influence household formation, these results can be discussed under the welfare state regimes umbrella (Esping-Andersen 1990; Hoekstra 2005). It is very likely to live in non-headship in the four countries of the SEC. Additionally, the smaller the rental markets are, the higher the probability of living in non-headship (e.g. Spain). Thus, reinforcing that the statutory meaning of homeownership, promoted by long-term housing policies privileging homeowners in the SEC, is, to some degree, responsible for the postponement of parental home leave until having access to homeownership, which strongly depends on family provision. In this aspect, Italy greatly differs from the other two elements of corporatist welfare state regime (France and Germany) to follow the southern European pattern. France and Germany also present very different probabilities between homeownership and renting, but their pattern of non-headship is very similar.

³¹ The authors merge the two categories “because both depict the importance of the family in younger adults’ housing careers and, indeed, show strong interdependence in the EU-SILC sample” (Lennartz et al. 2015: 5).

Although at a much lower level than the SEC, the UK, a country chosen in this study to represent the liberal welfare state, is the country is the other country aside from the SEC where non-headship has some relevance. Nevertheless, non-headship in the UK may be explained by changes operating since the 1990s in the perception that young adults have of new living arrangements. In the UK, family formation is not the only alternative to co-residence with parent and young adults. Additionally, alternative household forms as shared living make part of the new transitional paths from parental home to independent living – headship (Heath 2009).

4.4.3 Determinants of the young adults living in non-headship

Confirmed the hypothesis of this study, it is now time to answer the first question put forward at the outset: Which are the individual, the household and the residential characteristics of young adults that opt for living in non-headship?

When looking to the EU14 overall model, in general, it is evident that the younger, less educated, with low individual income and shorter working careers are the individuals more likely to be living in non-headship (Table 4.2). Higher educational paths may lead to higher ages at leaving parental home, but it also provides individuals with an instrument to better deal with the restrictions present in entering the labour market. However, the less educated and with shorter working careers face a greater disadvantage in the transition to the labour market, contributing to a higher probability of living in non-headship.

Table 4.2 Exponentiated average marginal effects of a young adult aged 25-39 years being non-headship, by sociodemographic, economic and residential predictors, ASMPR models, selected European countries, 2012

| Non-headship | EU14 | SEC | ES | GR | IT | PT | DE | FR | UK |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Foreign (ref. native) | 0.979 | 0.918*** | 1.007 | 0.916 | 0.860*** | 0.848* | 1.031 | 0.989 | 1.147*** |
| Age 25-29 (ref. age 30-34) | 1.126*** | 1.156*** | 1.123*** | 1.166** | 1.178*** | 1.086* | 1.057*** | 1.045*** | 0.991 |
| Age 35-39 (ref. age 30-34) | 0.951*** | 0.912*** | 0.944* | 0.895* | 0.917*** | 0.924* | 0.986 | 0.986* | 1.007 |
| Secondary (ref. lower than secondary) | 0.912*** | 0.931*** | 0.963 | 1.010 | 0.906*** | 0.961 | 0.994 | 0.979** | 0.848** |
| Higher than secondary (ref. lower than secondary) | 0.886*** | 0.926*** | 0.940** | 0.950 | 0.889*** | 0.950 | 0.976 | 0.962*** | 0.745*** |
| Low individual income (ref. medium) | 1.209*** | 1.193*** | 1.110** | 1.202** | 1.307*** | 1.069 | 1.075** | 1.186*** | 1.016 |
| Medium-low individual income (ref. medium) | 1.088*** | 1.045** | 1.011 | 1.043 | 1.086** | 1.014 | 1.027* | 1.043*** | 1.033 |
| Medium-high individual income (ref. medium) | 0.965*** | 0.938*** | 0.949* | 0.867** | 0.924** | 0.952 | 0.972*** | 0.971*** | 0.939 |
| High individual income (ref. medium) | 0.898*** | 0.835*** | 0.853*** | 0.782*** | 0.814*** | 0.846*** | 0.973*** | 0.967*** | 0.910* |
| Years since began first regular job | 0.986*** | 0.984*** | 0.981*** | 0.981*** | 0.983*** | 0.982*** | 0.998* | (1) | 0.985*** |
| Living in partnership (ref. no) | 0.713*** | 0.626*** | 0.631*** | 0.532*** | 0.629*** | 0.644*** | 0.888*** | 0.949*** | 0.851*** |
| Housing change in the past 5 years (ref. no) | 0.781*** | 0.756*** | 0.805*** | 0.654*** | 0.741*** | 0.748*** | 0.935*** | 0.940*** | 1.334*** |
| Low household income (ref. medium) | 0.876*** | 0.822*** | 0.842*** | 0.794*** | 0.790*** | 0.880** | 0.971*** | 0.976*** | 1.030 |
| Medium-low household income (ref. medium) | 0.958*** | 0.917*** | 0.944* | 0.997 | 0.874*** | 0.939 | 0.992 | 0.986** | 1.105* |
| Medium-high household income (ref. medium) | 1.116*** | 1.053** | 1.042 | 1.140* | 1.058* | 1.019 | 1.033* | 1.044*** | 0.898** |
| High household income (ref. medium) | 1.248*** | 1.182*** | 1.133*** | 1.158* | 1.254*** | 1.163** | 1.088** | 1.119*** | 0.847*** |
| Living in a rural area (ref. urban) | 1.050*** | 1.030* | 1.016 | 1.072 | 1.014 | 0.945 | 1.016 | 0.989* | 1.057 |
| Detached dwelling (ref. apartment) | 1.138*** | 1.207*** | 1.204*** | 1.184*** | 1.182*** | 1.349*** | 1.130*** | 1.016** | 0.711*** |
| Living in an overcrowded dwelling (ref. no) | 1.224*** | 1.237*** | 1.250*** | 1.256*** | 1.248*** | 1.271*** | 0.999 | 1.038* | 1.225*** |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 | 2,345 | 3,594 | 2,422 |

Note: Significance level *<0.10; **<0.05; ***<0.01. (1) Information not available in the dataset. Source: EU-SILC, 2012. Own calculations.

Additionally, young adults without a partner are also more likely to be living in non-headship. Finally, to live in a household with a high income, in a rural area and in a detached dwelling also increases the likelihood of living in non-headship. As expected, since the sample is free from the entry in labour market effect by focusing solely on active young adults, the results for the SEC and the EU14 are considerable similar. In the SEC there are four variables that contribute differently to non-headship. On the one hand, to have a tertiary degree or to have a high household income level has a smaller influence on non-headship than the one found at the EU14 level. On the other, to live without a partner and to live in a detached house has a stronger contribution to non-headship. This finding is in line with the literature that relates non-headship with economic resources in northern and some central European countries (the majority of countries in the group of EU14) and with the stage of household career in SEC.

Additionally, the comparison of both results in the descriptive and the modelling analysis with the overall probabilities of living in non-headship shown in Figure 4.2 also point to a second structural level imposed by differences in residential systems and cultural norms. Thus, when controlling for the activity effect at the individual level, young adults tend to behave reasonably similarly towards non-headship. However, at the contextual level, the cultural norms and familiarism of the southern European housing system³², turn non-headship into a much more frequent choice and therefore more likely than in other housing systems.

Changing the level of the analysis to the cross-national perspective of the determinants of non-headship, some features stand out as common characteristics and while others place the SEC in an antagonistic position in relation to France, Germany and the UK.

Nevertheless, it is important to note that non-headship in France, Germany and the UK constitutes a residual option. For that reason, when comparing the SEC with these three

³² Not possible to measure with EU-SILC data, but well-known from the literature mentioned in section 4.2.

countries, we are comparing individuals that live in countries where to live in non-headship is common with individuals that live in countries where to live in non-headship is seen as a marginal option. Even though it is important to establish this cross-national comparison, this is a point that must be taken into account in order to avoid misleading interpretations from the quantitative results.

Thus, the family formation predictor (living with a partner) points in the same direction in all cases, i.e. the likelihood of living in non-headship decreases. However, there are major differences in terms of the magnitude of this change. In the SEC, to live in a partnership decreases the likelihood of non-headship from 0.532 in Greece to 0.629 in Italy. The exponentiated AMEs are much closer to 1 in France, Germany and the UK, supporting the previous findings that show that the leaving parental home in southern Europe is more synchronized with family formation than in other European countries (Fernández Cordón 1997; Reher 1998).³³ These results suggest what can be a characteristic of the SEC.

Additionally, there are opposed specific country features that are worth mentioning. In the UK, the profile of those living in non-headship is to be foreigner, to have experienced a housing change in the last five years and to live in an overcrowded dwelling. Following the literature and the descriptive results, British individuals living in non-headship are sub-divided into two groups. The ones living in the parental home, more similar in their characteristics with the corporatist and Mediterranean welfare state regimes and the ones in shared living. This follows the different perceptions that southern European and British young adults have of new forms living, which in the case of the latter are not exclusively related to family formation (Heath 1999; Holdsworth 2000, Heath 2008).

Contrary to this view, for young southern European adults, to live in non-headship means, mostly, to lie in the parental home, which becomes a particularly appealing option when a low income individual meets a high household income. Since high income households are

³³ In Portugal and in Spain there are popular sayings stating that 'the married, house wants'. *El casado, casa quiere* in Spanish and *quem casa quer casa* in Portuguese.

able to provide a better standard of living, young adults may prefer to postpone headship until they accumulate the wealth to form a household with similar living conditions. This finding falls in line with the analysis of Parisi (2008), which concluded that young adults postpone leaving parental house because it may negatively affect their income.

Additionally, the exponentiated AMEs of living in overcrowding dwellings in the explanation of non-headship in the SEC (from 1.225 in Greece to 1.271 in Portugal) show that when it is not possible for families to support young adults in housing provision through gifts, inheritance, financial help in the acquisition or construction of a dwelling, support is mostly given by allowing young adults to postpone home parental leave. Thus, family support in the form of co-residence with parents is offered, even if the final living conditions are not the ideal. Family support in the SEC goes beyond whether there are available rooms in the parental home, which can also be the reason for a relative detachment once the young adult forms its own household.

Although with lower magnitude, a similar relationship between low individual income and high household income in the explanation of non-headship is found in the corporatist welfare states (France and German), but not in liberal one (UK). Once again, in spite of its corporatist welfare state regime, Italy presents a southern European housing system. Accordingly, young adults in Italy exhibit the SEC explanation patterns for non-headship.

Even if the SEC is a homogeneous group when compared with France, Germany or the UK, three traits of internal heterogeneity are worth to mention. The impact of having a low individual income is stronger in the explanation of non-headship of Italians (1.307) and Greeks (1.202) than in Spain (1.110). Even though previous research has shown that “in Italy and in Greece the opposite is true” (Parisi 2008: 98), this result can be connected with an overall perception that remaining in the parental home is a protection against poverty. A second trait is the effect of having experienced a housing change in the last 5 years. This trait lowers the likelihood of living in non-headship much more in Greece (0.654) than in Spain (0.805), Portugal (0.748) or Italy (0.741). The descriptive results show that, in Greece,

to live in non-headship outside the parental home is very rare. These results suggest that when young active Greeks experience a housing change, it is predominantly to become headships. Finally, to live in a detached dwelling increases the likelihood of living in non-headship in Portugal (1.349) to a greater extent than in Spain (1.204), Greece (1.184) or Italy (1.182). This internal diversity may be explained by the characteristics of the Portuguese housing stock, which has a greater higher proportion of detached or semi-detached houses than the other three countries (Eurostat).

4.4.4 Where non-headship is an effective option, which are the competing alternatives?

From the previous analysis, it can be concluded that non-headship is an effective option in the SEC. In France, Germany and the UK however, non-headship is seen as a marginal housing tenure status. Thus, the results suggest that young adults living in corporatist and liberal welfare systems make their housing decisions primarily between two statuses: renting or homeownership.

As a result, the question arises: which are the alternative housing tenure statuses that compete with non-headship in the SEC? Due to the particularity of the southern European housing system, characterized by its high rates of homeownership, small rental markets and a very small social housing stock, it is pertinent to disaggregate the housing options in five alternatives: non-headship, outright owner, owner with loan or mortgage, tenant at market price, and tenant at reduced price or accommodation provided for free.³⁴

The overall probabilities by housing tenure option highlight that non-headship competes with other housing tenure statuses at two different geographical levels (Figure 4.4):

1. ***Between housing systems.*** At the housing systems level, i.e., comparing the SEC with the EU14 models, non-headship competes with renting. The difference between the probabilities of non-headship (0.20 in EU14 and 0.33 in the SEC) and the difference between the probabilities of tenancy (0.34 in EU14 and 0.22 in the

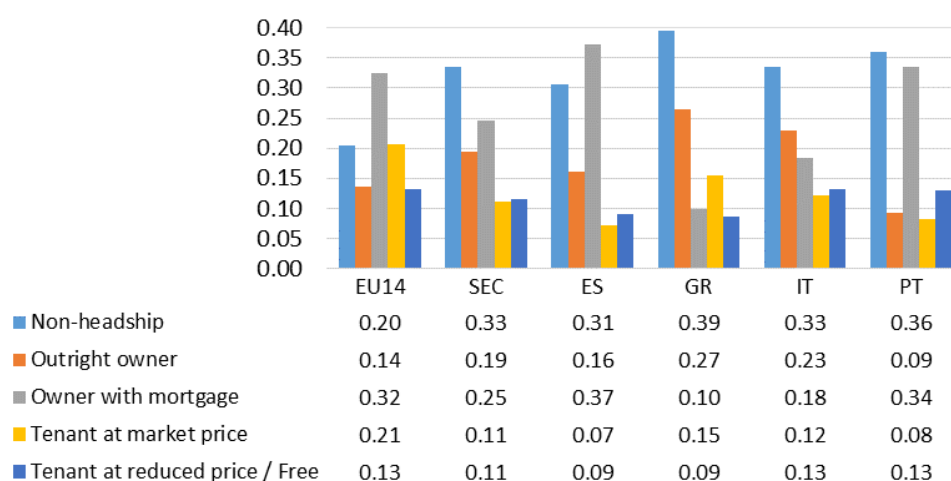
³⁴ The results of the ASMPR models are presented in Tables A.4.2 – A.4.6 in Appendix.

SEC) are almost the opposite of each other. At this level, lower probabilities of non-headship match with higher probabilities of tenancy.

2. *Within the southern European housing system.* At this level, higher probabilities of non-headship match with lower probabilities of tenancy. Contrary to what happens at the EU14 level, in the SEC non-headship competes with homeownership. In Greece and in Italy, the alternative to non-headship is to live in an outright owner occupied dwelling, suggesting that in the interaction between family and state in housing provision the family has a stronger weight. In turn, in Portugal and in Spain, the alternative to non-headship is to live in an owner occupied dwelling with a mortgage, suggesting that the market as a higher dynamism than in Greece and in Italy, but without excluding the possibility of a strong intervention of the family in the access to mortgage.

While this first level of compensation or competing effect was already visible in Figure 4.2, the second level, referring to differences within the SEC, was not. Finally, the probabilities of homeownership are quite similar in both the EU14 and the SEC.

Figure 4.4 Overall probability of a young adult choosing one out of five housing tenure status options, ASMPR models, selected European countries, 2012



Source: EU-SILC, 2012. Own calculations.

The results stress that within the SEC, non-headship competes or compensates the restrictions in access to homeownership. However, there are cross-national differences worth mentioning. On the one hand, in Spain and Portugal, non-headship is the proxy of owner with mortgage or loan. With smaller rental markets, the residential emancipation of Spanish and Portuguese young adults is dependent on the access to credit. On the other hand, in Greece and in Italy, young adults rely on being outright owners instead of non-headship.³⁵ Nevertheless, due to slightly larger rental markets, in these two countries there is a more fairly balanced distribution of the probabilities of choosing each housing tenure status. This suggest that Greeks and Italians may have less restrictions than the Spanish and the Portuguese when it comes the time to decide their housing tenure status.

4.5 Concluding remarks

This study explores the findings of Chapter 3 by analysing whether the housing tenure decisions of active young southern European adults differ from the ones in other European countries due to the high rates of non-headship, while at the peak of the GFC. Since the main hypothesis put forward is confirmed, the main finding of this study lies on the fact that in the SEC, young adults may make their tenure decision from a set of three options (non-headship, ownership and tenancy), while in France, Germany and the UK, young adults base their decision mainly from the last two options. Thus, to live in non-headship in the SEC is an effective and competitive tenure option. Since most of the active young adults living in non-headship are living in the parental home, the explanation for the specific southern European pattern relies on the active role of southern European families in housing provision. To what extent is non-headship an option is a question that this study is not able to answer. Given the literature that supports an improvement in intergenerational relations, and that this study restrains its sample to active young adults, to live in non-headship may be an effective choice. However, to some young adults, to live

³⁵ Unfortunately, the low number of cases in outright ownership, which is justified by the age range of this study, reduces the statistical significance of most of the predictors (see Table A.4.2 in Appendix).

in the parental home may be a forced option and not the result of a choice. In sum, either being a more or less voluntary choice, what stands from this study is that, in the SEC, non-headship is a widespread housing alternative; while in the other countries it does not appear to be.

On the one hand, this long-standing tradition in southern Europe boosts the transition of young adults with more privileged backgrounds to headship, through means of gifts or bequests. At least it protects them from economic uncertainty, by allowing the postponement of leaving parental home. On the other hand, this tradition does very little for the less privileged young adults. When a household is unable to provide standard living conditions to all members, most young adults struggle to achieve their economic independence. In sum, this southern European tradition would be unnecessary if the SEC was not characterized by weak welfare regimes leading to an increased dependency on the households' wealth, which in turn largely contributes to the preservation of intergenerational social inequalities. Thus, due to the constraints that European young adults face in achieving headship, which are intensified during the period of the GFC, intergenerational relations evolved towards a co-residence that preserve and encourage the private autonomy of the young adult while living in the parental home.

In general, the welfare state regime typology defined by Esping-Andersen (1990) and complemented by Hoekstra (2005) provides an adequate framework for the analysis of young adults' tenure options. The exception is the classification of Italy as a corporatist welfare state regime; since Italian young adults' behaviour fit the Mediterranean welfare state regime. This finding is aligned with the cluster analyses performed in Chapter 3.

With regards to the first question posed in the outset of this study that deepens the features of non-headship in the SEC, the active young southern European adults with low individual income and living in a detached house are more likely to choose to live in non-headship. To postpone parental home leave is common, since it is culturally well-accepted. This finding may be framed in a strategy of comfort and security by the young adults to

maintain their living standards. Yet, more than an immature perspective of the transition to adulthood, perhaps the southern European active young adults' rationale has simultaneously an economic and a familiaristic rationale. Economic since the emancipation of a young adult with low individual income would inevitably result in a loss of comfort, security and even safety. Familiaristic because both from a parent and child standpoint, there are advantages in co-residence, even with the eventuality of resulting in overcrowding dwellings. The results suggest that most families successively manage to provide housing to their children through negotiation and flexibility.

Concerning the second question, the tenure option with which non-headship competes the most in the SEC amidst active young adults can be interpreted within two geographical levels. At a wider level, when comparing housing systems - EU14 and SEC - non-headship competes with renting. However, within the SEC, non-headship competes with homeownership.

In light of these results, the role of the family alongside the market in housing provision gains relevance. Additionally, it draws attention to the relevance of disaggregate homeownership in their two variants when studying housing tenure status in the SEC, something that has not been as present in the literature of housing studies as it should.

The implications of the results of this study are two-fold. On the one hand, to be a tenant at market price in the SEC is considered a marginal tenure option for the ones that have not yet accrued the wealth to become homeowners. To be a tenant at reduced price or to live in an accommodation for free are residual tenure options achievable only by a small proportion of the young adults. On the other hand, the disproportional importance given to homeownership make young adults to postpone indefinitely their life course by staying at the parental home or, in a much lesser extent, share housing with their peers.

The existing evidence of the SEC stresses that there is still ample room for progress in acknowledging housing behaviour of active young adults in the SEC. After showing the importance of cross-national differences in non-headship patterns, two strands of future

research would be important to explore. First, exploring the housing behaviour of subgroups of young adults opting for new forms of living arrangements and second disentangling the internal geographical patterns at the county level, might reveal additional knowledge on the housing decisions of active young adults in the SEC and prepare the way to widen the range of innovative research on this topic.

Chapter 5 A multilevel analysis of the recent increase of home renting in Spanish young couples, 2001-2011

5.1 Introduction

The increase in the proportion of rental-occupied dwellings from 11.4 per cent to 13.5 per cent in the period between 2001 and 2011 (824,000 households) is one of the most outstanding results of the 2011 Spanish census. In fact, it was the first time since 1950 that the continuous trend of decline in the percentage of tenants has been reversed. The magnitude of this turnaround becomes even more relevant if one considers that in the mid-twentieth century, half of the Spanish families were living in rental-occupied dwellings, especially in the cities (Cortés Alcalá 1995; Naredo 2010). From that period onward the number of tenants began to decline dramatically, while the number of families owning their homes was increasing. This trend is similar to what was observed in most Western European countries, although in the Spanish case the decline has been much more pronounced (Trilla 2001).

A first feature, regarding the increase in tenancy during the period between 2001 and 2011, is that despite having occurred across the entire Spanish territory, there is evidence that it was not a homogeneous process. The proportion of rented-occupied dwellings increased in 42 of the 50 Spanish provinces. The remaining eight provinces registered a decline of just over one percent. In general, the provinces that in 2001 registered a higher proportion of rental-occupation increased above the average in 2011. It is worth noting that in relative terms the greatest increase was in the provinces of medium size, especially in the ones as Guadalajara and Toledo near the great metropolitan urban areas as Madrid. This has resulted in a geography of contrasts in 2011, where some provinces have just over 20 per cent of rental-occupied dwellings (Girona, Balearic Islands and Barcelona) while others have values slightly below 8 per cent (Córdoba, Zamora and Jaén).

The second feature, relates to the different economic cycles that define the context in which the results of the 2001 and 2011 census fall within. The first is framed by the Spanish housing boom (1997-2007), as a result of the "shock" produced by newly created households (young adults and immigrants), demand for housing improvement, purchase of second homes by EU foreigners and other components, such as speculative Spanish and foreign investment (Módenes and López-Colás 2014). Growth in the construction sector was combined with an increase in housing prices, whereas mortgage access was facilitated by low interest rates and long repayment periods. This was accompanied by an expansive building boom as a result of the relaxation of planning instruments (Roch 2001; Naredo 2010; Romero 2010). In these years many households pledged a higher share of their income to pay for a longer mortgage (García-Montalvo 2007).

Just a few years later, in 2011, Spain was experiencing the effects of the GFC accompanied by the Spanish financial crisis and the real estate crisis. This cycle began in the second half of 2007 with the explosion of the housing bubble due to a dramatic decrease in housing demand (Rodríguez-López 2008). This resulted in a sustained fall of housing prices in the real estate sector.

The rising costs of homeownership during those years challenged the main model of emancipation of Spanish young adults, characterized by easy access to homeownership by young adults to live in partnership with family support, leading to the postponement of the home parental leave (Jurado 2006). In the last years of the expansion, as a result of the constant rise in housing prices, renting became more popular among immigrants and young adults alike (Módenes 2010).

Thus, this study aims to compare the effect of the geographic context on the likelihood of being a tenant, of women aged 25-34 living with their partner and children – if they have any – without other co-residents in 2001 and 2011.

This study is based on the assumption that housing systems are dynamic (Módenes and López-Colás 2014). Hence, as a result of the differences in the urban sprawl and

demographic structures due to the evolution of housing prices, the Spanish residential system conceals important traits of internal heterogeneity that impact on individual housing choices. For that reason, in order to establish the empirical relationship between renting and the individual and contextual characteristics, multilevel logistic models for 2001 and 2011 are estimated, with the objective of analysing two very distinct periods. Regarding the relationship between individual sociodemographic factors and renting, it is assumed that in both 2001 and 2011 the likelihood of women aged 25-34 years living with a partner in a rented-occupied dwelling is explained by a set of individual characteristics that have remained relatively analogous. As a result, when considering the relationship between life cycle and the household/housing careers (Clark and Dieleman 1996), it is expected that the higher the age of women, the lower the likelihood of be tenant. However, it is possible that the increase of tenants among young adults during the period between 2001 and 2011 has introduced changes in both the hierarchy of the explanatory variables and in the relative level of the categories of the variables.

The guiding hypothesis of this study is that stable housing prices increase the risk of women aged 25-34 years living with a partner of being tenant. Consequently, the confirmation of this hypothesis has the following implications: (1) couples living in provinces where prices increased more in 2001 should be less likely to live in rented-occupied dwellings; and (2) in 2011, when prices fell, the highest likelihood of renter-occupation would be registered in the provinces where the decline in prices was lower. In harmony with Malmendier and Steiny's (2016) findings, the rationale behind this hypothesis is that housing tenure decisions are affected by macroeconomic shocks. In household careers, the transition to homeownership it is carefully planned and framed within the household life cycle, the household wealth and the housing market dynamic. During stable periods in housing prices, it is possible that households in rented-occupied dwellings feel less pressured to take that important step, postponing the acquisition of a home in an attempt to find a better deal if housing prices eventually decrease.

5.2 Early stages of life in couple and housing tenure status

The trends in leaving parental home significantly differ between northern and southern Europe (as seen in Chapter 4). The SEC are defined by a later emancipation and a direct transition to marriage and parenthood, while northern European countries display a transition to independent living prior to family formation by leaving the parental home at an earlier age (Cordón 1997; Reher 1998; Iacovou 2002; Baizán, Aassve and Billari 2003; Sobotka and Toulemon 2008).

Between 1981 and 2001, the transition to adulthood in Spain has suffered a delay of 6 years, for both sexes (Vieira and Miret 2010). As discussed in Chapter 4, the reasons behind the late residential emancipation of young adults in southern European are well documented in the literature. On the one hand, institutional features, such as high unemployment rates and precarious work, small rental and public housing markets, high housing costs and difficult access to credit, hamper the residential emancipation of southern young adults (Sobotka and Toulemon 2008; Mulder and Billari 2010; Aassve, Arpino and Billari 2013; Mínguez 2016). On the other hand, cultural factors, such as the important role of the family in housing provision, impact on young adults' decisions about the timing of leaving the parental home (Aassve et al. 2002). As mentioned by Sgritta (2001), as a result of the new boundaries of freedom and intergenerational relationships that took place in the last decades, living in the parental home does not necessarily mean to not be independent.

In Spain, the access of young adults to adequate housing is one of the main topics in the spotlight on the debate on housing (García-Montalvo 2007). Following the southern European trend, the conventional first housing transition of Spanish young adults is to leave the parental home to marry and have children in an owner-occupied dwelling (Holdsworth 1998; Ahn 2001; Mínguez 2016).

In their study on first housing moves of Spanish young adults in the 1980s, Holdsworth and Irazoqui (2002) found that, beside the general late residential emancipation and the

preference for owner-occupation, there are important regional patterns in housing tenure status. Due to regional differences in family formation trends, young adults living in the northwest of Spain and in the Canary Islands have a greater likelihood to live in rented dwellings or in dwellings provided for free by the family than to live in self-owned homes. Additionally, the authors found a divergent pattern among the more privileged socio-economic young households – a preference for renting. This finding led the authors to conclude that these young adults accumulated a greater human capital and thus, may have greater prospects of residential mobility and individual autonomy (Holdsworth and Irazoqui 2002). Consequently, the authors pose the question whether this divergent pattern would scatter to all social strata. In hindsight, perhaps Holdsworth and Irazoqui (2002) found the early beginning of greater changes in the Spanish housing patterns.

Iacovou (2002) found that, in Italy, Greece, Portugal and Spain, the low proportion of public sector housing and low stocks of private rented dwellings are related to the high age at which 50% of the men left the parental home. In a simulation exercise published the Bank of Spain, Ortega, Rubio and Thomas (2011) examine the effect of three policies proposed by the Spanish government: the removal of the subsidy to house acquisitions, the implementation of an analogous subsidy to tenants, and enhancing the efficiency of the rental market. In general, the three measures contribute to an increase in the proportion of rented-occupied dwellings. While the removal of the subsidy for purchases slows down the construction sector, in terms of macroeconomic effects, the introduction of an analogous subsidy slightly increases the construction sector. Improvement on the efficiency of the rental market does not seem to have a macroeconomic effect (Ortega et al. 2011).

In terms of policy evaluation, Aparicio-Fenoll and Oppedisano (2012) analysed the impact of the Emancipation benefit (*Renta Basica de Emancipación*), a housing policy implemented in 2008 to promote the residential emancipation through rental of Spanish young adults aged 22-29 years. The results highlight the fact that young adults with low income and

those living in areas with high rental prices are the most positively affected by this policy. By comparing eligible with non-eligible counterparts, the study shows that the likelihood of young Spanish being emancipated increases up to 18 per cent, while the likelihood of living with a partner or having a child increases by up to 22 per cent (Aparicio-Fenoll and Oppedisano 2012).

Mínguez (2016) studied the effect of the GFC in the housing transitions of Spanish young adults and found that the greater proportion of rented dwellings and the increase in the percentage of young adults stating a preference for rented-occupation, suggests an emerging trend that questions the conventional residential emancipation through homeownership. Moreover, the results show that since Spanish young adults postpone the transition to adulthood until they are able to gather the necessary financial resources to purchase a home, the residential emancipation trend of young adults has a negative effect in individuals' autonomy and family formation.

5.3 The boom and bust of the Spanish housing bubble

While the notion of “housing bubble” is widely used in the literature, it is not very often conceptualized (Case and Shiller 2003). According to Thornton (2009), there are three distinct perspectives that attempt to address this concept. First, the traditional perspective does not recognize its existence as a bubble. Instead, economists and the general public that support this perspective believe that there are real triggers behind economic cycles, such as technological shocks, and that there is little that governments can do in order to prevent them. A second perspective, defended by Keynesians economists³⁶, recognizes the existence of housing bubbles justifying its causes with unreal factors, such as psychological economic uncertainties. For the Keynesians, the government should legislate in order to discipline business cycles. Lastly, the Austrian business cycle perspective

³⁶ Term used to designate the followers of the economics developed by John Maynard Keynes (Henderson 2008).

believes in the co-existence of real and psychologic factors during housing bubbles and that both are a result of the influence of the central banks (Thornton 2009).

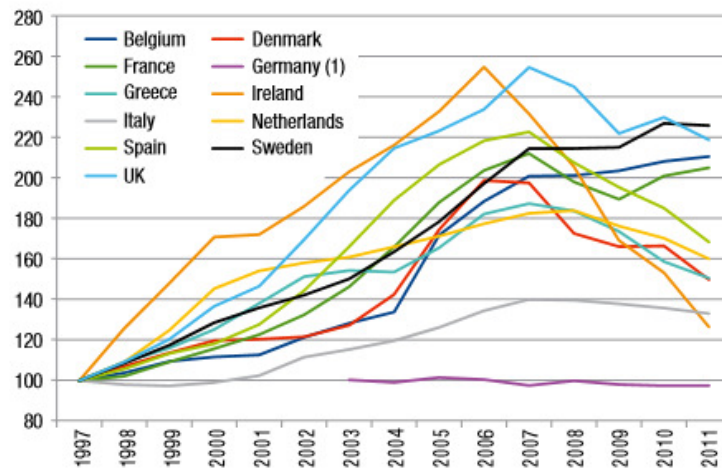
Although housing bubbles and banking crisis do not necessarily need to be correlated, the interdependency between these two events in bank-driven financial systems may be systematized in a persistent cycle of events (Herring and Wachter 2005). First, banks trigger an increase of credit availability for the real estate sector. As a result, real estate prices also rise which, in turn, increases the perceived value that banks have of real estate assets. Finally, in an already highly speculative context characterized by an underestimation of the risks and vulnerability of the real estate market, banks unreasonably make more credit available to the real estate market at an increasing greater risk and at a lower interest rate (Herring and Wachter 2005). The model developed by Herring and Wachter (2005) to explain housing cycles clearly fits the succession events during the boom and bust of the Spanish housing bubble.

There is a general consensus that the GFC started at the end of 2007 in the United States of America after the financial system consecutively ignored the evidence that real estate speculation had taken uncontrolled proportions (Camarassi, Gros and Micossi 2009; Silver 2012). The American crisis rapidly developed into a global scale event, slowing down the European markets and severely impacting on southern European economies (Yeh-Yun Lin, Edvisson and Beding 2012). In Spain, the economic prosperity observed during the pre-crisis period was, to a greater extent, stimulated by the construction sector (Romero 2010-2). During the Spanish housing boom of 1998-2007, the demand for housing, driven by high employment rates and high immigration flows, encouraged new construction and transactions (Rodríguez-López 2008). Along this period, there was an estimated gross increase of dwellings of 4,169,000 and a gross increase of households in the order of the 3,889,500. In this period there were 8,726,700 registered mortgages on housing in Spain, showing that in addition to the construction sector, the banking sector also had a key role in the housing bubble (Rodríguez-López 2008). With a total increase in the national

housing stock of 50% during this period, it is important to note that a staggering 40% of total construction in the EU took place in Spain (Arrazola, Hevia, Romero and Sanz-Sanz 2014). Some of these transactions referred to the acquisition of second homes, a particularly important feature of the southern European residential system. In 2001, 15% of the Spanish households were owners of a second residence (Módenes and López-Colas 2007b). Moreover, between 1985 and 2007, there was a registered increase of 201 per cent in housing prices and of 115 per cent in household indebtedness. Within this context, even without the effects of the GFC, Spain would most likely experience “a correction due to its extremely overheated housing market” (Yeh-Yun Lin et al. 2012: 14).

Real house prices in Spain reached its peak in 2007 (Figure 5.1). In that year, Spanish housing prices increase were surpassed only by Greece and Ireland, the first two countries to request financial support to the International Monetary Fund to handle the GFC. From then onwards, housing prices in Spain have declined at a fast pace. In 2011, prices were back to the level observed in 2003, i.e. before the peak of housing starts and the transactions observed in 2005-2006 (HYPOSTAT 2011). The consequences of the burst of the housing bubble were felt promptly: a slowing down of the construction sector, the subsequent raise on unemployment rates and the deterioration of public finances (Yeh-Yun Lin et al. 2012; Arrazola et al. 2014). In addition, the deregulation of half of the Spanish banks led the Eurogroup to approve a financial booster of 100 billion euros in 2012 to restructure the banking sector (Arrazola et al. 2014).

Figure 5.1 Real house price indices, selected European countries, 1997-2011 (1997=100)



Note: The Real House Price Indices is the nominal house price (provided by the EMF) adjusted for inflation, using the HICP - All-items excluding housing, water, electricity, gas & other fuels (provided by Eurostat) (1) Due to methodological reasons, the German data (2003 = 100) is reliable only from 2003.

Source: HYPOSTAT (2011: 8).

The increase of renter-occupied households in the 2011 census, a turnaround of the trend observed since the 1950 census, reflects, to some extent, the effects of the housing bubble burst and the GFC (Table A.5.1, in Appendix). Thus, by estimating a multilevel model for two different years it is possible to analyse how the effects of the sociodemographic variables changed between 2001, a period marked by the real estate boom, and 2011, a period characterized by the GFC. Based on the framework of this study and in the particularity of the Spanish context, some questions arise:

Did the expansion of renting lead to changes in the relative differences of the categories of the sociodemographic factors in analysis?

Did a convergence process take place between 2001 and 2011, in which the least likely categories have experienced a significant increase?

Or, on the contrary, did a divergence process occur among the most likely categories due to the increase in renting?

Finally, but very unlikely, did the changes affected equally all categories leaving the initial relative positions very close?

In addition to contributing to the understanding of how sociodemographic and territorial factors impact at the individual level, this study analyses whether the province of residence explains the differences in the likelihood to live in a rented-occupied dwelling in 2001 and 2011.

It is expected that the direction of the effects of the sociodemographic factors reproduce the results from the literature. With regards to citizenship, it is expected that couples where both partners are foreigners are more likely to be tenants than mixed couples, while the latter are more likely to be tenants than the couples formed by Spanish partners (Módenes, Bayona, López-Colás 2012). Concerning the type of partnership and educational attainment level, it is expected a higher likelihood for renting within couples in consensual unions than among married couples (Módenes and López-Colás 2007b) and a higher likelihood for renting among couples with lower levels of education when compared to partnerships with higher levels of education (Ahn 2001).

5.4 Data and methods

5.4.1 Data source and sample

The primary data source of this study is the microdata samples of the Census of Population and Housing (2001 and 2011) conducted by the Spanish National Institute of Statistics (S-NIS). The size of the sample is 5% of the resident population in Spain in 2001 and 10% in 2011.³⁷ As a secondary data source, the models use the price of private housing from the series developed by the Ministry of Public Works (*Ministerio de Fomento*) based on the rating throughout the Spanish territory. These statistics include quarterly data from the first quarter of 1987, and allow for the analysis of the evolution of housing prices

³⁷ For more information on the microdata samples of Spanish census, please see: http://www.ine.es/prodyser/micro_censopy.htm.

according to different characteristics. This study uses the price of private housing in the first quarter of the years ranging from 2001-2011.

The sample comprises a total of 193,926 women aged 25-34 years living with their partner and children – if they have any – without other co-residents (73,830 and 121,926 cases, in 2001 and 2011, respectively). The choice of this subpopulation answers to a threefold intention. First, this study is focused on women because they are more representative of the stage of the household life cycle than men. Second, only women living with a partner are selected to ensure that the housing tenure status is directly related with the process of emancipation of the couple.

Finally, the introduction of the age group component increases the likelihood that these young adults have taken their residential decisions, either shortly before the census or during the reference period and were directly influenced by the geographic and chronological context defined in this study. Another important characteristic of this subpopulation refers to its ability to better capture the changes in the relationship between the population and the residential conditions, because if these changes are consolidated, over time they end up spreading to the rest of the population due to the inertia of demographic structures.

5.4.2 Empirical analysis planning

Since this study is interested in explaining the preference for renting, acknowledging the effect of individual and contextual variables in housing tenure choices and recognizing the regional heterogeneity of the Spanish residential system, the empirical analysis is structured in two levels. Accordingly, multilevel logistic regression models were estimated to compute the probability of women aged 25-34 years living with a partner in a rented-occupied dwelling against other forms of housing tenure (owned-occupation with or without outstanding payments, in most cases). This probability is determined by

independent variables at both the individual and the provincial levels. At the individual level, the independent variables cover three dimensions:³⁸

Demographic. This dimension includes the age of the women and the citizenship of the spouses. The model uses the age of women as a closer indicator of the stage of the household in the life cycle than the age of the men. The age of the women is grouped in five two-year age-groups. Citizenship is considered in four alternatives: both partners are foreigners, the woman is Spanish and the partner is foreigner, the woman is foreign and the partner is Spanish and both partners are Spanish.

Social. This dimension covers the educational level and the type of partnership. As with age, the model considers the education attainment level of the woman³⁹ in three levels: lower than secondary, secondary and tertiary. Finally, married and cohabiting couples distinguish the type of partnership.

Territorial. This dimension comprises the size of the municipality of residence in seven categories: two for the rural environment (up to 2,000 and from more than 2,000 up to 10,000 inhabitants), two representing small cities (from more than 10,000 up to 20,000 and from more than 20,000 up to 50,000 inhabitants), two representing average size and big cities (from more than 50,000 up to 100,000 and from more than 100,000 up to 500,000 inhabitants) and one category representing a great metropolis (more than 500,000 inhabitants).

When modelling the 2001 period, this study uses the following contextual variables at the provincial level: the cumulative annual growth rate (CAGR) of private housing price by square meter observed between 2001 and 2008, the percentage of households living in buildings with four or more floors above ground level in 2001, and the mean age of the

³⁸ For a more detailed information on the distribution of independent variables, see Table A.5.2 in Appendix.

³⁹ Tests have been performed considering the educational attainment of the male partner and of both partners simultaneously. The differences are not relevant and the model becomes less parsimonious.

population in 2001. For the 2011 period, the model comprises the CAGR of the private housing price by square meter observed between 2008 and 2011, the percentage of households living in buildings with four or more floors above ground level in 2011, and the mean age of the population in 2011.⁴⁰

The evolution of the price of private housing is one of the greatest indicators to analyse the effect of the market in the likelihood of living as tenant and it is the independent variable in this analysis. However, since this study covers a period of strong contrasts, it cannot be taken as a whole. For this reason, this study is split into two time sections based on the historical data series of the Ministry of Public Works. The first section analyses the residential boom years between 2001 and 2008, in which prices increases consecutively. The second section begins at the end of the residential boom when prices reached an all-time high during the housing bubble and analyses the period of decline between 2008 and 2011.⁴¹ For each period, the housing prices were then synthesized in the cumulative annual rate of growth of private housing per square meter. Understandably, the CAGR for 2001-2008 will be used in the multilevel model for 2001 and the CAGR for 2008-2011 in 2011.⁴²

By recognizing hierarchical structures, the multilevel models are able to use the data to differentiate contextual from the individual effects. Since we are interested in a binary response – if the women 25-34 years with a partner live in a rented dwelling or not – this study uses a logistic regression model of random intercepts where level 1 relates to the individual (i) and level 2 to the province (j). In the models of random intercepts, the residual variance is divided into the corresponding components in each hierarchy (i, j).

⁴⁰ In the exploratory analysis that lead to the final analytical model, several sociodemographic and residential variables from the census 2001 and 2011 were tested. At the end, those variables were excluded due to collinearity or insignificant explanation gain. The same applies to other territorial indicators from INE.

⁴¹ Thus, the year of 2008 is included in both models (2001 and 2011) since it is a transition year. While still preserving the characteristics of the housing boom as high prices, it is when it starts the decline of the prices.

⁴² Tests have been performed with other residential variables such as the price of housing in each of the census years, yet they have been rejected by their little or no explanatory contribution.

$$f(\pi_{ij}) = \beta_{0j} + \beta_1 x_{1ij}$$

$$\beta_{0j} = \beta_0 + \mu_{0j}$$

where $f(\pi_i)$ is the transformed logit of π_i , which is the probability of $y_i = 1$ (the binary response for individual i); β_{0j} is the intercept; β_1 measures the effect of variable x_1 . In this model the intercept consists of two components: one fixed, β_0 , and one random at the level j (province) μ_{0j} . The model assumes that deviations from the overall mean (μ_{0j}) are normally distributed with zero mean and variance σ_{0j}^2 . Thus, the provinces are not introduced into the models with fixed effects (i.e., including dummy variables for each of the 50 Spanish provinces). Instead, the parameter σ_{0j}^2 is used to measure the variance between provinces.

The interpretation of the results is similar to the interpretation of the binomial logistic regression model. The main difference is that, in this case, the variance in the multilevel model gives information about the differences observed between provinces when variables are introduced individually. If there are no differences between provinces, it would indicate that the probabilities are explained by the individual characteristics and not by the territorial features. Nonetheless, if the variance oscillates, it would explain that the differences between provinces go beyond the individual characteristics of their inhabitants.

5.5 Results and discussion

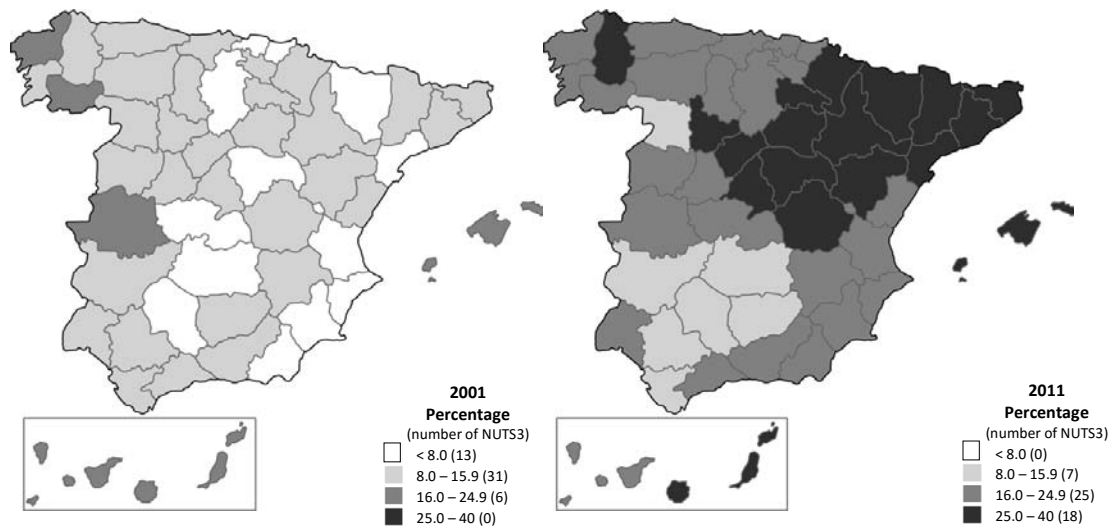
5.5.1 *The geography of renter-occupation: sociodemographic and contextual factors*

The subpopulation of young adults forming new households as part of their process of transition to adulthood are a particular group in which renting increased the most between the 2001 and 2011 Spanish census. In the population studied, the proportion of women aged 25-34 years living with a partner in a rented-occupied dwelling increased from 11.1 per cent in 2001, to 26.1 per cent in 2011.

At the province level, the proportion of women aged 25-34 years living with a partner in a rented-occupied dwelling shows remarkable traits of heterogeneity. Figure 5.2 shows that in 2001 thirteen provinces have proportions below the 8 per cent and none has proportions above 25 per cent. Nevertheless, in 2011 the situation is almost the opposite: no province has less than 8 percent of renter-occupied dwellings in eighteen provinces that mark exceeds a quarter of the total housing stock. The observed changes go beyond the magnitude of renting to highlight that the geographic distribution of rented dwellings has deeply changed. While in 2001 there is no clear territorial pattern, in 2011 two areas are clearly drawn in terms of rented-occupied dwellings: one of high proportions and one of low proportions. The first includes the Catalan and Aragonese provinces, Navarra, La Rioja, Valladolid, Madrid and all its surrounding provinces except Ávila and Toledo.⁴³ The provinces of Baleares, Las Palmas and Lugo display similar proportions – over 25 per cent of couples in renting – but no territorial continuity. Finally, the provinces of Ciudad Real, Jaén, Córdoba, Sevilla, Cádiz and Badajoz show an area of low renting levels - below 16 per cent of the couples living in rented-occupied dwellings – with Zamora isolated despite its similar proportion.

⁴³ For a complete overview of Spanish provinces, see Figure A.5.1 in Appendix.

Figure 5.2 Proportion of women aged 25-34 years living with a partner in a renter-occupied dwelling (%), Spain, 2001 and 2011



Source: Census 2001 and 2011, INE.

Regardless of their sociodemographic and territorial characteristics, the relative weight of renting among women aged 25-34 years with a partner increased between 2001 and 2011. This is clear in Table 5.1, where the percentage of tenants in relation to the total housing stock is presented by the individual variables used in the empirical analysis. Without exceptions, the proportion of tenants in all the considered categories is higher in 2011 than it was in 2001. Nevertheless, three of the five individual variables present a striking growth rate from 2001 to 2011: educational attainment and the age of the female and size of the municipality.

Table 5.1 Women aged 25-34 years, living with a partner in a renter-occupied dwelling by individual predictors (%), Spain, 2001 and 2011

| Predictor | 2001 (%) | 2011 (%) |
|--|-------------|-------------|
| Citizenship of the partners | | |
| Foreigners | 72.1 | 74.2 |
| Native-foreigner | 32.6 | 41.9 |
| Foreigner-native | 32.2 | 34.4 |
| Native | 9.3 | 13.1 |
| Marital status | | |
| Cohabiting | 24.7 | 33.5 |
| Married | 9.1 | 21.8 |
| Educational attainment female | | |
| Lower than secondary | 18.2 | 43.0 |
| Secondary | 9.4 | 24.8 |
| Tertiary | 11.3 | 24.2 |
| Age of the female (in years) | | |
| 25-26 | 15.4 | 41.1 |
| 27-28 | 12.2 | 34.9 |
| 29-30 | 10.9 | 27.2 |
| 31-32 | 10.2 | 22.8 |
| 33-34 | 9.7 | 18.7 |
| Size of municipality (in inhabitants) | | |
| More than 500,000 | 17.1 | 44.2 |
| 100,001-500,000 | 11.6 | 28.5 |
| 50,001-100,000 | 9.6 | 26.9 |
| 20,001-50,000 | 9.8 | 22.3 |
| 10,001-20,000 | 9.1 | 18.6 |
| 2,001-10,000 | 9.0 | 17.3 |
| Up to 2,000 | 11.3 | 18.4 |

Source: Census 2001 and 2011, INE.

From the analysis of the CAGRs in periods 2001-2008 and 2008-2011, three aspects are worth mentioning. First, the evolution of prices in the two periods has the same (negative) sign in all provinces. The exceptions are Soria and Orense in period 2008-2011, where the CAGRs increase 0.8 per cent and 0.2 per cent respectively. Second, there is just a moderate

correlation in the evolution of prices between the two periods (-0.47), which can be explained by the prevalence in the provinces of a stable behaviour (low-low or high-high). At the same time, it shows two groups of provinces with very dissimilar behaviours. On the one hand, there are the provinces that in 2001-2008 recorded a high increase in prices and in 2008-2011 a slight decrease, among which Sevilla, Girona, Jaén and Cuenca. On the other hand, there are provinces with the opposite trend: a slight increase followed by a high drop in prices. In this group Las Palmas, Ávila and Álava record the most extreme values.

Table 5.2 Classification of the provinces according to the cumulative annual growth rate of the price of private housing by square meter, Spain 2001-2008 and 2008-2011

| | | CAGR 2008-2011 relative to the median of the province | | | | | |
|---|---------------------------|---|-----------|------------|------------------------|-------------|-----------|
| | | Low (lower decrease) | | | High (higher decrease) | | |
| CAGR 2001-2008 relative to the median of the province | Low (lower increase) | Badajoz | Guipúzcoa | Palencia | Álava | Cantabria | |
| | | Barcelona | León | Salamanca | Ávila | Segovia | |
| | | Burgos | La Rioja | Soria | Baleares | Valladolid | |
| | | Cáceres | Orense | Teruel | Navarra | Vizcaya | |
| | | La Coruña | Asturias | Zamora | Las Palmas | | |
| | | Sta. Cruz de Tenerife | | | | | |
| | High (higher increase) | Albacete | Jaén | | Alicante | Guadalajara | Tarragona |
| | | Cádiz | Lleida | | Almería | Huelva | Toledo |
| | | Cuenca | Lugo | | Castellón | Madrid | Valencia |
| | | Girona | Sevilla | | Ciudad Real | Málaga | Zaragoza |
| Huesca | | | | Córdoba | Murcia | | |
| | | | Granada | Pontevedra | | | |

Source: Ministry of Public Works, data from the first quarter.

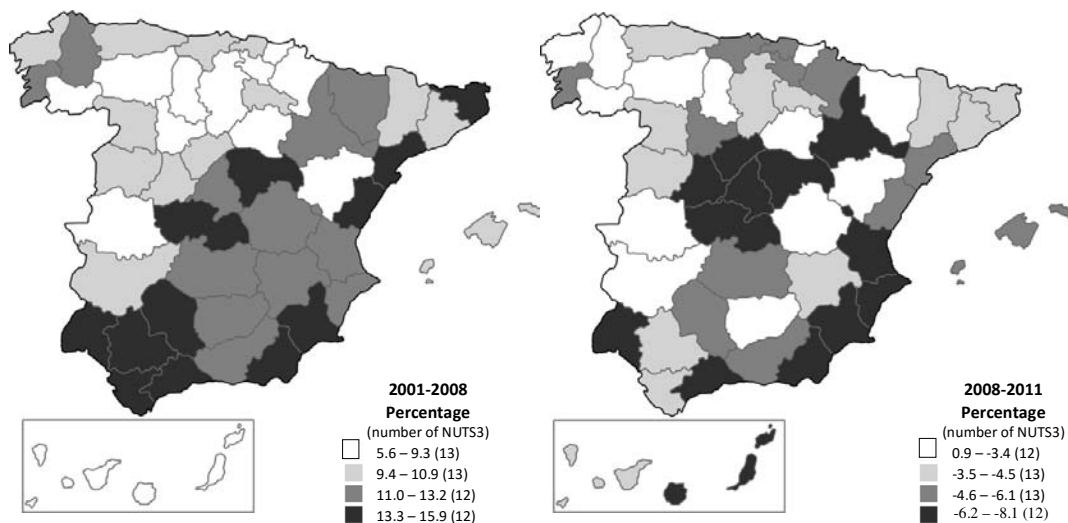
The third noteworthy aspect is the territorial patterns (Figure 5.3). In period 2001-2008 the map of the price of private housing by provinces could be divided into two halves by drawing a diagonal line between Huelva and Huesca.

With the exception of Teruel, Lérida and Barcelona, all provinces to the east of that line have higher rates than the median, while those to the west have values below the median,

except Lugo and Pontevedra. Beyond this division, there are the two archipelagos with values well below the median of the provinces, especially in the Canary Islands.

In the period 2008-2011 such a clear territorial pattern is no longer observed. Instead, the map of decreasing prices appears to be blended towards the Mediterranean. Thus, among the provinces with the largest decreases are those located in the strip that goes from Valencia to Malaga – Granada excluded. Madrid, its adjacent provinces and Zaragoza comprise the other area with a great decrease in housing prices. Finally, excluded from these two trends are Huelva and Las Palmas.

Figure 5.3 Cumulative annual growth rate of the price of private housing by square meter (%), Spain, 2001-2011



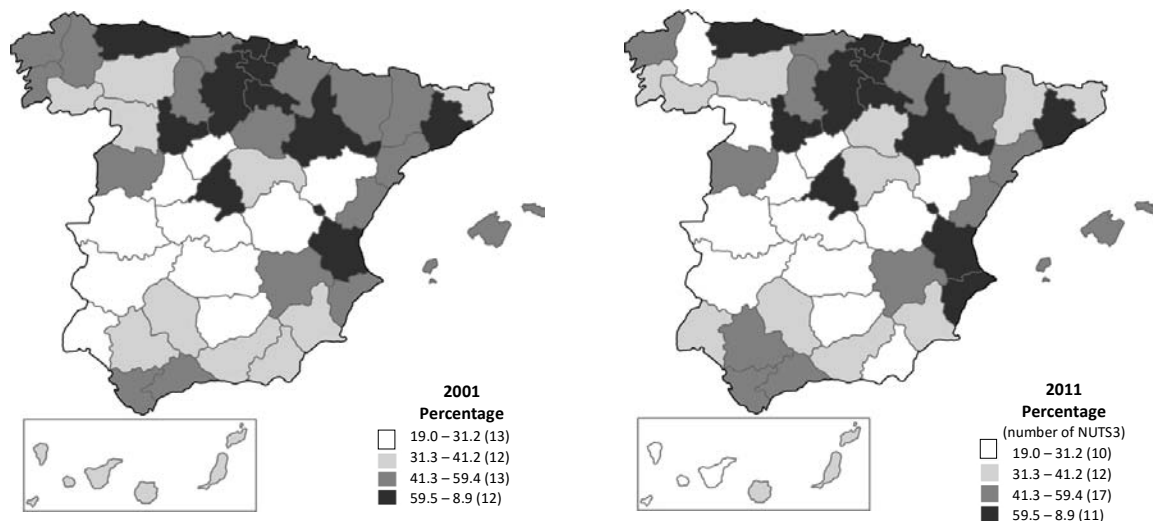
Source: Ministry of Public Works, data from the first quarter.

The proportion of households living in buildings of four floors or more above the ground level has been included in the models, not only because it summarizes the characteristics of housing, but also because it is an indicator of the degree of urbanization of the province. In 2011, with relevant exceptions like Sevilla or Málaga, the provinces with higher buildings are the most populated: Madrid, Barcelona, Valencia, Vizcaya and Zaragoza, Guipúzcoa, Álava, Asturias La Rioja, Burgos and Valladolid (Figure 5.4). At the other end, with the lowest percentages of tall buildings, are all the provinces adjacent to Madrid,

exception made to Guadalajara, the provinces of the regions of La Mancha, Extremadura; Jaen and Teruel.

Further, given the inertia of the built housing park, the proportion of households in buildings of four floors or more above the ground level is an indicator quite stable over time. In 2011, the vast majority of the provinces appear in the same quartile as in 2001. Despite the fact that the general trend is an increase with time, there were very few provinces that change its classification between 2001 and 2011, and the ones that did was as a result of a slight variation of proportion.

Figure 5.4 Households living in buildings with four floors or more above the ground level, Spain, 2001 and 2011

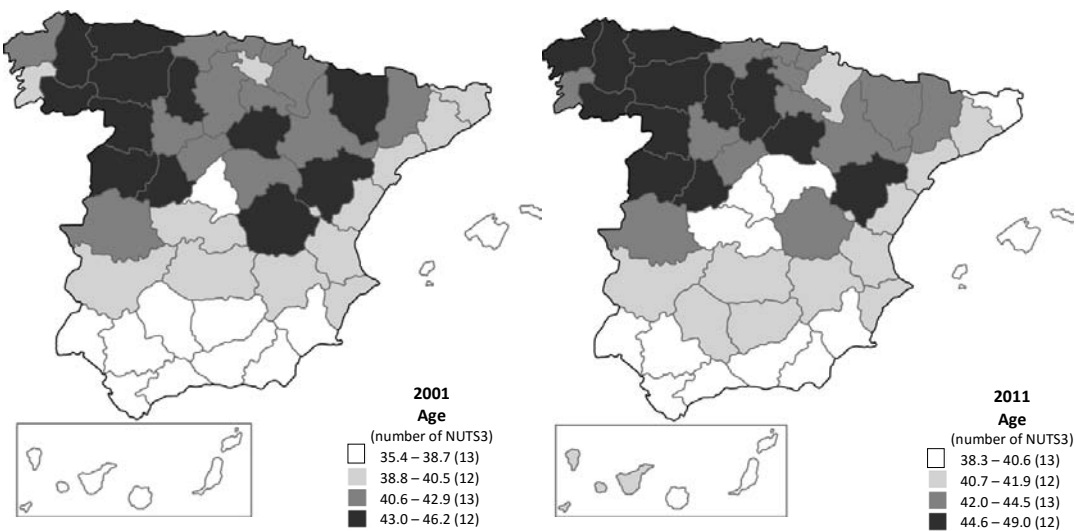


Source: Census 2001 and 2011, INE.

Finally, the mean age of the population was included as a variable that summarizes the demographic structure of the provinces at that period, which, in part, shows the vitality of housing demand and supply. While a low mean age informs of the potential of young people to form partnerships and accessing the housing market, a high mean age is indicative of an ageing province where the supply of second-hand dwellings, the main source of private renting stock, is greater than in younger provinces.

Between 2001 and 2011, the mean age of the Spanish population rose from 40.6 to 42.6 years. This indicator increased in all provinces except Guadalajara, where it fell from 40.6 to 39.7 years. When observed by provinces, the mean age nearly divides Spain in two halves. In both 2001 and 2011, the Northern provinces are the most aged, especially in Orense, Lugo, Zamora, Soria, Teruel and Ávila, which exceeded the 44.6 years. In contrast, the younger provinces are located in the south of Spain along the Mediterranean coast, Madrid and the two archipelagos. The lowest values – less than 40.6 years – are recorded in Las Palmas, Cádiz, Almería, Murcia and Sevilla.

Figure 5.5 Mean age of the population, Spain, 2001 and 2011



Source: Census 2001 and 2011, INE.

5.5.2 Individual variables: the younger and most urban, the likelier to be tenants

To analyse the explanatory influence of the individual variables, Model 0 or empty model has been modelled without any independent variable, thus quantifying the effect of the predictors as they are introduced into the model (Table 5.3). If the variance of the empty model is 0 it would indicate that the probability of women aged 25-34 years living in with a partner in a rented-occupied dwelling is the same in all provinces. In this case, the results of the Model 0 for 2001 and 2011 indicate, as expected from the descriptive analysis, that renting levels vary across provinces. Additionally, if the variances obtained

in Model 5, which includes all individual variables, are related to the Model 0, it is found that such variables explain 38 per cent of the differences in renting levels in 2001, and 25 per cent in 2011.

Table 5.3 Odds ratios for women aged 25-34 years living with a partner in a rented-occupied dwelling, results at an individual level from multilevel logistic regression models, Spain 2001 and 2011

| Predictors | 2001 | | | 2011 | | |
|---|--------|--------|--------|--------|--------|--------|
| | Mod. 0 | Mod. 4 | Mod. 5 | Mod. 0 | Mod. 4 | Mod. 5 |
| Individual level | | | | | | |
| Citizenship of the partners (ref. native) | | | | | | |
| Foreigners | | 25.86 | 26.01 | | 24.29 | 23.33 |
| Native-foreigner | | 4.12 | 3.99 | | 4.32 | 4.00 |
| Foreigner-native | | 3.57 | 3.45 | | 3.20 | 3.03 |
| Marital status (ref. married) | | | | | | |
| Cohabiting | | 2.98 | 2.83 | | 2.46 | 2.37 |
| Educational attainment level female (ref. tertiary) | | | | | | |
| Lower than secondary | | 1.86 | 2.11 | | 1.02 | 1.15 |
| Secondary | | 0.88 | 0.96 | | 0.76 | 0.85 |
| Age (in years) of the female (ref. 33-34) | | | | | | |
| 25-26 | | 1.34 | 1.38 | | 2.30 | 2.38 |
| 27-28 | | 1.14 | 1.17 | | 1.96 | 2.00 |
| 29-30 | | 1.08 | 1.10 | | 1.45 | 1.46 |
| 31-32 | | 1.03 | 1.04 | | 1.23 | 1.24 |
| Size of municipality (in inhabitants) (ref. up to 2,000) | | | | | | |
| Over than 500,000 | | | 2.14 | | | 3.53 |
| 100,001-500,000 | | | 1.03* | | | 1.71 |
| 50,001-100,000 | | | 0.88 | | | 1.65 |
| 20,001-50,000 | | | 0.83 | | | 1.29 |
| 10,001-20,000 | | | 0.77 | | | 1.07 |
| 2,001-10,000 | | | 0.80 | | | 1.03** |
| Variance between provinces | 0.143 | 0.162 | 0.198 | 0.164 | 0.096 | 0.123 |
| Constant | -2.119 | -2.552 | -2.561 | -1.211 | -2.600 | -2.969 |

Note: Tables A.5.4 and A.5.5 in Appendix provide the results for all models. The odd ratios are statistically significant at $p < 0.001$, except * at $p < 0.05$ and ** at $p < 0.01$. Source: Census 2001 and 2011, INE. Own calculations.

By analysing the coefficients of the different models, a first aspect to note is that between 2001 and 2011 the overall trend of the variables has not changed. The importance of citizenship of the couple becomes evident when focusing on the results from Model 5 in 2011. The effect on the likelihood of living in a rented-occupied dwelling is roughly 23 times higher when both partners are foreigners, when compared with partnerships between Spanish, the reference category.

The outcomes for mixed couples are also very meaningful, depending on whether the foreign partner is the woman or the man. In the first case couples are 3 times more likely to be tenants and in the second case couples are 4 times more likely to be tenants than the reference category. This confirms the hypothesis put forward in the descriptive analysis that to be Spanish is associated with a greater likelihood to homeownership, which to some extent is also maintained in the case of mixed couples. It is possible for this higher propensity of homeownership for Spanish people to be related with a higher accessibility to the necessary socioeconomic resources. The fact that housing tenure is still the main target of Spanish housing careers is also a possible contribution to this trend. However, the fact that in couples with a Spanish male partner this relationship is even stronger suggests disparity between genders (Bourassa 1994; Robinson 2001). Due to the methodological options with regard to the sample selection, this question cannot be directly analysed in this study.

Concerning the type of partnership, cohabiting couples are 2.4 times more likely to live in a rented-occupied dwelling than married couples. In this aspect, individual preferences associated with the option for the type of partnership and institutional constraints intermingle. Being married positively discriminates in the access to housing as well as in other features related to family formation (Jurado 2003).

The stages of the life cycle of the household may also hold some explanatory value in this case. Cohabitation is often a preparatory stage for marriage. Additionally, as observed by Cabré and Módenes (2004) in the 1991 Spanish census, renting may also be a temporary

housing tenure status while the partners gather the socioeconomic resources to marry and become homeowners.

Regarding educational attainment level, the differences between the categories are smaller than in the previous variables. In general, less educated women in a partnership are more likely to be tenants than those with a higher education level (women with less than the secondary level are 1.15 times more likely to be tenants when compared with the reference category, women with tertiary education level). The exception is the partnership where the woman has a secondary education level, as they have a lower likelihood than the reference category (0.85). Although to some extent contradictory of the findings of Holdsworth and Irazoqui (2002), these differences, which are also observed in other variables in the model, correspond to the traditional positive relationship between social position, wealth, income and homeownership (Forrest and Murie 2013). Despite the differences that may be linked with the data and the methods used in the two cases, in this study, the time frame is probably the most explanatory reason for the differences regarding the role of social position and a preference for homeownership or renting.

Age introduces the expected effects. The likelihood to live in a rented-occupied dwelling decreases as the life cycle of the partnership advances (Speare 1970; Mulder and Wagner 1998; Cabré and Módenes, 2004). This is clearly illustrated by the risk of being tenant when the female partner has 25-26 years being 2.38 times higher than when she is 33-34 years, the reference category. As the age of women increases the difference with the reference category decreases. Women aged 27-28 years are 2 times more likely to be tenant, while those with 29-30 years and 31-32 have a risk of being tenants of 1.46 and 1.24, respectively.

As for the size of the municipality of residence, which strictly cannot be considered a sociodemographic variable and is included in the modelling as a control – the more populated the place of residence of the partnership the higher the likelihood of be tenant (Módenes 2011). The clearest effects are observed in the municipalities with over 20,000 inhabitants, especially in those with more than 500,000, which recorded relative risks 3.53

times greater than the municipalities of less than 2,000 inhabitants. Additionally, the sequence of models 4 and 5 shows that the introduction of variable size of municipality produces changes in the effects of education. The level of impairment is more relevant in 2001 than in 2011, which is explained by a shortening in the educational level differences of the studied population, depending on the size of the municipality. The main interest in applying the same model for two different years is to understand how the pattern of the determinants has evolved during the time interval. In this regard, two groups of variables stand out according to the degree of differences in the internal relation between categories when comparing the models 5 for 2001 and 2011.

A first group of variables is formed by the variables in which the heterogeneity has decreased between the two periods. This group includes the following: the citizenship of the partnership, especially when both partners are foreigners who have gone from 26.0 to 23.3 times more likely to rent than the Spanish partners; and the mixed couples with foreign women from 3.45 to 3 times. The only exception to the citizenship variable with similar relative risks in 2001 and 2011 are the mixed couples where the woman is Spanish. Another variable in which heterogeneity decreased is the type of partnership, i.e., the civil state and related institutional matters has less influence on the type of housing access. Finally, the education attainment level of women also has fewer differences between their categories in 2011, especially when considering women with the lowest level in relation to the others.

The second group is formed by the age of the woman and the size of the municipality that in 2011 presented a wider range of relative risks than in 2001. With regards to age, in 2011 the likelihood of being a tenant for women aged 25-26 years and 27-28 years with a partner was 2.37 and 2 respectively. In 2001, for the same age-groups the relative risks are 1.38 and 1.17, hence the heterogeneity has increased. Although with smaller differences, the same applies to the age-groups 29-30 and 31-32 (1.46 and 1.24, respectively in 2011, against 1.10 and 1.04 in 2001). In sum, the results show that the increase in access to renting has taken

place especially among the youngest. As for the size of municipality of residence of the partnership, it has intensified the higher likelihood for renting in urban areas. Between 2001 and 2011, the relative risks of living in a rented-occupied dwelling increased in the municipalities with more than 20,000 inhabitants, especially in those between 50,001 and 100,000 inhabitants. Overall, the modelling results show an expansion of renting in the intermediate cities, which has allowed the most rural category in 2011 to also be the one with lower likelihood for renter-occupation.

5.5.3 Contextual variables: the greater the housing price stability, the greater the propensity to rentership

The next step is to complete the individual models with contextual variables so that two multilevel models are obtained. In the model for 2001 were included: the quantiles of the CAGRs of price per square meter of the private housing between 2001 and 2008, the proportion of households living in building of four floors or more above the ground and the mean age of the population in 2001. And in the model for 2011: the quantiles of the CAGRs of price per square meter of the private housing between 2008-2011, and the other two variables included in the previous model but with the values of the 2011 census.

When contextual factors are added, the variance between provinces tends to decrease (Table 5.4). The greatest decrease occurs when the CAGRs and the mean age of the population are introduced. The CAGRs influence is noteworthy since it explains 21 per cent and approximately 17 per cent of the differences between the provinces in 2001 and 2011 in the two models respectively.⁴⁴ The proportion of households in buildings of four or more floors above ground in 2001 is also particularly explanatory. Finally, the variation explained by the two dimensions considered, individual and contextual, is 51.2 per cent in the model 2001 and 42.0 per cent in 2011⁴⁵, which explains an important part of the

⁴⁴ These percentages relate the variances of the Model 6 with the Model 5, which includes individual variables (0.198 in 2001 and 0.123 in 2011).

⁴⁵ In this case the relationship is between the variances of the Model 8 and Model 0 or "empty" (0.143 in 2001 and 0.164 in 2011).

likelihood of living in a rented-occupied dwelling being a woman aged 25-34 years. Briefly, the results of 2001 are more explanatory than 2011.

Table 5.4 Odds ratios of the multilevel logistic regression models for women aged 25-34 years in a partnership live in a rented-occupied dwelling according to individual and contextual characteristics of the province of residence, Spain 2001 and 2011

| Predictors | 2001 | | | Predictors | 2011 | | |
|--|--------|--------|--------|--|--------|--------|--------|
| Contextual | Mod. 6 | Mod. 7 | Mod. 8 | Contextual | Mod. 6 | Mod. 7 | Mod. 8 |
| CAGR price by m2 of private housing, 2001-2008 (ref. Q1 lower increase in price) | | | | CAGR price by m2 of private housing 2008-2011 (ref. Q4 lower drop in price) | | | |
| Q4 | 0.62 | 0.49 | 0.49 | Q1 | 0.64 | 0.65 | 0.76 |
| Q3 | 0.76** | 0.76** | 0.75** | Q2 | 0.75** | 0.75** | 0.92* |
| Q2 | 1.09* | 1.24* | 1.25* | Q3 | 0.80* | 0.79* | 0.89* |
| Proportion of households living in buildings with four floors or more above the ground level (ref. Q1 lower height) | | | | Proportion of households living in buildings with four floors or more above the ground level (ref. Q1 lower height) | | | |
| Q4 | | 0.59 | 0.62 | Q4 | | 1.02* | 0.94* |
| Q3 | | 1.13* | 1.14* | Q3 | | 1.11* | 1.03* |
| Q2 | | 1.39 | 1.41 | Q2 | | 1.10* | 1.06* |
| Mean age of the population (ref. Q1 younger age) | | | | Mean age of the population (ref. Q1 younger age) | | | |
| Q4 | | | 1.03* | Q4 | | | 1.34 |
| Q3 | | | 0.92* | Q3 | | | 1.09* |
| Q2 | | | 1.01* | Q2 | | | 0.89* |
| Variance between provinces | 0.155 | 0.067 | 0.070 | Variance between provinces | 0.103 | 0.108 | 0.095 |
| Constant | -2.391 | -2.346 | -2.350 | Constant | -2.729 | -2.785 | -2.935 |

Notes: The relative risks for individual variables are similar in Model 5 (see tables A.5.4 and A.5.5 in Appendix). The odd ratios are statistically significant at $p < 0.001$, except * at $p < 0.05$ and ** at $p < 0.01$.

Source: Census 2001 and 2011, INE. Own calculations.

Regarding the coefficients of Model 8 (2001) and focusing on the effect of the CAGRs, the partnerships who lived in the provinces with the highest price increase (quantiles Q3 and Q4) were the least likely to live in renter-occupation, with an odds ratio of 0.75 and 0.49, respectively, versus the reference category - Q1, the lowest increase of prices. However,

this relationship is not perfectly linear, as partnerships in Q2 have a 25 per cent higher propensity to live in renter-occupation than those in Q1. In other words, the prices show that where there was some stability, renting was more important, and that homeownership was more important in the central places of the housing speculation and bubble.

In the proportion of households in buildings with four or more floors above the ground level, the lower relative risks match the partnerships of the vertical provinces, 0.62 versus 1 of the horizontal (Q4 and 1 respectively). Nevertheless, in similarity with the price, the relationship was not linear, since the partnerships most likely to be tenants reside in provinces with intermediate positions, Q2 and Q3 with a risk of 1.41 and 1.14 respectively.

Finally, the quartiles of the mean age of the population present little differences, being the most prominent the greater likelihood to be tenant in the partnerships living in the most aged provinces. This finding could be related to either the existence of a greater supply of second-hand housing due to higher crude mortality rates or with an older housing park. In summary, the results of Model 8 for 2001 show that, in the heart of the Spanish housing bubble, the highest propensities to renting are found among the partnerships living in the provinces where the prices increased the less. Although less decisive, residing in less urbanized provinces or in more aged demographic and residential structures also here related with a higher tendency for renting.

The results for 2011 show differences worth mentioning when compared to 2001. The first, quite evident from the sign of the CAGR price by square meters of private housing is the opposite in all provinces, is that the partnerships living in the provinces where the prices in the period 2008-2011 fell less are the most likely to be tenants, the ones ranked in the Q4, the reference category. According to the hypothesis set forward by this study, the odd ratios should fall gradually at the same quartiles and the lowest risks found among the partnerships living in the provinces where the price decline was greater. This relationship is confirmed as the lower risk, with 0.76, is found in Q1. Nevertheless, the hypothesis of

this study is not completely confirmed since the odd ratio of Q2 is slightly higher than the one for Q3 (0.92 and 0.89, respectively). If the results for 2001 suggest that the increase in prices discourage rental housing, the results for 2011 confirm the same with the decrease in prices. In other words, a higher level of rental-occupation requires housing price stability.

The second difference is that urban factors have become less important in determining rentership. In 2001, the risk of renting for partnerships living in more vertical constructions and in intermediate provinces was 38 per cent lower and 41 per cent higher than partnerships living in provinces where the horizontal construction is prominent. In 2011, in the same categories the relative risks are 6 per cent below and above the reference category.

Finally, the third difference is that renting has become more prominent among partnerships living in the most aged provinces. This demographic structure associated with the age of the housing park and the role of second-hand housing, becomes more decisive over time. In 2011, the probability of the partnerships living in Q4 to be tenants was 34 per cent higher than those in Q1, the reference category. This relative difference does not occur in the other categories in 2011 or in 2001 in the same variable.

These results show that in 2001, during the housing bubble, when the price of private housing increased steadily, the highest propensities to rentership were found amongst the partnerships living in the provinces where prices increased less. However, in 2011 when the dynamic was diametrically opposed due to the real estate burst and the continued decrease in prices, the higher propensities to rentership were found among the partnerships living in the provinces where the decrease in prices was smaller. In other words, the results suggest that renting requires price stability. Thus, it is no coincidence that in both cases the higher risk is found among the partnerships living in provinces with a more moderate evolution of housing prices. However, the likelihood of women aged 25-34 years with a partner to live in a rented-occupied dwelling varies depending on other

features of the province of residence, those also changing over time. Thus, in 2011, the effect of living in a more vertical construction province over renting is decreasing. The contrary of what happened with the population ageing of the province of residence, which turned to have a more positive effect on renting.

5.7 Concluding remarks

The increase in the proportion of rented-occupied dwellings throughout all the Spanish territory in the census of 2011 reverses the long trend observed in the second half of the twentieth century. Since the literature in housing studies of the SEC has been privileging the study of homeownership, this puzzling feature set the topic of this study and it is also where one of the main contributions of this study relies.

The results of this study can be systematized in three main findings. First, the chronological comparison between 2001 and 2011 highlight the features that remained constant over time. Despite the contrasts and diversity among them, province of residence is a key aspect in terms of understanding housing dynamics in Spain. Moreover, the regional heterogeneity in the access to renting is explained mainly by contextual factors and not directly related with household features. The propensity to be tenant is higher where housing prices are more stable, thus partially confirming the hypothesis of this study. In fact, the main effect in the risk of women aged 25-34 years living with a partner to be tenant is triggered by the relative change of the regional housing price indexes.

A second main finding of this study is the observed changes between the two periods. These changes are mainly in the magnitude of the individual variables, in favour of age and urban location. Also, perhaps due to a higher complexity of factors influencing housing options, the explanatory power of the model for 2001 is lower than in the model for 2011. When taken separately, the second level of the models is also less explicative in 2011 than in 2001. Contrary to what could be expected due to the uncertainty brought by the GFC, and according to the data analysis performed in this study, the regional dimension could have lost part of its influence in explaining the Spanish housing

processes. This may be a result of either the process of coming out of the GFC, or some spatial convergence process that is worth to monitor in the future.

Third, demographic factors (age) are becoming more explanatory of the renting behaviour, both at the individual and contextual levels. At the individual level, the predisposition of the youngest households to have higher propensities to renting is more evident in the 2011 models. Whether this is a cohort long-term innovation or simply a period effect restrained to a specific age range is something that can only be further analysed with time. At the contextual level, the propensities to rent are positively related to the provinces with the older age structures. Provinces more affected by demographic aging would develop more dynamic rental housing markets because housing markets are becoming more diverse.

Assuming that higher rental rates or that a wider range of housing tenure alternatives is positive and preferential, the implications of these results to the Spanish young adults are three-fold depending on which of the social institutions of the welfare state the focus is placed: state, market or family. From the state, a more active role in the regulation of the housing market is needed to preserve stability in housing prices and to detain real estate speculation, mainly fed by the construction and banking sectors. Additionally, young adults would also benefit from housing policies promoting rental options and encouraging the rehabilitation of old buildings through tax benefits. Those measures could privilege young adults with low income in order to benefit the ones who need support the most in their residential emancipation and be financed by specific property taxes payed by real estate and owners, computed at the province level.

From a market perspective, the results draw the attention to the increasing importance of a greater supply of renting options. Putting aside the scenario of an increase in housing stock, since in the immediate aftermath of the housing bubble the Spanish housing stock serves the housing need of the population, a greater supply of renting options could be achieved through investing in the acquisition and rehabilitation of the degraded buildings,

some of them located in neighbourhoods with a high-level of attractiveness to young couples with high income.

Taking into account the role of the family in housing provision and the importance of homeownership in the transition to adulthood, the stability in housing prices that contributes to the trend of a progressive increase of the popularity of renting options among young adults could detain the postponement of family formation that characterises the transition to adulthood in SEC. Additionally, in the more aged provinces the rehabilitation of the vacant dwellings due to the death of its homeowners and the integration of those dwellings in the rental market would benefit families, either through homeowners renting a second residence or young couples looking for a dwelling to rent.

Chapter 6 Change in the relationship between first-child birth and homeownership in Spain

6.1 Introduction

The fertility levels in southern Europe fell below the replacement fertility level (2.1 children per woman) between 1976 (Italy) and 1995 (Cyprus), with four countries (Greece, Malta, Portugal and Spain) reaching this benchmark in the early 1980s. Nevertheless, fertility continued to decrease. In 2013, only Italy and Malta recorded fertility levels above the “lowest-low” fertility benchmark of 1.3 children born per woman during her lifetime on average (Kohler, Billari and Ortega 2002), but the rates were very low, at 1.39 and 1.38, respectively (Eurostat).

The demographic change depends on the combination of three factors: the evolution of fertility levels, the evolution of mortality levels and migration flows (Weber 2010). When demographic ageing became a challenge to policy-makers in the twenty-first century, a consensus emerged that reversing the trend of very low fertility levels would be very difficult and that fertility-oriented policies play an important role in this process (Lutz, Skirbekk and Testa 2006). In order to encourage fertility, public expenditure is being focused on measures such as family allowances, maternity and parental-leave benefits and childcare subsidies (Kalwij 2010). Meanwhile, in southern Europe, the housing sphere has been almost completely silent on this matter (Nishioka 2003).

On the one hand, at the micro level, it seems plausible that there may be a positive relationship between living in an independent home, particularly owner-occupation in southern Europe, and having a first child. On the other hand, the cost of housing can compete with the cost of having a child, particularly with the first one child. Additionally, at the macro level, Italy, Spain and Greece have simultaneously high homeownership rates and low fertility levels (Mulder and Billari 2010), which appears to be a paradox when compared with the micro relationship.

This study analyses the relationship between homeownership and fertility in southern Europe through the Spanish case. It aims to clarify whether to live in homeownership increases the likelihood of having a first child in a southern European housing system, and its recent evolution in the light of the contextual changes.

6.2 Housing and Fertility

The housing needs change according to family characteristics in terms of housing size, type, tenure status and location (Sweet 1990; Clark and Dieleman 1996). The studies on the interrelationship between housing and household patterns were initially focused on the link between family and housing changes and more recently have added the link from housing access to family changes (Kulu and Steele 2013).⁴⁶ As a two-way relationship, it conceals a matter of causality (Ström 2010): do households move in anticipation of family changes to fulfil near-future housing needs or do housing conditions have an impact on the likelihood of parenthood? Although the timing of the events says little about the order of decision-making (Mulder and Wagner 2001), it can enlighten conclusions about the correlation between life-course events under specific housing systems, i.e., how households adjust their course to the housing supply and to housing market regulation.

In their earlier research, Mulder and Wagner (1998) showed that marriage and first-time homeownership frequently occur in the same year in Germany and in The Netherlands. Their analysis also highlighted a clear connection between becoming homeowners and the birth of a first and second child. Later, the authors found that the synchronization of marriage and first-time homeownership is far more common than the synchronization of homeownership and first-child birth, drawing attention to increased fertility levels after the transition to first homeownership (Mulder and Wagner 2001). In the latter study, the authors interpret this increase in the levels of fertility as the housing purchase forming

⁴⁶ Recent evidence highlights advantages in analysing simultaneously both directions of the interrelationship between housing and fertility to control for unmeasured potential confounding factors (Kulu and Steele 2013).

part of the parenting project.⁴⁷ In The Netherlands, housing changes frequently occur before first-child birth (Feijten and Mulder 2002). In the same line of reasoning, Kulu and Vikat (2007) found higher fertility rates in Finland after residential moves, which were recognized as the household's adjustment of the housing resources (type and size) to family enlargement purposes. Öst (2012) showed that homeownership and childbearing are simultaneous events in Sweden, especially for young households facing obstacles to homeownership in the housing market.

Nevertheless, with regard to southern Europe, Mulder (2006b) observed that, at the macro level, the direction of the housing and family events effect might change due to housing market features. The author identifies homeownership rates, difficult access to mortgage financing and high housing prices as a possible explanation for the high age of parental home leave in Italy, Spain and Greece (Mulder 2006b). These three SEC, classified as a "difficult homeownership regime" countries, also have in common a lowest-low fertility level (Mulder and Billari 2010), even though Italy remained just barely above that benchmark. Despite this debate is far from complete, there is reasonable consensus that, in countries with difficult access to housing, the characteristics of the dwelling determine the reproductive behaviour of the household (Mulder and Billari 2010; Ström 2010; Kulu and Steele 2013; Vignoli et al. 2013). Thus, this study is motivated by the proposition that living in homeownership is an important prerequisite for having a first-child birth in the southern European housing system.

Several factors justify the importance given to homeownership when it comes to its relation to fertility in the southern European housing system. First, the high prevalence of owner-occupied dwellings is a defining feature of European housing markets, and especially in SEC (Allen et al. 2004; Leal 2004). Second, housing policies that promote access to housing by young adults, coordinated with other public policies, might be more

⁴⁷ The authors did not find evidence that the timing of German and Dutch family events was adjusted to access to homeownership.

effective than explicit fertility policies in increasing fertility levels (Bernardi 2005). Better access to housing, especially homeownership in the case of the SEC, might mitigate the postponement of life-course events that has been observed in recent decades (leaving the parental house, first-partnership, first-homeownership, first-child birth). Third, homeownership is a long-term decision. It takes time to accumulate the wealth or the access to mortgage financing needed to purchase a house and, once accomplished, the purchase is associated to long-term housing tenure status due to the costs associated with the transactions (Mulder and Wagner 2001). This is especially valid in speculative housing markets, such the Spanish. In countries where there is relatively little mortgage regulation and the transactions depend strongly on the market situation (Fuentes et al. 2013), residential mobility tends to be low (Caldera Sánchez and Andrews 2011). Therefore, homeownership is strongly related to family and income stability and, consequently, to family formation and fertility (Clark et al. 1994; Mulder and Wagner 2001). Fourth, homeownership is associated with better and larger housing (Mulder and Wagner 1998; Hoekstra 2005), an important consideration for those who intend to have children.

Residential features other than homeownership also play an important role in fertility events and intentions. Focusing on Swedish first-child births between 1975 and 2005, Ström (2010) considered three important residential features – homeownership, type of housing and size of the dwelling – and found that the size of the dwelling had the strongest association with first-child birth propensity (Ström 2010). In Italy, Vignoli et al. (2013) studied the effect of housing security on short-term intentions of having the first child, and found no significant difference between owners and tenants in short-term fertility intentions (within 3 years). Ownership, on the other hand, played a significant role in feelings of security about housing conditions, which in turn is an important predictor for planning the first-child birth (Vignoli et al. 2013).

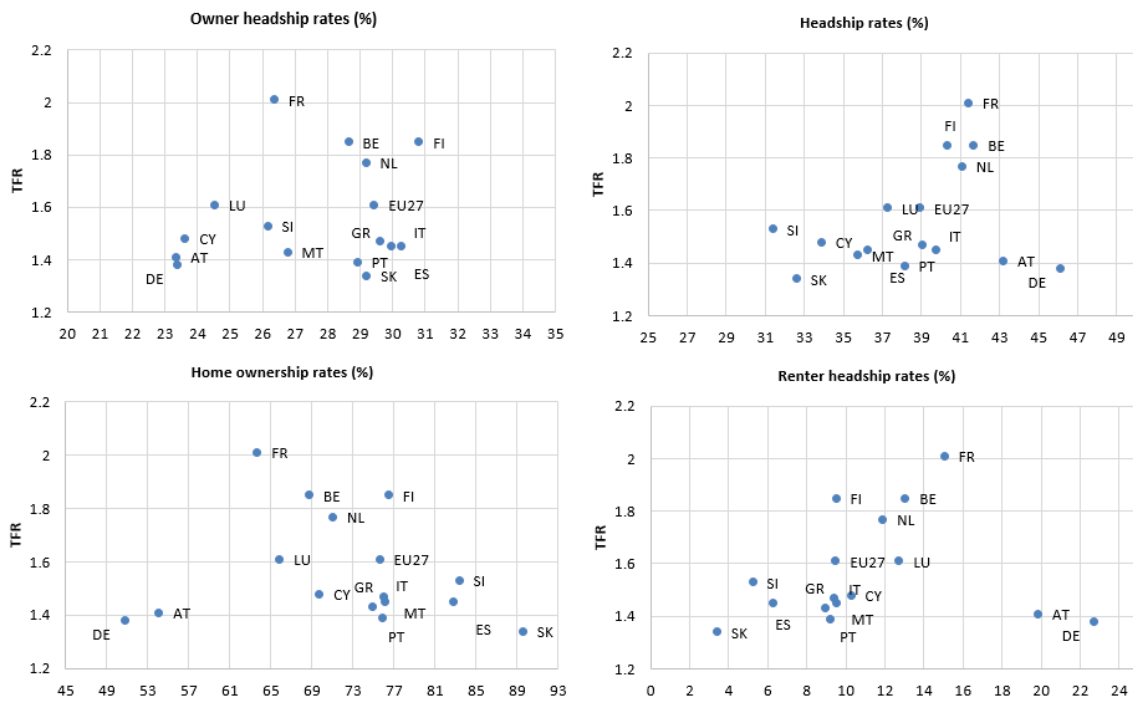
Therefore, together with analysing the effect of homeownership on first-child birth in a southern European housing system, this study also considers the size of the dwelling and the housing costs as potential predictors of first-child birth.

6.2.1 Revisiting the apparent paradox between high homeownership rates and low fertility levels

Mulder (2006b) originally addressed the apparent paradox between high homeownership and low fertility levels at the macro level. Her findings on the relationship between family formation and homeownership in Greece, Italy and Spain suggested that high homeownership rates, low ratio of mortgage loans to gross domestic product (GDP) and high proportions of young adults living in the parental home may explain their low fertility levels. In further research, Mulder and Billari (2010: 537) identified four homeownership regimes based on homeownership rates and mortgage access. One regime, which comprises Greece, Italy and Spain, was described as “particularly unfriendly to household formation (including leaving the parental home) and family formation: the “difficult homeownership regime”. Recently, Azevedo, López-Colás and Módenes (2016) gathered evidence that, in addition to the SEC, post-socialist European countries also have severe restrictions in access to housing by young adults. In southern Europe, high homeownership levels are the result of small rental markets (Allen et al. 2004; Módenes and López-Colás 2014), meaning that obstacles to homeownership have an impact on family formation, and therefore on fertility.

The total fertility rates (TFRs), the tenure rates suggested by Yu and Myers (2010) and the conventional homeownership rates are shown in Figure 6.1 for 15 selected European countries. France has the highest fertility levels (2.01), although falls below the replacement level (2.1). At the other end, Slovakia has the lowest fertility level (1.34) situated very close to the “lowest-low” threshold of 1.3 (Kohler et al. 2002).

Figure 6.1 Total fertility rates and housing tenure rates, selected European countries, 2009



Note: Homeownership rate = $\text{Owners}/(\text{Owners} + \text{Renters}) \times 100$. Owner headship rate = $\text{Owners}/\text{Total population} \times 100$. Renter headship rate = $\text{Renters}/\text{Total population} \times 100$. Headship rate = $(\text{Owners} + \text{Renters})/\text{Total population} \times 100$.

Source: Eurostat indicators (2008) and EU-SILC micro-data (2009). Housing indicators for Germany are from 2010. Own calculations.

The ownership indicators, total household stock held in conventional homeownership and total population in the owner headship rate use different denominators; these differences are highlighted on the x-axis scale of the charts in the left side of Figure 6.1. By examining the position of each country in relation to the other, it is possible to identify the countries where homeownership has been undervalued due to high household formation rates and dynamic rental markets or overvalued due to “late and low household formation” (Azevedo, López-Colás and Módenes 2013). The latter is the case of the SEC, especially Spain, where homeownership is high because of a rather small household stock.

When looking at the headship rates, the paradox of high homeownership rates and low fertility levels fades. In fact, the significant relationship is between low fertility and low headship rates. The countries with the highest fertility levels all have high headship rates (France, Belgium, Finland and The Netherlands). Within the countries with the lowest fertility levels, two distinct realities intercept. On the one hand are Germany and Austria, countries with high family formation and high renter headship rates and where the low fertility levels suggest a weak relation between fertility and the housing system. On the other hand, there are the SEC, Slovakia and Slovenia, countries where homeownership levels are overvalued due to low and late household formation and where the renter headship rates are very low. In these countries there seems to be a stronger connection between fertility and housing systems, thus low fertility levels are associated with low levels of household formation and access to homeownership.

There are two main implications of these results for fertility-oriented policies. First, at the macro level, alternatives to homeownership appear to be required. Analysing the apparent paradox from the household formation perspective reveals that the policy keystone is to enable access to housing and increase the number of households. Secondly, the relationship between high homeownership and low fertility rates in the SEC is a spurious one. If the paradox changes according to the level of analysis, it is not so obvious.

6.2.2 Homeownership and fertility in Spain

Apart from the contributions of Dalla Zuanna (2001), Baizán et al. (2003), González and Jurado-Guerrero (2006), and recently, Vignoli et al. (2013), among others, there is little evidence about the relationship between housing and fertility in southern Europe, especially at the micro level.⁴⁸ This study takes the Spanish case as an illustration of the southern European housing system to examine the role of homeownership in the decision to have a first child. Women in Spain have a high mean age at the birth of the first child, a high gap between desired and actual fertility, and a high homeownership rate.

⁴⁸ The lack of longitudinal data has helped to discourage researchers from this topic.

As mentioned in Chapter 3, Spain shares a set of distinctive features with the other SEC that justify the study of the Spanish case as representative of a homogeneous group with regard to housing patterns: widespread homeownership through all social strata, high rates of secondary residences, inefficient rental markets and poor social housing stock, important family role in housing provision and self-provision of housing (Leal 2004; Allen 2006; Ronald 2007; Poggio 2008, 2012). Finally, Spanish homeowners are very similar to the broader group of southern European homeowners. According to Azevedo et al. (2016), the predictors that best explain homeownership in Spain are the same as in the SEC as a whole: citizenship, age group, income, dwelling type and dwelling quality.

In 2012, 79 per cent of the housing stock in Spain was owner-occupied and 50.4 per cent of the tenants with a rent at market price lived in households where the total housing costs represented more than 40 per cent of disposable income (Eurostat). This is the result of consecutive housing policies since the 1950s that have privileged owner-occupation over other housing tenures. If, on the one hand, these policies created great inequities in terms of the housing tenure distribution (Trilla 2001; Cabré and Módenes 2004; Leal 2005; Pareja-Eastaway 2010), on the other hand, they may have contributed to the perception that homeownership is a superior tenure status to form a family, a feeling known to be stronger in countries where homeownership is widespread (Mulder and Wagner 2001) and the rental market is not an effective alternative (Mulder 2006b).

Nevertheless, Cabré and Módenes (2004: 235) point out that “homeownership was not a tradition in Spain: renting was. It was a combination of social and economic factors that led to a homeownership culture”. In the expansion of homeownership, several triggers changed the Spaniards’ housing patterns. The first and most important factor that led to the spread of homeownership in Spain derived from the Law of Protected Rental Housing, 1954 (*Ley de Vivienda de Renta Limitada*); at the end of the 1950s, the Spanish government encouraged the sale of dwellings to their tenants at very low prices (Cabré and Módenes 2004). In 1960, Law of the Horizontal Property (*Ley de Propiedad Horizontal*) regulated the

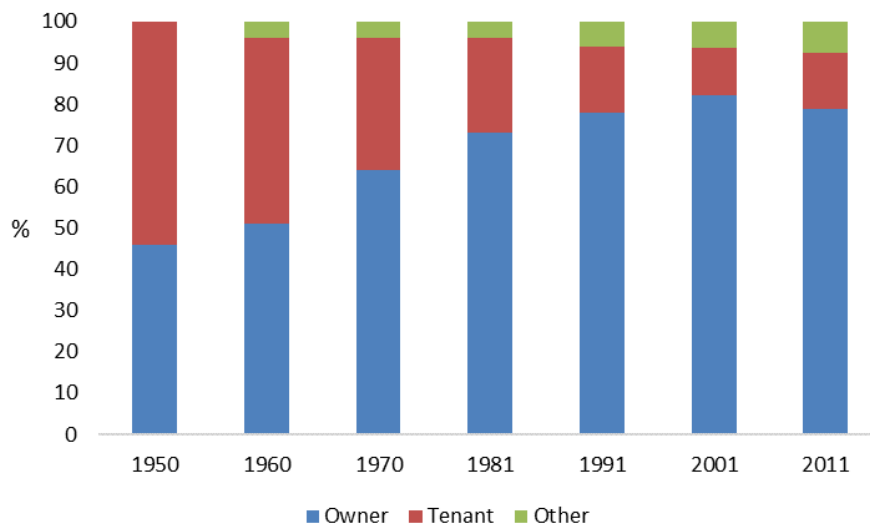
sale of separate dwellings (apartments) in new buildings (Cabr e and M odenes 2004; Nazio 2008). From that decade onwards, the almost even distribution between homeownership and renting in the 1950 census disappeared and owner-occupied households became predominant (Figure 6.2).⁴⁹ In 1985, when homeownership was already the final goal of the Spaniards' household careers, the Decree Boyer maintained the tax incentives for the purchase of a household's main residence and introduced new incentives for the purchase of new construction, whether as a primary residence or not, while liberalizing rental prices. As the rental prices went up and mortgages became widespread and tax-deductible, homeownership developed into the 'best' tenure option. This preference for owner-occupation has settled so intensely that in 1994, when housing policies favouring renter-occupation were introduced, it was already too late to change the understanding of renter-occupation as a marginal housing tenure status (Cabr e and M odenes 2004).

The preference for homeownership in Spain remained very clear in 2011. However, as seen in Chapter 5, the distribution of households' tenure status in Spain (Figure 6.2) suggests a change in this trend due to changes in the housing market during the 2000s, of which the real estate boom between 1998 and 2007 (Rodr guez-L pez 2008) is the most relevant. Not surprisingly, the GFC that began in 2007-2008 has had a significant impact on the Spanish housing market. The weakening dynamic between housing demand for owner-occupation and mortgage availability compelled young Spaniards towards the "Generation Rent" narrative (Lennartz et al. 2015). More precisely, as unemployment rose, the capital availability of the households decreased. The access to credit was restricted, which in turn had an impact on housing sales and construction (Rodr guez-L pez 2008). Due to the demographic changes and the construction boom, a new cycle of (very low) housing demand is emerging in Spain. At the same time, the recent housing market regulation with respect to access to mortgages makes renting an appealing tenure status

⁴⁹ Although we do not distinguish private from social rental, it is worth noting that the social rental housing market in Spain has not undergone profound changes over time (Pareja-Eastaway 2010), representing less than 2 per cent of the housing market (Inurrieta-Beruete 2007).

for young Spaniards, bringing into question whether homeownership is “the prevailing feature of the Spanish housing system in the future” (Módenes and López-Colás 2014: 103).

Figure 6.2 Tenure status rates by households (%), Spain, 1950-2011



Source: Adapted from Pareja-Eastaway (2010:112) and Census of population and housing, 2011 (S-NIS).

In the 1990s, Spain and Italy were pioneers in the emergence of sustained “lowest-low” fertility levels (Kohler et al. 2002), a trend that is now shared by other SEC. Not surprisingly, Spain is also one of the countries with a higher mean age of women at birth of first child within the European context (31.6 years in 2012, Eurostat). While the two twentieth century fertility transitions in European countries⁵⁰ had a delayed start in Spain, the second transition was extremely rapid and fertility rates reached lower levels than in the countries in which the transition started earlier (Delgado 2003). Although in a declining trend between 1950 and 1975, fertility was still above the replacement rate, never dropping below 2.7 children per woman (Frejka and Sardon, 2004). The steep decline started just after that, with the TFR dropping from 2.8 in 1976 to 1.3 in 2012 (Eurostat).

⁵⁰ The first fertility transition took place at the beginning of the twenty century (Frejka and Sardon 2004) and the second started at the beginning of the 1950s (Delgado 2003).

Several clusters of macro and micro factors contributed to the progressive decline of fertility in Spain. Frejka and Sardon (2004) summarized those factors as economic, political and social development, a trend accelerated after the end of the Franco regime; changes in the transition to adulthood, such as more years of education and changes in the patterns and timing of family formation and parenthood; and the democratization and generalization of contraceptive use (Frejka and Sardon 2004). Over the course of time, the set of prerequisites for having the first child expanded: completing education, job security, partnership stability and housing. Consequently, the gap between the ideal and effective age at first-child birth also increased (Esping-Andersen 2013).

González and Jurado-Guerrero (2006) tested a “minimal set of conditions for motherhood” observed from 1994 to 2000 and found that having completed education and being in a stable relationship were two important conditions in France, West Germany, Italy and Spain. Additionally, in both Italy and Spain motherhood was linked with economic conditions and was a more frequent factor in male-breadwinner couples or, alternatively, among women with high income and job security preparing to face the economic and time-consuming challenges of motherhood. González and Jurado-Guerrero lifted the veil on the relationship between homeownership and first-child birth, finding that the housing status of ‘tenant-subtenant, paying rent’ had a negative effect on the probability of Spanish women aged 18–39 having a first child. This negative effect was higher in West Germany and not statistically significant for French or Italian women (González, Jurado-Guerrero 2006).

The existing evidence linking access to housing, family formation and fertility in Spain suggest that the sequence of public policies that favoured homeownership are particularly unfriendly to cohabiting couples and young adults, which in turn contributes to the postponement of family formation (Jurado 2003). Housing seems to be strongly linked to fertility in Spain, with the first union and the first-child birth being considered “part of the same process of family formation” (Baizán et al. 2003: 165).

Consequently, this study focuses on the relationship between homeownership and first-child birth in Spain, beginning with analysis of the time difference between the year of purchase or the year of the last rental contract and the birth of the eldest child who was still economically dependent on the household in 2008. In a second stage, the study tests the hypothesis that access to homeownership increases the likelihood of first-child birth in a southern European housing system and that this positive relationship has been substantially changed by the recent social and economic developments that culminated in the GFC.

6.3 Data and methods

6.3.1 Data source and sample

This study uses the head-of-household information offered by the cross-sectional micro-data from the 2008 Spanish Survey of Household Finances, the EFF. This survey, conducted by the Bank of Spain every three years, began in 2002.⁵¹ Despite the fact that the main focus of the EFF is to collect data on household finance and consumption, the survey covers a number of domains that enlarge the spectrum of interest, particularly for housing studies.⁵²

The EFF data has three major advantages for the purposes of this study: it collects retrospective information; demographic data is collected for all household members, regardless of age and the most important, it collects information on the economically dependent children whether they live in the dwelling or not. As mentioned in Chapter 1, this is a unique feature of this data source and its European counterpart, the HFCS.

⁵¹ For detailed information on the 2008 round of the EFF, please see: http://www.bde.es/bde/es/areas/estadis/Otras_estadistic/Encuesta_Financi/Contenedor_encue/EFF_2008/EFF_2008.html. The EFF is also part of the Eurosystem Household Finance and Consumption Network (HFCN), headed by the European Central Bank. The 2008 round integrates the Wave I of the Household Finance and Consumption Survey (HFCS).

⁵² At the household level, the EFF collects information on real assets, liabilities and credit, private businesses, investments, intergenerational transfers, gifts, consumption and savings. At the individual level, the survey collects information on demographics, labour market, pension entitlements, and income from labour.

However, for the purpose of this study, the data source also presents limitations. First, the EFF inquiries only about dependent children (living in the dwelling or not). Second, important predictors of the first-child birth such as labour market status, intention of moving house or refurbishments carried out in the dwelling cannot be used, since they refer to the time of survey and not the time when the event of interest occurred. Third, since the data was collected in 2008, it will not be possible either to analyse the full effects of the GFC or to capture the slight increase in the rentership rates observed in the 2011 census. Despite these limitations, the EFF provides a range of useful demographic, socioeconomic and residential variables to test the hypothesis of this study.⁵³

Therefore, taking advantage of the data from the 6,197 households interviewed in 2008, a number of methodological options were used, depending on the analytical model, to guarantee the validity of the results of this study. Our total sample consists of 2,730 owner or rented-occupied households with at least one child economically dependent in the household in 2008. To test the hypothesis that access to homeownership increases the likelihood of first-child birth in a southern European housing system and that this positive relationship has been substantially changed by recent social and economic developments, our sample consists of women aged 18-49 years-old, living with a partner, who had no children or gave birth to their first child between 1978 and 2008 (Model 1, n=1069), 2000 and 2008 (Model 2, n=442), or 2005 and 2008 (Model 3, n=242). Model 1 was used to obtain the overall effect of homeownership on the probability of the first-child birth. The overlap of individuals between models allowed us to observe the effect of homeownership on the probability of first-child birth, controlling for three important time periods in the evolution of the Spanish housing system and fertility levels: Model 1 accesses the overall effect, Model 2 focuses on the first decade of the millennium, minimizing the period effects of Model 1 and analysing the opposing effects of the Spanish real estate boom and the outset

⁵³ Contrary to other European countries, there are no longitudinal data to assess the relation between homeownership and first-child birth.

of the GFC; Model 3 analyses the relationship between homeownership and first-child birth, focusing on the transition period from the Spanish real estate boom to the GFC.

6.3.2 Analytical model and methods

Using the EFF micro-data, this study gathers evidence in a two-step approach, investigating whether to be homeowner increases the likelihood of first-child birth in Spain. Initially, this study employs a Spearman correlation to analyse the association between the year of acquisition of the house / last year of the rental contract and the year of birth of the eldest child that was economically dependent on the household in 2008 (hereinafter eldest child).⁵⁴ It follows by testing the hypothesis according to three sub-samples. Since the interest relies in a binomial response (first-child birth or not), probit regression models were estimated.⁵⁵ In order to measure the effect of each explanatory variable, especially homeownership, in the likelihood of having the first-child birth and for the sake of comparability of the results between the three models since coefficients should not be directly compared between groups (Allison 1999), the exponentiated average marginal effects (AMEs) of the coefficients are presented. When presenting the exponentiated AMEs of the coefficients, it is possible to evaluate the change in the age of mother at first-child birth for a change from tenant to owner, while holding the remaining predictors at their observed values. The data analysis was performed using the Stata 13 software.

Based on the literature, the analytical model assumes that the first-child birth can be explained by seven predictors that cover three dimensions: sociodemographic, economic and residential. Thus, with regard to the sociodemographic dimension, the model uses the

⁵⁴ For the sake of simplicity, in this article we refer to the eldest child also in the cases of households with only one child.

⁵⁵ For all three models, the absence of endogeneity was tested by fitting a single-equation instrumental-variables regression. Estimation was carried out via a two-step generalized method of moments with a weighting matrix that is optimal when the error term is heteroscedastic and with robust standard errors. The variable of interest 'Owner' was instrumented with the variable 'Social institution that contributed to the housing tenure status', a variable correlated with the endogenous explanatory variable and uncorrelated with the error term.

woman's age (ranging from 18 to 49 years) and age squared to more accurately measure the effect of this predictor because the first-child birth may have a non-linear relationship with age (i.e., the effect can be positive up to a certain age and negative from then onwards). Considering that fertility events usually occur within a partnership (González and Jurado-Guerrero 2006; Kulu and Steele 2013), only women living with a partner (married or cohabiting) were included in our analysis. The model uses the educational attainment of both partners as a proxy of socioeconomic status, recoded into lower than secondary, secondary or tertiary. The ratio of monthly mortgage/rent to monthly household income is also used as a proxy of housing cost overburden, recoded into a dummy variable identifying if monthly mortgage or rent is equal or above 40 per cent of the total household income observed in month in which the interview took place. However, this variable may represent the actual housing cost overburden only for births in more recent years (from 2000 onwards). For the residential dimension, following the Ström (2010) findings, the model considers the built area in the dwelling per person, in square meters, as a proxy of number of rooms available. Finally, with regard to the housing tenure status, the model evaluates the effect of being household head of an owner-occupied dwelling on the likelihood of having the first-child birth, compared to being household head of a renter-occupied dwelling.

Finally, it is worth mentioning the limitations of this study. First, the analysis is limited by the data available. At least one important predictor of first-child birth is missing: the woman's employment status at the time of conception. Analysing the effect of homeownership on the first-child birth would benefit from longitudinal, life retrospective or administrative data that allows for crossing individuals', households' and housing careers. Second, the methodological options that were selected in order to have a high degree of certainty on the first-child birth and minimize period effects also compromised the sample size, especially in Model 3. Third, this research will not be able to contribute to the question of causality: whether households move in order to adjust the intended family

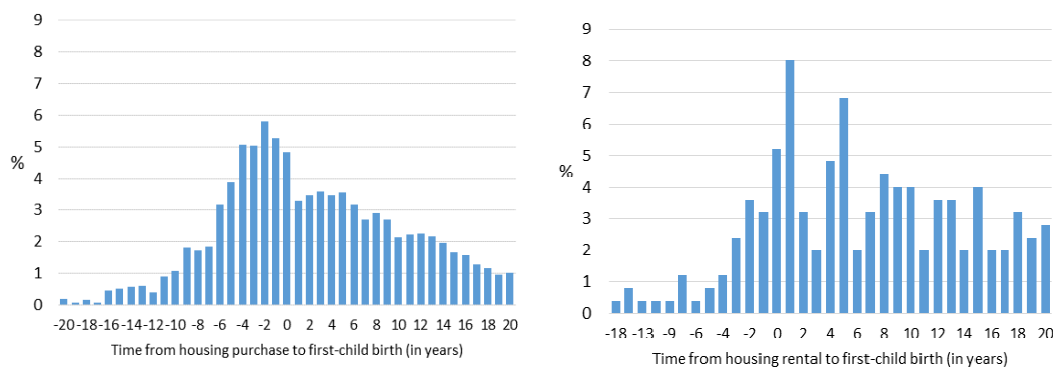
size or because housing conditions, namely homeownership, increase the likelihood of parenthood.

6.4 Results and discussion

6.4.1 Chronological relationships between housing changes and childbearing

For some central and north European countries, as Germany, The Netherlands, Finland and Sweden, the literature shows that housing changes are usually synchronized with partnership and occur before the first-child birth (Mulder and Wagner 2001, Feijten and Mulder 2002, Kulu and Vikat 2007, Öst 2012). Thus, the chronological order of these life events may contribute to understanding the correlation between housing changes and childbearing under specific housing systems. Since no empirical evidence is available for Spain, the time distribution, in years, of housing change with respect to the birth of the eldest child was explored. Figure 6.3 presents the respondents that had at least one economically dependent child in the household in 2008, stratified by housing tenure status (44.1 per cent). The distribution of both histograms (positively skewed and following a Leptokurtic distribution) suggests a chronological relationship between the two events in our analysis.

Figure 6.3 Time difference between the year of purchase / last rental and the birth of the eldest child economically dependent on the household, Spain, 2008



Source: EFF, 2008. Own calculations.

The Spearman correlation goes on to suggest that there is a moderate, positive correlation between the year of homeowners' acquisition of the house and the birth of the eldest child ($r_s=0.55$, $n=2481$, $p<.001$). The concentration of higher frequencies before time 0 indicates a preference for being homeowners before having the eldest child. For tenants, the correlation between the two variables is similar, compared to homeowners, although still a positive, moderate correlation ($r_s=0.51$, $n=249$, $p<.001$). Nevertheless, the results show a different pattern: most rental contracts are concentrated immediately after the birth of the eldest child.

Taking into account that residential mobility in southern Europe is generally low (Caldera Sánchez and Andrews 2011) and that for a long time renting was not cheaper than buying, these results suggest the coexistence of two behaviours among homeowners. First, Spanish appear to synchronise the acquisition of the house with marriage or couple formation as Mulder and Wagner (2001) previously observed among German and Dutch people. Second, Spanish people seem to prepare the enlargement of the household purchasing a house before the birth of the eldest child as Kulu and Vikat (2013) found within Finish households. The rental, arguably a more easily alterable housing tenure status, is thereby the option of households that have not yet accrued the wealth to access a mortgage or loan or have no job security, which will simultaneously hamper the accumulation of wealth and increase the probability of residential mobility.

Even among homeowners, the cases where a housing change occurs after the event are not negligible. Whether it is the case of the first-homeownership or a housing change between owner-occupied dwellings, if a house purchase is unrealistic in the near future, couples may simply postpone homeownership until after the child's birth (Mulder and Wagner 2001). It remains unanswered if these couples also postponed the first-child birth, and if so, for how long and for what reasons (related to housing or not). The same line of reasoning is applied to the high frequencies after time 0, both for homeowners and tenants, since they are related with second and third births. Thus, the peaks after time 0

may have at least three different interpretations: (1) a housing adjustment to family size that was unnecessary at the birth of the first child; (2) the operationalization of a household project that was not achievable by the time of the first-child birth; and (3) the costs of a house and a child competed with each other, and the households gave preference to parenthood. Although it is not possible through this analysis to do more than raise hypothetical explanations, since our data relate to the household last access to housing, the certainty is that the housing restrictions in Spain give rise to multiple scenarios.

6.4.2 Being homeowners and having the first child

The descriptive results of our dependent variable show that the event first-child birth is more evenly distributed in Model 3, with 49.6 per cent of the respondents having no children and 50.4 per cent giving birth to their first child during the study period (Table 6.1). Since the birth of the first child is an event experienced in most households, when considering the Model 1, 85.1 per cent of women gave birth to their first child during the study period.

With regard to the descriptive results for the independent variables, the average age of the respondents decreased as the time frame is narrowed, from 37.8 year-old in Model 1, to 34.6 in Model 2 and 34.4 in Model 3, a result which is in accordance to the differences in the length of the periods considered. The imbalance in the distribution of marital and consensual unions slightly decreased since the turn of the millennium. Nevertheless, when compared to some western European countries, non-marital cohabitations in Spain are still relatively uncommon (González, Jurado-Guerrero 2006). The educational attainment level variable shows substantial gains over time in the educational capital of both women and men. Model 3 shows two different patterns in educational level stratified by sex. Men have a balanced distribution over the three educational levels considered, while women are predominantly highly educated. In relation to the housing costs overburden, 10 per cent of

the respondents use 40 per cent or more of the household income to pay the mortgage or the rent of the dwelling.

Over time, households are benefiting from larger dwellings. In Model 1, the average built area in square meters is 32.7 and, in Model 3, households have 39.5 square meters, on average, per person. Finally, with regard to housing tenure, in our sample 84 per cent of the dwellings are owner-occupied, a distribution that remains stable over time and emphasizes the importance of homeownership in Spain.

Table 6.1 Frequencies and averages by model, dependent variable and predictors used in the analytical model, Spain, 2008

| | 1978 – 2008 (Model 1) | 2000 – 2008 (Model 2) | 2005 – 2008 (Model 3) |
|---|--------------------------|--------------------------|--------------------------|
| First-child birth (%) | | | |
| Women who had no children during the study period | 14.9 | 27.8 | 49.6 |
| Women who gave birth to their first child during the study period | 85.1 | 72.2 | 50.4 |
| Age (average) | 37.8 | 34.6 | 34.4 |
| Marital status (%) | | | |
| Married | 89.7 | 84.8 | 84.3 |
| Cohabiting | 10.3 | 15.2 | 15.7 |
| Educational attainment female (%) | | | |
| Low | 33.8 | 22.3 | 21.0 |
| Medium | 38.4 | 38.2 | 32.9 |
| High | 27.8 | 39.5 | 46.1 |
| Educational attainment male (%) | | | |
| Low | 38.6 | 33.2 | 31.1 |
| Medium | 39.4 | 37.9 | 37.1 |
| High | 22.1 | 28.9 | 31.8 |
| Monthly mortgage/rent in relation to monthly household income (%) | | | |
| <40% | 90.0 | 89.6 | 90.0 |
| >=40% | 10.0 | 10.4 | 10.0 |
| Built area in the dwelling per person (in square meters) (average) | 32.7 | 36.3 | 39.5 |
| Housing tenure status (%) | | | |
| Tenant | 16.2 | 16.5 | 16.1 |
| Owner | 83.8 | 83.5 | 83.9 |
| Number of respondents (N) | 1,069 | 442 | 242 |

Note: Weighted sample. Source: EFF, 2008. Own calculations.

Table 6.2 presents the exponentiated AMEs of the three probit regression models of the first-births of women aged 18-49 years and living with a partner occurred between:

- 1978 and 2008 (Model 1);
- 2000 and 2008 (Model 2);
- 2005 and 2008 (Model 3).

The results confirm that to be homeowner increases the likelihood of first-child birth in a southern European housing system and, especially that this relationship has been substantially changed towards a valorisation of homeownership with the recent social and economic developments. Thus, for births that occurred between 1978 and 2008, household heads of an owner-occupied dwelling are, on average, 1.059 times more likely of having their first-child birth than tenants, which is an almost insignificant difference. However, as the time frame is narrowed, and the period effects reduced, the difference in first-child births between being owners or tenants increase. Between 2000 and 2008, living in homeownership raises the likelihood of having the first-child birth by 1.103 times. For the most recent years in the sample, 2005-2008, the likelihood of homeowners is even greater, 1.224 times. Since the exponentiated AMEs increase as the time frame narrows to the present, the results suggest that to live in homeownership is increasingly important in the probability of having the first-child birth. In fact, there are relevant differences between 1978 and 2008 (Model 1) and 2005 and 2008 (Model 3). Model 1 analyses the births occurring over a period of 31 years that included the Franco post-dictatorship (transition) period, the consolidation of homeownership as the 'best' tenure status, the real estate boom and the beginning of the GFC. Model 3 analyses this final period, which had a significant impact on the Spanish housing market.

Table 6.2 Exponentiated average marginal effects (AMEs) of a first-child birth, by sociodemographic, economic and residential predictors revised from probit regression models, Spain, 2008

| Predictor | Exponentiated AMEs of a woman aged 18-49 years, living with a partner, giving birth to her first child | | |
|---|--|----------|----------|
| | 1978 - 2008 | 2000-008 | 2005-008 |
| | Model 1 | Model 2 | Model 3 |
| Age | 1.051*** | 1.150*** | 1.175*** |
| Age ² | 0.999** | 0.998*** | 0.997*** |
| Cohabiting (ref. married) | 0.914** | 0.893* | 0.897 |
| Medium educational attainment level of the woman (ref. low) | 1.001 | 1.005 | 0.936 |
| High educational attainment level of the woman (ref. low) | 0.959 | 0.969 | 0.936 |
| Medium educational attainment level of the man (ref. low) | 0.985 | 1.002 | 1.025 |
| High educational attainment level of the man (ref. low) | 0.999 | 0.992 | 1.003 |
| Monthly mortgage/rent in relation to monthly household income $\geq 40\%$ (ref. $<40\%$) | 1.033 | 1.060 | 1.044 |
| Built area in the dwelling per person (in square meters) | 0.997*** | 0.995*** | 0.990*** |
| Owner (ref. tenant) | 1.059* | 1.103* | 1.224** |
| McFadden's R2 | 0.138 | 0.128 | 0.229 |
| N | 1069 | 442 | 242 |

Note: Significance level: * <0.10 ; ** <0.05 ; *** <0.01 ; overall standard errors in parentheses.

Source: EFF, 2008. Own calculations.

Table 6.2 also reflects an additional important trait of housing tenure status. From the set of predictors used in our model, housing tenure status contributes by far the most to predicting the probability of first-child birth. Bearing in mind the high share of owner-occupied dwellings in Spain, it seems that homeownership concentrates several other residential and economic features, including dwelling type, dwelling quality and economic stability. The exponentiated AMEs for the monthly mortgage/rent in relation to monthly household income and for the built area in the dwelling per person suggests that homeownership operates as a meta-predictor representing the whole residential dimension. Thus, with a different methodology and under different objectives, these

results support the relationship between housing tenure status and first-child birth observed by González and Jurado-Guerrero (2006) while looking for a set of conditions for parenthood.

With regard to the remaining statistically significant predictors used in the model, the age of the woman increases the likelihood of first-child birth by 1.051, 1.150 and 1.175 times in Models 1, 2 and 3, respectively. The variable age squared confirms a non-linear relationship with the independent variable. In Spain, living in a consensual union decreases the likelihood of the first-child birth by 0.914 times in Model 1 and by 0.893 in Model 2, compared to being married.⁵⁶ Finally, with respect to the built area in the dwelling per person, there is a negative effect, a little higher on Model 3. Ström (2010) found that, in Sweden, a higher number of rooms are related with a higher propensity of having the first-child birth (Ström 2010). Accordingly, in this study, the built area in the dwelling per person is used as a proxy of the number of rooms. The results are quite puzzling, suggesting that either the findings for the Swedish case do not stand for the Spanish case, or that older heads of household (who also have lower probability of first-child birth) have larger dwellings or, the most probable explanation, that the built area per person is not an appropriate proxy of the number of rooms in the dwelling.

6.5 Concluding remarks

The present work fills an important gap in the literature on housing and fertility in the SEC and contributes to the debate about the role of housing in fertility-oriented policies. The results indicate that, in Spain, to live in homeownership increases the likelihood of having a first child. Furthermore, in the empirical analysis, tenure status is the predictor with the highest influence on the probability of a first birth for women aged 18-49 years and living with a partner. This defining characteristic is enhanced by the positive correlation between the year of acquisition of the house and the birth of the eldest child that was still economically dependent on the household in 2008. Thus, although

⁵⁶ In Model 3 the results are not statistically significant, possibly due to the small sample size.

homeownership is identified as an essential driver of the first-child decision, the timing of access to homeownership should not be neglected. In line with the literature for other European countries, house acquisition occurs more frequently before the first-child birth. Without intending to draw any inference about causality underlying the order of the events, the descriptive results suggest that the restrictions on access to housing in Spain give rise to multiple scenarios, more particularly among tenants but also for homeowners, as families try to combine their housing options and household careers.

The results of this work also highlight a second Spanish defining characteristic: the increased relationship between homeownership and first-child birth between 2005 and 2008. At the outset of the GFC, the restrictions on access to housing and anticipation of this obstacle by young households intensified the link between housing and fertility. The logistic regression results suggest that the relationship between homeownership and first-child birth is increasingly problematic, as homeownership is the principal tenure status in the southern European housing system, and thus has the capability to hamper household formation. In SEC, there is a negative relationship between homeownership and fertility levels at the macro level (an apparent paradox, because it is mediated by low household formation), but a positive and increasing relationship at the micro level between homeownership and first-child birth. As stated in Chapter 5, a possible increase in renting, interpreted as a largely positive effect in order to widen housing opportunities related with household formation, could, nevertheless, imply further difficulties for the fulfilment of reproductive intentions. This results from the fact that the relationship between fertility and renting is still very, and probably increasingly, problematic in Spain and maybe also in other SEC. Thus, this relationship should be monitored in the future, using the subsequent rounds of the EFF in order to understand how housing and fertility interact during and in the aftermath of the GFC.

The housing system in Spain is changing due to a combination of factors: demographic change, behavioural change and the GFC (Módenes and López-Colás 2014). Given

substantial uncertainty on the future housing preferences of young households, the future of the relation between housing and fertility is also uncertain.

Therefore, it is essential to address the causality and endogeneity that underlie residential moves and parenthood decisions. Access to longitudinal data, and preferably cross-national SEC data, is needed and may make the study of the relationship between housing and fertility as tempting for research on the SEC as it is in the countries of central and northern Europe.

To promote a change in SEC fertility trends, explicit encouragement of childbearing will not suffice. First, the number of households must increase. Along the same line of reasoning, due to the positive relationship between homeownership and fertility, a quantitative change in the Spanish housing system favouring the rental stock, per se, may have some impact on fertility levels. Thus, along with an increase in the rental housing market, a qualitative change in statutory meanings of security associated with renting is needed in order to encourage fertility in the SEC. Renting is currently the housing tenure status with the highest growth rate among young adults; it is important to reduce the differences between housing tenure status and fertility by improving the quality and security of tenure of rental housing.

Finally, the inclusion of housing policies in the traditional sphere that usually focuses on financial support, parental-leave rights, child-care services, and work-family articulation could bring a change operating at the upstream of the fertility question. Policy-makers tend to focus on mainstream, traditional indicators such as the TFR, mean age at marriage and mean age at first-child birth. The message that can be drawn from the present research is that it could well be more effective to work towards reducing the proportion of young adults remaining in the parental home. This is achievable by promoting access to housing and reducing both the unemployment rates and job insecurity among young adults. Higher fertility levels may well then occur as a result.

Chapter 7 Parenthood, residential movement and housing tenure in four southern European countries, France and Germany

7.1 Introduction

Since the end of World War II, homeownership rates have increased remarkably in most industrialised countries, with different triggers, trends and paces. With homeownership gaining momentum as a 'social ideal', the population began to be categorized in two distinct classes. First, we have homeowners as better citizens, neighbours and parents; and second, the tenants as stigmatised citizens living in a tenure status that was considered inferior and often associated with a poorer housing type (Ronald 2008). In the case of the SEC, housing policies have successively promoted homeownership as a means of social stability (Allen et al. 2004). Consequently, the active role of the family in housing provision shaped a housing system mainly based on homeownership (Allen et al. 2004; Cabré and Módenes 2004; Poggio 2012). As such, young southern European millennials grew up with a strong association between homeownership and better living conditions. As confirmed in Chapter 4, family formation (marriage and parenthood) in the SEC is still highly dependent on homeownership.

Additionally, Chapter 6 stresses the importance of quantitative and qualitative changes favouring housing formation, more and better rental options as means of increasing fertility rates in Spain. In spite of the fact that there has been important work carried out in an attempt of understanding the relationship between homeownership and fertility in central and north European countries⁵⁷, there is little evidence of this connection in southern Europe. Additionally, since most of these studies focus mainly on single country

⁵⁷ Where the contribution of Mulder and Wagner (1998) marks the beginning of a stream of studies which seek to explain the interrelationship between housing and household patterns from a broader perspective where both family and individual characteristics, chronology and geography are taken into account.

cases, there is a gap in the literature in terms of cross-country comparisons between countries within SEC and between SEC and other European housing systems.

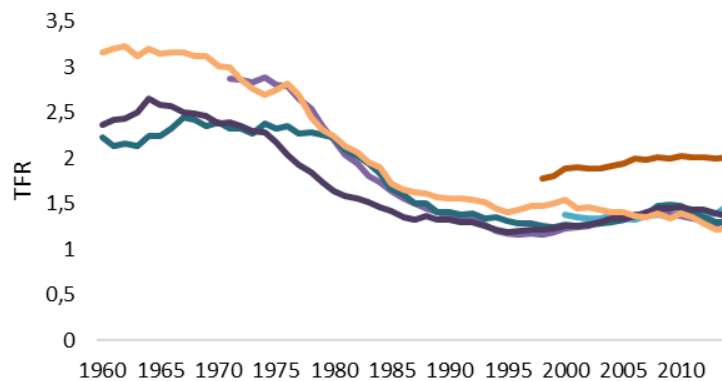
This study aims to fill that gap in the literature on housing demography by exploring the effect of housing tenure status on reproductive behaviour in four SEC (Greece, Italy, Portugal and Spain) and two central European countries (France and Germany) from 1977 to 2011. The comparison between the countries proposed is two-fold: on the one hand, both France and Germany represent corporatist welfare states (Esping-Andersen 1990) where the family plays a key role in household formation among younger generations (Módenes and López-Colás 2014); on the other hand, while France has fertility levels close to the generations replacement level, Germany has extremely low fertility levels and a housing system based on rentership (Eurostat). This allows us to broaden the scope of our analysis, by comparing the SEC with a greater variety of European systems.

The aim of this study is guided by two hypotheses. When compared to women in renting, homeowners aged 18-49 years old living with a partner are (1) more likely to have their first-child and (2) have a lower time ratio to the birth of the first-child. The trends described by the hypotheses put forward in this paper are based on the assumption that the relationship between homeownership and fertility found in Chapter 6 is not exclusive to the Spanish context, and is, at the very least, extendible to the SEC. If found true, this hypothesis leads to the question of whether to be a homeowner also changes the fertility *tempo* by speeding up the birth of the first-child. Since increases in homeownership rates are usually linked to housing policies (Ronald 2008), this study attempts to raise awareness to the adverse effects of housing policies that favour homeownership over rental options in fertility.

7.2 Fertility in southern Europe, France and Germany

Southern Europe is a region characterized by a delay in the start of the first demographic transition⁵⁸ (Festy 1983). Despite being a region well known for its heterogeneity, the SEC share low fertility trends when compared with other European regions (Munoz-Perez 1987; Frejka and Sardon 2004). Greece, Italy, Portugal and Spain are all countries characterized by late industrialization, long dictatorial regimes during the twentieth century, a determining role of religion in their citizens' lifestyle, conservative birth control policies, low per capita income and low expenditure on social benefits, including family and child benefits (Frejka and Sardon 2004). Up until the 1970s, these countries held relatively conservative lifestyles, which, when associated with restrictive policies imposed by southern European dictatorships regarding access to birth control, were able to maintain fertility levels above the replacement level (Figure 7.1). Nevertheless, the postponement of marriage and childbirth caused a prominent decline after this period, placing these countries in a situation with very low fertility levels (Nishioka 2003).

Figure 7.1 Evolution of the total fertility rates, selected European countries, 1960-2014

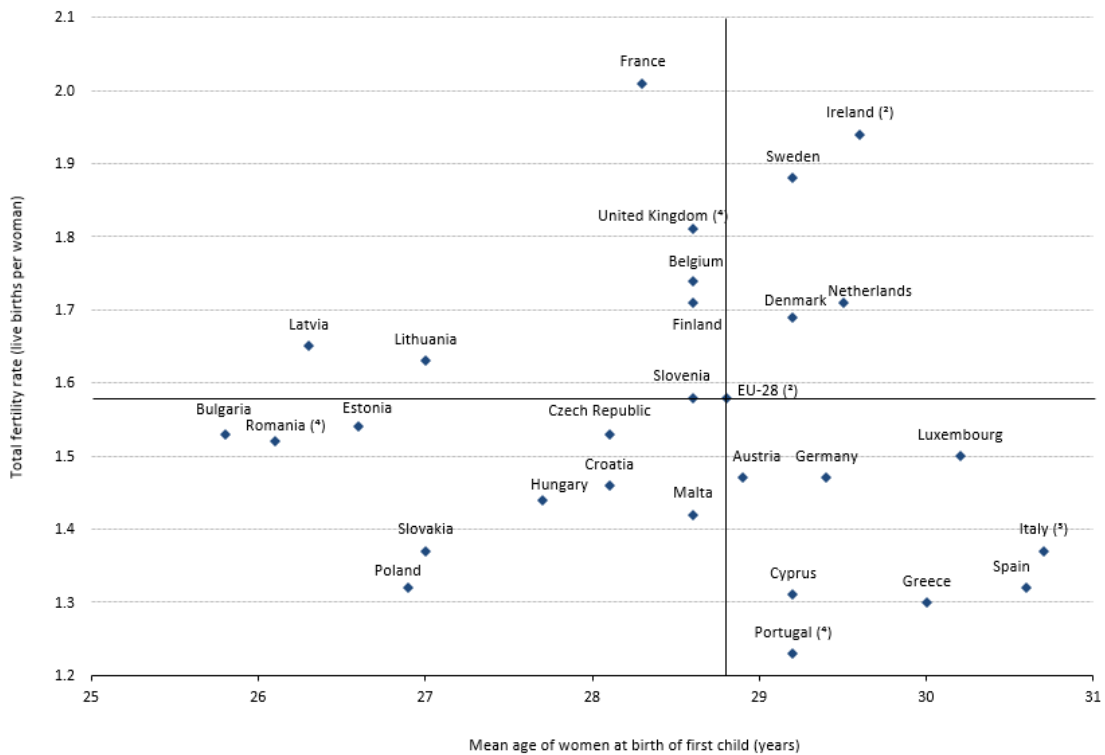


Source: Eurostat (online data code: demo_find).

⁵⁸ Theorized by Notestein in 1945, the first demographic transition addresses the shifts in mortality and fertility trends that lead to changes in the population growth and structure in three stages, being the last stage characterised by a natural growth that leans towards a stable population (Notestein 1945).

In 2014, southern Europe registered the lowest total fertility rates in the world (Population Reference Bureau 2014). During this year, the average number of children born per woman during her lifetime – the TFR – was 1.23 in Portugal, 1.30 in Greece, 1.32 in Spain and 1.37 in Italy (Figure 7.2). In fact, when grouped together with Germany, Luxembourg, Austria and Cyprus, these countries form the faction that, when compared with the EU28, represent the lowest TFRs and the highest mean ages at birth of first-child – all above 28.9 years-old. The position held by France in this scenario is one that results from a long tradition of fertility oriented policies and is described by a TFR of 2.01 - very close to the generations' replacement - and a mean age at birth of the first-child of 28.3. In 1939, with the introduction of the Decree on the Family Code (*Décret Code de la famille*), France became the first country to benefit from a pronatalist legislation (Bourgeois-Pichat 1974). Thenceforth, in an attempt to support fertility levels, a consistent set of policies covering financial, work-family articulation and childcare services have been implemented and updated according to population needs (Letablier 2003). As such, French family policies are the “most obvious explanation for France’s relatively high fertility” (Toulemon, Pailhé, and Rossier 2008: 536).

Figure 7.2 Fertility quantum and tempo, selected European countries, 2014



Notes: (1) Provisional, (2) Total fertility rate: estimate, (3) Estimates.

Source: Adapted from Eurostat (online data code: demo_find)

Even though the effect of public policies in raising fertility levels is arguable (Gauthier and Philipov 2008), an analysis of the figures of family policy expenditure on fertility over time, may shed some light on the efforts of the state in providing financial protection to families with children in southern European countries, France and Germany. According to Kalwij (2010), between 1980 and 2003, the mean family allowance per child decreased in the four SEC (0.4 per cent in Spain, 2.6 per cent in Italy and 3.1 per cent in Greece and in Portugal) and it increased by 1.5 per cent in Germany, remaining almost stable in France (0.2 per cent).⁵⁹ In 2003, the most generous state was France (1,578 euros), followed by

⁵⁹ Financial statistics refer to yearly values standardized in prices of 2000 and adjusted by purchasing power across countries (Kalwij 2010).

Germany (1,382), while the less generous were the SEC, with family allowances between 310 euros in Spain and 725 euros in Italy.

Regarding maternity and parental-leave benefits per child for employed mothers, the period between 1980 and 2003 saw a mean increase of 5.5 per cent in Germany, 1.8 per cent in France and 3 per cent in Spain, while countries like Greece and Portugal registered a decrease of 3.3 per cent and 1.9 per cent respectively. Italy remained quite stable registering a decrease of 0.2 per cent. It is important to note that while an important figure, these percentage changes are highly dependent on the starting level in 1980. In this regard, Spain presents a positive change since it had the lower position with a mean of 3,400 euros at that time. In 2003 the most generous country spot was overtaken by Germany (14,521 euros) while Portugal fell into the less generous slot (3,805 euros). Finally, during the period between 1980 and 2003, the mean childcare subsidy per young child for employed women increased in all the countries considered in Kalwij's (2010) study. The greatest increases were observed in the countries with the lowest starting levels in 1980, with the exception of Greece. Despite an increase of 10 percent since 1980, a period where Greece had the second lowest subsidy, in 2003 it was still paying the lowest mean value per young child for employed women. In Portugal, the percentage change was 18.3 per cent, 13.6 per cent in Spain, 10.0 per cent in France and Greece, 5.9 per cent in Italy and 4.9 per cent in Germany. In 2003, France was the most generous country (9,579 euros) while Greece, as previously mentioned, held the place for the least generous (1,432 euros) (Kalwij 2010).

Nevertheless, according to Kalwij's (2010) simulations, an increase in family allowances or childcare subsidies, being the latter where most improvement was made over time, has no significant effect on fertility. Changes in maternity and parental leave and in childcare provision, both related to the work-family articulation domain, have a positive effect in fertility *tempo* and *quantum* (Kalwij 2010).

These statistics are worth, at least, four comments. First, financial benefits in France have remained stably high. Even though the comparative figures between Germany and France are relatively close, in the case of Germany these have been increasing over time, while in France they have remained constantly high since 1980. This shows that the implementation of fertility policies can produce an impact on the fertility of women in their reproductive ages at the time of its implementation, achieving its greatest impact a few decades after. Second, in the SEC, financial incentives to fertility are extremely low. This means that, regarding the economic dimension of fertility decisions, southern European families must rely on their own financial resources. Third, even though financial benefits to fertility in the SEC were low in 1980, over time, they decreased even further representing a loss of benefits and a weakening of social protection to families. Finally, not all financial benefits affect fertility in a positive way, hence they should be defined at the national level with the support of scientific evidence in order to provide better assistance to those that need it the most.

7.3 Family formation, fertility and housing tenure status in southern Europe, France and Germany

Despite the relevance of economic and work-family articulation in fertility rates, there are other relevant domains such as the gender equality, the educational systems and the housing market (Gauthier and Philipov 2008). Mulder and Billari (2010) investigated the link between homeownership patterns and fertility levels in 18 European countries. The authors developed a classification of homeownership regimes with relation to fertility levels based on homeownership rates and average mortgage loans. In this classification, Germany was included in Quadrant I, the “career homeownership regime”. Within this regime, the step towards homeownership is usually taken when individuals accumulate the necessary wealth for it, mostly through access to mortgages. Often, renting presents itself as an alternative to family formation. However, when this alternative is not available,

young couples may postpone parenthood or even face obstacles trying to combine homeownership and parenting (Mulder and Billari 2010).

Since the 1950s, Germany has displayed a balanced distribution between private renting and homeownership, adding a certain degree of convenience to becoming a parent while being tenant. This results mainly from two aspects: due to high housing costs young couples need a considerable amount of savings to be able to become homeowners. Second, due to high quality of private renting, only a few young adults are able, or decide to, become homeowners prior to parenthood. Among those that take the step towards homeownership, marriage and first-time homeownership are usually synchronized events and the transition to first homeownership usually precedes fertility events (Mulder and Wagner 2001).

Mulder and Billari (2010) included France and Portugal in Quadrant II, “elite homeownership regime”, which despite having very different fertility levels, share the housing funding pattern. In this case, as a result of restrictions to mortgages, funding for homeownership comes directly from personal savings, family support or inheritances. This creates a regime where homeownership is mostly limited to the wealthier portion of the population, which in turn makes renting an acceptable alternative for the remaining individuals (Mulder and Billari 2010). In 2014, France showed that 65 per cent of individuals living below the median equivalised income were living in renting, while in Portugal this figure reached the 41 per cent (Eurostat). In the latter, employment uncertainty and housing costs contribute to the postponement of family formation, which in turn culminates in a decrease in the number of desired children as a direct result of later parenthood (Gomes, Silva, Castro and Marques 2016).

Still, according to Mulder and Billari (2010) classification, Greece, Italy and Spain fit in the “difficult homeownership regime”, a regime with high homeownership rates and a low access to mortgages. In 2014, only 26 per cent of the Greek were living in renting, while this figure reached 27 per cent in Italy and 21 per cent in Spain (Eurostat). In line with the

distinctive features of southern European residential systems, access to homeownership is based on personal savings, family support or inheritances (Allen et al. 2004). Opposite to the “elite homeownership regime”, renting is not a suitable alternative, which in turn impacts negatively over the family formation (Mulder and Billari 2010). Evidence from Spain suggests that its long tradition of housing policies favouring homeownership contributes to the postponement of family formation (Jurado 2003). In their work, González and Jurado-Guerrero (2006) tested the effect of homeownership on first-child birth and found that to be tenant has a negative effect on the probability of Spanish women to become parents. This negative effect is even stronger in West Germany, but not statistically significant in France or Italy (González, Jurado-Guerrero 2006). Chapter 6 of this thesis gathered evidence that being a homeowner increases the likelihood of having a first-child and that this relationship increases over time. Additionally, homeownership in Italy has been continuously promoted through housing policies, which alongside the “Italian Familism”, discouraging young adults to leave their parents’ home, hampers family formation (Dalla Zuanna 2001). Dalla Zuanna (2001) systematises the effects of late family formation on fertility in both direct and indirect effects. Direct effects relate to those that are not Italian-specific. Instead, they are well known from the essay of Malthus (1978). Hence, late household formation impacts directly on fertility levels, since it shortens the lifetime of the period of reproductive life as it raises the chances of permanent celibacy. The indirect effects are those with regards to the gendered division of domestic tasks. In tune with “Italian familist”, men are excluded from domestic tasks while living in the parental home. Consequently, there is an overload of house work for women. Additionally, late parental home leave discourages risk taking, which is an important skill in terms of parenting (Dalla Zuanna 2001). Still in Italy, Vignoli et al. (2013) analysed the effect of housing security on intentions of having the first-child and found that homeownership contributes significantly to the standpoint of security about housing conditions. Finally, with the use of “career homeownership regime” as a reference, Mulder and Billari (2010) find that fertility is higher in the “easy homeownership regime” and

lower in the remaining regimes, with the “difficult homeownership regime” displaying the lowest levels of fertility.

7.4 Data and methods

7.4.1 Data source and sample

This study uses information on the head-of-household of the cross-sectional micro-data from the first wave of the HFCS.⁶⁰ The HFCS harmonizes data collected at the national level on household finances and consumption from 15 European countries. The first wave of the HFCS gathered information from 15 countries of the euro area⁶¹ (European Central Bank, 2012a) between the end of 2008 and 2011 (European Central Bank, 2012b). The data is comprised by 62,521 households'.⁶² The HFCS is a promising data source for the purpose of this study for four reasons. As the EFF, the HFCS collects retrospective information; demographic data for all household members, information on the economically dependent children whether living in the dwelling or not, which allows to identify the first-child birth, as discussed in Chapter 1. In addition to the EFF, the HFCS offers harmonised data on finances and consumption for several European countries, allowing comparative studies. Despite its advantages, the HFCS also presents some limitations worth mentioning given its impact on the design of the analytical model.

First, in Cyprus, the questions on gender, marital status and educational level were collected only for the reference person (European Central Bank, 2013). Similarly, in Malta the question on age was only asked to one household member. For this reason, this study excludes Cyprus and Malta from the southern European group.

⁶⁰ Version 1.1 released in February 2015.

⁶¹ Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Italy, Luxembourg, Malta, Portugal, Slovakia, Slovenia, Spain, The Netherlands.

⁶² For detailed information on the HFCS data, please see:
https://www.ecb.europa.eu/pub/economic-research/research-networks/html/researcher_hfcn.en.html.

Secondly, the survey inquiries only about the current dwelling of the household. Hence, there is no information about household housing career (previous tenure status or previous household composition).

Thirdly, important predictors such as labour market status cannot be used since they refer to the time during which the survey took place and not to the time of child birth. This drawback can be overcome by restraining the sample to the women that had their first-child in the last two years. However, such a methodological decision would jeopardise the size of the sample by country.

Instead, the sample used in this work consists of women aged 18-49 years old who changed to the current dwelling (owner or renter-occupied) after completing 18 years old and that were childless at the time of this change (6,528 women). The decision to constrain the sample to women aged 18-49 is to ensure that the focus of this study does not divert from the first-child birth of women. Taking into account that the HFCS only collects information on economically dependent children and in line with the approach used in Chapter 6, in this work the birth of the first-child also refers to the first economically dependent child on the household at the time of the survey (hereinafter first-child).⁶³ Since the aim of this study is to look at the effect of housing tenure status in the birth of the first-child, the sample was constrained to childless women that experienced housing change after reaching 18 years old as a way to avoid the influence of women that have not experienced a housing change during adulthood.

By defining the sample as described, this study becomes a *quasi*-experimental study where the objectives are not held so much by the representativeness of the sample over the population, but, instead, are bounded by the relevance of understanding the role of housing tenure status in the birth of the first-child. In fact, this methodological option

⁶³ As in Chapter 6, for the sake of simplicity, we refer to the first-child also in the cases of households with only one child.

presents both a strength, as it allows the isolation of the behaviour in question, and a limitation, since it does not show how representative the findings are.

7.4.2 Analytical model and methods

In this study, countries are modelled individually, representing a total of eight models: Euro area, SEC, Greece, Italy, Portugal, Spain; and France and Germany for comparative purposes. France was selected by its fertility trend at the replacement level of the generations. Germany, alongside with the SEC, has a very low TFR - 1.39 in 2013 (Eurostat). However, contrary to the housing tenure trends in the SEC, Germany has a long tradition of a balanced distribution between homeownership and renting.

Given the importance of fertility in this study and the fact that the first wave of the HFCS only provides cross-sectional data, period fertility tables were computed by housing tenure status and country. As such, the descriptive analysis of this work begins with a summary of the indicators of fertility behaviour of the participating women. Due to the guiding purpose of this study, which takes us beyond the age of the mother at birth of the first-child, the summary of indicators will also include the percentage change of the offspring of homeowners over tenants, and the percentage change in the childless women of tenants over homeowners. With regards to the analytical model, although this study tests two hypotheses (the first concerning intensity of fertility and the second focusing on fertility calendar), the underlying models are pretty much analogous. They differ mainly in the dependent variables and, consequently in the methods used. A binary dependent variable was used for testing if homeowners are more likely to have their first-child than tenants in similar circumstances: women that remained childless versus women gave birth to their first-child during the study period. On the other hand, while testing if childless women that experienced a housing change are more likely to speed up parenthood if they are homeowners, the dependent variable is continuous – the age of the mother at first-child birth.

Based on the literature, the analytical models comprise three predictors, each one of them representing a dimension of childbearing: demographic, socioeconomic and residential (Table 7.1). Thus, the model focuses on housing tenure status controlling for two essential determinants of child birth: age and educational attainment (Happel et al. 1984, Cigno and Ermisch 1989; Becker 1991; Oppenheimer 1994; Gustafsson 2001). The models use the woman's age and age squared as demographic predictors to capture an expectable non-linear relationship between age and the dependent variables. In order to control for socioeconomic status, since in most cases there is no match between the reference period of the survey and the year of child birth, the models use the educational attainment level of women. Finally, housing tenure status, the predictor of main interest in this study, is recoded into a dichotomous variable: owner versus tenant. In order to reduce the presence of unobserved heterogeneity, cases where the household owns only part of the main residence or where there is free usage of the dwelling were excluded.

Table 7.1 Description of the predictors used in the analytical models

| Predictors | Description |
|------------------------|---|
| Age | Respondent age ranges from 18 to 49 years-old (continuous variable). |
| Age squared | Respondent age ranges from 18 to 49 years-old (continuous variable, squared). |
| Educational attainment | Respondent's educational attainment recoded in low, lower secondary, upper secondary, and tertiary (reference category: low). |
| Housing tenure status | Respondent is household head of an owner-occupied dwelling (dummy variable, reference category: tenant). |

Regarding the methodology used, both hypotheses were tested independently for each geographical scenario. It is important to note that the Euro area model works as a more general model that includes the characterizing behaviour of the 15 participating countries, providing us with the guidelines to compare with the behaviour in the SEC.

To test if homeowners are more likely to have a first-child than tenants in a dichotomous response variable, eight probit regressions models were estimated. Since the coefficients are not suitable for direct comparison, in order to compare the results of the models, the

exponentiated form of the average marginal effects (AMEs) of the coefficients is presented (Allison 1999).

To verify if housing tenure status has an impact on the rate of transition to child birth we estimated a parametric frailty models.⁶⁴ In this model, 6528 women were observed until they had their first-child or until censoring. Based on the lowest AIC value, we have concluded that the generalized gamma accelerated failure-time form presented the best fit to our data⁶⁵ (StataCorp, 2013).

When the aim is to analyse the effect of time in the occurrence of an even and the data suggests a non-proportional hazard, it is common to use the accelerated failure-time model as an alternative to the proportional hazard model (Broström 2012). The analytical models control for the presence of frailty or heterogeneity. The data analysis was performed using the Stata 13 software.

7.5 Results and discussion

7.5.1 Descriptive results

With the aim to provide an overview of fertility behaviour within the sample, the descriptive analysis emphasizes three summary measures obtained from the period fertility tables computed by country and housing tenure status. Additionally, the frequencies and averages of the dependent and independent variables used in the analytical models are presented.

The descriptive results show high means with regards to the age of the mother at the birth of the first-child – 26.6 years old and over (Table 7.2). When looking at tenure status, the mean age of the mother at the birth of the first-child is consistently lower for tenants.

⁶⁴ A semi-parametric alternative, Cox regression, was also tested. Although according to the Schoenfeld residuals the models satisfy the proportional hazards assumption; the Log-log plot of survival and the Kaplan-Meier survival estimates show evidence that the residential variable violate the proportional hazards assumption. Thus, parametric alternatives were evaluated.

⁶⁵ We evaluate five distributions: exponential, Weibull, Lognormal, Loglogistic and generalized gamma.

Chapter 6 highlights that, in Spain, there is a moderate correlation between the year of housing change, be it as a homeowner or a tenant, and the birth of the first-child. Further, the same chapter shows that while tenants tend to have their first-child before changing house, homeowners seem to move before giving birth to the first-child.

The consistent younger ages of the mother at the birth of the first-child found in this study suggest that differences in access to housing can prove to hold some explanatory value regarding the different paths of transition to adulthood. Young adults, with a lack of prospects on an improvement of living conditions or family support in access to housing, can emancipate by their own means through renting – a less expensive and permanent solution when compared to homeownership. Consequently, these young adults may experience family formation and parenthood at younger ages. On the other hand, the young adults expecting to receive family support in housing provision, which in southern Europe occurs preferentially through homeownership, postpone emancipation until their family is able to gather the necessary resources to provide such support. Additionally, the gap in the age of the mother at the birth of the first-child by housing tenure status is greater in Germany, Portugal (2 years), and in Italy (1.7 years).

These results stress a significant degree of heterogeneity in the way that young adults in these three countries perceive the relation between fertility and housing. While a share of the young couples living in private renting do not consider homeownership as an essential pre-requisite for having the first-child, the others hold an opposite standpoint, needing to fulfil the economic and professional requirements that allow the transition to homeownership before having the first-child. These two possible relations between fertility and housing lead to a greater difference in the ages of the mother at the birth of the first-child.

The percentage change in the offspring ranges from 9 per cent in Germany to 61 per cent in Spain. When analysed by country, differences in the offspring of homeowners and tenants exhibit a pattern in the SEC that greatly differs from the one in Germany and

France. The results suggest that even in Greece and Spain, where there are no great differences between housing tenure status and the beginning of the reproductive live, there is a pronounced effect of the tenure over the offspring. The age of first childbearing is affected very differently by housing tenure status in Germany and France, however, the percentage change in the offspring is much lower than in any country of the SEC.

Concerning the percentage change in childless women by housing tenure status, Germany stands out with the lowest difference of 22 per cent, while tenants in France and the other SEC have at least 40 per cent more childless women than homeowners. Therefore, when comparing the relationship between fertility and housing tenure status, the SEC form a homogenous group. While France shares some features with the SEC pattern, Germany follows a different trend that in some measures is similar to those in France while others display a unique pattern.

Table 7.2 Summary fertility measures, selected European countries, 2008-2011

| | Mean age at the first childbearing (in years) | | Change in the offspring | Change in the childless women |
|-----|--|------------|----------------------------|----------------------------------|
| | Tenants | Homeowners | (%) | (%) |
| EU | 28.2 | 29.2 | 41.6 | 57.1 |
| SEC | 28.1 | 29.6 | 50.7 | 57.9 |
| ES | 29.6 | 30.3 | 61.6 | 69.3 |
| GR | 28.5 | 29.2 | 36.4 | 44.4 |
| IT | 28.0 | 29.7 | 52.6 | 59.0 |
| PT | 26.6 | 28.6 | 48.1 | 53.7 |
| DE | 28.0 | 30.0 | 9.0 | 21.6 |
| FR | 28.6 | 29.3 | 21.6 | 51.6 |

Source: HFCS, 2014. Multiple-imputation estimates with weighted sample. Own calculations.

Moving to the frequencies and averages of the dependent and independent variables used in the analytical models, the sample used to test the effect of being homeowner in the likelihood and the timing of having the first-child birth (when compared to being tenant) consists of 6,528 participants, 40 per cent of which live in one of the SEC (Table 7.3). Along the period covered by the study (1977-2011), 60 per cent of the women in our sample gave

birth to their first-child. This overall figure dilutes discrepancies among the studied countries, placing Greece at the top with 74 per cent of the sample giving birth during the studied period and Germany at the bottom with the lowest percentage (48 per cent). The average age of the women in the sample ranges from 34 years in France to 38 years in Italy. With regards to the descriptive results of educational attainment of women, the Portuguese stand out for their low level of educational attainment.⁶⁶ With the exception of the Portuguese case, all other models display an upper secondary or tertiary education level for both men and women.

Finally, at the Euro area level, 65 per cent of the participating households live in an owner-occupied dwelling. Nevertheless, the SEC stand out with 80 per cent of owner-occupied dwellings. It is important to note that the relative weight of renter-occupied dwellings in Greece and Italy should not be overlooked – 30 and 26 per cent, respectively.

Table 7.3 Frequencies and averages of the birth of the first-child and predictors used in the analytical models, selected European countries, 2008-2011

| | EU | SEC | DE | ES | FR | GR | IT | PT |
|---|-------|-------|------|------|-------|------|------|------|
| First-child birth (%) | | | | | | | | |
| Women who had no children | 40.0 | 28.4 | 52.0 | 28.0 | 40.9 | 26.1 | 29.5 | 27.6 |
| Women who gave birth to their first-child | 60.0 | 71.6 | 48.1 | 72.0 | 59.1 | 73.9 | 70.5 | 72.4 |
| Age (average) | 36.0 | 37.3 | 35.8 | 36.9 | 33.7 | 35.4 | 38.2 | 36.6 |
| Educational attainment female (%) | | | | | | | | |
| Low | 5.9 | 9.1 | 1.5 | 10.8 | 8.7 | 5.3 | 3.7 | 35.0 |
| Lower secondary | 12.8 | 23.2 | 5.9 | 19.4 | 5.1 | 9.2 | 30.8 | 19.8 |
| Upper secondary | 47.6 | 38.4 | 63.2 | 29.4 | 42.1 | 55.0 | 47.6 | 22.4 |
| Tertiary | 33.8 | 29.3 | 29.4 | 40.5 | 44.1 | 30.5 | 17.9 | 22.9 |
| Housing tenure status (%) | | | | | | | | |
| Tenant | 34.5 | 20.0 | 51.4 | 12.1 | 43.6 | 29.6 | 26.3 | 21.8 |
| Owner | 65.5 | 80.1 | 48.7 | 87.9 | 56.4 | 70.5 | 73.7 | 78.2 |
| Number of respondents | 6,528 | 2,620 | 512 | 730 | 1,882 | 531 | 887 | 472 |

⁶⁶ The results for Portugal were compared with the original data collected by the Portuguese National Statistics Institute and with the Portuguese Census 2011. There is no evidence of sampling or measurement inaccuracy.

Source: HFCS, 2014. Multiple-imputation estimates with weighted sample. Own calculations.

7.5.2 Homeowners are consistently more likely to have their first-child than tenants

The results of the probit regression models are presented in Table 7.4. The hypothesis that being homeowner increases the likelihood of first-child birth is confirmed in the eight models. When presenting the exponentiated AMEs of the coefficients, we are comparing the shift in the age at the first childbearing with a change from tenant to owner, while holding other predictors in the model at their observed values.

In the Euro area and the SEC models, the household heads of an owner-occupied dwelling are on average 2 times more likely to have their first-child when compared to tenants. In the country level models, Spain is, by far, the country where being a homeowner mostly increases the likelihood of having a first-child. This figure is almost 3 times higher when compared to those in renting.⁶⁷ Italy shows a very similar pattern to the one in the SEC (2.0). Meanwhile, a more moderate relationship is found in Portugal, Greece and France. However, it is clear that this relationship still favours homeowners (1.8 for Portugal and 1.7 for both Greece and France). Finally, in Germany homeowners are 1.4 times more likely to have their first-child than tenants. Taking into account the characteristics of the German residential system and the analysis performed so far, a lower influence of housing tenure status in fertility was expected when compared with southern Europe. However, the results show that even in a residential system with a balanced distribution between homeownership and renting, homeownership is an important predictor of fertility behaviour.

Relating these results with the homeownership regimes proposed by Mulder and Billari (2010), we find Germany, a country classified as a “career homeownership regime”, at the bottom of the ranking of the exponentiated AMEs of homeownership over the birth of the

⁶⁷ The differences between the results presented in Chapter 6 and here are due to the use of a smaller set of predictors in the present chapter, but also due to differences in the sample selection. In this chapter, the sample controls for the women that experienced a housing change after reaching 18 years-old in order to avoid the influence of women that lived since childhood in the same house.

first-child. France and Portugal from the “elite homeownership regime” and Greece from the “difficult homeownership regime” in the intermediate positions and Spain and Italy also from the “difficult homeownership regime” at the top. This shows that in these countries, the more difficult to be a homeowner is, the greater the relative likelihood versus renting of having a first-child.

With regards to the demographic predictors, it is found that age increases the likelihood of have a first-child by 1.4 times when all countries are considered, and by 1.3 times in the SEC. Age squared confirms the non-linear relationship between the variables. Thus, the age of women has a positive effective on the likelihood of having the first-child. This effect inverts its relationship with time. When comparing the results at the national level, three trends stand out. First, in Italy, age increases the likelihood of having the first-child by 1.2 times, which is a weaker effect than the one observed for other countries. Second, the effect of age on childbirth in Germany and Greece is identical: age increases the likelihood of having the first-child by 1.3 times. Finally, Spain, France and Portugal form the group of countries where age has the strongest effect (1.6 and 1.4, respectively).

In general, having a higher educational level decreases the likelihood of first birth in both the Euro area and the SEC models. Contrary to what was expected given previous findings on the effect of educational attainment in the timing of fertility (Billari and Philipov 2004), educational attainment is not a statistically significant predictor of the birth of the first-child in the country level models. Thus, according to these results, while educational attainment may impact on the timing of having a child, and consequently on the offspring, it has no statistically significant effect on the decision of having a child. This matter is discussed further in the next section.

Table 7.4 Exponentiated average marginal effects (AMEs) of a first-child birth, by sociodemographic, economic and residential predictors revised from probit regression models, selected European countries, 2008-2011

| Predictor | EU | SEC | DE | ES | FR | GR | IT | PT |
|----------------------------|----------|----------|---------|----------|----------|----------|---------|----------|
| Age | 1.399*** | 1.33*** | 1.304** | 1.625*** | 1.539*** | 1.318** | 1.174* | 1.494*** |
| Age ² | 0.996*** | 0.996*** | 0.996** | 0.994*** | 0.994*** | 0.996** | 0.998 | 0.995*** |
| Lower secondary (ref. low) | 0.933 | 1.044 | 0.924 | 1.193 | 0.97 | 0.743 | 0.686 | 1.122 |
| Upper secondary (ref. low) | 0.814** | 0.887 | 0.7 | 0.894 | 1.048 | 0.511 | 0.682 | 1.002 |
| Tertiary (ref. low) | 0.72*** | 0.78* | 0.464 | 0.749 | 0.888 | 0.503 | 0.585 | 0.742 |
| Owner (ref. tenant) | 1.942*** | 2.013*** | 1.403* | 2.726*** | 1.697*** | 1.699*** | 2.07*** | 1.823*** |
| Number of observations | 6,528 | 2,620 | 512 | 730 | 1,882 | 531 | 887 | 472 |

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

Source: HFCS, 2014. Multiple-imputation estimates with unweighted sample. Own calculations.

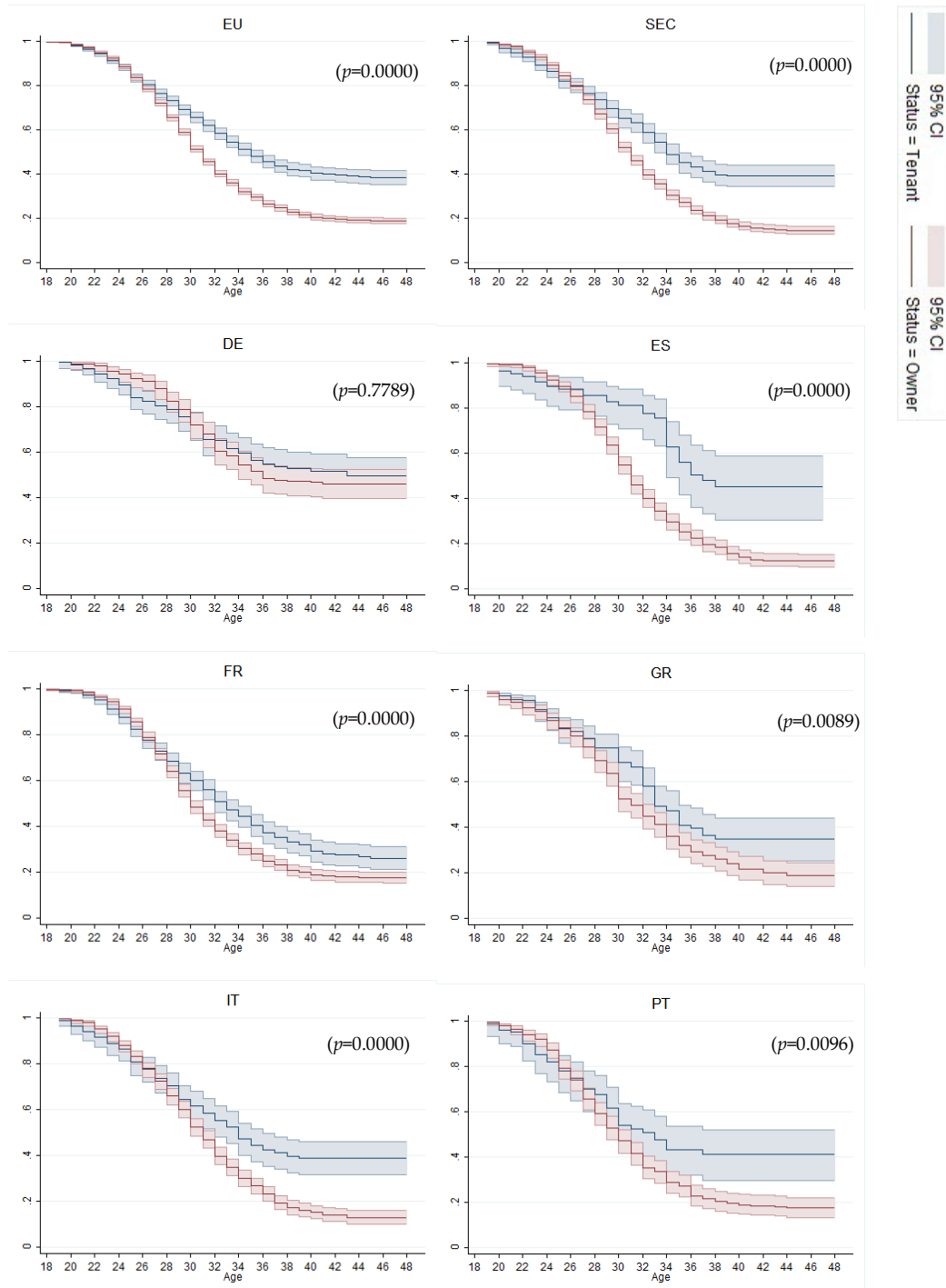
7.5.3 Speeding up the age at the first childbearing: the distinctive role of housing tenure status when combined with age and educational attainment

This study proceeds with a comparison of the Kaplan-Meier survival curves of the timing of first-child birth. Log-rank tests indicate differences in survival between housing tenure statuses for all the models except the German case (Figure 7.3). The results highlight that tenants have their first-child at a younger age than owners. However, the Kaplan-Meier survival curves show that between ages of 25 and 30 the lines cross, inverting the trend from then onwards.

Meanwhile, after the age of 30 at the country level, the SEC exhibit a distinct trend from the one in Germany and France. While in the SEC there are great differences between being a homeowner or a tenant and the age at first childbearing, in France and Germany the two curves of the Kaplan-Meier almost overlap.

To some extent in line with the results of the probit regression models, the log-rank test finds no significant difference between being a homeowner or a tenant in Germany.

Figure 7.3 Kaplan-Meier survival curves of the age at the first childbearing by housing tenure status, selected European countries, 2008-2011



Source: HFCS, 2014. Multiple-imputation estimates with unweighted sample. Own calculations.

When it comes to the overall effect of homeownership on the timing of first childbearing, the results confirm the hypothesis that being homeowner accelerates the event in five models: Euro area, SEC, Spain, Greece and France (Table 7.5). Despite statistically significant, the differences between the categories of the predictors appear to be small. This occurs because the dependent variable, the age at first childbearing, is measured in years meaning that the time ratios take a smaller magnitude. The overall models for the Euro area and SEC show that after a housing change, homeowners have a time ratio of having a first child sooner than tenants, with a greater time difference in the Euro area than in SEC. At the country level, Spain shows the biggest difference, with homeowners having a time ratio for the first-child of 0.898. With a smaller effect, but also statistically significant, are France and Greece.

Table 7.5 Time ratio to a first-child birth, by sociodemographic, economic and residential predictors revised from Gamma regression, accelerated failure-time form models, selected European countries, 2008-2011

| Predictor | EU | SEC | DE | ES | FR | GR | IT | PT |
|----------------------------|-----------|----------|----------|----------|-----------|----------|-----------|-----------|
| Age | 1.031*** | 1.045*** | 1.051* | 1.058*** | 1.025*** | 1.069*** | 1.048*** | 1.010 |
| Age ² | 1.000*** | 0.999*** | 0.999* | 0.999*** | 1.000** | 0.999*** | 0.999*** | 1.000 |
| Lower secondary (ref. low) | 1.041** | 1.047** | 1.075 | 1.020 | 1.013 | 1.070 | 1.101** | 1.070** |
| Upper secondary (ref. low) | 1.078*** | 1.115*** | 1.179 | 1.112*** | 1.041* | 1.150* | 1.167*** | 1.117*** |
| Tertiary (ref. low) | 1.184*** | 1.226*** | 1.332 | 1.174*** | 1.134*** | 1.258*** | 1.309*** | 1.260*** |
| Owner (ref. tenant) | 0.927*** | 0.955*** | 0.970 | 0.898*** | 0.932*** | 0.939* | 0.974 | 1.003 |
| Constant | 15.398*** | 11.85*** | 9.922*** | 10.82*** | 16.635*** | 8.472*** | 10.320*** | 18.150*** |
| Number of observations | 6,522 | 2,617 | 511 | 730 | 1,882 | 528 | 887 | 472 |

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

Source: HFCS, 2014. Multiple-imputation estimates with unweighted sample. Own calculations.

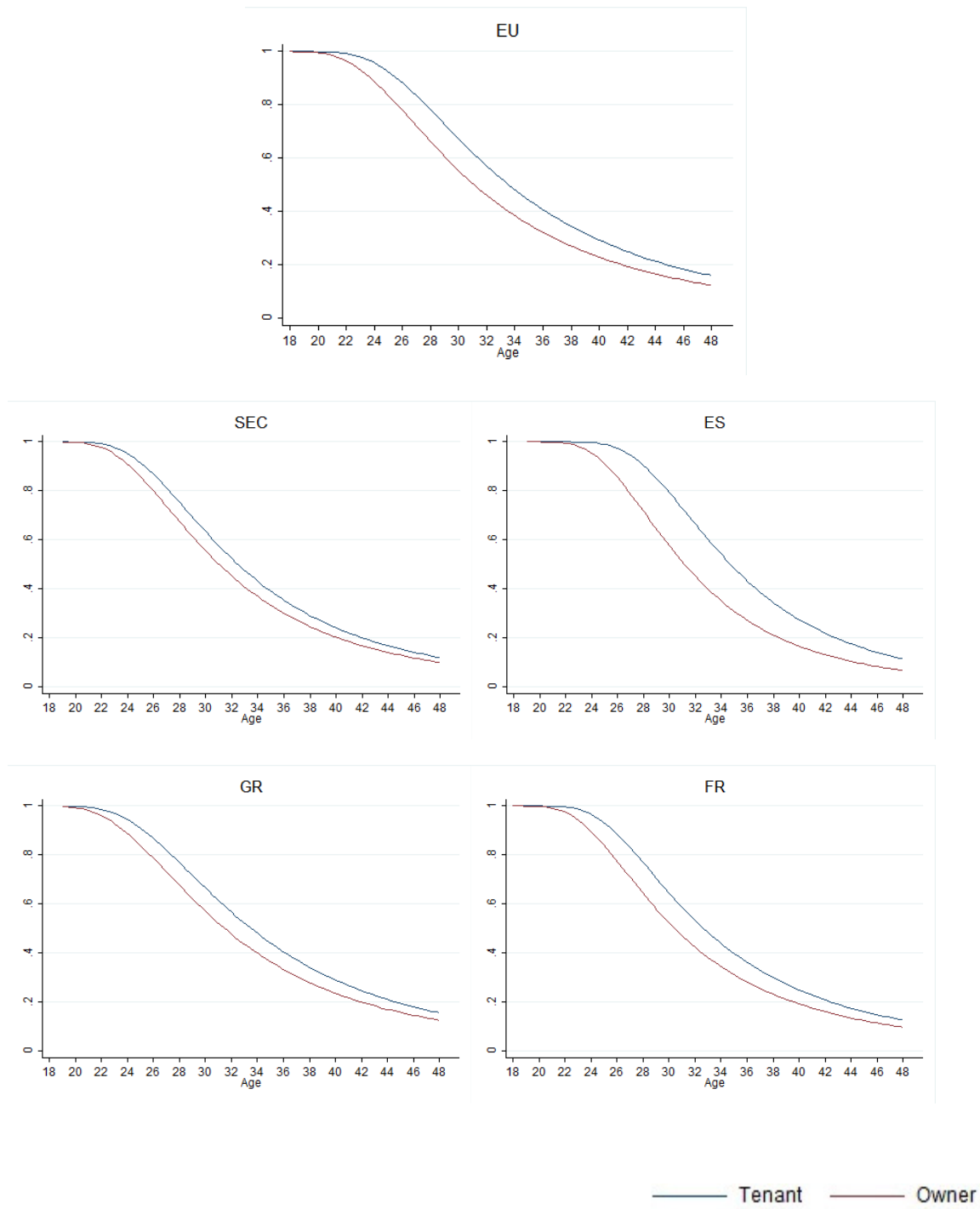
With regards to the remaining predictors, an increase in one year on the age of the woman decelerates childbirth after a housing change, being this effect greater in Greece (1.069) and smaller in France (1.025). As expected, educational attainment has a significantly statistic effect on the timing of the birth of a first-child, with the exception of the German model. In

general, higher educated women have their first-child at higher ages than lower educated women (Becker 1991). Higher educated woman spend more years in education and consequently become available to family formation and parenthood at a later time in their life courses (Billari and Philipov 2004).

Finally, it is clear to see that the effect of educational attainment stands out when plotting the survival functions while holding the independent variables in the model at their means (Figure 7.4).⁶⁸ Indeed, educational attainment dilutes the differences observed in the Kaplan-Meier survivors curve and the differences between housing tenure status become less pronounced, especially at the beginning and at the end of the reproductive life. As expected from the results of the Gamma regression accelerated failure-time form models, Spain is the country with the greatest difference between housing tenure status and the age at first childbearing.

⁶⁸ Figure 7.4 presents just the statistically significant models.

Figure 7.4 Survival functions of the age of the mother at the birth of the first-child by housing tenure status, selected European countries, 2008-2011



Source: HFCS, Wave 1, version 1.1. Multiple-imputation estimates with unweighted sample. Own calculations.

Taking into account the importance of homeownership in the likelihood and the timing of having a first-child and based on the hypothesis that receiving a house as a gift or inheritance releases financial resources that may compete with the costs of having a child, this study went further to test the subset of homeowners to understand if the way the house was acquired has an effect on fertility behaviour. The results are statistically significant for five models, although these differ from the previous five: Euro area, SEC, Greece, Italy and Germany. In all these models, to receive a house as a gift or inheritance decreases the time ratio of birth of the first-child, with the greatest difference found in Germany (0.810). The table with the time ratios to the first-child birth, by sociodemographic, economic and residential predictors revised from Gamma regression, accelerated failure-time form models is presented in Table A.7.1 of the Appendix.

7.6 Concluding remarks

In great part driven by the findings of Chapter 6, this study deepens the effect of housing tenure status in the likelihood and the timing of first-child birth under a comparative perspective, filling an important gap in the literature on housing demography of the SEC. The results of this study are presented under three main findings.

Regarding Hypothesis 1, after a housing change, to be household head of an owner-occupied dwelling increases the likelihood of having a first-child. This finding is transversal to all the participating countries, including Germany, which was added to this study in order to represent countries with a very distinct housing residential system from the one in southern Europe, where being homeowner is a matter of evolution of the household career.

Hypothesis 2 is also confirmed, although only partially. In the five statistically significant models - Euro area, SEC, Spain, Greece and France – childless women that experienced a housing change have they first-child sooner if they are homeowners. Additionally, the effect of housing tenure status by age show that in the SEC, much more than in France or Germany, the age of 30 years old clearly defines a threshold in the behaviour of women in

terms of their housing tenure status. Before that threshold, tenants display a lower age at the birth of a first-child, while after homeowners have their first-child at younger ages.

The survival functions of the age of the mother at the birth of a first-child by housing tenure status unveiled a secondary finding of great interest: education dilutes the differences observed in the Kaplan-Meier survival curves, because high educated women have higher ages at the birth of the first-child. Since the reduction of the educational gap in the population may contribute to the reduction of social inequalities, this finding suggests that women would benefit from specific educational policies, such as lifelong learning programs. This benefit would be more pronounced in cases such as Portugal, where women are less educated than their counterparts.

It is worth mentioning some of the limitations of this study. First, in an attempt to avoid compromising the sample size by country, this study uses the totality of births occurred between 1977 and 2001. By doing so, the analytical model needs to be comprised by a reduced set of predictors, considering only those that remain stable over time. Predictors such as work status for example were left out of this analysis, since they refer to the period of the survey instead of the period of first-child birth. Second, resulting from the length of the studied period, the methodological decisions made in order to define the sample hamper the representativeness of the results to more than the sample itself.

Resulting from the lack of appropriate data (preferentially longitudinal but also cross-sectional) the fertility topic has been almost absent from housing studies in the SEC. Consequently, while the data is not available, researchers are forced to use surveys designed for different purposes, such as the HFCS, and infer household relations from these by abdicating of predictors that do not match the event of interest. Another alternative is to undertake strong assumptions of constancy with regards to the characteristics of the participants. Hence, in order to improve the availability of data, it is strongly recommended that the fertility surveys add to their questionnaires a minimum set of questions regarding housing tenure status, dwelling type and the number of rooms

in the dwelling. This small inclusion would translate into a wide new range of possible research projects linking fertility to housing.

It is worth mentioning that Chapter 6 suggests quantitative and qualitative changes in order to improve household formation and rental options. By showing that the relationship between homeownership and the birth of a first-child is not a sole characteristic of the SEC, and is also evident in France, despite its range of fertility policies, and in Germany, a career homeownership regime, these results show that policies in favour of homeownership can result in an adverse effect. Instead of individuals determining their very own household careers, these become a function of the acquisition of a home.

Despite being an individual choice, fertility policies are important to assist families in accomplishing their desired offspring. Nevertheless, expenditure on fertility policies ends being perverted by the effect of housing policies that mostly promote homeownership in welfare states characterised a difficult access to such tenure status.

Chapter 8 Conclusions

Focusing on Southern Europe, this research explored the interrelationship between housing tenure status, household formation and fertility in the beginning of the XXI century. Three research specific objectives were defined: (1) to explore the distinctive feature of the southern European housing system regarding homeownership and household formation patterns; (2) to explain the recent evolution of housing tenure distribution accounting for individual and contextual factors; and (3) to analyse the role of housing tenure status in fertility. Five research questions were constructed, three of them with sub-questions, with the objective to guide the empirical research. Finally, the time has come to answer these questions, reflect on the implications and suggest recommendations, as well as to draw up lines for future research.

The SEC were among the first European countries to be severely affected by the GFC. The impact over the functioning housing market was perceptible through the increase in mortgage over-indebtedness rates, decline of housing prices, decrease in housing starts, building permits and completions and the increase in the restrictions to residential mortgage or loans. These recent contextual developments challenged the family-based southern European housing system, justifying an analysis of the factors that, according to the literature, explain the high homeownership rates in southern European.

As anticipated, the SEC continue to display the common factors that the literature stresses as greatly contributing to explain homeownership at the macro-level, namely small private rental markets and social housing markets. Yet, although the SEC are homogeneous in many features when compared with the European context, there are heterogeneous patterns in the southern residential systems. Due to the differences in the evolution of the housing markets since the second half of the XX century, cohort effects transformed age the major element of heterogeneity. In Italy, Spain and, to some extent, Greece, the older generations are favoured in the distribution of homeownership. In comparison, in

Portugal, a more balanced distribution of homeownership by age group is explained by the relevance of the residential determinants. Finally, in Cyprus and, to a lesser extent, Malta, the distribution of homeownership by age group strongly penalises the older cohorts.

Despite the substantial internal heterogeneity in southern Europe, as long as small private rental markets and social housing markets persist as keystones of the southern European housing system, homeownership rates will remain high, as a results of the lack of alternatives to the general population.

Moreover, the 'best' alternative to homeownership in southern Europe among the subgroup of the young active adults, is to live in non-headship, contrary to what is observed in France, Germany and in the UK, where non-headship is a residual option.

Non-headship competes with renting when comparing the European and southern European housing systems. Within the SEC, non-headship competes with homeownership, more precisely with outright homeownership in Greece and in Italy and with homeownership with mortgage or loan in Portugal and Spain. Thus, there are two geographical levels of analysis concerning the tenure option with which non-headship competes and they are perceptible only when housing tenure status is evaluated at a disaggregated level, which is not the frequent approach in housing tenure studies.

However, since definitive co-residence sharply decreased over the XX century, to live in non-headship is an alternative envisioned to single young adults. In general, the active young southern European adults that live in non-headship have low individual income and live in a household with a high income and in a detached house. This profile reinforces the belief that young adults postpone residential emancipation because it may negatively affect their income. But even within this framework, to live in non-headship can be understood as an option, a strategy elaborated under the restrains of the sociodemographic, household and residential characteristics of the young adult in order to maximise her/his resources.

An important body of literature stresses that the postponement of leaving parental home may have a negative demographic effect, since these young adults suspend important stages of the adult life course (family formation, parenthood) until they achieve residential emancipation. However, the mean ages of women at first-child birth and the total fertility rates suggest that, in the SEC, once residential emancipation is achieved, the transition to other adult stages occurs faster than in the countries where staying indefinitely in parental home is not an option. Thus, high ages at leaving parental home do not necessarily substantiate high ages at family formation and first-child birth. All in all, contrary to what the literature has shown, from this thesis perspective, it is mainly positive that southern European young adults may remain in the parental home, even after their integration in the active population group, since it is a result of a wider range of housing tenure options.

The general cultural acceptance of living in the parental home contributes to the increase of the non-headship rates. Here lies the explanation for the high homeownership rates referred by the literature. The role of the southern European family in the provision of housing for their younger family make the classical tenure rates misleading, since they neglect the effect of late and low family formation. This also contributes to the explanation of the apparent paradox between high homeownership rates and low fertility levels, at the macro, while homeownership increases the chances of parenthood, at the micro level.

Looking at the geographical heterogeneity of the Spanish context, this research has found that stability in housing prices has a positive effect in the preference for renting. The individual factors that contribute to increasing the chances of living in a rented-occupied dwelling match the temporary connotation attributed to renting in Spain: to be young, foreigner, live in a consensual union and have a low education level. Regardless, from 2001 to 2011, two important changes took place. On the one hand, there is a greater acceptance of renting through the decrease in the relative differences in citizenship, type of partnership and educational attainment. In this sense, the results suggest that a convergence process is undergoing. On the other hand, the impact of age and urban

location has changed between these two periods. From the divergence trend, it is noticeable that an increase in renting preference has taken place especially among the youngest cohorts and in the cities of intermediate population size. Although with different trends, both process point in the same direction: an upsurge of renting in the early stages of a couple's life.

Nonetheless, the regional heterogeneity in renting patterns is explained largely by contextual factors, placing the province of residence in a central role in terms of understanding housing dynamics in Spain. The results suggest that, during periods of stability in housing prices, households are less restrained in the progress of their life course because they are less pressured by the need to access homeownership, which is a much more balanced relationship with between households and housing tenure status.

Despite the recent increase in rented-occupied dwellings, in Spain, the relationship between homeownership and first-child birth changed at the outset of the GFC, becoming increasingly problematic. One possible explanation is that the greater the contextual economic uncertainty, the higher stability and security the household needs to proceed to parenthood. Noticeably, housing change and parenthood are two correlated events. Nevertheless, there is a different pattern according to housing tenure status, suggesting that Spanish homeowners anticipate parenthood by purchasing a house whereas Spanish tenants adjust their housing needs after becoming parents.

Additionally, the mean age of the mother at the birth of the first-child is always lower among tenants in the studied European countries. This suggests that young tenants may experience parenthood sooner in their life courses due to the absence of interference from acquiring a house. However, especially in the SEC, this also suggests a lack of resources of the family to provide support in the access to homeownership and/or a lack of prospects on an improvement of their own living conditions that could give them access to homeownership. To some extent, by not expecting better living conditions, these young tenants may find no reason to postpone the transition to parenthood.

In southern European residential systems, to live in an owner-occupied dwelling increases the chances of becoming parent. This is also true in France and Germany, two countries with very different fertility levels and housing systems. It appears that the long-standing housing policies promoting homeownership in the SEC had a perverse effect on fertility, something that was certainly unexpected by the policy makers. Additionally, at the housing systems level (Euro area and SEC), childless women that experienced a housing change have their first-child sooner if they are homeowners. At the country level that is also true in Spain, Greece and France. Nevertheless, if the effect of homeownership in the likelihood of having the first-child birth is strong and widespread, the effect over the timing of the first-child birth is much weaker and possibly not so common. The reason for this difference may rely on the nature of the relationship between homeownership and fertility. What appears to be very important to households is to benefit from the economic, demographic and social aspects associated with homeownership and only then to become parents. The timing to have a first child birth is more affected by other determinants after fulfilling the housing needs. For instance, after being a homeowner labour market status is expected to be more decisive in the timing of first child-birth.

Summarising the results of this research, two main strands of implications and subsequent recommendations are identified. First, the functioning of the “familiaristic” or “mediterranean” welfare state regime, heavily based on the active role of the family, works as a vicious circle in terms of housing provision. Resulting from the lack of government action, families organised themselves in order to provide housing for their members, whether by means of assistance in residential emancipation or by means of co-residence. In turn, the active role of the family contributes to the disengagement of the state, placing even higher responsibilities upon the family. With little intervention of the state and an important intervention of the family, the intergenerational social inequalities become very difficult to overcome. Consequently, a higher engagement of the state in the increase of the supply of social housing would be beneficial, since it would lead to a higher

level of independence of the new households from the family as housing providers and, in turn, contribute to a more equitable and stable society.

Second, southern Europe is still excessively oriented towards homeownership. Therefore, it is highly recommended to encourage household formation not only through means of employment and income stability but also through the increase in the rental supply, since the smaller the rental markets are, the higher the probability of living in non-headship. In addition to a greater renting supply, a qualitative change in statutory meanings of security associated with renting is needed to encourage household formation and fertility among southern European young adults.

Although there are some noticeable signs of change towards renting, this shift may only take shape if the rental supply increases in both quantity and quality. In this regard, housing prices stability is determinant in propelling the increase in rented-occupied dwellings among young couples.

This research has shown that the interrelationship between housing tenure status, household formation and fertility in the southern European housing system is an exceptionally multifaceted topic. Further, the dynamic feature of housing systems makes its study an even wider field of research due to the interest in monitoring their evolution. Given the boundaries of this research, three strands of future avenues of research would be especially encouraged.

On the topic of homeownership patterns in southern Europe, further research is needed to evaluate the converging or diverging patterns among the SEC and between the SEC and European housing systems. A demographic-based line of research could greatly contribute to the knowledge on housing systems by applying a keystone demographic concept – the longitudinal analysis. Such an approach could shed some light on the age-period-cohort effects that bring together the influence of the economic context, housing policies, housing supply, credit availability and the resulting family response, which is particularly important in the SEC. Alternatively, in the absence of comparative longitudinal data,

which is the current scenario, a quasi-panel or pseudo-panel could be built using repeated cross-sectional data. This alternative would give a first insight on the evolution of homeownership patterns while more appropriate data is not available.

Regarding the housing tenure options of active southern European young adults, specifically non-headship, which is a topic nearly untouched by research, it is important to expand the knowledge on the choices of specific groups as their proportion is increasing over time. Given the relevance of living in a partnership to the residential emancipation in the SEC, it would be interesting to understand the choices of the growing sub-group of young adults living apart together, i.e. couples that live deliberately in separate households. Another sub-group of young adults that is important to study are the non-heterosexual young adults, since there is very little research focusing on their housing behaviour.

In the explanation of the recent evolution of housing tenure distribution accounting for individual and contextual factors it would be particularly beneficial to acknowledge if the results obtained for the Spanish case are an extended southern European feature or if they constitute a European paradigm. Additionally, this work suggests that the geographical element lost some influence in explaining the Spanish housing dynamics from 2001 to 2011. Given that it is not possible, at the moment, to uncover whether this is a consequence of the GFC or of a geographic convergence process, this is something worth monitoring in the future.

Finally, this study just lifted the veil on the role of housing tenure status in fertility, leaving wide room for further research. Much is left to know on the interrelationships between life course, parenthood and housing tenure status. Following on from this study, it would be relevant to extend the research to second and third births and to address the causality and endogeneity that underlie household life course and housing careers. In order to tackle these topics, access to cross-national longitudinal data on housing and fertility behaviour is required. This could be achieved by means of a new international

survey or through data linkage of administrative data. For the time being, both options appear to be very ambitious, but the current big data era will surely bring considerable progress in data access.

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APPENDIX

Appendix Chapter 3

Table A.3.1 Distribution of participant households in EU-SILC by predictors, European Union and southern European countries, 2005 and 2009

| Predictor | Label | EU | SEC | ES | CY | GR | IT | MT | PT |
|------------------------|----------------------------|---------|--------|--------|-------|--------|--------|-------|-------|
| Year | 2005 | 197,594 | 48,957 | 12,996 | 3,746 | 5,568 | 22032 | - | 4615 |
| | 2009 | 223,259 | 51,710 | 13,313 | 3,145 | 7,036 | 19614 | 3641 | 4961 |
| Citizenship | Native | 380,466 | 96,554 | 25,058 | 6,318 | 12,037 | 40,157 | 3,558 | 9,426 |
| | Foreign | 16,602 | 3,588 | 1,041 | 572 | 538 | 1,216 | 82 | 139 |
| Age | <25 | 12,371 | 1,337 | 216 | 34 | 338 | 681 | 20 | 48 |
| | 25-34 | 44,223 | 8,339 | 2,384 | 619 | 975 | 3,512 | 249 | 600 |
| | 35-44 | 75,187 | 17,836 | 5,062 | 1,289 | 2,029 | 7,474 | 549 | 1,433 |
| | 45-54 | 86,342 | 19,757 | 5,516 | 1,547 | 2,313 | 7,739 | 752 | 1,890 |
| | 55-64 | 80,120 | 18,828 | 4,890 | 1,375 | 2,221 | 7,508 | 937 | 1,897 |
| | 65-74 | 65,231 | 17,764 | 4,415 | 1,125 | 2,350 | 7,341 | 606 | 1,927 |
| | >75 | 53,730 | 16,802 | 3,826 | 902 | 2,378 | 7,391 | 528 | 1,777 |
| Educational attainment | Lower than secondary | 139,488 | 56,542 | 14,377 | 3,043 | 6,502 | 23,768 | 2,583 | 6,269 |
| | Secondary | 161,378 | 22,181 | 4,113 | 2,075 | 3,089 | 11,662 | 490 | 752 |
| | Higher than secondary | 105,738 | 16,880 | 5,896 | 1,647 | 2,567 | 5,512 | 471 | 787 |
| Income | Lower | 104,706 | 24,980 | 6,494 | 1,721 | 3,121 | 10,342 | 909 | 2,393 |
| | Lower-middle | 104,813 | 24,980 | 6,492 | 1,722 | 3,117 | 10,345 | 910 | 2,394 |
| | Upper-middle | 104,879 | 24,987 | 6,494 | 1,722 | 3,120 | 10,346 | 910 | 2,395 |
| | Upper | 104,854 | 24,983 | 6,494 | 1,722 | 3,119 | 10,344 | 910 | 2,394 |
| Social environment | Adequate | 280,789 | 64,294 | 16,751 | 4,153 | 8,499 | 26,814 | 1,812 | 6,265 |
| | At least one problem | 139,851 | 36,368 | 9,554 | 2,738 | 4,105 | 14,832 | 1,828 | 3,311 |
| Dwelling type | Detached | 164,705 | 27,825 | 4,157 | 3,403 | 4,790 | 11,143 | 219 | 4,113 |
| | Semi-detached | 83,574 | 22,140 | 5,788 | 1,939 | 1,254 | 8,763 | 1,801 | 2,595 |
| | Apt. Build. < 10 dwellings | 58,152 | 23,757 | 5,031 | 862 | 4,021 | 10,689 | 1,517 | 1,637 |
| | Apt. Build. 10 > dwellings | 110,107 | 25,631 | 11,275 | 518 | 2,530 | 10,039 | 83 | 1,186 |
| Dwelling Quality | Adequate | 320,293 | 74,993 | 20,085 | 4,397 | 9,478 | 31,248 | 3,084 | 6,701 |
| | At least one problem | 100,536 | 25,674 | 6,224 | 2,494 | 3,126 | 10,398 | 557 | 2,875 |

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

Table A.3.2 Distribution of participant households in EU-SILC by tenure status (%), European Union and southern European countries, 2005 and 2009

| | | Owner (%) | Rent market (%) | Rent low market (%) | Free (%) | Missing (%) | Total (%) | <i>n</i> |
|----------|------|-----------|-----------------|---------------------|----------|-------------|-----------|----------|
| EU29 | 2005 | 72.29 | 14.39 | 5.95 | 7.34 | 0.03 | 100 | 197,657 |
| | 2009 | 75.58 | 13.02 | 5.46 | 5.87 | 0.08 | 100 | 223,428 |
| SEC | 2005 | 76.74 | 10.23 | 4.12 | 8.91 | 0.00 | 100 | 48,957 |
| | 2009 | 77.30 | 10.23 | 4.59 | 7.89 | 0.00 | 100 | 51,710 |
| Cyprus | 2005 | 70.98 | 9.58 | 0.75 | 18.69 | 0.00 | 100 | 3,746 |
| | 2009 | 69.73 | 7.12 | 0.64 | 22.51 | 0.00 | 100 | 3,145 |
| Greece | 2005 | 77.08 | 14.40 | 1.67 | 6.84 | 0.00 | 100 | 5,568 |
| | 2009 | 75.92 | 17.27 | 0.61 | 6.20 | 0.00 | 100 | 7,036 |
| Italy | 2005 | 74.22 | 11.30 | 5.21 | 9.28 | 0.00 | 100 | 22,032 |
| | 2009 | 76.11 | 11.45 | 4.86 | 7.57 | 0.00 | 100 | 19,614 |
| Malta | 2009 | 74.92 | 1.70 | 17.11 | 6.26 | 0.00 | 100 | 3,641 |
| Portugal | 2005 | 74.56 | 10.21 | 7.04 | 8.19 | 0.00 | 100 | 4,615 |
| | 2009 | 75.83 | 9.98 | 6.59 | 7.60 | 0.00 | 100 | 4,961 |
| Spain | 2005 | 83.29 | 6.82 | 3.28 | 6.62 | 0.00 | 100 | 12,996 |
| | 2009 | 82.75 | 7.86 | 3.04 | 6.35 | 0.00 | 100 | 13,313 |

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

Table A.3.3 Different perspectives of tenure rates (%), European countries, 2009

| Country | Headship | Owner headship | Renter headship | Non-headship | Homeownership |
|---------|----------|----------------|-----------------|--------------|---------------|
| EU | 38.91 | 29.43 | 9.48 | 61.09 | 75.58 |
| SEC | 37.85 | 29.26 | 8.59 | 62.15 | 77.30 |
| AT | 43.19 | 23.35 | 19.84 | 56.81 | 54.07 |
| BE | 41.68 | 28.63 | 13.04 | 58.32 | 68.70 |
| BG | 37.27 | 32.32 | 4.95 | 62.73 | 86.72 |
| CY | 33.88 | 23.62 | 10.26 | 66.12 | 69.73 |
| CZ | 42.53 | 32.27 | 10.26 | 57.47 | 75.88 |
| DE | 46.11 | 23.39 | 22.72 | 53.89 | 50.73 |
| DK | 39.04 | 28.29 | 10.75 | 60.96 | 72.47 |
| EE | 36.66 | 31.68 | 4.98 | 63.34 | 86.42 |

| Country | Headship | Owner headship | Renter headship | Non-headship | Homeownership |
|---------|----------|----------------|-----------------|--------------|---------------|
| ES | 36.21 | 29.96 | 6.25 | 63.79 | 82.75 |
| FI | 40.29 | 30.81 | 9.49 | 59.71 | 76.45 |
| FR | 41.40 | 26.36 | 15.04 | 58.60 | 63.67 |
| GR | 39.01 | 29.62 | 9.39 | 60.99 | 75.92 |
| HU | 39.56 | 34.98 | 4.59 | 60.44 | 88.41 |
| IE | 41.00 | 32.01 | 8.99 | 59.00 | 78.06 |
| IS | 33.72 | 28.82 | 4.90 | 66.28 | 85.46 |
| IT | 39.76 | 30.26 | 9.50 | 60.24 | 76.11 |
| LT | 39.93 | 37.75 | 2.19 | 60.07 | 94.52 |
| LU | 37.25 | 24.52 | 12.73 | 62.75 | 65.83 |
| LV | 40.25 | 34.57 | 5.68 | 59.75 | 85.89 |
| MT | 35.72 | 26.76 | 8.96 | 64.28 | 74.92 |
| NL | 41.07 | 29.17 | 11.89 | 58.93 | 71.02 |
| NO | 39.23 | 32.88 | 5.37 | 60.77 | 83.83 |
| PL | 34.31 | 23.51 | 10.8 | 65.69 | 68.52 |
| PT | 38.12 | 28.91 | 9.21 | 61.88 | 75.83 |
| RO | 41.41 | 40.25 | 1.16 | 58.59 | 97.21 |
| SE | 40.91 | 28.13 | 12.64 | 59.09 | 68.76 |
| SI | 31.38 | 26.16 | 5.22 | 68.62 | 83.35 |
| SK | 32.61 | 29.20 | 3.41 | 67.39 | 89.56 |
| UK | 43.14 | 30.86 | 12.25 | 56.86 | 71.54 |

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

Table A.3.4 Likelihood values (-2LL) of the regression models of homeownership by sociodemographic and residential characteristics, European Union and southern European countries, 2005 and 2009

| EU | | SEC | | CY | |
|--------------------|-----------|--------------------|----------|--------------------|----------|
| Predictor | -2LL | Predictor | -2LL | Predictor | -2LL |
| Dwelling type | 390132.51 | Citizenship | 96702.33 | Income | 7110.71 |
| Income | 372849.54 | Age group | 94030.57 | Dwelling type | 6812.37 |
| Age group | 360067.31 | Income | 91372.65 | Age group | 6639.97 |
| Citizenship | 358331.04 | Dwelling type | 89596.12 | Citizenship | 6511.55 |
| Dwelling quality | 356823.25 | Southern | 88294.97 | Dwelling quality | 6482.74 |
| Year survey | 355993.76 | Dwelling quality | 87635.56 | Education | 6455.87 |
| Social environment | - | Social environment | - | | |
| Education | - | Education | - | | |
| | | Survey year | - | | |
| ES | | GR | | IT | |
| Predictor | -2LL | Predictor | -2LL | Predictor | -2LL |
| Citizenship | 22002.14 | Age group | 11648.34 | Citizenship | 42714.63 |
| Age group | 21455.18 | Citizenship | 11049.41 | Age group | 41484.02 |
| Income | 20855.89 | Dwelling type | 10598.72 | Income | 40183.57 |
| Dwelling type | 20658.09 | Income | 10461.39 | Dwelling type | 39162.69 |
| Dwelling quality | 20461.32 | Dwelling quality | 10436.58 | Dwelling quality | 38959.46 |
| Social environment | - | | | Education | 38852.77 |
| | | | | Social environment | - |
| | | | | Survey year | - |
| MT | | PT | | | |
| Predictor | -2LL | Predictor | -2LL | | |
| Income | 3748.60 | Dwelling quality | 8290.88 | | |
| Dwelling type | 3665.81 | Dwelling type | 8008.08 | | |
| Dwelling quality | 3625.50 | Income | 7771.79 | | |
| Education | 3596.87 | Age group | 7650.95 | | |
| Citizenship | 3571.68 | Citizenship | 7610.98 | | |
| Age group | 3538.33 | Social environment | 7591.53 | | |

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

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

Appendix Chapter 4

Table A.4.1 Frequencies of non-headship by type, selected countries, 2008-2011

| Non-headship (%) | EU14 | SEC | ES | GR | IT | PT | DE | FR | UK |
|-------------------------------------|------|------|------|------|------|------|------|------|------|
| Living in parental home | 94.8 | 96.0 | 93.1 | 98.7 | 97.8 | 95.3 | 95.8 | 94.8 | 89.2 |
| Living in other living arrangements | 5.2 | 4.0 | 6.9 | 1.3 | 2.2 | 4.7 | 4.2 | 5.2 | 10.8 |

Source: EU-SILC, 2012. Own calculations with weighted sample.

Table A.4.2 Exponentiated average marginal effects of a young adult aged 25-39 years being outright owner, by sociodemographic, economic and residential predictors, ASMPR models, selected countries, 2008-2011

| Outright owner | EU14 | SEC | ES | GR | IT | PT |
|---|-------------|------------|-----------|-----------|-----------|-----------|
| Foreign (ref. native) | 0.918*** | 0.888*** | 0.911*** | 0.817*** | 0.869*** | 1.039 |
| Age 25-29 (ref. age 30-34) | 0.960*** | 0.953*** | 1.024 | 0.879** | 0.931*** | 1.022 |
| Age 35-39 (ref. age 30-34) | 1.074*** | 1.110*** | 1.111*** | 1.112** | 1.082*** | 1.086** |
| Secondary (ref. lower than secondary) | 1.008 | 1.065*** | 0.992 | 1.012 | 1.062** | 1.021 |
| Higher than secondary (ref. lower than secondary) | 0.997 | 1.063*** | 1.035 | 1.056 | 1.089*** | 1.033 |
| Low individual income (ref. medium) | 1.019 | 0.987 | 1.007 | 0.956 | 0.955* | 1.043 |
| Medium-low individual income (ref. medium) | 1.033*** | 1.000 | 1.004 | 0.988 | 0.989 | 1.008 |
| Medium-high individual income (ref. medium) | 1.035*** | 1.008 | 0.982 | 1.093 | 1.037 | 0.971 |
| High individual income (ref. medium) | 1.038** | 1.012 | 0.986 | 1.136 | 1.070* | 0.988 |
| Years since began first regular job | 0.998** | 1.000 | 1.001 | 1.007* | 1.003 | 1.003 |
| Living in partnership (ref. no) | 1.062*** | 1.112*** | 1.039** | 1.349*** | 1.162*** | 1.020 |
| Housing change in the past 5 years (ref. no) | 0.914*** | 0.938*** | 0.915*** | 0.935 | 0.972 | 0.934*** |
| Low household income (ref. medium) | 1.053*** | 1.069*** | 1.049 | 1.120 | 1.092** | 1.015 |
| Medium-low household income (ref. medium) | 1.029** | 1.022 | 1.005 | 0.962 | 1.064* | 0.981 |
| Medium-high household income (ref. medium) | 1.035*** | 0.994 | 0.992 | 0.925 | 1.002 | 0.997 |
| High household income (ref. medium) | 1.035** | 0.997 | 1.016 | 0.930 | 0.962 | 1.015 |
| Living in a rural area (ref. urban) | 1.048*** | 1.017 | 1.007 | 0.999 | 1.030 | 1.030 |
| Detached dwelling (ref. apartment) | 1.020*** | 1.028** | 1.031 | 1.045 | 1.008 | 1.071*** |
| Living in an overcrowded dwelling (ref. no) | 0.976** | 0.941*** | 0.972 | 0.887*** | 0.892*** | 0.960* |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 |

Note Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations.

Table A.4.3 Exponentiated average marginal effects of a young adult aged 25-39 years being owner with mortgage or loan, by sociodemographic, economic and residential predictors, ASMPR models, selected countries, 2008-2011

| Owner with mortgage or loan | EU14 | SEC | ES | GR | IT | PT |
|---|-------------|------------|-----------|-----------|-----------|-----------|
| Foreign (ref. native) | 0.875*** | 0.898*** | 0.795*** | 0.92*** | 0.947* | 0.933 |
| Age 25-29 (ref. age 30-34) | 0.923*** | 0.942*** | 0.869*** | 0.985 | 0.955** | 0.933 |
| Age 35-39 (ref. age 30-34) | 0.995 | 0.981 | 0.963 | 0.980 | 0.998 | 1.059 |
| Secondary (ref. lower than secondary) | 1.036** | 1.012 | 1.048 | 1.031 | 1.078*** | 1.049 |
| Higher than secondary (ref. lower than secondary) | 1.120*** | 1.024 | 1.001 | 1.029 | 1.046* | 1.020 |
| Low individual income (ref. medium) | 0.890*** | 0.920*** | 0.937* | 0.984 | 0.911*** | 0.883** |
| Medium-low individual income (ref. medium) | 0.927*** | 0.985 | 1.018 | 1.017 | 0.966* | 0.944 |
| Medium-high individual income (ref. medium) | 0.999 | 1.027 | 1.091** | 1.020 | 1.000 | 0.998 |
| High individual income (ref. medium) | 1.056*** | 1.107*** | 1.153*** | 1.032 | 1.030 | 1.142* |
| Years since began first regular job | 1.016*** | 1.016*** | 1.019*** | 1.009*** | 1.010*** | 1.013*** |
| Living in partnership (ref. no) | 1.370*** | 1.380*** | 1.533*** | 1.196*** | 1.304*** | 1.472*** |
| Housing change in the past 5 years (ref. no) | 1.043*** | 1.082*** | 1.067** | 1.043 | 1.134*** | 0.999 |
| Low household income (ref. medium) | 0.887*** | 0.958** | 0.952 | 1.015 | 0.957 | 0.874** |
| Medium-low household income (ref. medium) | 0.921*** | 0.987 | 0.966 | 1.005 | 0.999 | 0.943 |
| Medium-high household income (ref. medium) | 0.937*** | 1.009 | 1.003 | 0.992 | 1.033 | 0.967 |
| High household income (ref. medium) | 0.918*** | 0.969* | 0.984 | 0.981 | 0.997 | 0.931 |
| Living in a rural area (ref. urban) | 0.922*** | 0.962*** | 0.992 | 0.953* | 0.949*** | 0.961 |
| Detached dwelling (ref. apartment) | 1.091*** | 0.878*** | 0.853*** | 0.965 | 0.931*** | 0.776*** |
| Living in an overcrowded dwelling (ref. no) | 0.840*** | 0.867*** | 0.842*** | 0.951* | 0.946*** | 0.806*** |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 |

Note Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations.

Table A.4.4 Exponentiated average marginal effects of a young adult aged 25-39 years being tenant at market price, by sociodemographic, economic and residential predictors, ASMPR models, selected countries, 2008-2011

| Tenant at market price | EU14 | SEC | ES | GR | IT | PT |
|---|----------|----------|----------|----------|----------|----------|
| Foreign (ref. native) | 1.302*** | 1.365*** | 1.402*** | 1.462*** | 1.362*** | 1.255*** |
| Age 25-29 (ref. age 30-34) | 1.019* | 0.989 | 1.009 | 0.948 | 0.987 | 1.018 |
| Age 35-39 (ref. age 30-34) | 0.984* | 1.010 | 1.013 | 0.983 | 1.011 | 0.969 |
| Secondary (ref. lower than secondary) | 1.045*** | 0.990 | 1.010 | 0.930* | 0.964** | 0.965* |
| Higher than secondary (ref. lower than secondary) | 1.044*** | 0.989 | 1.026* | 0.970 | 0.963* | 0.995 |
| Low individual income (ref. medium) | 0.927*** | 0.942*** | 0.951*** | 0.908** | 0.927*** | 1.014 |
| Medium-low individual income (ref. medium) | 0.957*** | 0.972** | 0.973* | 0.960 | 0.964** | 1.025 |
| Medium-high individual income (ref. medium) | 0.996 | 1.007 | 0.970* | 1.051 | 0.998 | 1.069* |
| High individual income (ref. medium) | 0.988 | 1.015 | 0.990 | 1.034 | 1.023 | 1.062 |
| Years since began first regular job | 1.003*** | 1.000 | 0.999 | 1.003 | 1.001 | 1.005** |
| Living in partnership (ref. no) | 0.979** | 1.012 | 0.992 | 1.059** | 1.006 | 1.015 |
| Housing change in the past 5 years (ref. no) | 1.309*** | 1.251*** | 1.255*** | 1.457*** | 1.143*** | 1.423*** |
| Low household income (ref. medium) | 1.119*** | 1.106*** | 1.106*** | 1.039 | 1.118*** | 1.116** |
| Medium-low household income (ref. medium) | 1.045*** | 1.038** | 1.089*** | 0.974 | 1.013 | 1.061 |
| Medium-high household income (ref. medium) | 0.954*** | 0.984 | 1.008 | 0.962 | 0.960** | 1.026 |
| High household income (ref. medium) | 0.907*** | 0.946*** | 0.952*** | 0.959 | 0.920*** | 0.952* |
| Living in a rural area (ref. urban) | 0.976** | 0.994 | 0.984 | 0.992 | 0.991 | 1.023 |
| Detached dwelling (ref. apartment) | 0.790*** | 0.888*** | 0.931*** | 0.815*** | 0.865*** | 0.912*** |
| Living in an overcrowded dwelling (ref. no) | 0.985 | 0.997 | 0.982 | 0.947* | 0.979 | 1.003 |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 |

Note Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations.

Table A.4.5 Exponentiated average marginal effects of a young adult aged 25-39 years being tenant at reduced price or in free accommodation, by sociodemographic, economic and residential predictors, ASMPR models, selected countries, 2008-2011

| Tenant at reduced price or free accommodation | EU14 | SEC | ES | GR | IT | PT |
|---|----------|----------|----------|----------|----------|---------|
| Foreign (ref. native) | 0.979* | 0.998 | 0.969* | 0.991 | 1.039 | 0.977 |
| Age 25-29 (ref. age 30-34) | 0.982** | 0.972** | 0.986 | 1.047 | 0.962** | 0.945* |
| Age 35-39 (ref. age 30-34) | 0.998 | 0.999 | 0.980 | 1.048 | 1.000 | 0.973 |
| Secondary (ref. lower than secondary) | 1.007 | 1.008 | 0.991 | 1.028 | 1.005 | 1.002 |
| Higher than secondary (ref. lower than secondary) | 0.973** | 1.004 | 1.000 | 1.009 | 1.028 | 0.997 |
| Low individual income (ref. medium) | 0.980* | 0.974* | 1.001 | 0.966 | 0.944*** | 0.991 |
| Medium-low individual income (ref. medium) | 1.000 | 0.999 | 0.995 | 0.993 | 1.000 | 1.007 |
| Medium-high individual income (ref. medium) | 1.008 | 1.024* | 1.018 | 0.984 | 1.050* | 1.020 |
| High individual income (ref. medium) | 1.033* | 1.058** | 1.047 | 1.069 | 1.097** | 0.997 |
| Years since began first regular job | 0.999* | 1.000 | 1.001 | 1.001 | 1.003* | 0.997 |
| Living in partnership (ref. no) | 0.995 | 1.042*** | 1.020 | 1.117*** | 1.056*** | 1.039* |
| Housing change in the past 5 years (ref. no) | 1.032*** | 1.048*** | 1.019 | 1.088* | 1.079*** | 1.021 |
| Low household income (ref. medium) | 1.093*** | 1.077*** | 1.076** | 1.074 | 1.087** | 1.146** |
| Medium-low household income (ref. medium) | 1.055*** | 1.042** | 1.002 | 1.061 | 1.065** | 1.092* |
| Medium-high household income (ref. medium) | 0.967*** | 0.963*** | 0.958** | 0.989 | 0.951*** | 0.990 |
| High household income (ref. medium) | 0.926*** | 0.925*** | 0.926*** | 0.981 | 0.900*** | 0.954 |
| Living in a rural area (ref. urban) | 1.004 | 0.995 | 1.001 | 0.984 | 1.014 | 1.039 |
| Detached dwelling (ref. apartment) | 0.992 | 1.027*** | 1.006 | 1.026 | 1.038** | 0.969 |
| Living in an overcrowded dwelling (ref. no) | 1.001 | 0.987 | 0.990 | 0.991 | 0.966** | 1.004 |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 |

Note Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations.

Table A.4.6 Exponentiated average marginal effects of a young adult aged 25-39 years being non-headship, by sociodemographic, economic and residential predictors, ASMPR models, selected countries, 2008-2011

| Non-headship | EU14 | SEC | ES | GR | IT | PT |
|---|----------|----------|----------|----------|----------|----------|
| Foreign (ref. native) | 0.976* | 0.920*** | 1.016 | 0.919 | 0.859*** | 0.841* |
| Age 25-29 (ref. age 30-34) | 1.129*** | 1.159*** | 1.13*** | 1.163** | 1.184*** | 1.090* |
| Age 35-39 (ref. age 30-34) | 0.953*** | 0.911*** | 0.941** | 0.89* | 0.916*** | 0.921* |
| Secondary (ref. lower than secondary) | 0.909*** | 0.93*** | 0.961 | 1.003 | 0.902*** | 0.965 |
| Higher than secondary (ref. lower than secondary) | 0.881*** | 0.925*** | 0.941* | 0.941 | 0.886*** | 0.957 |
| Low individual income (ref. medium) | 1.214*** | 1.199*** | 1.114** | 1.212** | 1.312*** | 1.081 |
| Medium-low individual income (ref. medium) | 1.091*** | 1.046** | 1.011 | 1.043 | 1.086** | 1.018 |
| Medium-high individual income (ref. medium) | 0.964*** | 0.937*** | 0.946* | 0.867** | 0.921** | 0.947 |
| High individual income (ref. medium) | 0.894*** | 0.831*** | 0.848*** | 0.773*** | 0.808*** | 0.837*** |
| Years since began first regular job | 0.985*** | 0.983*** | 0.98*** | 0.980*** | 0.983*** | 0.982*** |
| Living in partnership (ref. no) | 0.705*** | 0.618*** | 0.621*** | 0.524*** | 0.621*** | 0.631*** |
| Housing change in the past 5 years (ref. no) | 0.776*** | 0.752*** | 0.801*** | 0.646*** | 0.736*** | 0.738*** |
| Low household income (ref. medium) | 0.874*** | 0.820*** | 0.842*** | 0.788*** | 0.787*** | 0.882** |
| Medium-low household income (ref. medium) | 0.957*** | 0.916*** | 0.944* | 1.002 | 0.872*** | 0.934 |
| Medium-high household income (ref. medium) | 1.117*** | 1.053** | 1.041 | 1.145* | 1.059* | 1.022 |
| High household income (ref. medium) | 1.252*** | 1.183*** | 1.133*** | 1.165* | 1.257*** | 1.164** |
| Living in a rural area (ref. urban) | 1.055*** | 1.033* | 1.016 | 1.076 | 1.018 | 0.951 |
| Detached dwelling (ref. apartment) | 1.145*** | 1.214*** | 1.214*** | 1.187*** | 1.185*** | 1.361*** |
| Living in an overcrowded dwelling (ref. no) | 1.236*** | 1.245*** | 1.258*** | 1.262*** | 1.253*** | 1.283*** |
| N | 21,459 | 12,356 | 3,963 | 1,415 | 5,150 | 1,828 |

Note Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Information not available in the dataset.

Source: EU-SILC, 2012. Own calculations.

Appendix Chapter 5

Table A.5.1 Tenure status rates by households (%), Spain, 1950-2011

| Year | Owner | Tenant | Other | Total |
|------|-------|--------|-------|-------|
| 1950 | 46 | 54 | 0 | 100 |
| 1960 | 51 | 45 | 4 | 100 |
| 1970 | 64 | 32 | 4 | 100 |
| 1981 | 73 | 23 | 4 | 100 |
| 1991 | 78 | 16 | 6 | 100 |
| 2001 | 82.2 | 11.4 | 6.5 | 100 |
| 2011 | 78.9 | 13.5 | 7.6 | 100 |

Source: Adapted from Pareja-Eastaway (2010:112) and Census of population and housing, 2011 (S-NIS).

Figure A.5.1 Map of Spanish provinces (NUTS3)



Source: <http://mapsof.net/spain/spain-provinces>

Table A.5.2 Characteristics of individual variables included in the multilevel logistic regression model for women aged 25-34 years living with a partner in a rented-occupied dwelling, Spain, 2001 and 2011

| | 2001 | | 2011 | |
|---|---------------|--------|---------------|--------|
| | Frequency (%) | Counts | Frequency (%) | Counts |
| Dependent variable | | | | |
| Women aged 25-34 living with a partner | | | | |
| Other | 88.9 | 64,769 | 82.5 | 99,854 |
| Tenant | 11.1 | 8,061 | 17.5 | 21,242 |
| Individual predictors | | | | |
| Citizenship of the partners | | | | |
| Foreigners | 1.9 | 1,368 | 9.5 | 11,461 |
| Native-foreigner | 1.2 | 871 | 2.6 | 3,202 |
| Foreigner-native | 1.5 | 1,125 | 5.5 | 6,671 |
| Native | 95.4 | 69,466 | 82.4 | 99,762 |
| Marital status | | | | |
| Cohabiting | 12.4 | 9,032 | 34.0 | 41,178 |
| Married | 87.6 | 63,798 | 66.0 | 79,918 |
| Educational attainment female | | | | |
| Lower than secondary | 14.3 | 10,407 | 7.4 | 8,936 |
| Secondary | 64.7 | 47,140 | 61.1 | 73,987 |
| Tertiary | 20.9 | 15,253 | 31.5 | 38,173 |
| Age of the female | | | | |
| 25-26 | 10.4 | 7,609 | 8.2 | 9,976 |
| 27-28 | 16.0 | 11,674 | 13.4 | 16,284 |
| 29-30 | 21.2 | 15,404 | 19.9 | 24,041 |
| 31-32 | 24.7 | 17,978 | 26.5 | 32,124 |
| 33-34 | 27.7 | 20,165 | 31.9 | 38,671 |
| Size of municipality (in inhabitants) | | | | |
| Over than 500,000 | 14.4 | 10,423 | 10.9 | 13,169 |
| 100,001-500,000 | 22.4 | 16,287 | 17.5 | 21,175 |
| 50,001-100,000 | 10.9 | 7,896 | 10.3 | 12,509 |
| 20,001-50,000 | 17.3 | 12,545 | 13.1 | 15,858 |
| 10,001-20,000 | 12.9 | 9,394 | 10.2 | 12,386 |
| 2,001-10,000 | 17.0 | 12,362 | 22.2 | 26,857 |
| Up to 2,000 | 5.0 | 3,643 | 15.8 | 19,094 |

Source: Census 2001 and 2011, INE. Own calculations.

Table A.5.3 Characteristics of the contextual variables included in the multilevel logistic regression model for women aged 25-34 years living with a partner in a rented-occupied dwelling, Spain, 2001 and 2011

| Variables at the provincial level | | | | | |
|---|-------|-----------|--------------------|--------|---------------------|
| 2001 | Mean | Std. dev. | Lowest quantile | Median | Highest quantile |
| CAGR of the private housing price by m ² in 2001-2008 | 11.01 | 2.49 | 9.20 | 10.98 | 13.10 |
| % of households living in buildings with four floors or more above the ground level | 44.65 | 18.04 | 30.89 | 41.18 | 59.14 |
| Mean age of the population | 40.60 | 2.75 | 38.56 | 40.44 | 42.74 |
| Variables at the provincial level | | | | | |
| 2011 | Mean | Std. dev. | Lowest quantile | Median | Highest quantile |
| CAGR of the private housing price by m ² in 2008-2011 | -4.60 | 2.06 | -6.00 | -4.56 | -3.51 |
| % of households living in buildings with four floors or more above the ground level | 47.21 | 17.04 | 34.23 | 44.39 | 58.50 |
| Mean age of the population | 42.62 | 2.73 | 40.59 | 41.84 | 44.29 |

Source: Ministry of Public Works, data from the first quarter and Census 2001 and 2011, INE. Own calculations.

Table A.5.4 Odds ratios for women aged 25-34 years living with a partner in a rented-occupied dwelling, revised from the multilevel logistic regression models, Spain, 2001

| Predictors | Mod. 0 | Mod. 1 | Mod. 2 | Mod. 3 | Mod. 4 | Mod. 5 | Mod. 6 | Mod. 7 | Mod. 8 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Individual variables | | | | | | | | | |
| Citizenship of the partners (ref. native) | | | | | | | | | |
| Foreigners | | 27.30 | 28.23 | 26.27 | 25.86 | 26.01 | 26.01 | 26.01 | 26.01 |
| Native-foreigner | | 4.74 | 4.02 | 4.13 | 4.12 | 3.99 | 3.99 | 3.99 | 3.99 |
| Foreigner-native | | 4.48 | 3.65 | 3.60 | 3.57 | 3.45 | 3.45 | 3.45 | 3.45 |
| Marital status (ref. married) | | | | | | | | | |
| Cohabiting | | | 3.07 | 3.09 | 2.98 | 2.83 | 2.83 | 2.83 | 2.83 |
| Educational attainment level female (ref. tertiary) | | | | | | | | | |
| Lower than secondary | | | | 1.87 | 1.86 | 2.11 | 2.11 | 2.11 | 2.11 |
| Secondary | | | | 0.89 | 0.88 | 0.96 | 0.96 | 0.96 | 0.96 |
| Tertiary (ref.) | | | | 1 | 1 | 1 | 1 | 1 | 1 |
| Age (in years) of the female (ref. 33-34) | | | | | | | | | |
| 25-26 | | | | | 1.34 | 1.38 | 1.38 | 1.38 | 1.38 |
| 27-28 | | | | | 1.14 | 1.17 | 1.17 | 1.17 | 1.17 |
| 29-30 | | | | | 1.08 | 1.10 | 1.10 | 1.10 | 1.10 |
| 31-32 | | | | | 1.03 | 1.04 | 1.04 | 1.04 | 1.04 |
| 33-34 (ref.) | | | | | 1 | 1 | 1 | 1 | 1 |
| Size of municipality (in inhabitants) (ref. up to 2,000) | | | | | | | | | |
| Over than 500,000 | | | | | | 2.14 | 2.14 | 2.14 | 2.14 |
| 100,001-500,000 | | | | | | 1.03* | 1.03* | 1.03* | 1.03* |
| 50,001-100,000 | | | | | | 0.88 | 0.88 | 0.88 | 0.88 |
| 20,001-50,000 | | | | | | 0.83 | 0.83 | 0.83 | 0.83 |
| 10,001-20,000 | | | | | | 0.77 | 0.77 | 0.77 | 0.77 |
| 2,001-10,000 | | | | | | 0.80 | 0.80 | 0.80 | 0.80 |
| Up to 2,000 (ref.) | | | | | | 1 | 1 | 1 | 1 |
| Contextual variables | | | | | | | | | |
| CAGR price by m2 of private housing, 2001-2008 (ref. Q1 lower increase in price) | | | | | | | | | |
| Q4 | | | | | | | 0.62 | 0.49 | 0.49 |
| Q3 | | | | | | | 0.76** | 0.76** | 0.75** |
| Q2 | | | | | | | 1.09* | 1.24* | 1.25* |
| Proportion of households living in buildings with four floors or more above the ground level (ref. Q1 lower height) | | | | | | | | | |
| Q4 | | | | | | | | 0.59 | 0.62 |
| Q3 | | | | | | | | 1.13* | 1.14* |

| Predictors | Mod. 0 | Mod. 1 | Mod. 2 | Mod. 3 | Mod. 4 | Mod. 5 | Mod. 6 | Mod. 7 | Mod. 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Q2 | | | | | | | | 1.39 | 1.41 |
| Mean age of the population (ref. Q1 younger age) | | | | | | | | | |
| Q4 | | | | | | | | | 1.03* |
| Q3 | | | | | | | | | 0.92* |
| Q2 | | | | | | | | | 1.01* |
| Variance between provinces | 0.143 | 0.155 | 0.160 | 0.161 | 0.162 | 0.198 | 0.155 | 0.067 | 0.070 |
| Constant | -2.119 | -2.288 | -2.452 | -2.491 | -2.552 | -2.561 | -2.391 | -2.346 | -2.350 |

Note: The odd ratios are statistically significant at $p < 0.001$, except * at $p < 0.05$ and ** at $p < 0.01$.

Source: Census 2001 and 2011, INE. Own calculations.

Table A.5.5 Odds ratios for women aged 25-34 years living with a partner in a rented-occupied dwelling, revised from the multilevel logistic regression models, Spain, 2011

| Predictors | Mod. 0 | Mod. 1 | Mod. 2 | Mod. 3 | Mod. 4 | Mod. 5 | Mod. 6 | Mod. 7 | Mod. 8 |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Individual variables | | | | | | | | | |
| Citizenship of the partners (ref. native) | | | | | | | | | |
| Foreigners | | 19.37 | 24.84 | 24.92 | 24.29 | 23.33 | 23.33 | 23.33 | 23.33 |
| Native-foreigner | | 4.47 | 4.38 | 4.38 | 4.32 | 4.00 | 4.00 | 4.00 | 4.01 |
| Foreigner-native | | 3.31 | 3.31 | 3.30 | 3.20 | 3.03 | 3.03 | 3.03 | 3.03 |
| Marital status (ref. married) | | | | | | | | | |
| Cohabiting | | | 2.75 | 2.76 | 2.46 | 2.37 | 2.37 | 2.37 | 2.37 |
| Educational attainment level female (ref. tertiary) | | | | | | | | | |
| Lower than secondary | | | | 1.10 | 1.02 | 1.15 | 1.15 | 1.15 | 1.15 |
| Secondary | | | | 0.80 | 0.76 | 0.85 | 0.85 | 0.85 | 0.85 |
| Age (in years) of the female (ref. 33-34) | | | | | | | | | |
| 25-26 | | | | | 2.30 | 2.38 | 2.38 | 2.38 | 2.38 |
| 27-28 | | | | | 1.96 | 2.00 | 2.00 | 2.00 | 2.00 |
| 29-30 | | | | | 1.45 | 1.46 | 1.46 | 1.46 | 1.46 |
| 31-32 | | | | | 1.23 | 1.24 | 1.24 | 1.24 | 1.24 |
| Size of municipality (in inhabitants) (ref. up to 2,000) | | | | | | | | | |
| Over than 500,000 | | | | | | 3.53 | 3.53 | 3.53 | 3.53 |
| 100,001-500,000 | | | | | | 1.71 | 1.71 | 1.71 | 1.71 |
| 50,001-100,000 | | | | | | 1.65 | 1.65 | 1.65 | 1.65 |

| Predictors | Mod. 0 | Mod. 1 | Mod. 2 | Mod. 3 | Mod. 4 | Mod. 5 | Mod. 6 | Mod. 7 | Mod. 8 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 20,001-50,000 | | | | | | 1.29 | 1.29 | 1.29 | 1.29 |
| 10,001-20,000 | | | | | | 1.07 | 1.07 | 1.07 | 1.07 |
| 2,001-10,000 | | | | | | 1.03* | 1.03* | 1.03* | 1.03* |
| Contextual variables | | | | | | | | | |
| CAGR price by m2 of private housing 2008-2011 (ref. Q4 lower drop in price) | | | | | | | | | |
| Q1 | | | | | | | 0.64 | 0.65 | 0.76 |
| Q2 | | | | | | | 0.75* | 0.75* | 0.92** |
| Q3 | | | | | | | 0.80** | 0.79* | 0.89** |
| Proportion of households living in buildings with four floors or more above the ground level (ref. Q1 lower height) | | | | | | | | | |
| Q4 | | | | | | | | 1.02** | 0.94** |
| Q3 | | | | | | | | 1.11** | 1.03** |
| Q2 | | | | | | | | 1.10** | 1.06** |
| Mean age of the population (ref. Q1 younger age) | | | | | | | | | |
| Q4 | | | | | | | | | 1.34 |
| Q3 | | | | | | | | | 1.09** |
| Q2 | | | | | | | | | 0.89** |
| Variance between provinces | 0,164 | 0,108 | 0,090 | 0,090 | 0,096 | 0,123 | 0,103 | 0,108 | 0,095 |
| Constant | -1,211 | -2,009 | -2,344 | -2,348 | -2,600 | -2,969 | -2,729 | -2,785 | -2,935 |

Note: The odd ratios are statistically significant at $p < 0.001$, except * at $p < 0.05$ and ** at $p < 0.01$.

Source: Census 2001 and 2011, INE. Own calculations.

Appendix Chapter 7

Table A.7.1 Exponentiated average marginal effects (AMEs) of a woman aged 18-49 years, living with a partner, giving birth to her first-child, by sociodemographic, economic and residential predictors revised from probit regression models, selected countries, 2008-2011

| Predictor | EU | SEC | ES | GR | IT | PT | DE |
|--|-----------|-----------|-----------|-----------|-----------|-----------|----------|
| Age | 1,023*** | 1,031*** | 1,032* | 1,058** | 1,027 | 1,02. | 1,091* |
| Age ² | 1.000** | 1.000*** | 1.000* | 0,999** | 1.000 | 1.000 | 0,999* |
| Lower secondary (ref. low) | 1,054** | 1,045** | 0,968 | 1,072 | 1,167*** | 1,056* | (1) |
| Upper secondary (ref. low) | 1,082*** | 1,108*** | 1,055* | 1,161* | 1,216*** | 1,107*** | 1,132 |
| Tertiary (ref. low) | 1,178*** | 1,203*** | 1,116*** | 1,253** | 1,363*** | 1,243*** | 1,252* |
| Gift / inheritance (ref. purchased / own construction) | 0,922*** | 0,950*** | 1,045 | 0,948* | 0,926*** | 0,951 | 0,810*** |
| Constant | 17,193*** | 15,057*** | 13,805*** | 10,074*** | 14,956*** | 15,844*** | 6,394* |
| Number of respondents | 3494 | 2059 | 652 | 351 | 682 | 374 | 279 |

Note: Significance level: * <0.10 ; ** <0.05 ; *** <0.01 . (1) Variable excluded due to collinearity. Data for France not available.

Source: HFCS, 2014. Multiple-imputation estimates with unweighted sample. Own calculations.