Centre d'Estudis Demogràfics

UAB Universitat Autònoma de Barcelona

PhD THESIS

DOCTORAL PROGRAMME IN DEMOGRAPHY

Centre d'Estudis Demogràfics / Departament de Geografia

Universitat Autònoma de Barcelona

'*Ageing in Place*' in Europe:

A multidimensional approach to independent living in later life

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September 2013

This PhD Thesis has been carried out as part of the I+D Project *Demographic analysis of housing needs in Spain, 2005-2015* funded by the Ministry of Science and Innovation of Spain (SEJ2007-60119) and directed by Dr. Juan A. Módenes. This thesis has also been funded by the 2013 call of the Centro de Investigaciones Sociológicas (CIS) research programme *Ayudas a la Investigación* .

This thesis uses data from SHARE wave 4 release 1.1.1, as of March 28th 2013 or SHARE wave 1 and 2 release 2.5.0, as of May 24th 2011 or SHARELIFE release 1, as of November 24th2010. The SHARE data collection has been primarily funded by the European Commission through the 5th Framework Programme (project QLK6-CT-2001-00360 in the thematic programme Quality of Life), through the 6th Framework Programme (projects SHARE-I3, RII-CT-2006-062193, COMPARE, CIT5- CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th Framework Programme (SHARE-PREP, N° 211909, SHARE-LEAP, N° 227822 and SHARE M4, N° 261982). Additional funding from the U.S. National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, R21 AG025169, Y1-AG-4553-01, IAG BSR06-11 and OGHA 04-064) and the German Ministry of Education and Research as well as from various national sources is gratefully acknowledged (see www.share-project.org for a full list of funding institutions)

Agradecimientos

Me gustaría comenzar este trabajo expresando mi gratitud a todas aquellas instituciones y personas que han contribuido a que esta tesis viese la luz.

En primer lugar, quiero agradecer el soporte continuado que he recibido del Centre d'Estudis Demogràfics, lugar que he considerado mi casa durante todos estos años. En especial agradecer a su directora, la Dra. Anna Cabré, la confianza depositada en mí al plantearme el reto de realizar esta tesis doctoral y el haberme brindado todas las oportunidades que lo han hecho posible. Ese agradecimiento lo hago extensivo a todas las personas con las que he tenido la oportunidad de trabajar durante estos años en el centro, por su calidad humana y profesional. También al Departament de Geografía de la Universitat Autònoma de Barcelona por haberme permitido completar mi formación académica al admitirme en el Programa de Doctorado en Demografía.

Dada la dedicación exclusiva a la que muchas veces obliga la investigación, me gustaría agradecer la financiación recibida tanto del Ministerio de Economía y Competitividad (antiguo Ministerio de Ciencia e Innovación) a través de la concesión de una ayuda pre-doctoral FPI en 2009 adscrita al proyecto I+D *Análisis demográfico de las necesidades de vivienda en España, 2005-2015* (SEJ2007-60119), como del Centro de Investigaciones Sociológicas, a través de la concesión de una Ayuda para la Finalización de Tesis Doctorales en su convocatoria 2013.

Del mismo modo, quiero destacar la excelente labor de mis dos directores el Dr. Juan Antonio Módenes y el Dr. Jeroen Spijker. Ambos habeis sido imprescindibles para que esta tesis llegara a buen puerto. Os agradezco toda la implicación que me habéis mostrado durante el proceso de elaboración de este trabajo, tanto en su fondo como en su forma. Vuestro rigor y sensatez analítica han hecho de este un trabajo mejor. De corazón, gracias por toda vuestra generosidad en lo académico y en lo personal.

Una buena parte de este trabajo se realizó durante varias estancias de investigación en otras universidades españolas y europeas. Mi gratitud al Departamento de Análisis Social (antiguo departamento de Ciencia Política y Sociología) de la Universidad Carlos III de Madrid y en especial a la Dra. Constanza Tobío. También al Centre for Population Research (University of Groningen) y al que por aquel entonces era su director Dr. L.J.G van Wissen por las sugerencias sobre el tratamiento de datos. A su vez, al Centre for Population Change de la University of Southampton en Reino Unido, y a su directora la Prof. Jane Falkinham, por aceptar mi visita y poner todos los recursos centro a mi disposición. Ese agradecimiento lo hago extensivo a Yvonne Richarson y Teresa McGowan. También quiero agradecer al Centro for Ageing Research de la University of Southampton, y a su directora la Prof. Maria Evandrou, el haber aceptado mi estancia como estudiante predoctoral. A María Evandrou, a quién debo buena parte del enfoque de esta tesis, le agradezco especialmente todo el tiempo dedicado a la lectura de los capítulos, sus sugerencias y el entusiasmo que supo transmitirme a la hora de abordar el tema de estudio.

A mi director Jeroen Spijker, a Cecilia di Lauro, a Eliane Lilly y a Sonia Chager por su excelente labor de corrección del idioma.

Mi incursión en el mundo académico se la debo a la Dra. Laura Lorenzo, que me guió en mis inicios como investigadora mucho antes de mudarme a Barcelona.

Dada la formalidad que reviste cualquier tesis, me concedo un breve espacio, para dedicarles unas palabras aquellos que en el plano personal han hecho las veces de motor y de puntal. Gracias a todos y a todas por el amor en mayúsculas que he recibido de vuestra parte, más aún por vuestro esfuerzo para hacérmelo llegar en los momentos de derrota.

De Barcelona me llevo amistades perfectas, como la que me une a Victoria y Madelín. Los mejores recuerdos que me llevo de esta etapa son inseparables de vuestra imagen y compatir con vosotras este proceso de de crecimiento personal y académico os han convertido en parte de mi familia. Gracias por todo chicas, no sabeis cuanto os voy a echar de menos. También a Thais y a Juan Parejo por estar ahí a pesar de la distancia.

La movilidad que exige la vida académica me ha convertido en una nostálgica crónica. Parte de la culpa la tiene mis amigos y amigas de Madrid, que nunca me han permitido olvidar donde está mi casa. A Laurita por ser una tormenta de vida a lado de la cual es imposible rendirse. Caminar contigo desde hace tantos años me hace darme cuenta de que hay cosas que cambian pero permanecen, y a las que aún merece la pena aferrarse. A Lore, que me hizo mucho más dulce el aterrizaje, por todo el calor y la ternura que he recuperado con ella en tan poco tiempo. A Marta y Nora por hacer que la distancia y el tiempo sean anécdotas en nuestras biografías de idas y venidas constantes. Gracias a las cuatro por hacer que, después de tantos años, todo siga siendo como siempre y de verdad. También, a Desfa, a Pichi, a Laura-Lucía-Viki (siempre iréis en trío), a Jimena, a Blanca, y a Carmen. Gracias a todos y a todas por hacer que en los momentos de agotamiento, desorientación y desánimo siempre haya habido una sonrisa que me decía “adelante”.

A Edu, por contagiarme de su espíritu indomable. Gracias por compartir conmigo tus sueños y querer formar parte de los míos. Estaba escrito en alguna parte que lo nuestro solo podía ser una carrera de fondo.

A mis padres, Rosa y Ángel, que han creído en mi más que yo misma. Gracias por sentiros partícipes de cada paso que he dado y hacer vuestra cada una de mis ilusiones. Sin vuestro esfuerzo, sacrificio y empuje pocas cosas en mi vida habrían sido posibles. Por eso, se me hace realmente difícil expresar en palabras cuanto os debo y cuanto os quiero. A mis tíos, Ana, Esteban, Julián, Montse, a María y Rober, y los recién llegados Diego y Mario. A todos y cada uno de los miembros de mi familia por estar a mi lado siempre y sin condiciones.

Por último, me gustaría dedicar esta tesis a mi abuela Sara. Desde que recuerdo y sin quererlo, ella me ha enseñado a apreciar ese otro conocimiento que no está en los libros, que no se aprende en ninguna escuela, que no se encorseta ni normativiza. Gracias abuela por compartir conmigo esas extraordinarias lecciones de intrahistoria que nunca me canso de escuchar. Eres mi tesoro.

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Chapter I. PRESENTATION OF THE RESEARCH

I.1. Background and aims of the study

The changes in population's living conditions that occurred during last century in industrialised countries have prolonged life as never in history. According to OECD data (2011) in 1960, the life expectancy for the EU15 population aged 65 and over was on average 12.9 years in case of males and 15 years in case of females. Almost forty years later, in 2009, the population aged 65 years old and over residing in EU15 countries could expect to live an average of 18 years in case of males and 21.7 years in case of females. Improvement in medical resources and infrastructures, health-care professionals and treatments, the instauration of public health systems, and changes in population lifestyles have led to more individuals survive until advanced ages (Omran 1971, 1998), transforming both the demographic profile of societies and the biographical development of individuals.

The generalised proportional and absolute increase of elderly cohorts across the continent has turned ageing into a subject of reflection and discussion for researchers, but also for policy makers, governments and international organisations. The interest about ageing and older people, beyond the limits of the scientific field, principally lies in the structural consequences that the growth of older population will suppose for the future administration of welfare states, especially in Europe. The discourse constructed around this concern has often presented ageing as a threat for progress and economic sustainability, prompting the search for formulas that alleviate the alleged pressure that the increasing demands of older population have over public resources. As a result, conceptual proposals as Active Ageing have

appeared as the cornerstone to design the future policies regarding to older population in Europe, based on the potential of these collectives as social and economic agents (Walker 2002, 2009). This conceptual proposal seeks to construct a positive vision about old age, counteracting the homogeneous image as dependent, passive and frail individuals commonly attributed to elderly people. Despite that until now the application of Active Ageing recommendations has been highly reductionist and fundamentally motivated by economic reasons that almost exclusively address the planning of pension schemes' reforms, the discussion about older people's roles is essential to offer a more realistic scope about who are them.

This re-definition of old age, however, it is not new for researchers on ageing. The awareness about the different profiles the older people present and the diversity of ways in which individuals experience ageing process was initiated with the works of Havinghurst (Havighurst 1961; 1963) and popularised by the works of Rowe and Kahn (1997; 1987), Baltes and Baltes (1990) and(Baltes and Carstensen 1996; 1990) who developed the concept of Successful Ageing, intending to enhance social participation and promote the well-being of older population.

In this context, Ageing in Place emerges as part of the Active Ageing paradigm, inheriting its positive vision about ageing and old age, and the institutional-scientific application of its precepts. On the one hand, the dissemination of the 'Ageing in Place' concept was triggered by being the label given to those policy guidelines that aimed to enhance the permanence of older people at home instead of institutionalisation in residential care. The typology of measures undertaken in Europe is demonstrated in detail by Giarchi (2002), ranging from structural adaptations to accommodation (ramps, kitchen or bathroom reforms, installation of warning devices, etc.) to the construction of housing complexes specifically designed for later life needs, or as was described by Pavolini and Ranci (2008), comprising from benefits in kind, such as the supply of professional care services by the state, to cash transfers, as the financial help to individuals or families which assume care tasks to older people. On the other hand, Ageing in Place is also used in research as a basis to investigate the connection between older people and their physical and social living environment, and the resulting effects that the permanence at home has over their well-being. Given that one of the consequences of longevity increase has been the extension of the period of time in which old people live in their own homes (Oswald and Wahl 2005; Tomassini et al. 2004), the main concerns have been to examine how independent living experience is configured, the role that families and states play in its consecution (Glaser, Tomassini and Grundy 2004; Smits 2010; Tomassini and Glaser 2007), above all in a sense of care and support, and the micro and macro resulting outcomes of this practice (Biocca and Sandström 2004; Gilleard, Hyde and Higgs 2007; Oswald et al. 2010).

An additional interest about independent living in later life for research has been the appearance of the domestic space as a key place for receiving care during old age (Wiles 2005). In this sense, support networks - formal and informal - appear as an essential part of the ageing in place process. These networks facilitate the autonomy and compensate the mismatches between the needs generated by ageing and the living reality. The familiar domain and intergenerational exchange flows established among households appear, therefore, as a fundamental resource in the living decisions in later life (Mulder 2007). Support networks are important not only for providing care, but also for assisting in the household chores or errands, as another source of income, or for the psychological benefit of just 'being there' (Freedman 1996).

Whether de facto (Fischer et al. 2000) or by conscious choice (Hjälm 2013), reality lies in the fact that the majority of old people live in their own homes up to the moment in which it is inevitable to transfer them to an institution or dependent home due to serious health decline. Even, this relocation can never happen. Some calculations point out that in Europe the average of older population over 65 years old who is living in institutions barely reach 5% (Peeters, Debels and Verpoorten 2011), presenting a profile dominated by the incidence of severe illnesses and impairments. Institutionalisation in Europe is utilised as a last-resort when handling daily life's tasks is unfeasible and in many cases it is a previous step to death (Laferrère et al. 2013). For this motive, this doctoral thesis focuses on the independent living of old people ('Ageing in Place') considering it as a process of adaptation between older individuals and their living environment in which the goal is to remain at home, despite the possible deterioration of their cognitive functions. The main objective of this work is to explore how the adaptation process occurs, its characteristics, existing types, and the mechanisms that make it possible at both individual and structural level.

This scenario sets out new research challenges and questions that this thesis aims to contribute to resolve by means of a thorough study of the circumstances in which independent living of old people is developed. Due to the fact that this is a generic practice, it is necessary to assess how this occurs, whether it really contributes to a more active and autonomous old age; and the role of external factors in the process (support networks, hired services and social policies).

The multiplicity of processes occurring during the ageing in place experience requires addressing the subject from a holistic point of view. Therefore, this doctoral thesis is presented from the beginning as a multidimensional and multidisciplinary approach. On the one hand, the multidimensional feature seek to consider the factors situated in different levels of reality, namely micro (individual), meso (social) and macro (structural), which are continuously interplaying. On the other hand, the pluridisciplinary perspective responds to the understanding of this process requires of the theoretical contributions and empirical strategies

elaborated for the all disciplines implied in ageing research; Gerontology, but also Sociology, Geography, Demography, Social Policy, Urbanisms, to mention a few.

I.2. Scientific and social relevance

Despite remaining at home is the most common living pattern in later life, the spread of the concept "ageing in place" has not occurred until recent times, growing exponentially since the 90's (Vasunilashorn et al. 2012a). This interest emerges directly from the attention that ageing has captured, prompted by the concern about the consequences of the demographic change. Evidences such as the proportion of the population aged 65 and over in the EU15, that in 2012 reached 18%, and the fact that it is foreseen that it will almost double in 2050 reaching 30%, have been triggers to question the sustainability of Welfare systems of European countries, expecting that the increase in elderly population jeopardises the public expenditure directed to health services and pensions coverage.

In this macro dimension, the appearance of "Ageing in Place" has served as a mainstream term to designate those policies in social, residential and health care in Europe, Unites States and Australasia, but at the same time as object of scientific concern which has questioned the universal positive effect of these measures over elderly well-being. This dichotomy has triggered relevant debates. The institutional argument has highlighted the benefits of ageing in place for the life quality of old people since it prevents the disassociation from social networks and the physical environment they are used to. The use of this concept as a political tool assumes that this is not only the preferred living method, due to the benefits implied for old people, but also necessary since it becomes a means for managing the demand of health services and household derived from demographic ageing. However, some researchers have pointed out that the option of old people to stay at their homes has been used by governments as an excuse to drastically reduce the investment on social expenditure and housing, privatising these sectors and transferring this responsibility to the families (Oldman 2003). The role of research has been to understand how this process is carried out, questioning and assessing to what extent these measures are effective or whether they are addressed properly. While the practical use of the term eulogises the benefits that permanence entails for elderly well-being, the scientific ambit specifies that these benefits are not so generalised and we need to be careful about the assumptions that lays beneath ageing in place measures.

At micro level, the changes related with ageing have not been exclusively quantitative, i.e. the increase of old age duration, but also have occurred in a qualitative sense. Better physical and cognitive competences during longer periods, a greater availability of financial resources and the coverage of great part of social and health services by welfare systems, have been the basis to the improvement of the circumstances under which individuals face their old-age years. While the major event announcing the onset of old age - retirement - maintains the threshold

that gives pass to later life fixed around the age of 65, the profiles of the individuals that reach that age are living longer with better health, economic and social conditions. After the age of 65, many individuals still conserve quite proper physical and cognitive conditions, some of them remain working or would like to do so if this was possible, create new households or decide to change their place of residence. Therefore, it is not only that the duration of old age has been extended, but also that the living situation of older generations in Europe compared to the past has improved.

In this respect, the relevance of the study of independent living in later life emerges from the impact that independent living has on the well-being of older population. Their preference to remain at home implies that, sometimes, elderly people continue living at homes whose conditions do not fit their needs. An eventual mismatch between the residential context and the living needs can derive in an increase of vulnerability, social exclusion or a worsening of life quality. For this reason, this investigation proposes a profound study of the circumstances under which independent living is displayed. Given that it is a generalized practice, it is necessary to assess how the ageing at home process is organised and the role that external factors (support networks, paid services and policies) have in its attainment.

I.3. Why Europe? Why now? Explaining temporal and spatial coordinates

As mentioned above, this study about independent living in older ages intends to perform a cross-national comparison of the European context. This spatial decision is not arbitrary. The fact that the European Commission, together with other international organisations as OECD, WHO or UN, has adopted the term "ageing in place" as cornerstone to present the policy guidelines is highly pertinent to adopt a cross-national perspective. The action plan agreed at the II International Ageing Assembly (2002) created the basis for the implementation of policies regarding to older population demands in terms of health care and housing within the EU frontiers, which basically favours the permanence at home of older population despite their disability or illness. However, the different social, cultural, economic and political characteristics of European countries make it necessary to specify how independent living is carried out in each territory in order to assess whether these measures are actually beneficial, or not equally applied in all contexts. The way social and family relationships are understood and the divergences on welfare states' organisation are aspects that determine the conditions old people face during independent living in each country within Europe. Although the differences and similarities do not always respond to the traditional North-South gradient, there are certain aspects of ageing in place process that follow the same pattern in Mediterranean region, Scandinavian countries, etcetera. The decision to present this research as a European comparison derives from the need to explain and understand these differences

in the practice of independent living, which seem to have been left aside by the institutional promotion of Ageing in Place.

The temporal dimension of the research refers to current time. Although it would be very interesting to observe how the trends in living patterns have evolved, the intention to elaborate a cross-national comparison conditions the length of the time scope. The databases that enable European comparisons, in this case the SHARE project and EU-SILC, have been recently implemented and only allow going back one decade. The opportunity to study older people groups by means of supranational surveys also limits a more retrospective perspective.

Although EU SILC gathers data from all the EU27 countries and the last available wave of SHARE includes Eastern European countries, the decision has been to reduce the spatial scope to the EU15: Germany, Austria, Belgium, Denmark, Spain, France, Finland, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, United Kingdom and Sweden. The reason has been because in the first waves of both sources most of the countries pertained to the EU15. Therefore, by reducing the spatial dimension it is possible to use the longitudinal information provided by SHARE. Unfortunately, those restrictions posed by the availability of data are the reason why not all the countries can be included in every analysis.

I.4. Research objectives

The ultimate objective of this thesis is to approach the experience of independent living in later life, by means of a multidimensional perspective that considers the simultaneity of processes and multiplicity of factors intervening in ageing in place achievement. Given that almost all individuals that reach old age do so living at home independently, this research is precisely focused on exploring the diversity of circumstances under which this experience is lived. Thus, the objective is not to try to identify the aspects that characterise those older people living in at home opposed to those institutionalised, but to analyse the factors that condition the different ways in which ageing in place could take place.

The two major questions to be answered are: *What is Ageing in Place?* and *Which are the determinant factors of the different ways of experiencing independent living?* Both are analysed by means of other more specific questions derived from a double theoretical-empirical objective.

Theoretical objective:

Given the fuzziness of the meaning of Ageing in Place highlighted by some researchers (Oswald et al. 2010; Schofield et al. 2006), this work aims to shed light on this by establishing the underlying premises of Ageing in Place. An attempt is made of defining Ageing in Place in a way that transcends its meaning as a management tool by highlighting its potential as conceptual

construct. To do so, it is crucial to adopt an integrated and integrative view that relates the different disciplines involved in ageing research in which these contributions are considered as a knowledge network. In this sense, the objective is to look at these contributions and explain how they can be operationalised so that they can be applied to empirical analysis.

Empirical objective:

As mentioned above, the research objectives of this thesis aim to account for the multiplicity of factors implied in accomplishing independent living-. The general empirical objective is approached by exploring four components: **demographic, residential, social and individual**. Notice that these components are not unique as other classifications could be elaborated.

There is also another component within this research, namely a **spatial component.** This thesis poses the question of whether there is a pattern of independent living common to the whole European continent or, the typical North-South gradient used to classify the Welfare States development and family relationships in Europe has its reflection on the way Ageing in Place is materialised. The influence of the spatial component is studied in relation to the other components mentioned above, being constant during the presentation of results.

The specific objectives are:

- Exploration of the demographic component. The assumption that Ageing in Place is the preferred living pattern among most European elderly lacks an empirical basis, so the objective is to estimate the population currently experiencing independent living and analyse the distribution per countries, gender and age. The questions to answer are: *what is the size of the population in the different European countries that is experiencing ageing in place?* And before that, *how a complex concept such as Ageing in Place can be operationalised to obtain that estimate?*

- Exploration of the residential component. On the basis that the time that older Europeans live in their own homes has been extended, the objective is to describe the living conditions where ageing in place is carried out. This includes if improvements of the older population's housing have been distributed equally in spatial (country comparisons) and socio-economic (poverty levels) terms. The residential component of ageing in place is also analysed as a strategy to remain in the private domain. Given the fact that independent living in old ages can involve different residential trajectories, from a long-term stability to mobility, the objective is to measure the duration of the independent living trajectories and examine the factors that determine that elderly people opt for one or another. The questions are: *what does the choice about residential strategy depend on in later life? Is there a residential pattern of independent living that is common throughout the continent, or do specific*

characteristics of each context determine residential dynamics linked to Ageing in Place in each territory?

- Exploration of the social component. The different support networks whether formal (public policies and private services) or informal (social networks and family) make that the disability of the older-old ages does not always imply the relocation in a nursing home. Another objective of this thesis is to analyse the support mechanisms that enable independent living in order to determine which those are, who have benefited from them and to evaluate if the different sources of home assistance are complementary of substitutive. Within this social component, the thesis focuses on analysing the relevance of family networks in providing care to old people, thereby questioning *to what extent the formal or informal support received at home contributes to extend independent living.* Frequently, it has been pointed out that the help received at home is related to the type of relationship old people establish with their closest social environment. Given the diversity of family systems within Europe that proves the division between strong and weak family systems (North-South gradient), it is appropriate to question the following: *how do family bonds impact on the provision of care at home*? *Do they somehow condition ageing in place in all regions in Europe*?

- Exploration of the individual component. We shall not oversee the fact that the correspondence between the needs generated during old age and the housing reality mostly depends on the individual's assessment of the situation, that is, the subjective component. The study of this component leads us to verify the opinions of old people regarding the favourite place and conditions to growing old. Therefore, *is ageing in place the preferred housing solution for old people? Or, are there cases in which other environments with family or institutional support are considered more suitable?* In this case, only the housing preferences of old people within the Spanish context are analysed with the aim to emphasise the particularities that the fact to remain at home in old age have in Southern Europe.

I.5. Outline of the study

This study follows a scheme in which each chapter is conceived as a whole research unit that explores some specific aspects of the ageing in place experience. Although the fact that this thesis displays a clear discursive thread, each chapter tackles a different issue and can be read separately. This is the reason why the chapters count on a more extensive conceptual introduction and, in the case of the empirical chapters, contains detailed information on the data and methods used to carry out each analysis.

The first part of the thesis - Chapter II and Chapter III - presents the conceptual framework and a review of data sources. Chapter II summarises the theories that have contributed to construct the social meaning of old age, focusing on the evolution of the paradigms that explain the ageing process, which have evolved from highly stigmatised visions to a more positive perspective, e.g. Successful or Active Ageing. This serves as a starting point to present the origins of the ageing in place concept and the underlying premises. Furthermore, Chapter II offers a definition of 'Ageing in Place' that is centred on its more basic premises: private domain and autonomy. Given that the fuzziness of the ageing in place definition has been one of the most highlighted problems, resulting from the fragmentation of the research addressed to ageing, this chapter aims to alleviate in part this ambiguity by giving a relational scheme based on the empirical findings discovered so far. In this line, Chapter II also sheds light on the debates arisen from the institutional-scientific application of the concept, which also has contributed to disentangle even more its meaning. Also, this first part of the thesis includes an overview of the main data sources used to carry out the statistical analysis (Chapter III), i.e. SHARE and EU SILC by presenting their design features and to which extent the sources are useful to resolve the goals set out by this thesis.

After that, the second part of the thesis is composed by five empirical chapters addressed to four components of independent living; demographic, residential, social and individual. Chapter IV is focused on the demographic component of ageing in place, measuring the magnitude of older Europeans ageing at home in relation with the main characteristics previously established in Chapter II. This means that in the first part the proportion of older population remaining at home is calculated, and in the second part it is estimated how many of them are doing so as autonomous individuals, comparing the fifteen countries of EU15.

Chapter V and VI go in depth on the residential component of independent living through the investigation of the relationship that older individuals maintain with the residential environment. Chapter V describes the context in which older Europeans are living. Special attention is paid to the environmental problems reported by them in order to identify the main mismatch between their needs and the residential environment. After that, and by means of logistic regressions, the analysis assesses how these living conditions impact on the evaluation of living environments in later life, performing a comparison between countries and adding the intra-national socioeconomic differences of older population as explaining factor.

Chapter VI also explores the residential component of ageing in place, but focusing on behavioural aspects. Using the theory of discrete choice, the chapter analyses two different residential strategies through which independent living can be materialized: to move or to stay, examining the factors that shape each alternative. This analysis emphasises the importance of permanence as a residential choice, moving forward in this under-researched topic. Also the differences among European countries are highlighted in this chapter.

Chapter VII explores the social component of independent living addressing the analysis on the mechanisms that make it possible in terms of support and care. In this case, the analysis focuses on evaluating how receiving support contributes to the extension of independent living, since the possible exchange of support is an intrinsic assumption of the ageing in place experience. As first step, the factors that shape the type of support received by older people at home - formal or informal - are explored, focusing on the analysis on two types of factors: health characteristics, which determine the needs that older individuals have to cover; and social networks composition, that suppose the most plausible opportunity to face this change. After that, and also considering the same determining factors, I analyse how the health conditions and the composition of social network determines home permanence instead of institutionalisation, comparing the results of some of the EU15 countries.

The last empirical contribution is presented in Chapter VIII, which aims to shed light on the individual component of living independent. This means, to uncover the factors that shape the choice of ageing in place as housing preference, but not as it is usually done in research (also in this research in Chapter VI) by means of revealed preferences, i.e. inferring that the manifested behaviour is the preferred option, but focusing on stated preferences that are the ideal types. In this analysis the preferences of elderly Spanish regarding the best place to grow older are assessed considering three options: to reside in their own home, to reside in the home of relatives and to reside in an institution. Furthermore, the analysis examines the preferences regarding two hypothetical situations: what would be this place is case of good health conditions and what it would be in case of frailty, questioning whether ageing in place is the most preferred situation in all cases. In this case, family living arrangements appear as a desired solution in the case of any type of disability. The last part of the chapter makes a prospective analysis, presenting the trends of Spanish population about ageing in place, but this time also considering individuals aged 18 and over. This gives the opportunity to outline future trends and to establish whether it could be expected that the major preference of ageing at home is maintained in the future.

Chapter IX contains the conclusions obtained and the future lines of research.

Chapter II. CONCEPTUAL FRAMEWORK

Introduction

The objective of this chapter is to present the conceptual framework that frames this study of independent living in later life. The main definitions of the elements that configure the ageing-at-home process are exposed, along with the intellectual foundations that motivate the current visions about elderly people and old age. As multidimensional experience, to approach ageing in place research becomes indispensable to construct an pluridisciplinary frame that connects and assemble the scientific proposals focused on explain how older individuals resolve the interplay between later life needs and their living conditions. Thus, the theoretical contributions contained in this chapter are conceived under a holistic lens that shed light on the comprehensive experience of growing older at home.

The first part of the chapter, titled as "From the stigma of dependence to a Positive Ageing Paradigm", explores the meaning of old age as a social construct, paying special attention to the incipient transformation of the discourse concerning ageing and the elderly people, which has evolved giving rise to new conceptualisations as Active Ageing which aims to transform in positive the experience of ageing. The second section of the conceptual chapter, titled as "What are we talking about when we talk about Ageing in Place?" focuses on the definitions and key elements involved in the independent living experience. First, it is offered an attempt of definition of the concept "Ageing in Place". After that, the basic characteristics that define the phenomenon for purposes of this research are established: private domain and autonomy. The third section presents some ecological models of relationship among older people and their living environment. And the last section of this second part of the conceptual frame, reflects about the two-fold meaning of "Ageing in Place", often conceptualised both as a social process and as a policy management tool. The debates of this political-scientific duality are then discussed, along with the debates that arise from this dichotomy.

PART I: FROM THE STIGMA OF DEPENDENCE TO A POSITIVE AGEING PARADIGM

II.1. Introduction Part I

Old age is the name given to the final stage of human life. Its meaning depends upon a complex combination of biological and social factors that together define who is considered an old person. At the organic level, old age involves a series of biological changes related to declining functional capacity. At the behavioural level, old age implies a shift on the roles fulfilled by the individual that each historical, cultural and social era has (re)interpreted, modifying the boundaries of its definition. At present, we find ourselves in one of these changing scenarios in which old age is being redefined once again. Today, its longer duration and the improved capacities that the elderly people display during this extended period are diversifying the older people profiles and, consequently, the vision that the rest of society held of them. Gradually, the perception that old age is a phase dominated by sickness and dependency is diluting, giving way to new identities. The idea that older people are passive and dependent individuals is being replaced by the recognition of their capacity to manage their daily reality, take decisions, and play an active role in their own lives as well in the community.

The emergence of the term 'Ageing in Place' and analogous conceptual proposals cannot be understood without take its origins back to the irruption of broader paradigms such 'Positive Ageing', which aims to translate in positive the experience of growing older. For that reason, the first part of this conceptual chapter is focussed on expose how the discourses about ageing have evolved as a basis to approach the elements that configure the comprehensive experience of ageing at home.

II.2. Unravelling the meaning of old age

In the biological sense, ageing is a phenomenon characterized by being irreversible, inevitable and universal. Expressed simply, this developmental process consists of the progressive loss of physical functionality due to the accumulation of cellular and organ failures over the life course (Kirkwood and Austard 2000; Westendorp and Kirkwood 2007). Ageing is a process inherent to existence that does not spontaneously occur at an advanced age but rather evolve through phases of growth, maturation, decline and death. These phases involve physic-cognitive changes such as learning to speak, the beginning and end of the reproductive cycle, or the onset of chronic diseases, which transform the person's conditions and needs as time goes by. A combination of exogenous (socioeconomic situation or historical moment) and endogenous factors (personal habits and genetics) will determine the speed and form of how each human being experiences.

The inevitable biological progression of human life also has had a social interpretation. Age is the element around which the social organisation of lifetime is structured, using it as measurement scale based on the number of years lived to construct and signify the biographical calendar of individuals. This has lead to the division of the life-span in successive phases, to which have been attributed specific roles that differentiate them and key events that announce the transition from one phase to another. As a human creation, chronological age alone does not generate changes or confer attributes. It is the social interpretation of age that assigns meaning when it is used as an indication of an individual's biological and psychological maturity, as a guide to include individuals in larger social categories such as cohorts, or as a criterion to place individuals in a particular life stage (Setterstend and Mayer 1997). The old age is the life period that corresponds to the ultimate phase of this chronologic scale.

Human life has been socially conceptualised under diverse names; *life cycle, life span, life course,* or *life trajectory*[1], which assumes that life-span follows a monodirectional trajectory from cradle to grave. Under this lens, lifetime is viewed as "*a sequence of socially defined events and roles that the individual enacts over time*" (Giele and Elder 1998:22). These events pertain to different spheres–family, work, residence, health– being the changes produced in each spheres those that

[1] At the end of the 19th century, the term "life-cycle" came into use as a concept supporting the study of the development of human beings. The concept has three key elements: it is irreversible (maturation) and divided into stages (phases) that are reproduced from generation to generation (reproduction). Later, other similar (but not totally interchangeable) terms came into being, such as life-span or life-course, which emphasise the individual nature of the configuration of biographic trajectories. Life-cycle is more linked to the study of populations and generations; the other terms involve a more individual development of the biography. Life-span, for example, alludes to the individual's time of life between birth and death, and shares the idea of maturation suggested by the life-course concept. However, it does not distinguish between phases or deal with social reproduction of roles. Life-course is perhaps the most-used term at present. It is based on the time when life events happen and the sequence of those events, and draws the biographic pathway(s) of individuals. O'Rand, M.and L. Krecker. 1990. "Concepts of the Life Cycle; their history, meanings and issues in the Social Sciencies." *Annual Review of Sociology* 16:241-262..

make evolve human biographies, organizing the order and timing of the played roles (Elder 1994; Elder, Johnson and Corsnoe 2003; MacMillan 2005; Mayer 2009). According to this, arriving to old age is defined less by age than by the changes occurred in these other parallel paths, such as retirement in the work trajectory and widowhood or the empty nest in the family-related trajectory. Although old age has traditionally been seen as a time of stability, it is actually a period of constant change and renegotiation of self-identity (Grundy 1991).

Due to this social component, the definition of old age depends in great extent on the space-time parameters of the context within which it is experienced. In the case of western societies, the moment that initiates later life is situated around 65 years, coinciding with the approximate ending time of one's working life. An effect of the normative nature of retirement as event that delimits the onset of old age is that this threshold remains stable while life expectancy increases. As consequence, the time that pass between the end of the working years and death has enlarged as never in history. Today, when people reach old age can expect to live longer compared with those generations who preceded them. This extension has led to the division of old age into different periods, labeled as *Third Age* and *Fourth Age* (Gilleard and Higgs 2010; Laslett 1991) or the *young-o*ld and *old-old* (Johnson and Barer 1997; Neugarten 1974). The basic difference between the two phases is that the former is linked to a positive stereotype of old age, in which individuals enjoy relatively good health and are socially integrated; meanwhile the last is associated with a negative stereotype based on dependency, a clear decline in physical and mental capacities, and death (Neugarten 1974). Therefore, although the specific situations marking the border between them are diffuse and vary according to demographic, functional or quality of life criteria, there is a common acceptance that old age encompasses different phases, justifying this distinction in terms of social participation, health status and daily living needs (Smith 2002). Furthermore, the transformation of later life has been not only quantitative but also qualitative. Substantial improvements in the capacities and resources of older people count on have increased the quality of these life years gained. Until advanced ages, many elderly people live without any serious physical or cognitive disability which impedes them to be self-reliant. The new conditions have diversified the characteristics of the population considered "old", inducing a certain discord between the images that society associates with them and the heterogeneity of actual profiles of elderly individuals.

As synthesized by Fernández-Ballesteros et al. (2005:93), the current conceptualization of old age in the **micro level** lies on five essential aspects:

- Age is not the only factor that determines the ageing process, but rather interacts with other social, historical and individual elements.
- There are differential developmental patterns throughout the life-course.

- Biomedical and psychosocial processes do not share isoforms; physical ageing is not coupled with psychological ageing.
- These patterns vary enormously from person to person.
- Patterns of ageing are not random but rather modelled by individual actions (behaviour) and by external (social) factors that may affect the form and pace of the ageing process.

Also at the **structural level**, ageing has to be approached considering new premises that Cabré (1993) summarized as follows:

- To reduce the conceptual importance of fictitious barriers as "65 threshold", which are arbitrary and attribute to the ageing process a discontinuity feature that by itself is naturally continuous.
- The use of indicators as "dependency ratio" (*population aged under 16 – over 65 / population aged 16-64*) suggest that elderly people depends economically on the current active working population. However, elderly population contributed to their pension schemes previously, while they were workers, with independence of the utilisation that has been made of these expenses. Thus, the worries about public resources redistribution should be focused on management, not on demographic trends.
- The weight of ageing population should be measured in absolute numbers rather than in proportion to avoid the effect that fertility and migration has on the estimations.
- Avoid simplifications about the impact of structural ageing over pension schemes. Socio-economic and legal factors (age of retirement, female labour-force participation, black economy, low salaries of younger workers, etc) have more relevance on contribution to pension schemes than the size relationship among age groups.
- Life expectancy increase is a positive achievement and a social success, and as such must be treated.
- Structural ageing is not everlasting. It strongly depends on other demographic trends as fertility and migrations which means that the current picture could be significantly different in the future.

Therefore, the meaning of old age and ageing nowadays lies on the recognition of the diversity of ageing experiences, both physical and psychological, and the importance of both demographic trends and the socio-political context for conceptualisation of this life stage.

II.3. Discursive interpretations of demographic change

The increasing number of older people and decreasing working-age population gave rise to a discourse that questions the economic sustainability of ageing societies, based on an alleged pressure of the elderly population on the redistribution of resources. This idea of demographic ageing as an obstacle to progress emerged at macro level has permeated to social imaginary nourishing the stigma of the economic and social dependence of older people. Negative interpretations of the structural consequences of demographic change and the resulting stereotypes at a micro level have been mutually reinforced, affecting not only the view that older people have of themselves but also the views of other social groups about older population. Nonetheless, in the last two decades other approaches have appeared that attempt to reverse this negative image of later life, transforming the view of demographic change from *problem* to *opportunity*. The role of Gerontological studies in this process has been crucial, offering a sufficiently solid theoretical-empirical base from which to stimulate the development of a new paradigm of Positive Ageing.

II.3.1. The structural stigmatisation of older population

A large part of the negative attributions assigned to older people are linked with the discourse generated about their demands and needs at the structural level. The creation of the European welfare states after the Second World War, signified a renegotiation of the so-called *intergenerational contract*, which in economic terms regulated the transfer of public resources between generations, whether by taxation or by public expenditure and in practice signified the implementation of public pension systems (Walker 1993). The results were converse; on the one hand pensions guaranteed a fixed income in old age, which raised the standard of living for the elderly people, but simultaneously this schemes converted them in a collective economically dependent on the state (Binstock 2010; Townsend 1981; Walker 2008). The intergenerational contract as basis to organise the provision of pensions presuppose an equilibrium between the size of older cohorts and those in working ages, which must be enough large to assure the funding of pensions. The augment of pensioners and the decrease of working-age persons activate the alarms about the sustainability of these schemes and pointed at older population as cause of the instability. Moreover, the considerable amount of public investment destined to meet pension expenses reinforced the image of older people as excessive consumer of common resources. As Esping-Andersen (1999) and later Walker (2009) have explained, the weight of pensions in the social expenditures of the state means that they condition the budget on the rest of the pillars of the welfare system, which means that affect the need's coverage of the rest of the population. The interpretations of this economic dependency from younger generations have

nourished the most negative views of older people and ageing to assume that the augment of elderly population jeopardises the common good.

In addition, is not only that the older individuals are perceived as excessive consumers of public resources, but they are also considered economically unproductive (Riera 2005). In this sense, retirement acts as a process of exclusion when the end of a person's working life is associated with the loss of an active role in society. Because the beginning of old age is associated with the end of workforce participation, the elderly people lose value as human capital and become seen as a social burden.

The vision of old age biased by the stigma of dependency and inactivity has been the basis for alarmist discourses that have insisted in presenting the demographic change as a national and even global burden on resources (Pérez-Díaz 2005). The radicalization of these interpretations has been called *apocalyptic demography* or *demographic determinism* (Gee and Gutman 2000; Robertson 1997), which describe the arrival of baby-boomers to their old age years using troubling metaphors such as "silver tsunami", "the coming generational storm" (O'Neill 2009) or "greedy geezers" (Binstock 2010) in North American context and the "elderly avalanche" (Russel 1990) in British literature. International organizations such as the Organization for Economic Cooperation and Development (OECD) or World Bank have strongly contributed to this line of thought with respect to the labour market and pensions repeatedly alluding to this phenomenon as "the ageing problem" (OECD 1999, 2005a) or "the old-age crisis" (WorldBank 1994).

The discourse of fear to ageing societies has been used to justify successive reforms in European welfare systems since the 1980s, presenting as unavoidable the objective of reducing the demographic pressure over resources. This has resulted in the gradual transfer of the responsibility for pension management to the workers themselves and to their private sector employers (Myles 2003). Sectors critical of this approach argue that, paradoxically, the institutions that point to the elderly population as the primary problem are the same ones that caused the problem by implementing measures to shorten the number of working years as a solution to the de-industrialization of the European continent. Early retirement policies has, with the acquiescence of the private sector, facilitated the exit from the labour market of many individuals before the stipulated retirement age, swelling the number of individuals that economically depend on the state (Phillipson 2012). Consequently, it would be highly reductionist to establish a causal relationship between structural ageing and the economic instability in European countries (Mullan 2002; Pérez-Díaz 2005; Phillipson 2012). Esping-Andersen summarized this idea arguing that *"(…) Europe's welfare states have become 'pensioner' states, not because ageing is more advanced than elsewhere, but rather because of their policy bias in favour of passive income maintenance and labour supply reductions*" (Esping-Andersen 1996:74).

In the current panorama of economic crisis, contraction in the welfare states is causing a shift from societies that had accepted a social obligation of intergenerational support as a guarantee of well-being toward those that have transferred the responsibility for the "risks" associated with old age to the individual, families and the community (Baars et al. 2006). The predominant discourse seems to forget, however, that periods of economic recession also have a strong impact on the elderly population. Policy guidelines that orient cutbacks toward the expenditures most closely linked to age, such as health care and the public pension system, constitute for these groups a major threat of exclusion (Phillipson 2012).

Almost the only positive interpretation of the demographic change at the structural level were those that identified in the new conditions and capacities of today's elderly people a business opportunity for market sectors such as leisure and tourism, housing, automobiles or investments and financial products. This has come to be known as the *Grey Market* (Gunter 2012), a view of the older people that emphasizes their potential as consumers and business generators, clearly oriented toward a concrete sector with higher purchasing power.

II.3.1. Negative old-age stereotypes

The stigma of dependency and inactivity that has arisen in a structural plain has permeated at the microlevel generating negative stereotypes that conceive to the elderly population as individuals who are incapable of making their own decisions, constantly require assistance, and represent (or will represent) a burden on society, on institutions and families. Old age and dependency has been considered such equivalents that they have been often used almost as synonyms. The status of older people has been symbolically compared to that of children, in what Victor (2005) called the *infantilisation of old age*: denying elders the degree of autonomy and competency necessary to manage their own lives without third-party intervention.

Considering age to be a "problem" and developing negative attitudes about the elderly has generated discriminatory situations that are not always explicit (Peace et al. 2007). The most obvious examples of age discrimination (or *ageism*) are found in the work sphere, where experience is often valued less than youth when decisions are made to hire or retain an employee. Job discrimination against older people has not only an economic effect on them but can also affect their sense of identity. This has been called "institutionalised ageism" (Bass and Caro 2001): a series of mechanisms that act in a latent fashion, impeding job success, such as a lack of recognition of accomplishments, limited or no job offers, or obstacles to internal promotion. Characteristics such as health problems, lack of flexibility, resistance to change, or outdated knowledge and skills are often attributed to older workers, not only by employers but also by external individuals, such as clients in the services sector (Peace et al. 2007).

Moreover, negative stereotypes are amplified in combination with other roles. The effect of adding gender prejudices to negative age stereotypes produce the *double standard of ageing* (England and McClintock 2009; Krekula 2007). Traits socially attributed to the feminine gender (beauty, physical attractiveness, maternity) withstand the passage of time worse than the masculine traits (self-control, power, security), reason why the perception of older men used to be less negative than that of older women. Even so, some studies have noted double standard of ageing are slowly weakening for new generations of older adults (Narayan 2008) and its persistence is related to the context which elderly individual belongs (Levy and Leifheit-Limson 2009).

Negative stereotypes also affect the way that individuals see themselves. The stigmatization of old age as a time of decline and disease in post-industrial societies that celebrate youth as a positive value has even caused persons over 65 years of age to feel uncomfortable with this label and attempt to dissociate themselves from it. For individuals to acknowledge their identity as 'elders' several physical factors must be present that are related to health status and role changes such as retirement or the death of a spouse. Frequently, individuals who chronologically have entered their "old age" years but remain in good physical and cognitive condition tend not to consider themselves 'elders' (Baltes and Smith 2003; Ryff 1991). In this way, they themselves contribute to the negative stereotype by assuming that favourable conditions and active roles are not part of this life stage.

II.3.1. Theoretical roots of ageing discourses

The discourses about old age are sustained by theoretical proposals that explain the ageing process and the role of elders from a social point of view. Although some of these have fallen into disuse or are widely rejected by the scientific community, their importance is rooted in how they have fashioned the idea of ageing until its current forms. This section provides an overview of traditional ageing theories using the intuitive classification developed by Victor (2005), which divides them into two large groups: Functionalist Theories and Conflict Theories. This is then followed by a summary of the theories associated to the emergence of the so-called *Positive Ageing Paradigm*.

Functionalist theories conceive individuals as interdependent parts of a social system within which they have a specific task. The correct functioning of all these parts guarantees the maintenance and survival of the system, and any change in one of the parts supposes transformations of the whole. The first theory that attempted to explain the ageing process using these macro-social schemas was *Disengagement Theory*, formulated by Cumming and Henry (1961). This theory is based on the hypothesis that ageing implies disconnection and the end of the commitment that the individual established with the society in an earlier stage of life. The

rupture that occurs between the individual and the society is viewed as a voluntary process. It responds to an instrumental behaviour through which elders transfer power and social protagonism to the younger generations. Retirement is then the adjustment mechanism that best reflects this transfer of power between generations; elders accept retirement to concede the active role they can no longer fill to younger cohorts. This proposal assumes that the disconnection between elders and the society is positive for both parties: elders are liberated from the stress of productivity and the competitiveness of the working world, and society benefits from the energy of younger workers.

Although the multiple criticisms of Disengagement Theory have pushed it into disuse, it was the initial intellectual basis for the implementation of public policies that assumes the separation of the elderly people as an essential part of the functioning of the social system in capitalist countries (Estes 2001). The practical application of measures based on this theory results in the appearance of social barriers for elders such as low pensions, poor health care standards, etc, resulting in major possibilities to social exclusion.

In response to Disengagement theory, *Activity Theory* emerged, primarily developed by Havighurst (1963) and other investigators of the University of Chicago (Havighurst, Neugarten and Tobin 1968). Activity Theory also tries to explain the role of elders from the viewpoint of social equilibrium, assuming that the path toward satisfactory ageing is achieved by means to the perpetuation of the activities that were engaged in previous life stages. A satisfactory ageing involves the replacement of the roles lost in later life for another of a similar nature. For instance, after retirement older people must seek alternative activities such as volunteer or community service that can provide a similar social role. The creation of policies based in these precepts, gave way to more positive measures for elders than those based on the disengagement theory, because in this case the theory recognizes that if old age is to be a satisfactory life stage a certain degree of social integration is essential. Even so, a usual criticism to this theory is that it suggests that all activities have the same social value, which is certainly questionable (Victor 2005).

Also in this line, the *Continuity Theory* states that during the ageing process individuals will try to preserve the lifestyle, habits and preferences acquired in other life phases, extending this status for as long as possible. Contrary to what occurs in the two previous theoretical proposals, in this one there is no pre-established pattern indicating the path toward successful old age. Instead, individuals are given the power to decide which roles they want to maintain or reject. Adapting to change during old age takes place in relation to what the individual perceives as most beneficial. What is novel about this theory is that it introduces the importance of the preceding life course into the ageing model as part of understanding how each individual experiences old age. The most important criticisms of this theory have been that it does not take into account that individual starting points are often not good and do not improve over the life course. Therefore,

maintaining a lifestyle does not guarantee satisfaction in old age for these individuals, but rather the opposite.

In contrast with the functionalist theories, that emphasize the cooperation between social groups to maintain the social structure, conflict theories accentuate the factors that divide them. The basic argument is that the different social groups have opposing interests and confront each other for control and access to social resources, particularly in capitalist societies. Theories such as *Structural Dependency* (Townsend 1981; Walker 1982), conceived and developed primarily in the British context, assume that the social inequalities experienced throughout life will continue in old age, and therefore the type of ageing process is strongly influenced by prior conditions. The *Political Economy Approach*, developed above all in the North American context, is also based on the interaction between the state, the economy, and socially defined population groups. From this perspective, Estes (1979) argued that old age is defined less by an individual's biological or chronological age, but rather by the relationship that the older population establishes with the means of production and the policies developed by the states. The state shapes the meaning of old age for three reasons: (1) it redistributes resources in the society, (2) it mediates the relations between different social groups, and (3) it improves, or attempts to improve, the conditions that threaten the stability of the system.

As a reaction to the stigmatization of old age, during the second half of the 20th century new approaches have emerged that attempt to reverse the negative stereotype of elders, arguing that this image was only a partial and biased reflection of reality. Concepts that have come from the ambit of gerontology, such as ***Successful Ageing*** (Baltes and Baltes 1990; Rowe and Khan 1987), ***Active Ageing*** (WHO 2002), ***Optimal Ageing*** and ***Healthy Ageing*** (EuropeanCommission and Health 2007) or ***Productive Ageing*** (Butler 1969; Morrow-Howell, Hinterlong and Sherraden 2001), are among the proposals that have contributed to the development of this new paradigm that, in the end, attempts to recognize and underline the positive aspects of ageing and the latent potential of these groups of the population, with the goal of obtaining a broader and more realistic vision of old age and older people.

This compendium of analogous terms is what Fernández-Ballesteros (2011) has called the *Red Nomológica del Envejecimiento Positivo* (Nomological Network of Positive Ageing): a series of concepts that preface "ageing" with a positive adjective, attempting to compensate for the negative bias normally associated with this word. All of these concepts are not exactly synonymous, although sometimes they have been used as such; rather, they are different conceptualizations with the same objective that together form the *positive ageing* tapestry. In the academic literature, the boundaries between the different terms and the extent to which they might be interchangeable is not totally clear; neither is it clear when or in what context one or the

other should be applied[2]. This lack of boundaries has led authors such as Walker (2002) to present them even as different stages of maturity of the same theoretical construct that began in the 1960s with the development of the idea of *Successful Ageing*, continued in the 1980s with *Productive Ageing* (particularly in the North American context), and has taken on its current form in the Active Ageing paradigm, primarily in Europe. Thus, the starting point is that Positive Ageing is constructed on the basis of an enthusiastic discourse that considers ageing to be a multidimensional process that depends for satisfactory results on both the individual and structural conditions under which the process take place.

Successful Ageing, emerged from Gerontological psychology and often applied in Sociology, was the first proposal minimally structured aiming to identify the factors that lead to a satisfactory old age in terms of physical, cognitive and social well-being. This proposal reverses the negative meaning of ageing, arguing that old age could also signify a phase of individual conquest if there is an adequate balance between the gains and losses an individual experiences in this stage of life. This conceptual framework proposes that the idea of a satisfactory ageing process must be disconnected from the materialistic connotation of "success" has in post-industrial societies, which tend to think of it in purely economic terms. What could seem adequate in functional terms to achieve a satisfactory old age, such as the availability of material resources, may not be satisfactory in ideal terms (Baltes and Carstensen 1996). Here, the indicator of success is the degree of achievement of an individual's personal goals and aspirations. For instance, there are cases in which elderly people with sufficient economic resources to face materially old age needs, grieve about ageing in a psychological sense, a situation that impedes self-affirmation and fulfilment. Due to its subjective component, there is no a universal way to ageing successfully and the path to achieve it depends on the circumstances of each individual. Also contextual factors such as the time in history and cultural norms influence individual outcomes conditioning what could be consider "successful" *(ibid)*.

One of the first authors to introduce the term "Successful Ageing" in gerontology research was Havighurst (1961:8), who advocated for a theory that included *"a statement of the conditions of individual and social life under which the individual person gets a maximum of satisfaction and happiness and society maintains an appropriate balance among satisfactions for the various groups which make it up–old, middle aged, and young, men and women, etc."* Nonetheless, the greatest impetus to the theoretical development of this concept was the work of Baltes and Baltes (1990), when proposed the *model of selective optimisation with compensation* (SOC). This metamodel systematizes the mechanisms that help to achieve a satisfactory old age based on a scheme of

[2] For an in-depth analysis of the use of the different forms of "Positive Ageing" in each scientific area, see: Peel, N.M., R.J. McClure, and H.P. Bartlett. 2005. "Behavioral determinants of health ageing." *American Journal of Preventive Medicine* 28:298-304. Depp, C.A.and D.V. Jeste. 2006. "Definitions and predictors of successful ageing: a comprehensive review of larger quantitative studies." *American Journal of Geriatric Psychiatry* 14:6-20.

equilibrium between gains and losses. In this psychosocial approach, "success" of ageing process is defined as "*goal attainment*" and a satisfactory old age is achieved by "*minimisation of losses and maximisation of gains*" (Baltes and Carstensen 1996:405).

On the road to a satisfying old age, an individual experiences three parallel processes: selection, compensation and optimization. Each one of these involves different psychosocial mechanisms and strategies. The process of selection helps the individual to manage the restrictions imposed by changes in personal and contextual resources during old age, i.e., the predictable "losses" in physical-cognitive, motivational or socioeconomic capacities. This is an adaptation strategy that consists of prioritization of the most important aspects and challenges in life that are considered most important, and then a readjustment of the individual's goals and aspirations. Baltes and Carstensen (1996) use a very graphic example to illustrate this process: a spouse with a terminal illness may experience losses in the social or sexual domain but an increase in the family domain due to the closeness unchained by the need of care. The selection process is proactive when the individual voluntarily anticipates these changes and adapts their life challenges and contexts accordingly (for example, seeking out new activities with a view toward retirement) and is reactive when circumstances require that the person make a choice (for example, a serious illness might force an individual into institutional care, although there might remain a certain margin of choice with respect to the type of residence or care centre, where it is located, the activities offered, etc).

The second of these processes is compensation. It is activated when there is some type of change that affects the capacities as well as the resources available to the individual in daily life. This type of process often is a consequence of the first (selection), because the areas to which the individual decides to pay less attention must be dealt with by some other means that guarantees balance in that domain; for example, hiring someone to help with domestic tasks as they become more challenging due to the eventual loss of capacity. Not all compensation strategies present the same challenge; some involve acquiring new habits, others the use of technologies or an economic cost, etc.

The third and final mechanism is optimization. This process involves good management of the available resources, both economic and psychosocial, with the intention of meeting personal objectives within the existing conditions. This process is highly associated with the exogenous conditions of the individual, because it is the society that provides the mechanisms to make resource optimization possible during old age.

Given that the SOC model was intentionally created for multidisciplinary use, more targeted studies have applied this same idea of "success" as personal achievement to specific fields of study. For example, Fries (1990:35) applied the Successful Ageing parameters to assess their meaning within the context of health: "(Successful ageing) *consists of optimizing life expectancy*

while at the same time minimizing physical, psychological, and social morbidity, overwhelmingly concentrated in the final years of life". On the other hand, Featherman, Smith and Peterson (1990:52) emphasize the social aspect: "*as a first approximate definition, successful ageing is a social psychological, processual construct that reflects the always-emerging, socially esteemed ways of adapting to and reshaping the prevailing, culturally recognized conditions of mind, body, and community for the elderly of a society".* There are many other definitions that cannot be presented here due to space limitations[3] but can be synthesized using the table developed by Martin et al (2012) to present some of the most important conceptual proposals associated with Successful Ageing:

Table II.1. Summary of Successful Ageing definitions

AUTHOR(s)	CONCEPTUAL PROPOSAL
Baltes & Baltes (1990)	Selective optimization with compensation
Depp & Jeste (2006)	Disability/physical function, Cognitive functioning, Life satisfaction/wellbeing, Social/productive engagement, Presence of illness, longevity, self-rated successful ageing
Kahana & Kahana (1996, 2003)	Social and psychological resources, preventive and corrective adaptations, psychological, existential and social well-being
Phelan & Larson (2002)	Freedom from disability, independent functioning, life satisfaction, active engagement with life, longevity, positive adaptation mastery/growth
Rowe & Khan (1987)	Low probability of disease and disease-related disability; high cognitive and physical functional capacity; active engagement with life

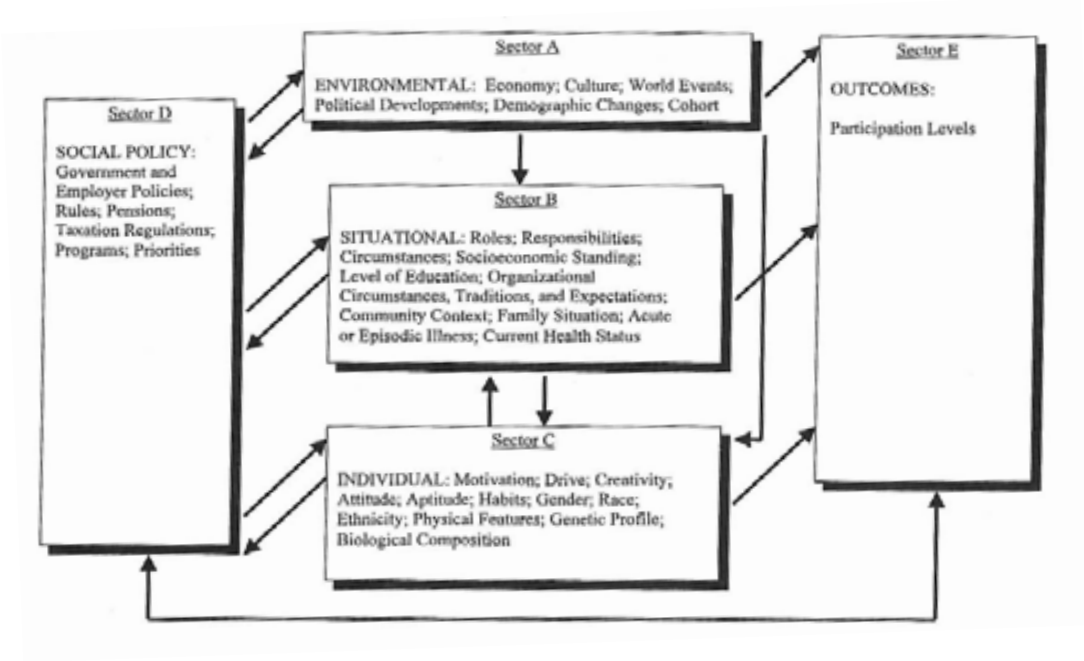
Source: (Martin et al. 2012)

Another of the concepts included in the Nomological Network of Positive Ageing is ***Productive Ageing***. This theory casts the role of the older population in terms of productivity, arguing that their potential as human capital related to experience, knowledge, skills and abilities is underutilised. This construct takes a highly economic point of view on ageing that, according to Bass & Caro (2001:39), "*excludes activities that are simply enriching the person who performs them. Physical exercise and intellectual and spiritual activities, for example, are excluded*". The idea of "Productive Ageing" has been a recurrent in neo-liberal discourse, particularly in the North American context, to give intellectual cover for reforms such as delaying retirement age, or those that, without legislating about the length of time individuals must work before retirement, seek to retain the elderly population in the labour market.

[3] For an extensive review of the different applications of the Selective Optimization Metamodel, see Baltes, P.B.and M.M.E. Baltes. 1990. Successful aging: perspectives from the behavioural sciences. Cambridge UK: Cambridge University Press.

The conceptual framework of Productive Ageing is built on four essential areas (or activities) within which the older people can develop their productive potential; employment, volunteerism, caregiving and education/training. As with the definition of Successful Ageing, in this case there is also no clear conceptualisation of the term and the scope of the meaning of "productive" varies depending on who is using it. For example, Butler and Gleaser (1985) or Caro, Bass and Chen (1993) include as productive activities diverse unpaid tasks such as caring for dependent spouses, children or grandchildren or volunteer work, while Rowe and Kahn (1987) also include household tasks in this category.

Figure II.1. A conceptual framework of Productive Ageing



Source: Bass and Caro (2001:47)

The extent to which the elderly population participate in the labour market, i.e., develop a more or less productive old age, depends on a combination of internal and external factors. Bass and Caro (2001:47) synthesise these factors into a framework consisting of four sectors located in distinct planes ranging from the macro to micro (environmental, situational, individual and social policy), which interact to conform social productiveness and participation (Figure II.1).

Healthy Ageing *or* ***Optimal Ageing*** are analogous concepts closely related to health sciences, especially medicine and public health, both embedded in the positive ageing network that have lost influence as a theoretical construct in recent decades. The Swedish Institute of Public Health defines Healthy Ageing as "*the process of optimising opportunities for physical, social and mental health to enable older people to take an active part in society without discrimination and to enjoy an independent and good quality of life"* (2007:5).

Active Ageing is a newcomer concept within the family of proposals that encourage a positive view of ageing. Given that ageing in place and independent living are concepts directly emerged from the premises that propose this paradigm, it is worth giving it a specific space within this theoretical chapter. Thus, the following section is entirely dedicated to the exposition of the origins and statements of the Active Ageing paradigm in order to understand how ageing in place has turned into the mainstream concept it are nowadays.

II.4. The emergence of a new global policy strategy

Since the appearance of the positive ageing paradigm, ***Active Ageing*** has been used as a synonym of other similar constructs such as Successful Ageing, Productive Ageing, or Healthy Ageing. Due to active ageing inherits its statements of these previous conceptualisations; its precise origin cannot be clearly established. However, the recent and fast expansion of this concept is due to the introduction of a new element in the development of the Positive Ageing paradigm: its practical nature. In other words, the primary contribution of active ageing to the positive ageing paradigm is its explicit intention of transforming theoretical premises into structural solutions. Active ageing conceives demographic change as an opportunity rather than an obstacle, alluding to the elderly population's potential as social agents. Its conceptualisation serves as a vehicle for the implementation of policies that make it possible to develop that potential, given the diversification of profiles, capacities and conditions that these sectors of older population represent today in industrialised countries.

II.4.1. Active ageing: What it does propose?

The origin of the paradigm known today as Active Ageing can be traced to *Activity Theory* (Havighurst et al. 1968), which proposes the continuation in old age of the physical, psychological and social activity displayed in earlier life stages as the path to achieve a satisfactory old age.

As occurred with Successful Ageing or Productive Ageing, the boundaries defining this concept are rather diffuse, first because its uses fluctuate between policy applications (normative component) and scientific applications (descriptive-explanatory component) (Stenner, McFarquhar and Bowling 2011). Secondly, the meaning of "active" in "Active Ageing" remains a subject of debate. The most cited definition is those elaborated by the World Health Organisation (WHO) in its 2002 report, Active Ageing Policy Framework: "*Active ageing is the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age*". Within this perspective, "active" alludes to not only the economic productivity of older people, but also to their social participation as a mechanism to obtain well-being for themselves, their families and the society in which they live (Walker 2006). As noted in the 2002 WHO definition, the three basic pillars on which the older individuals must focus their pro-

activity are health, participation and security. With respect to **health**, Active Ageing proposes that measures taken in this realm must foment autonomy and independence for elders, lengthening as much as possible their optimal life conditions and presupposing that this will result in cost reductions for public health systems. Individuals and their families are explicitly encouraged to adopt healthy habits (stop smoking, get exercise, eat properly) that prevent possible diseases with the objective of extending healthy life-years as much as possible. Thus, it would be responsibility of individuals to achieve and maintain an optimal level of activity that permits to remain participative in later life (Walker 2013). According to the Active Ageing Policy Framework, the second pillar is **participation**, which encourages elders to be engaged in spheres such as employment, politics, education or culture, thereby increasing their contribution to society. With respect to the third pillar, **security**, Active Ageing must guarantee the protection, dignity and care in later life.

Given that Active Ageing introduces a macro dimension to the construction of the positive ageing paradigm, a large part of its conceptual development is linked to its use as policy guideline. One of its major defenders, Walker (2002, 2009) synthesised the key elements of this proposal at the structural level, as follows:

1. All age groups and life stages must be involved in achieving active ageing.
2. The idea of active ageing must integrate all older people, independently of the phase of old age they are living through. It would be mistaken to focus the policy measures only on the youngest elderly population and exclude those who have some disability or dependency, because this would generate a partial exclusion effect.
3. It should stimulate the maintenance of inter-generational solidarity.
4. This concept should represent rights and obligations for individuals and institutions. These rights are related to social protection, lifelong education, training, and obligations to take advantage of education and training opportunities and to remain active in other ways.
5. The strategy to achieve an active old age must be based on participation and empowerment, which means that institutional measures to stimulate the activity of older people must be accompanied by increased opportunities for the old people to develop their own forms of activity.
6. This strategy must respect national and cultural diversity on the north-south axis of the European continent.

In addition, Walker (2002) identified four essential areas where the active ageing schemes would be applied: (1) pensions, (2) employment, (3) health and social care, and (4) citizenship. According to this author, the implementation of the Active Ageing paradigm with respect to pensions must favour measures that increase minimum pensions for those with limited resources while suppressing age limits for employment activity. This requires flexibility in

retirement age to reduce the social cost of this type of payments. Highly related to the pension area is the second potential context for the introduction of the Active Ageing paradigm: employment. Walker argues that measures are needed to combat employment discrimination against older workers, combined with other types of measures that incentivise the older population to remain in the labour market. The third area is health and social care. Application of the paradigm in this area must be based on health care coverage for all elderly population, not only for those who are working, thereby increasing their quality of life and well-being. The underlying idea is that better conditions will keep the elderly people active longer. The fourth and last area is that of citizenship. In this context, Active Ageing promotes social participation and political engagement, through activities that go beyond gainful employment, such as volunteerism. Walker (2002) advocates for the creation of measures that motivate older people to take part in the activities of their community, so that they can continue to contribute while remaining socially integrated. In summary, the actions needed to promote this new paradigm at each level are the following (Walker 2013:92):

- Macro (political) level: combat age discrimination; transfer resources from curative to preventive medicine; emphasise secondary prevention, interventions and measures; invest in new technologies that support independent living; strength environments that favour ageing and lifelong learning.

- Mid-level (organisational): Adopt management policies that prevent age discrimination, guaranteeing that training is available to all age groups. Make retirement more flexible.

- Micro (individual) level: Assume responsibility for one's own health and capacities throughout the life course, engaging in activities that contribute to physical and mental health.

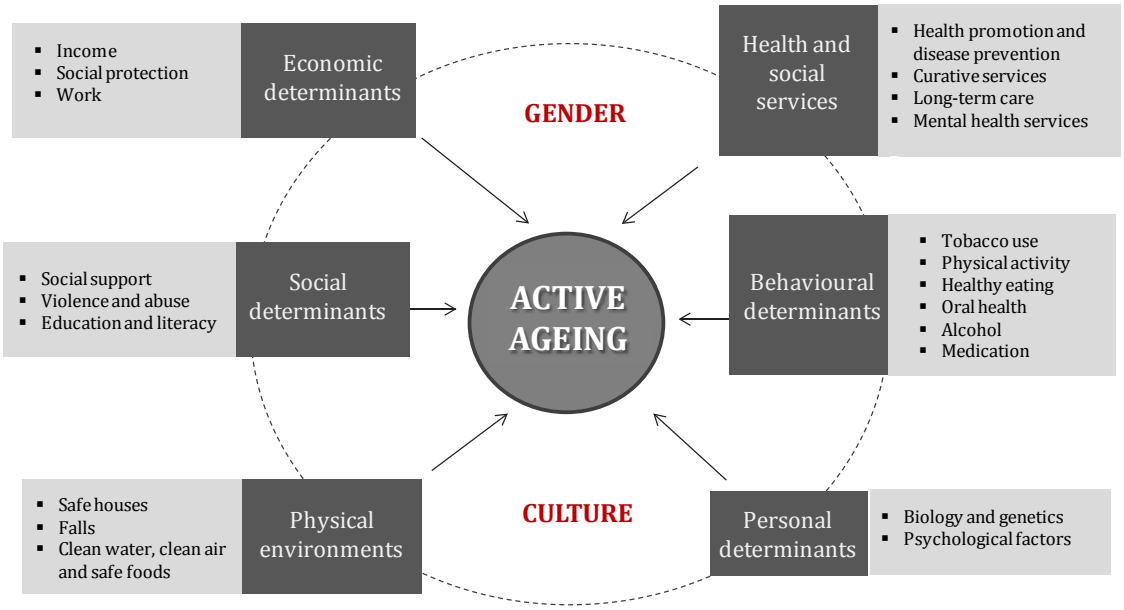
Although this is a broad-spectrum concept, the idea of Active Ageing was primarily permeated in the economic ambit giving the sense that it concerns only to this context. As Madin acknowledges (2004:5):

> *"Therefore, the notion of active ageing is being transformed according to the policy change: it has been created in a gerontological approach to promote the well-being of older people, essentially through political measures concerning healthcare and long term care; nowadays, it is more used to refer to the activity of older workers, and is considered as the contrary of early retirement. This change can be explained: active ageing has been seized by the International Organisations, which have re-conceptualised the concept and promoted its introduction in the pension and employment policies."*

The urgency with which institutions have looked for theoretical schemes that validate and reinforce the welfare state's reforms has partially masked the true extent of the meaning of Active Ageing, sometimes leading to a sensation that we are talking only about opposition to

early retirement schemes. Although their use in the macro sphere has had more diffusion, if we want to have a full grasp of what it proposes we cannot forget the significance of Active Ageing at the micro level. Behavioural (lifestyle), biogenetic, and psychological aspects (capacity to confront new life stages, self-control, positive thinking, character, etc), often omitted in the macro version of Active Ageing, are fundamental for positive consequences of ageing process because they also determine the achievement of a satisfactory old age. The Active Ageing Policy Framework (WHO 2002:19) takes these two levels into account to synthesise the factors that affect an active (an positive) old age.

Figure II.2. Determinants of Active Ageing



Source: WHO, 2002:19.

As shown in Figure II.2, these determining factors come from two planes: the individual (behavioural and personal determinants) and structural (economic and social determinants, health and social services and physical environment). In addition, there are two social and crosswise factors (called *cross-cutting determinants*) that condition how these determinants affect active ageing; gender and culture. With respect to culture, the traditions, values, living situations and family relationships, dietary or hygiene habits, the type of buildings, etc, are just a few of the examples of determinants that vary on the basis of culture or ethnic group. The same occurs with gender roles that shape the behaviours and opportunities experienced by males and females

II.4.2. The dissemination of the concept in Europe

As it has been exposed, the first discourses that advocate for a positive vision of ageing based on activity are found in the 1960s in the North American academic context (Walker 2002). However, the expansion of Active Ageing did not begin until the 1990s when some international organisations' campaigns used the concept of activity as an indicator of a healthy old age. A first step was the celebration in 1999 of the *International Year of Older Persons*, organised by the WHO, with the objective of promoting inclusive societies for all ages, warning of the risk of exclusion for older people. The definitive impulse to Active Ageing dissemination in Europe occurred in 2002 with the celebration of the Second United Nations World Assembly on Ageing in Madrid, which established its foundations in the so-called *Madrid Plan of Action*[4]. The objective was to programme a new political agenda that serves to manage the demographic change, particularly regarding to pension reform. Active Ageing became since this moment the cornerstone of European policies focused on ageing.

The economic context was where the Active Ageing discourse was most rapidly integrated. The increase of the older population and the socioeconomic changes that resulted from the internationalisation of economies (globalisation), led international organisations such as the World Bank (WorldBank 1994) to recommend national governments to seek for guidelines that would help to lighten the burden they presume that the elderly demands would place on public expenditures. At first, this debate centred on the methods of pension financing, contrasting capitalised vs. pay-as-you-go pensions. After financial scandals such as Maxwell and Enron[5], capitalisation was called into question as an efficient method to guarantee the financial sustainability of pension schemes, which together with the fact that the great majority of European pension systems are ruled by the principle of redistribution, changing the direction of the search for solutions (Mandin 2004). At that point, Active Ageing appeared as an alternative to safeguard the future of European pensions, in an oversimplified and exclusively economic application of the term's premises that has converted "ageing in place" in a mantra with which refers to the measures addressed to counteract the effect of early retirement over the social protection systems.

Over time, Europe has proven to be the context where this paradigm has had the greatest institutional backup. The European Commission have implemented a roadmap that adopts Active Ageing as the basis, promoting it by means of initiatives such as the declaration of the year 2012 as the "*European Year of Active Ageing and Solidarity among Generations*". This initiative sought, on the one hand, to produce data on the opinions about old age and older people, the pension system, and attitudes about older workers, etc, in Europe (Eurobarometer 2012). On the other, conferences and working groups established priority lines of action looking into the future with the aim to translate into practice the Active Ageing premises, addressing them to three main

[4]The complete text is available online (different languages), doi: http://social.un.org/index/Ageing/Resources/MadridInternationalPlanofActiononAgeing.aspx

areas. In the employment sphere, the EU called on member states to stimulate the creation of opportunities that would permit older workers to continue in the labour market for more years. The second line addressed was social participation after retirement, recognising the role that elders play as caregivers, both in the family environment and in volunteerism, and called for greater recognition of these unpaid tasks as well as the creation of the conditions necessary for their continuation. The third and final essential line to policies development regarding Active Ageing is the need to guarantee independent living opportunities so that the indviduals can manage their daily activities for as long as possible (Walker 2008).

Another of the definitive impulses was the creation of *AGE Platform Europe*, a network of more than 165 European organisations dedicated to the study of the elderly people that provide information covering a broad spectrum of topics such as age discrimination, social protection, employment and pensions, health care or access to public transportation. The platform, funded by the European Commission, has been functioning since 2001 and basically pursuits bring to light the problems that affect the older population, as well as serving as a place for sharing public policy experiences that have supported Active Ageing in member states.

II.4.3. Criticism and warnings to consider for the development of the active ageing paradigm

The window of opportunity offered by the appearance of active ageing must be accompanied by a certain caution when applied. The reality of that its boundaries are not yet well established and the premises upon which it is based are not totally agreed upon. As Bowling (2009) notes, there is an obvious lack of conceptual proposals that attempt to define more precisely what is understood by the term Active Ageing, especially if we compare it with other similar terms that have been in use longer, such as Successful Ageing or Quality of Life. Authors such as Martin et al. (2012) warn that in the current phase of maturity, the term requires better clarification of its meaning so that the richness of the contributions to the literature that use it do not end up becoming an obstacle to its conceptual development. In addition, the growing protagonism of the term makes to increase the number of studies that examine its principles is increasing, reason why it could be expected that in the coming years many of the premises on which active ageing is based will be expanded, new ones will be introduced and some may be discarded.

It is undeniable that the popularity of Active Ageing lies on the enthusiasm with which public institutions have promoted it. European governments and international organisations have presented it as a panacea for the problems of redistribution of resources, focusing almost exclusively on the idea of working more years as the solution. Nonetheless, the potential of Active Ageing must not be limited to the economic applications of its precepts. As Walker (2013) notes, "activity" must also be understood in terms of social participation and health. In this sense, Hostein and Minkler (2007:16) advise a certain idealisation of active ageing, which may be counterproductive and even oppressive for elderly groups if an induced optimistic view of ageing

ignores the real conditions of old people, that evidently not always are positive. If Active Ageing praises the values associated with an active old age (participation social, volunteerism, etc), those who did not fit the new stereotypes may find themselves excluded. Even those who defend the paradigm such as Walker (2002) warn of the risk that this proposal may be coercive if the opportunities for education, extension of work life, and social participation become impositions. It is therefore necessary to be aware of the diversity of the conditions of older people, both positive and negative, assuming that not all individuals have the same opportunities or limitations for social integration and participation. If it is true that stimulating job opportunities for the elderly population could be a pragmatic solution to the collapse of pension systems, we must also consider how to reverse these measures for them and if this change will affect all elders in the same way. Universal assumptions about broad groups of population, in this case the elderly population, can lead to the exclusion of those with the worst prior conditions.

PART II: WHAT ARE WE TALKING ABOUT WHEN WE TALK ABOUT 'AGEING IN PLACE'?

II.5. Introduction Part II

The appearance of the term "Ageing in Place" cannot be dissociated from the expansion of the Positive Ageing Paradigm and also cannot be understood without the practical dimension introduced by the idea of Active Ageing. It inherited from these constructs both an optimistic approach to the experience of ageing, focusing on promote the elderly independent living, and their theoretical-practical duality.

The profuse use of the term "Ageing in Place" has led to its rapid spread, converting it in the cornerstone of research on later life residential dynamics, support and well-being for the past three decades (Vasunilashorn et al. 2012b). Despite of that, there is no single definition that establishes its boundaries (Andrews et al. 2007; Wiles et al. 2012), nor a theoretical *corpus* that systematises its use. Part of this conceptual fuzziness stems from the multidimensional nature of the ageing-at-home process and the consequent fragmentation of its relevant body of research. Given that the dimensions that configures independent living experience range from micro (older individuals) to macro (the diverse levels that "environment" encompasses), the approaches used to unravel its meaning have also been diverse. Outstanding contributions have appeared in the fields of gerontology, sociology, geography, economics, or psychology that, however, lack of a unitary scheme that lighten and connect the findings of each scientific area. Even so, these disciplines recognise that ageing in place uniquely could be explained utilising a holistic lens that bridge gaps and facilitate the creation of an interdisciplinary space for common reflection. A second reason for the imprecise delimitation of 'Ageing in Place' meaning is rooted in its popularisation as slogan to designate some residential, social and health care policies of western countries, which has abridged its signification pivoting on its operational side. As consequence,

the speed with which the practical application of the term has been replicated has far outstripped its theoretical development.

This section attempts to alleviate this need for a conceptual synthesis, if not completely, at least as a first step in this direction. The chapter intends to be a dialogue among those disciplines involved in explaining the configuration of independent living in later life using the "Ageing in Place concept as a vehicle. To do this, it is essential to adopt an integrated and integrative perspective based on the interdependence of the elements that make up the process of ageing at home: the individuals and the environment. As introduction, an attempt of definition is presented. After that, the main characteristics of the processes are stated, besides the premises in which they are grounded. The third section presents some theoretical models of relationship between the individuals and the environment focussed on old age, and the last and ultimate section sheds light on the uses that the term ageing in place has received and the debates resulting from its dichotomy between theory and practice.

II.6. An attempt to defining Ageing in Place

In its more basic definition, 'Ageing in Place' refers to the fact that an older person **remains living in a private setting** during later life as an alternative to institutionalisation. That is, living at home treating to preserve and extend as long as possible the conditions that permit older individuals to assume the management of the daily life with a minimum level of autonomy. This fact is explicitly mentioned in most of the definitions:

> *"This (Ageing in Place) can be defined as creating a situation whereby older people can remain in their own familiar surroundings for longer, so delaying or possibly obviating the need to move to specific institutional residential care facilities" (Houben 2001b:651).*

> *"(Ageing in Place refers to) remaining living in the community, with some level of independence, rather than in residential care" (Davey et al. 2004:133).*

> *"Thus ageing in place refers to a person's ability to remain dwelling in the community. Residential care in the form of rest homes or hospitals is specifically excluded" (Schofield et al. 2006:276).*

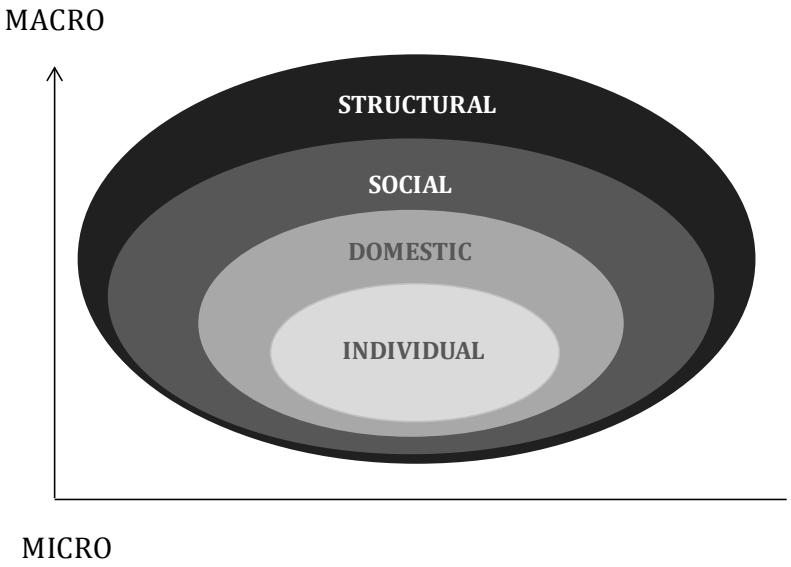
> *"The basic premise of Ageing in Place is that helping older people to remain living at home fundamentally and positively contributes to an increase in well-being, independence, social participation and healthy ageing" (Sixsmith and Sixsmith 2008:219-220).*

In addition, what it is also explicitly stated in "Ageing in Place" definitions is that to ensure the continuation of independent living, individuals can, and often do so, count on some external aid in aspects that require some assistance, normally associated with health decline. Thus, the idea of

"independence" associated to ageing in place is the existence of complementary supportive mechanisms that enables it being put into practice.

Ageing in place is, moreover, a **multidimensional process.** This comprehensive experience that depends on the continuous mutual adaptation between two main agents placed in different planes of reality; the older individuals and their living environment. The scales that have been used to classify the that environments comprises are wide and diverse (Eckert and Murrey 1984; Lawrence 2002). I therefore propose a classification that comprises four essential dimensions: individual, domestic, communal and structural (Figure II.3).

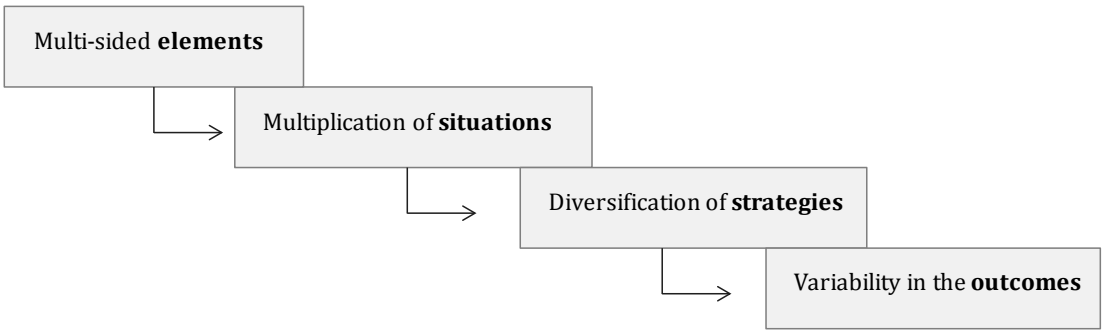
Figure II.3. Dimensions of the Ageing in Place experience.



On the one hand, the personal conditions establish the living needs to cover on an individual level that are biological and socially determined by the individual's stage of life, in this case old age. In addition, these needs are evaluated to the expectations and goals of the individual, adding a subjective component to the individual's domain that comes from the psychological dimension. On the other hand, the resources to fulfil the living needs arise from the other three contextual domains: domestic, communal and structural as constraint or facilitator factors. Independent living is achieved by establishing a balance between these four elements, which are dynamic and change over time. Therefore, the residential equilibrium that guarantees the older person an autonomous living will require successive adjustments as needs and the context changes as time goes by. Facing any new scenario, the person must recover the equilibrium that permits the continuation of the daily routines which enables to ageing at home.

As result, the process of ageing in place entails an **inherent complexity** that emerges from the accumulation of multi-faceted meanings in the elements involved in its consecution:

Figure II.4. The "Complexity scale" underlying the 'Ageing in Place' conceptualisation



- **Multisided elements**: In each dimension elements are placed that present objective attributes (physical) with a subjective interpretation (social). That is, that the needs not only have to be covered in a purely material sense, but that they are also related to the interpretations that individuals make about how they must be fulfilled. An illustrative example of that is the *home*, an element situated in the domestic dimension which refers both to a physical place and to a socially defined space. To determine if a dwelling is "adequate" or not for the well-being of an older person, it cannot just be assessed through its size, facilities or location. It is also the emotions that the person feels about this place or the memories it evokes which influences the perception of suitability and, then, conditions a successful experience of ageing at home.

- **Multiplication of situations:** The unlimited number of combinations resulting from the objective-subjective meanings of the factors conditions how individuals perceive their needs and face the available opportunities to fulfil them. It could almost be said that there are as many ways of ageing in place as there are persons that carry it out.

- **Diversification of strategies:** As a result of the multitude of situations, there are also many paths that elderly people follow to enable independent living. This process could be materialised by means of two residential strategies; permanence or movement (between private settings). Between both exits a series of mixed modes that comprises from seasonal movements to co-residence with relatives that are in the limits to what could be considered as ageing in place. In combination with residential strategies, the search of care act as a conditioning factor that diversifies the potential strategies that makes remaining at home possible.

- **Variability in the outcomes:** As consequence of the multiplication of situations and paths, there is also a multiplication of ageing at home outcomes. As remaining in the private domain does not benefit all elderly people in the same way, its positive effect is not universal. The

suitability of independent living therefore also depends on the aforementioned objective-subjective duality.

II.7 Characteristics of ageing at home experience

II.7.1 Private domain

The first characteristic that defines 'Ageing in Place' is that it is a process that exclusively can be experienced in the private domain, as an alternative to institutionalisation. The basic difference between ageing at home, in a private home, compared to the collective institutions, is that in private settings the older individual has rather more options to choose. For those residing in private settings, any decision about the configuration of physical space, the organisation of daily routines or the way they interact with others is produced with a higher degree of autonomy. In the own home there are not external rules that normalise the course of daily life, but it is the own individual who structures this rules on the basis of their desires, capacities, resources and previous experience. This does not mean that the managements of daily activity in the private domain is exempt of limitations, because available living conditions are always influenced by external constraint factors that shape the possible options. What happens is that in the private home, individuals decide more willingly over the organisation of their everyday life preserving the control over the daily routines and the relationship established with the living environment. In one's own home, they have the chance to decide what structural changes to undertake or their schedule of daily activities, favouring the sense of privacy and intimacy, which in many collective homes are reduced in the detriment of security. The Table II.2 summarises and contrasts the characteristics that each one of the settings (private and collective) has for older people:

Table II.2. Basic features of collective-private settings

INSTITUTIONS	HOME
▪ Public space, limitations on privacy	▪ Private space, but may be some limitations on privacy
▪ Living with strangers, rarely alone	▪ May live alone or with relatives or friends, rarely with strangers
▪ Staffed by professionals or volunteers	▪ Normally no staff living there but they may visit to provide services
▪ Formal and lacking in intimacy	▪ Informal and intimate
▪ Sexual relationships discouraged	▪ Sexual relationships (between certain family members) accepted
▪ Owned/rented by other agencies	▪ Owned/rented by inhabitants
▪ Variations in size but may be large (in terms of physical space and numbers living there)	▪ Variations in size but usually small
▪ Limitations on choice and on personal freedom	▪ Ability to exercise choice and considerable degree of freedom
▪ Strangeness (of people, place, etc.)	▪ Familiarity (of people, place, etc.)
▪ 'Batch' or communal living	▪ Individual arrangements for eating, sleeping, leisure activities which can vary according to time and place

Source: Higgins (1989:15)

In an institution, whether a residence, care centre, or hospital, individuals live with certain rules that structure the daily dynamics of the place, which they have not decided for themselves and which make them equal in status with other residents. In this sense, this type of collective homes has been embodied to what Goffman (1961) called *total institution*[6]: residential communities that unify life, work and, eventually, leisure in the same space, generating the same routine for all inhabitants, who remain to some extent isolated from the rest of the society. Collective homes have highly structured organisation which regimentation limits individual plans and restricts the freedom to make decisions about their daily life (Barenys 1993). Nonetheless, the evolution of institutional care settings in recent decades has led to a relaxation of rules in an attempt to "de-medicalise" the environment. The new vision of residential care endeavour to create an environment that preserves the autonomy as much as possible and facilitates personal decision-making to the extent that physical and cognitive capacities permit.

[6] According to Goffman, the *total institution* is characterized by all aspects of life taking place in the same (structurally delimited) space and under one authority; activities take place in the company of other individuals who do the same thing and receive the same treatment. In addition, life is programmed, the chain of activities is imposed from above, with explicit norms and a group of "monitors" and, finally, the activities are integrated into a single rational plan designed to achieve institutional objectives. Goffman, E. 1961. *Asylums. Essays on the Social Situation of Mental Patients and Other Inmates*. New York Doubleday.

The domestic space symbolises the ultimate expression of private domain and represents the scenery where individuals experience the process of ageing in place. The Anglo-Saxon literature has treated to disentangle the meaning of the domestic space using the concept of "*home*"[7], which captures the multi-sided nature of the living environment that, in the words of Somerville (1997), alludes to a place "*physically, socially and psychologically constructed in both real and ideal forms*". This signifies that the domestic space has an objective definition that references a tangible element (dwelling) and a subjective interpretation constructed by the perceptions about the relationships that household members maintain within this space. Perhaps the most exhaustive and accepted definition of what "home" means has been those provided by Benjamin (1995):

> *"The home is that spatially localised, temporally defined, significant and autonomous physical frame and conceptual system for the ordering, transformation and interpretation of the physical and abstract aspects of domestic daily life at several simultaneous spatio-temporal scales, normally activated by the connection to a person or community such as a nuclear family"* (Benjamin 1995:158).

We can talk about home in a physical sense when refer to accommodation, dwelling or housing, that is when allude to a place designed to be inhabited by people. This space is composed of a series of measurable architectural attributes, such as size, facilities, space distribution, and type of furnishings or building materials. The primary role of housing in its physical sense is to provide a refuge and protection to those who live there (Rapoport 1995), which to be achieved in a satisfactory manner is necessary that the material conditions be appropriate to the demands of the inhabitants. The suitability of a dwelling is closely related to the changes experienced by individuals and households throughout the life course, reason why it is a feature that evolves over time.

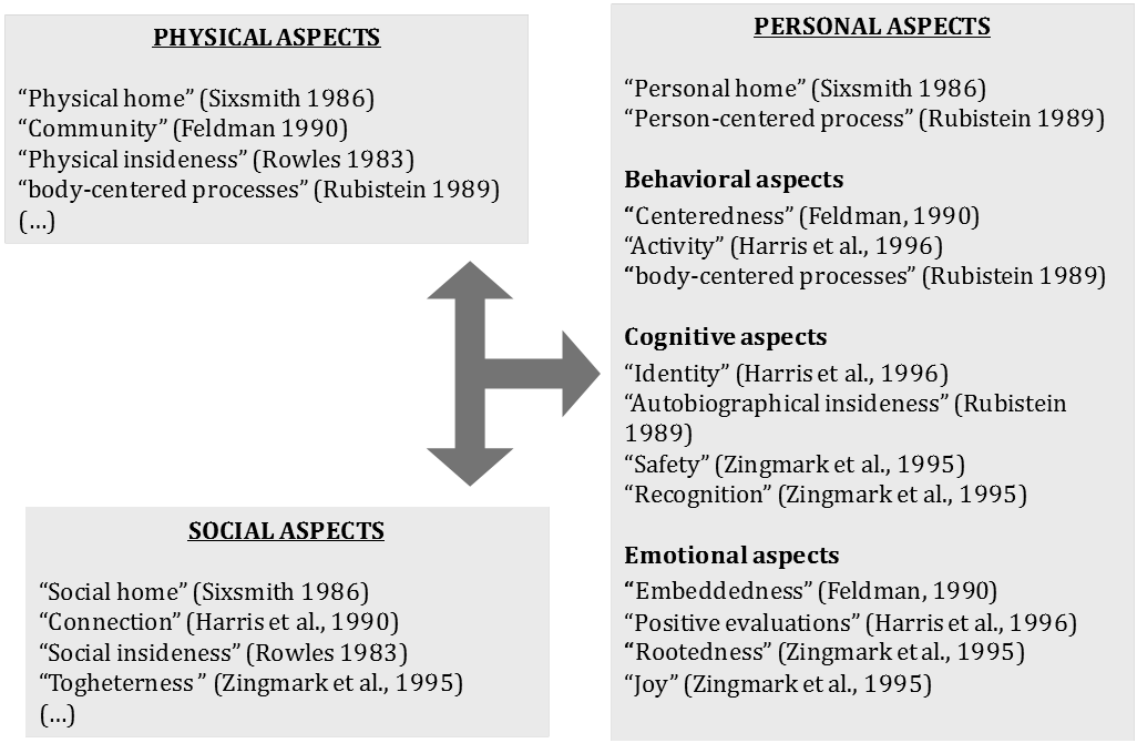
In this physical sense, housing is also a consumer good to which individuals devote a good part of their economic resources. The cost of access to housing is, together with food, the major and most enduring fixed cost for any household (Clark and Dieleman 1996). Although housing is recognised as a fundamental right, its capitalisation has made it a marketable good whose price oscillates according to market conditions. The variable value of property has contributed to the emergence of a real estate market that is especially affected by speculation. For this reason, choice of the means of possession or the type of building depends not only on individual needs or resources, but also on the price and composition of each residential market (Clark et al., 2003: 147). Structural conditions generate a selective process that stipulates which households can have access to which types of housing. External factors exercise enormous influence on the range of available residential possibilities, meaning that not all of the alternatives are accessible to the entire population (Laínez 2002). Furthermore, when the means of possession is ownership, the high economic cost is viewed as an investment in the future. In these cases, housing is considered

legacy to be left to descendents as a prospective contribution to their forthcoming financial stability.

Transcending this purely material significance, housing also has a subjective definition that is motivated by being a scenario where the most intimate relationships and behaviours occur (Cortés and Laínez 1998b). In its social meaning, home symbolises the place where individuals live with others, who in most cases belong to their immediate family circle. Learning about roles, norms and values, and constructing personal relationships give home a meaning that goes beyond the merely structural. On his postulates about *Residential Sociology,* Kemeny (1992) already emphasised the importance of conceive housing studies transcending its meaning as material object and consumer good, recognising the complexity of the factors that signify the living space. No definition of domestic space can be complete without combining physical and social meanings.

The meaning of housing neither is the same throughout the life course. Each life stage involves a specific housing demand and implies differences in living conditions needs. In the particular case of old age, the relevance of residential context is higher than in other life stages. The reason for that is, firstly, because the older people tend to spend more time at home than the rest of the population. Due to the decline of physical functions or the change in their daily routines after retirement, at old age the individuals tend to reduce their social networks and their quotidian activities to the domestic sphere. Secondly, the importance of housing at older ages lies in the emotional attachment that older people feel about their homes. This emotional attachment arises from the fact that the most relevant life events take place in the domestic sphere, above all in the family dimension, such as birth of the children and childrearing (Clapham, 2005). The home represents a space of memories that keeps the elderly people connected with their past and adds meaning to the present. The emotional attachment is cumulative and is amplified the longer one remains in the same place. An excessive idealisation of a space that no longer fulfils its most basic function which is to provide them protection, comfort and security, can unleash counterproductive effects on the elderly well-being when they remain living in a dwelling that does not cover their living needs (Fokkema, Gieveld and Nijkam 1996). As summary, it is highly useful the diagram in which Oswald and Wahl (2005) synthesised the major proposals for a definition of the meaning of “home” for older population (Figure II.5).

Figure II.5. Heuristic framework on domains of meaning of home in old age



Source: Oswald and Wahl 2005:31

II.7.2 Independence in later life

If, as we have seen, the private domain is the *context* in which "Ageing in Place" plays out, independent living is the *state* that defines the individuals who experience this process. Under this premise, independent living describes a situation in which the older people have sufficient capacity, individual and social, to carry out their daily life. The realisation of independent living depends on the conditions, expectations and biographical baggage that accompany individuals up to and during their old age; therefore, it entails a subjective component that implies that the way in which independence is manifested differs from one person to another.

The concept of autonomy or independence as vital status has seldom been treated in isolation; rather it has been the opposite, it is *dependence* that has seen a much broader theoretical and conceptual development. Due to its social, economic, political, and even ideological implications, dependency has been a central and recurrent theme in Gerontological research, which has pointed out that more than one personal attribute is, above all, a social construction. There are different types of dependency in old age: economic, legal, political, social and psycho-emotional, (Gibson 1998; Walker 1982). Negative discourses and views of dependence and old age have presented them as a life stage from which one must be 'alleviated' either through political measures, treatments or other interventions (Fine and Glendinning 2005:607). In one of the few optimistic views of dependence, Baltes (1996) explains that although it would be desirable to

adopt measures that reduce the behavioural and structural dependency of older population, this is not possible in the case of physical dependency. This author advocates accepting that dependency as a strategy that enables social contact in later life.

Autonomy is commonly considered the antithesis of dependency, although it is not really a case of totally opposite vital status and the line separating the two is tremendously blurred. What differentiates them is basically the type of discourse to which each one is associated. Dependency is allied to a negative vision of ageing that conceive it as a definitive status, as a point of no return for the individual. Nonetheless, independence or autonomy is viewed more as a gradual status with multiple trajectories. With respect to the ageing in place process, an older person can gain or lose autonomy at specific points in old age. The appearance of a new disease or the loss of a spouse could lead to diminished autonomy, but receiving some type of public support or making some structural changes in the living quarters could result in improved autonomy. Therefore, autonomy —like dependency— is not always irreversible.

Furthermore, independence is relative. In any phase of life, not only in old age, humans interact with others to take decisions or cover needs and consider exogenous situations to make choices, which imply that individuals never live in absolute independence. In Lawton's words, "*autonomy and support form a true dialectic, in the sense that all people require some of both all the time*" (Lawton 1985:506). In the process of ageing at home, the idea of an independent status has the implicit assumption that the availability of support mechanisms that expand the period and quality of ageing at home are an essential part of the process. Although it could be paradoxical, the interaction with others relieves possible states of dependence and transform then in states of autonomy. As suggested by Fine and Glendinning, the most correct term to define the situation of the older people who receive assistance would be *interdependence* (Fine and Glendinning 2005).

The mechanisms that enhance independent living have been sorted as formal or informal. Formal mechanisms arise from the macro level, primarily public or private funds, in the event that the support or assistance involved some type of payment or salary. Informal mechanisms are those that come from the social network and do not involve any regular payment. The exchange of support between relatives, mainly, and friends or neighbours, is the widely extended way to provide resources to older households which permit them to maintain their independent status. It is important to remark that this support does not necessarily mean care, but can also mean assistance with cleaning tasks or paperwork, a source of additional income, or simply the psychological benefit of "being there" (Freedman 1996). The aforementioned concept of interdependence better summarises the direction of the flows of support between family members and especially between spouses, and it more faithfully reflects the elderly role in support networks. Normally, caregiving and help with domestic tasks are not one-directional. Despite the majority perception is that older people are demanding and the recipients of assistance, many of them are simultaneously providing support or they did so in a recent past. As Grundy (2005) demonstrated in a study carried out in England and Wales, in the flows of support

between the older parents and their adult offspring, the older parents more frequently assumed the role of providers than recipients. Caring for grandchildren is the most graphic example of this situation. Therefore, the idea of exchange must consider that the functioning of these networks as two-way and intergenerational.

Independent status in later life also depends on the perception the elderly individuals about their own situation. According to Laínez (2002:164-167), the aspects that influence the view of older people about their degree of autonomy are related to:

- Spatial components derived from the structure and location of housing: excess or lack of space, physical barriers in the building or living space, poor location with respect to medical services and mobility.
- Social components related to support: households with more than one person, access to helpful networks of family, friends or neighbours that shape and also monitor the independent living status of the elderly individual.
- Institutional components: implementation model for measures related to housing and caregiving, the degree of actual implementation, and the public expenditure supporting the costs of this type of public interventions that affect the independent living status of older people.
- Cultural components: these establish the lifestyles that are autonomous based on values or symbols, including culturally established ideological norms, and determine the goals of independent living.

With respect to the operationalisation of concepts, there are very few attempts to classify living modes based on the supportive character of the setting. The subjectivity of the perception of independence at advanced ages and the variety of ways it can be achieved does not help to establish the parameters for analysis of this process. One of the few proposals was developed by Giarchi (2002:102), based on a previous classification published by Edgar, Doherty and Mina-Coull (2000). Giarchi suggests a classification of residential types ranging from independent living to the end of the "Ageing in Place" process, taking into account the degree of assistance received. This scheme poses some doubts about using it as a model trajectory because - as presented under the title, *the elder-accommodation continuum*- it seems that passage from a context of independence to one of dependence is a one-way street with no possibility of return, which certainly is questionable. Even so, it is an excellent scheme that applies the concept to independence to the residential domain. The typology is based on two main categories: *unassisted accommodation* and *assisted accommodation*. Using as basis the Giarchi's scheme, this research has developed an alternative scheme in which the classification has been expanded to include the type of domain to which each residential type belongs, adding an extra- category for dependent living mode (Table II.3).

Table II.3. Residential modes in older ages regarding to type of domain and assistance degree

	AGEING IN PLACE MODES				
	NON ASSISTED LIVING	**ASSISTED LIVING**		**DEPENDENT LIVING**	
Type of support	Unsupported accommodation	'Support' in house	Supporting house	Dependent household	Institutional accommodation
Domain	Private	Private		Private	Public

Based on: Edgar et al. (2000) and Giarchi (2002)

As we can see, the differentiation among ageing in place solutions is based on the external support available and the type of domain within which the residential setting is situated. At one extreme we find the *unassisted living* mode (named as "independent living" in Giarchi's scheme), characterised by not being receiving any type of external support in the home and situated in the private domain. Under the epigraph *assisted living,* we found those residential modes that, although they exist in the private domain, incorporate both formal and informal mechanisms that help the elderly people remain in private housing. This residential mode has two possible forms: either assistance is provided in-house (where the elderly person is living) or the older person must move to a residential complex with private living quarters that offer special services to meet the needs associated with old age (24-hr health care personnel, adapted spaces, ease of access, etc.). At the other extreme of the table, we find the total dependence mode, characterised by a lack of personal responsibility for managing everyday life. Using the Giarchi model, which considered only the institutional mode, the dependent living mode was added to the private domain. This mode assumes that the older person moves to other private household, often pertaining to the family network.

As mentioned, this scheme is simply a guide because independent living options in later life depend to a great extent on the national context and the structural opportunities offered in the specific environment. In fact, Giarchi identifies 21 different types of private settings that enhance independence in old age in Europe. This variety is due to differences in the type of welfare state, the public and private housing markets, and the cultural characteristics associated with residential options in old age. The European diversity in the forms of assisted living makes the classification of this type especially complex.

II.8 Ecological models of relationship among older adults and their living environment

To understand how the process of 'Ageing in Place' is configured, it is essential to acknowledge the influence of the surroundings on the residential behaviours displayed in old age. As we have seen, the independent living process is not limited to the relationship established between the elderly individuals and their primary residential space; rather, it extends to include the surroundings in which it is located. The importance of this element is rooted in the fact that it comes from the opportunities and/or limitations each individual must manage to achieve sufficient balance to ensure permanence. The configuration of ageing in place process depends on the interplay among individuals and the context where they live, in the broadest meaning of the term. When individuals settle in a dwelling, they also settle in a particular geographic plane that act as nexus between the private and public life, serving as a platform from where interact with the outdoor spaces. The control over each environmental level diminishes as the individual is distanced from it. Tognoli (1987) proposed to denominate to this geographical scale as *environment* because it signify "*a neutral term to represent both home and housing, neighbourhood and community*". Indeed, the space outside the domestic boundaries involves diverse degrees of proximity, in which the home could be interpreted as the environmental level closest to the individual. There is no a universal scale that classifies the number contextual layers, however, several proposals have been made to conceptualise the physical and psychological dimensions that define the spaces we inhabit. Rapoport (1980) called this environmental scale the "*house-settlement system*". As happened with the term home, environment can be also considered as a physically localised and socially defined space, organised on the basis of specific structural norms that are strongly influenced by the historical and political conditions of the moment (Aragonés, Francescato and Gärling 2002). The social and physical components of environment definition can be clearly noticed in the habitual distinction made between *neighbourhood* and *community*. Both concepts allude to the outdoor space around the home, with the difference that the former refers primarily to the physical characteristics of this space, while the second refers to the established interpersonal relationships.

The space around a home has a series of natural characteristics (climate, topography, landscape, vegetation, etc.) and a series of man-made elements (buildings, infrastructure, community services, etc.). Both of these establish the exogenous conditions to which the individual must adapt (Lawrence 2002). In turn, the surroundings also have a subjective interpretation that depends upon the value that individuals assign to them, giving meaning to the *place* and *space* they occupy (Easthope 2004; Massey 1995). Table II.4 summarises the main characteristics established by Geographic Gerontology for the concept of *place*.

Table II.4. Characteristics of 'place' concept

How do geographical gerontologists conceptualise place?

- Places are processes
- Place are subject to ongoing negotiation
- The many different experiences and contested interpretations of places (some of these may compete or conflict)
- Power relations are expressed through, and shape, places
- Places are interrelated – to other places, at different scales, at different times
- Places are simultaneously material/physical AND symbolic and social

**All the above features of place overlap and interact.* Source: Wiles 2005: 101

According to Carp (1976), a pioneer in the study of the elderly-environment relationship, there are three premises that determine this relationship:

- This relationship is not experienced equally by all elderly individuals.
- The form of the relationship differs from those experienced during other stages of life.
- The objective quality of the residential experience is often inconsistent with the reality of the housing available to older people.

Using these three premises, Gerontological Geographers have developed several theoretical proposals that attempt to systematise the relationship between older people and their living context. The most relevant of these to our study are described below.

The interest in explaining the interaction between individuals and their environment motivated the appearance of adjustment models that aims to explain how is constructed this relationship. The two most notable theoretical has been are the competence model (Lawton and Nahemow 1973) and congruence model (Carp and Carp 1984; Kahana 1982). Each of the P-E fit models is simply theoretical improvements on earlier models developed with the objective of achieving a general framework that explains the process by which elderly people adapt to their environment.

The *Ecological Theory of Ageing* (ETA) proposed by (Lawton and Nahemow 1973) was the first to attempt to systematise the study of the processes of adaptation between old people and their living context. The competence model is based on this theory, which in its initial form tested the "*Environmental Docility Hypothesis"* (Lawton and Simon 1968). This hypothesis affirms that as the personal competencies (physical-cognitive and psychological capacities) decrease, the environmental conditions exercise greater pressure on their level of adaptation. The adjustment made by the individuals to these environmental pressures is satisfactory when those personal competencies are appropriate and sufficient. Nonetheless, when personal competencies are reduced, the outcome of the adaptation tends to be negative because the older person does not have the capacity to face an environmental change.

Some later work, such as Filion, Wister and Coblentz (1992), returned to this same model of residential adaptation and affirmed that a poor balance between personal competencies and environmental demands could result in maladaptive behaviours.

As result of some criticism (Carp 1983; Lieberman and Tobin 1983), Lawton acknowledged that the first version of the ETA, e*nvironmental docility hypothesis*, could lead to a one-directional interpretation of the relationship, presenting them as passive subjects exposed to the effects with no capacity to intervene. In 1985, he perfected its proposal adding a complementary hypothesis called the "*Environmental Proactivity Hypothesis*", which acknowledges the reciprocity of the individuals-environment relationship. This hypothesis states that adaptation can have two pathways; what he calls *reactivity,* which occurs when the external circumstances demand an adaptive response. An example of this is the involuntary admissions to care institutions or the changes of routines due to the deterioration of the area where the elderly reside. In both circumstances, the individuals are "forced" adapt themselves to the changing context whose transformation does not depend on them. *Proactivity* is the other model of adaptation, in which individuals make changes in the environment in accordance with their desires and preferences. In this adaptation pattern, the elderly people assume their environment is more a resource than an element that regulates their residential behaviours. *Reactivity*, as a mode of adaptation, is associated with support and dependence, and *proactivity* is related to autonomy and independence.

Another of the models has been called *psychological adaptation*, and can be understood as complementary to those formulated by Lawton. This model proposes that the elderly-environment adaptation process is gradual and prolonged over time. This means that as the capacities of an individual are deteriorating and the environment is no longer adequate, the elderly people assimilate the disadvantage to the extent that they stop perceiving it as a problem. The outcome in this model is that the older person becomes accustomed to objectively unfavourable living standards. As Carp (1976) stated, if there is no possibility of moving to another environment or transforming the existing situation, they adapt to what they have, and may even begin to see their situation as positive because of certain psychological defence mechanisms.

Another theoretical proposal are the *Models of Person-Environment Fit (P-E fit),* rooted in the c*ongruence hypothesis*. The premise is that the appropriateness of an environment depends on the adaptation degree it is adapted to individual elderly characteristics. In other words, residential satisfaction depends on whether the needs are in balance with the pressures of the environment (Kahana, Liang and Felton 1980; Kahana et al. 2003).

Basing their work on the ecological model of competence created by Lawton, Eckert and Murrey (1984) analyse the determining factors that influence housing choices by older people. They describe capacities they call *enablement* and that include income, geographic place, management

structure of the territory and the housing supply, and certain personal preferences called *preferences*. In this model, the factors that influence the choice of a particular residential environment at various levels: (1) Individual level - personal characteristics, biographical trajectory, etc.; (2) Microsystem, which is composed in turn by four elements: *personal environment* (household members, family networks, friends), *group environment* (social norms), *suprapersonal environment* (ethnic and age composition of the community) and *physical environment* (natural or built environment); (3) *Exosystem*, the level that corresponds to the neighbourhood; and (4) *Macrosystem*, which encompasses sociopolitical processes and economic cycles.

II.9 The twofold application of 'Ageing in Place' concept

The question about whether the use of the term "Ageing in Place" must be limited to designate a particular policy guideline or also serves to denominate a socio-residential process can be answered in many ways. For the purposes of this study, "Ageing in Place" is, or should be, a synthesis of both meanings.

On one hand, it is true that "Ageing in Place" refers to all institutional measures intended to promote independent living among elderly population within the so-called active old age paradigm. In fact, popularisation of the term is a result of this approach. On the other hand, it is equally true that its scientific application have generated a body of theoretical developments that has diluted the purely instrumental character to which it is often associated. *Ageing in Place, Independent living, ageing at home* or *assisted living* are just some of the names that have been given to the process of remaining in one's own home during later life, rather than institutionalisation. The research made around this concepts proves that ageing at home has an own characteristics, types of configuration and outcomes that go far beyond public policy. Therefore, without debating its appropriateness, Ageing in Place must be considered more than a particular social policy. Ageing in Place is conceived by this research as a living process in which public intervention has a key role as supportive mechanism, but which complexity surpasses this definition.

To understand the terminological elasticity of the "Ageing in place" concept, it is necessary to review how it has evolved through its applications. The diversity of the lenses that have been used this concept can be summarised as two major trends: contributions within the institutional context, primarily focused on its practical sense and those made by the scientific research, characterised by a strong critical spirit to the former. Therefore, a distinction can be made between the use of 'Ageing in Place' as a management tool, especially widespread in North America and Australasia, and its use as an explanatory framework, primarily in the European

context. Both have been continually interrelated and neither of the two can be understood without the other.

II.9.1. Institutional application

Although the fact of living in one's private residence during old age is not an exclusively contemporary phenomenon, the term "Ageing in Place" was not popularised in Europe until the beginning of the 1990s. At that time, the ageing demographic of western countries led to the creation of policy guidelines to manage the foreseen demands generated by demographic ageing. Since then, the concept of "Ageing in Place" has served as a slogan used to present those policies addressed to "Third Age" and especially "Fourth Age" population with respect to housing, supportive care, and social services (Houben 2001b). The objective of these measures has been to help older people remain living in their own homes, emphasising the benefits that this has for quality of life among in later life because it avoids the disruption with their social networks and assure permanence in a familiar surroundings. The use of this concept as a policy tool assumes that this is the most desirable living mode, due to the positive effect over later life well-being, but is also necessary because it is seen as a useful measure to reduce the public expenses on housing and health care services provoked by demographic ageing.

In 1994, the consensus reached by the Organisation for Economic Co-operation and Development (OECD) stated the ground for the wide expansion of ageing in place policies. It established an action agenda that encourage measures to facilitate that older people remain living in their own homes, even if they acquired a disability or experienced a decline in their physical capacities (OCDE 1994). At present, the OECD continues to promote this line, incorporating into its discourse the importance of the technological advances that can be applied to the structural adaptation of a housing unit to meet the occupant's health care needs: "*Such applications include smart sheltered housing, intelligent/remote health support systems, mobile robotic assistants, and extending the hospital into the home via telemedicine and home health monitoring systems*" (OCDE 2008:23). Similarly, the Second World Assembly on Ageing, celebrated by the United Nations in Madrid in 2002, declared a priority goal of promoting a type of "Ageing in place" that would pay special attention to individual preferences and affordable residential options for older people. The lines of action included the promotion of housing units designed to accommodate the needs generated during the advanced life course, the design or adaptation of housing that takes into consideration the cultural and caregiving needs of the elderly population, and investment in local infrastructure that guarantees the access to goods and services (UN 2002).

II.9.2. Scientific application

The use of 'Ageing in Place' concept in research has been focused on exploring the relationship that elderly people establish with the environment and the outcomes of this relationship. In social gerontology, one of the objectives has been to test the hypothesis about the positive effects of independent living on health and satisfaction during old age, relativising the benefits suggested by the institutional conceptualisation. Its scientific utilisation proposes that when approaching the study of ageing at home it is necessary to investigate to what extent this is a conscious choice or an imposition resulting from the lack of alternatives (Means 2007), in order to evaluate if is totally advantageous for elderly well-being. The conclusion obtained is that remaining in one's own home during old age does not always mean an increase of life quality for older people. It is true that there are situations in which to remain at home mean healthy ageing. In these cases, independent living involves a positive effect on older people due to 'continuity' in a sense of privacy and control over their own lives (Phillips, Ajrouch and Hillcoat-Nallétamby 2010:19). However, at the same time, staying at home can also mean that the individuals remain "embedded" in an inappropriate environment, this situation having counterproductive effects as isolation, disconnection with the social environment or loneliness (Kohli, Künemun and Zähle 2005a). As Arber and Evandrou (1997) argued, ageing at home is not directly related to an augment of independence and satisfaction, because it depends significantly on their degree of disability that individual present. Any imbalance between the needs and the reality can lead into an increase of the vulnerability and frailty.

Other academic uses of 'Ageing in Place' highlight the geographic component of independent living. Geographical / environmental gerontology is the discipline that has a more profuse use of the multidimensional potential of the term 'Ageing in Place' in its research, understanding that the effects of independent living go beyond the physical boundaries of housing. The adaptation process between the elderly population and the place where they live, the physical (neighbourhood, municipality, and region) and social (community) contexts have been defined in terms of change. The findings achieved with this perspective clearly underscore the need of differentiation between physical and social resources/risks as part of a comprehensive understanding of ageing in place process, distinguishing, moreover, between the home and the neighbourhood (Wahl et al. 2009; Wahl and Oswald 2010). The article published by Andrews et al. (2007), entitled *Geographical Gerontology: The constitution of a discipline*, reviews the main contributions made since in this respect[8].

Urban studies have emphasised structural conditions, housing design, and adaptation of space, more than the effects of independent living in old age (Davey 2006; Gutman and Blackie 1986). This research has focussed on taking into account the different habitability problems the elderly

[8] Andrews and Philliips (2005) collected into one volume the four studies that in their judgement are the best examples that summarise the contributions of the study of Geographical gerontology. These studies, published together in the book *Progress in Human Geography*, were conducted by Harper and Laws (1995); Rowles (1986) and Warnes (1981, 1990).

people confront: humidity, lack of light, space, and heating-cooling systems, et cetera, and how they can be addressed by home modifications. These studies have served a scientific backup for the implementation of measures that facilitate independent living and its posterior evaluation. At a macro level, urban studies have also described the elderly spatial distribution and the resulting dynamics of the residential behaviours associated with "Ageing in Place". One of the most important developments has been the definition of the NORCs concept (Naturally Occurring Retirement Communities) by Hunt and Gunter-Hunt en 1986. This term designates places where, without any prior urban planning, people aged 65 years and older comprise at least 50% of the population. These may be urbanisations, buildings or entire communities that because of the migration flows are converted in ageing areas.

II.9.3. Institutional-scientific dialectics. The emergent debates

The main criticism of the institutional use of the term "Ageing in Place" adduced from scientific ambit has been that its motivation was essentially economic. The option of maintaining the older people in their own homes has been used as a pretext for reducing the public expenses on health and housing services addressed to older people. In this sense, Oldman warns that although it is true that a large part of the elderly population prefers to remain living at home, many governments have seen this as a perfect excuse to drastically reduce their investment in social and housing areas, privatising these sectors and transferring to these individuals and their families the responsibility of meeting the older people housing and caregiving needs (2003:62). Even international organisms as the United Nations warned of the risks of following exclusively economic criteria in the implementation of ageing in place measures:

> *"In the last two decades, community care and ageing in place have become the policy objective of many Governments. Sometimes the underlying rationale has been financial, because, based on the assumption that families will supply the bulk of care, community care is expected to cost less than residential care. Without adequate assistance, family caregivers can be overburdened" (UN 2002).*

In addition, according to Oldman (2003), these policies that favour independent living over institutionalisation are based on a negative bias against dependency and a view of old age as a stigma. For some older people, remaining at home may signify loneliness and isolation, meanwhile moving to collective homes may be preferable to obtain a more satisfactory social integration (Oldman and Quilgars 1999). In turn, an argument against the benefits of remaining at home is that not all home living conditions are good, as the elderly people may reside in housing that has deteriorated over time (Heywood, Oldman and Means 2002). In addition, the lack of economic resources impedes a move to other housing better adapted to their needs, with the options available in the private housing market (Clough et al. 2005). Therefore, the assumption that the desire to remain at home is common among older people and that the

benefits are universally positive must be called into question. An example of this circumstance is those older people who are paying market rents in the private sector. They are not in a situation of social vulnerability *per se*, but the abuse of rental rates, lack of repairs by landlords, or illegal eviction can convert the space that shelters them into a source of vulnerability. For 'Ageing in Place' policies to include the most vulnerable population in determining the effects of poor housing quality, Means identifies three key policy aspects that must be improved:

> *"Firstly, housing policies must seek to improve the mainstream housing circumstances of all older people and especially those on low incomes. Secondly, there needs to be a commitment to invest in a much wider range of specialist support and advice services than presently available. Thirdly, a more positive view needs to be developed of residential care options based on an emphasis upon how they can obtain the characteristics of a home and hence become an appropriate environment to 'age in place' for the minority of older people for whom this is the best way forward"* (2007:82).

On the other hand, academics have criticised the orientation of many housing and caregiving policies developed by governments. As they are actually applied, the measures that promote independent living should be called "Ageing at Home" rather than "Ageing in Place" because their line of attack is primarily related to elder-housing. As we have seen, the fact is that the implementation of measures to facilitate independent living often limits the assistance offered to create measures for housing adaptation, and makes many other mechanisms that influence this relationship more obvious. As Oldman described it:

> *"A critique of independent living also allows the definition of housing need to go beyond physical attributes, focusing on many issues, not just access and standard responses such as grab rails or ramps. It considers the neighbourhood and, most importantly, sees the home as the locus of relationships. It looks at the distress that being disabled causes: not being able to get around a house or out of it, not being able to enjoy the domestic environment, result in poor mental health outcomes"* (Oldman 2003:55).

Many Geographic Gerontology studies have noted that the relationship between the elderly people and their residential context does not end with housing, but rather includes the physical (neighbourhood or municipalities) and social (community) surroundings. The distance from support networks, access to goods and services, or the availability of leisure activities are among the factors that combine to affect the effects of independent living for the elderly population. Therefore, research proposes that the measures taken must go beyond these limits and guarantee the connection of the elderly individuals not only with their residential space but also their life spaces.

Another of the criticisms of 'Ageing in Place' is not conceptual in nature, but rather practical. In analysing the implementation of this type of policies, Houben (2001a:652) warned of the need to coordinate efforts between the areas responsible for providing this type of assistance. The housing, social services and caregiving sectors cannot remain separate as they have the same

weight in facilitating independent living at an advanced age. Coordination is needed that offers an integrated response to the housing needs of the elderly population.

II.10. Synthesis of the chapter

To sum up, this research conceives 'ageing in place' as a theoretical-practical construct that is referred to those situation in which older people remain living at home as alternative to institutionalisation. As experience, ageing in place is an evolving and ongoing process that evolve with the time as needs of individuals are transformed. In addition, this research assumes that ageing in place and independent living, are terms that allude to the same experience putting the accent in different aspects; while ageing in place refers more to the *process* of remain at home in later life, independent living alludes to an *state* or *situation.* The limits between both, however, are ambiguous and subtle, and even in this research sometimes are used as synonyms.

The conceptualisation of 'Ageing in Place' underlined by to two main premises:

- *It can only be experienced in a private domain (dwelling).*
- *It entails a sufficient degree of functional and social autonomy. This means that older people carry out of their daily duties, it may exist certain formal/informal mechanisms of support that facilitate this.*

Chapter III. STATISTICAL SOURCES FOR CROSS-NATIONAL ANALYSES OF AGEING IN EUROPE

III.1. Introduction

Collection of data on elderly population in Europe has undergone a deep transformation during the last three decades. The demographic ageing of the European continent acted as catalyst in the implementation of new surveys, which has substantially increased the amount of available information on the older population. Factors such as the main theme of each survey, the territorial scope to which it attains, its goals or the target older population whom the survey is addressed to are some of the reasons why quantitative investigations about ageing have diversified so much over the last couple of decades. For this motive, this chapter does not intend to be a revision of the wide variety of statistical sources useful for studying old age, which would imply a separate doctoral study, but only seeks to show the characteristics of the principal databases employed in the empirical chapters; the *European Union Statistics on Income and Living Conditions* (EU-SILC) and the *Survey of Health, Ageing and Retirement in Europe* (SHARE). In the following section, some of the innovations defining the new sources that focus on older population are described. After that, the bulk of the chapter is focused describing the selected sources and justifying their adequacy to achieve the goals of this research on independent living of the elderly. More detailed explanations about the adjustments and methods used in the specific analysis will be included in the chapters they belong to.

III.2. Renewing the cross-national old age surveys in Europe

Compared to other kind of surveys, the statistical sources focused on older people have a track record relatively brief but extremely rich in approaches. The interest in knowing the implications of the demographic change in Europe fostered the demand for data with which to carry out the empirical analysis of old age. In this sense, the scientific community has played a key role in triggering, directly or indirectly, the refreshment of available data about elderly population and the ageing process. The renovation has been accomplished especially by means of design innovations consisting in the inclusion of new variables, categories and definitions in the questionnaires, besides a transformation in the temporal and spatial scope they cover.

The first improvement which has contributed to this renewal has been the selection of sampling universes exclusively composed by mature and older population, with the aim of capturing more precisely the variety vital situations experienced in old age. The awareness about the diversity of elderly profiles has also influenced the development of statistical sources under the assumption that older people can no longer be considered as a group of homogenous characteristics and realities. The design of wide enough samples that allow distinguishing between the different phases of later life course -mature age, old age and very old age- is a clear reflection of this statement.

A second fundamental change, as pointed out by Börsch-Supan et al. (2009), has been to conceive the design of these new sources under three key features; *multidisciplinarity*, *longitudinality* and *cross-national comparability*.

Multidisciplinarity aims to avoid the more and more frequent theoretical/methodological biases arisen from scientific knowledge parcelling. As the information contained in the new surveys covers an ample spectrum - demographic, biological, labour, financial, residential, familiar, etc. - it permits to relate spheres enabling a multidirectional dialog among all the scientific fields involved in ageing research, offering the possibility to elaborate more comprehensive analyses of this process.

In second place, these new surveys recognise the relevance that temporal dimension has in the explanation of social phenomena (Elder 1985, 1994; Elder et al. 2003; González-Puga 2004b; Heinz and Krüger 2001; Mayer 2009). This is why the collection of information has often followed a longitudinal design that traces biographical changes of individuals during an established period of time. This vision allows connecting the past and present time in order to identify causal relationships that explain how human lives evolve. At the practical level, longitudinality implies that many of the new surveys are conceived as a panel or retrospective surveys.

In third place, the last innovation introduced by some of the new statistical projects has been to enlarge their spatial coverage permitting cross-national comparisons. The introduction of this characteristic supposes the opportunity of considering structural characteristics as explanatory variables of social processes to facilitate the comparison of the same phenomenon or dynamic in different contexts.

Until relatively recent time, elderly surveys implemented in Europe comply, to a certain extent, with multidisciplinarity and longitudinality criteria mentioned above. Some examples within the European scope are ELSA (*English Longitudinal Study of Ageing*)[9], BASE I and II (*Berlin Study of Ageing*)[10], LASA (*Longitudinal Ageing Study of Amsterdam*)[11], ELES (*Proyecto Longitudinal Envejecer en España*) [Ageing in Spain Longitudinal Project][12] or TILDA (*The Irish Longitudinal Study on Ageing*)[13]. However, and although the list of ageing surveys in Europe counts on more than forty outstanding projects, and increasing, (Piccinin and Hofer 2008), the international comparability of results was the one unfinished business in data collection (Fernández-Ballesteros et al. 2004). In this sense, the appearance of SHARE in 2004 supposed an inflexion point due to its sampling amplitude, the amount of information it records and its longitudinal view but, above all, for permitting cross-national analysis.

III.3. Data sources for the study of ageing in place from a cross-national view

The statistical data on which the studies of Ageing in Place are based have been mostly collected by means of purpose-built surveys characterised by a reduced sampling size, a sole wave and a restricted spatial coverage. For instance, Oswald et al. (2010) implemented a questionnaire

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[9] The *English Longitudinal Study of Ageing* (ELSA) aims to collect longitudinal data from the English population aged 50 and older relating to health and disability, biological markers of disease, economic circumstance, social participation, networks and well-being. ELSA started in 2002 and will extend the panel to 12 years of study. The project is coordinated by the International Institute for Society and Health, University College of London (London, United Kingdom).

[10] The *Berlin Aging Study* is a data project that registered longitudinal information about old people aged 70 to over 100 years who live in former West Berlin, covering a wide range of topics as mental and physical health, psychological functioning, or social and economic situation. The main study was carried out between 1990 and 1993. After that, BASE II has been implemented as continuation. The first wave of data collection started in 2009 and will continue until 2013. BASE-II is coordinated by the **Max Planck Institute for Human Development** (Berlin, Germany).

[11] The *Longitudinal Aging Study Amsterdam* (LASA) is a cross-sequential longitudinal study that records information about older Dutch adults mainly on physical, emotional, cognitive and social functioning in late life domains. Every three years the participants are re-examined. The study started in 1992 and in the period 2008/09 the last cycle of interviews was conducted. This project is developed by the VU University (Amsterdam, The Netherlands).

[12] The *Longitudinal Study Aging in Spain* (ELES) is an interdisciplinary panel study still in its initial data-collection phase. The aim of this project is to follow the elderly Spanish population born before 1960, for a term of 20 years in cycles of two-year interviews. This project is developed by CSIC (National Research Council) and INGEMA Institute.

[13] *The Irish Longitudinal Study on Ageing* records information about health, lifestyles and financial situation of Irish older people, following them over a 10 year period. The study is carried out by Trinity College Dublin in collaboration with an inter-disciplinary panel of experts in various fields of ageing.

applied to older people living in a neighbourhood of Darmstadt (Germany) with the objective to assess whether the characteristics of the physical and social environment of the elderly meant a resource or a risk to staying at home. Rojo-Pérez et al. (2001) also implemented a similar survey to analyse the residential satisfaction of the elderly people in Madrid (Spain), exploring the effect that objective and subjective living conditions have on the evaluation that they made about their residential environment.

Other studies, however, have approached the elderly-environment relationship using already existing sources. Gilleard, Hyde and Higgs (2007) used the data derived from ELSA to analyze how the 'attachment to place' feeling of the British elderly to their living environment conditioned their desire to ageing at home. In this line, Costa-Font, Elvira and Mascarilla-Miró (2009) carried out a research on the housing preferences of older Spanish through the Survey on Residence Preferences conducted in 2003 by the organisation "Instituto Edad y Vida".

Apart from the studies using quantitative data, there are several works which have served as qualitative techniques to gather information for analyzing the conditions of independent living. Wiles et al. (2012), for instance, used organised discussion groups in two New Zealand communities to obtain data about the places where eldelry prefer to grow older. Cutchin (2008) also used qualitative methods such as participant observation or semi-structured interviews for collecting data about the independent living strategies, comparing those who chose day-care centres and those who stayed in collectives homes in the Boston and Vermont areas (United States).

Despite of not being usual, some projects have incorporated the cross-national implementation of data collection in their designs. The ENABLE-AGE Project, developed between 2002 and 2004 and coordinated by the University of Lund (Sweden), was a pioneer in this sense. This project was developed in five European countries, namely, Germany, United Kingdom, Sweden, Hungry and Latvia, with the purpose of assessing the residential environment as determining factor for the autonomy, participation and well-being of the older-old population (+75). One of its main goals was to provide data to assess the effectiveness of the social policies regarding Ageing in Place, also introducing the longitudinal perspective with two waves. EXCELSA (*Cross-European Longitudinal Study of Ageing*) was another project that supplied comparable data useful to ageing in place research. This survey, emerged from the Psychology field was developed between 1998 and 2000 in seven European countries, namely, Germany, Austria, Spain, Italy, Finland, Poland and Portugal, aiming to create a European database to explore how health conditions promoted or restricted the independent living, assessing their physic-cognitive capabilities. Enfold by the Successful Ageing paradigm as theoretical frame, the survey includes information from anthropometric elderly characteristics to subjective evaluations and attitudes towards their living situation.

Regardless some leading exceptions such as ENABLE-AGE Project or EXCELSA, the standard has been to give preference to case studies before an internationally comparative perspective because, above all, of the high costs involved. For that reason, data collection focused on independent living in later life are mainly circumscribed to only one country, even to one city or neighbourhood. Even so, other sources that have not been formally stated for the study of independent living at older ages make it easier to move forward in this direction; these sources are SHARE and EU SILC.

Both statistical sources assemble the abovementioned criteria; multidisciplinarity, longitudinality and comparability. The fact that each of them is driven by a different goal, the combination of both surveys bridges the gap that may occur if used separately. For this research, the combination of both sources implies covering the two main levels of analysis in the study of independent living of the elderly (macro and micro level). EU SILC provides data which calculate indicators to assess the influence on the independent living of the elderly by the housing conditions and socio-economic situation; and SHARE contributes with data more directed to explore individual factors that shape the ageing at home process. The following pages describe the most important characteristics of each one of the surveys and how useful they are for the research on this matter.

III.4. The structural dimension: EU SILC

EU-SILC, the *European Union Statistics on Income and Living Conditions* is being carried out annually since 2003 as an heir of the previous European Community Household Panel (ECHP) which was carried out between 1994 and 2001 in 14 countries from the 15 Member States of the EU[14]. As its precursor, the main goal of EU-SILC is to provide comparable data to generate the socio-economic indicators used for assessing the well-being evolution of the European population. Besides, EU-SILC is intended as a means to provide harmonized data at the European level, which allow assessing the impact and effectiveness of social policies undertaken in each country.

Created by the European Union in 2003, the number of participating countries has increased over the years. A group of seven countries started the survey that year; Belgium, Denmark, Ireland, Greece, Luxembourg, Austria and Norway. A year later, in 2004, these countries were joined by Estonia, Spain, France, Italy, Portugal, Finland, Sweden and Iceland, up to constitute a group of fifteen countries (EU13 + Iceland and Norway). In 2005 the rest of the countries joined to cover all the EU25 countries (+2): Check Republic, Germany, Cyprus, Latvia, Lithuania, Hungary, Malta, The Netherlands, Poland, Slovenia, Slovakia and the United Kingdom. The total of the current

[14] Sweden was the unique EU15 country that does not participate in the survey.

participating countries was completed in 2007 when Bulgaria, Romania, Switzerland and Turkey joined making a total of 31 states.

The creation of this data source was agreed in the Lisbon European Council (Portugal) which took place in March 2000. One of the main goals of this European summit was the reduction of poverty within the continent for the year 2010, as part of a wider strategic action plan that sought the economic growth, the qualitative and quantitative increase of job opportunities, and the improvement of social cohesion inside Europe (Clemenceau and Museux 2007:13). In order to achieve a higher level of coordination in fulfilling these objectives, it was established a work-system among member states known as Open Method of Coordination (OMC). Firstly, the OMC is based on the alignment of guidelines that underline the public policies undertaken in each member state, especially regarding social inclusion, pensions, health and long-term care. Secondly, the OMC advocates for a continuous feedback among countries as a learning method in terms of implementation of these policies, as a way of assessing its effectiveness.

In an initial phase, OMC method was only applied to the economy and employment area, being later extended to other areas such as research (2003), education and training (2007) or youth (2012). The five items laying the grounds for the OMC are (Clemenceau and Museux 2007:14):

- Agreement on the common goals of the European Union.
- To transfer the general goals of the EU to national and regional polices, based on National Reports on Strategies for Social protection and Social inclusions.
- To establish common indicators as a means of comparing the best practices and measuring the progress of the public policies.
- To issue reports by analysing and assessing the National Reports.
- To establish a Community Action Program to promote the cooperation within public policies and the international learning and best practices exchange.

The third item of the OMC activated the creation of the EU-SILC survey, since it was necessary to count on the cross-national data to calculate a set of socio-economic indicators established by the Laeken European Council (Belgium) in 2001. The agency responsible for establishing the indicators and their calculation procedure is the Social Protection Committee of the EU, which works together with experts from the national delegations. The field work is appointed to each participating country; once the data are gathered they are sent to the European statistical service Eurostat which is in charge of data packaging, debugging and dissemination. It is important to point out that EU-SILC is not a survey focused on old population; instead, it covers a wide range of ages from 16 years old and presents a sample size wide enough that allows selecting a sub-sample uniquely composed by older population. Authors such as Sabia (2008) have already used

these procedures, proving the validity of extracting sub-samples when the database is large enough. He used the American PSID (Panel Study of Income Dynamics[15]) for the study of residential dynamics in old age, only selecting those individuals aged 50 and older.

III.4.1 Sample composition

The sampling universe of EU SILC is comprised by individuals older than 16 year old living at private households. Thus, the institutionalised population is formally excluded from the data collection. As Clemenceau and Museux (2007) state, the fact that the sample only represents the population living in private dwellings is a relevant feature to consider when calculating and interpreting the socio-economic factors, especially when these are developed for groups with a high level of social vulnerability. The possible underrepresentation of some collectives, such as dependent elderly, compels to be careful when interpreting the analysis made using EU SILC data. In order to mitigate these possible underrepresentation problems, this survey assumes the need for a large sampling size from the beginning. Besides, as the information on incomes and living conditions tends to be unanswered, it is necessary to ensure a sufficient amount of cases to perform the social-economic indicators. Eurostat estimated that it would be necessary to gather samples of 121,000 households and 250,000 individuals for cross-sectional data and 187,000 individuals for longitudinal data, approximately

Table III.5 shows the sample size by sex and age group of the individuals interviewed in 2007, wave used mostly in this research, in each participating EU15 country. In this year, EU SILC was composed by a total of 206,313 individuals older than 16 years old, being more than a quarter of them older than 65 years old (58,205 individuals) (Clemenceau and Museux 2007).

[15] Database created by the Survey Research Center of the Michigan University covering the period 1972-1992.

Table III.5. EU SILC sample size by country, gender and age (individuals).

	2007					
	Male	Female	16-64	65-79	80+	Total
AT	3923	2881	4912	1419	473	6804
BE	4408	1940	4757	1233	358	6348
CY	2774	731	2486	775	244	3505
CZ	6575	3100	6625	2373	677	9675
DE	8548	5290	9554	3758	526	13838
DK	2955	2828	4565	961	257	5783
EE	2428	2718	3703	1152	291	5146
ES	7515	4775	8527	2872	891	12290
FI	5696	4923	8712	1530	377	10619
FR	6796	3702	7714	2018	766	10498
GR	4185	1454	3552	1539	548	5639
HU	5280	3375	6007	2070	578	8655
IE	3166	2442	3425	1513	670	5608
IS	1839	961	2235	418	147	2800
IT	13695	7268	13517	5320	2126	20963
LT	2151	2824	3297	1348	330	4975
LU	2575	1310	3208	568	109	3885
LV	1563	2878	2911	1230	300	4441
NL	6764	3455	8138	1635	446	10219
NO	3212	2719	4892	796	243	5931
PL	8165	6121	10524	2982	780	14286
PT	2991	1318	2679	1228	402	4309
SE	3639	3544	5622	1154	407	7183
SI	4760	3939	6494	1784	421	8699
SK	3033	1906	3654	1078	207	4939
UK	5454	3821	6398	2087	790	9275
TOTAL	124090	82223	148108	44841	13364	206313

Source: EU SILC 2007

Regarding to the spatial dimension, those territories that represented less than 2% of the national population were formally excluded from the sample: French Overseas Departments and territories; the Dutch West Frisian Islands except for Texel; all Irish Offshore Islands except for Achill, Bull, Gorumna, Inishee, Lettermore, Lettermullan and Valentia; and the Scilly Islands and Scotland North of the Caledonian Canal with regard to the UK.

III.4.2 Survey design

Despite EU-SILC follows the same model as ECHP, providing both cross-sectional and longitudinal data, its design introduces some important variations. The first significant change with respect to ECHP is its flexibility to data collection. There is not a unique questionnaire model

shared by every participating country, but the procedure of data collection is organised according to common guidelines regarding concepts, measurement scales and classifications (ISO, NADE and ISCED codes, etc.) pre-established by the EU. Thus, the EU determines the information to be recoded, allowing the countries to decide on how this is to be obtained. Methods vary from getting the data from an already existing source, including new questions in a current national survey, or implementing a new one (Clemenceau and Museux 2007).

The second change of EU SILC respecting ECHP is the type of longitudinal design. EU-SILC is conceived as a rotating panel (denominated as integrated design) which consists of refreshing 25% of the sample each wave. The panel functions as follows: a sample of individuals representing the total population of each country at that moment is selected in each wave, divided in four sub-samples also representative of the whole national population. In the next wave, one of these sub-samples, 25%, is removed and replaced by other representative sub-sample.

Figure III.6. Scheme of the integrated design implemented by EU-SILC

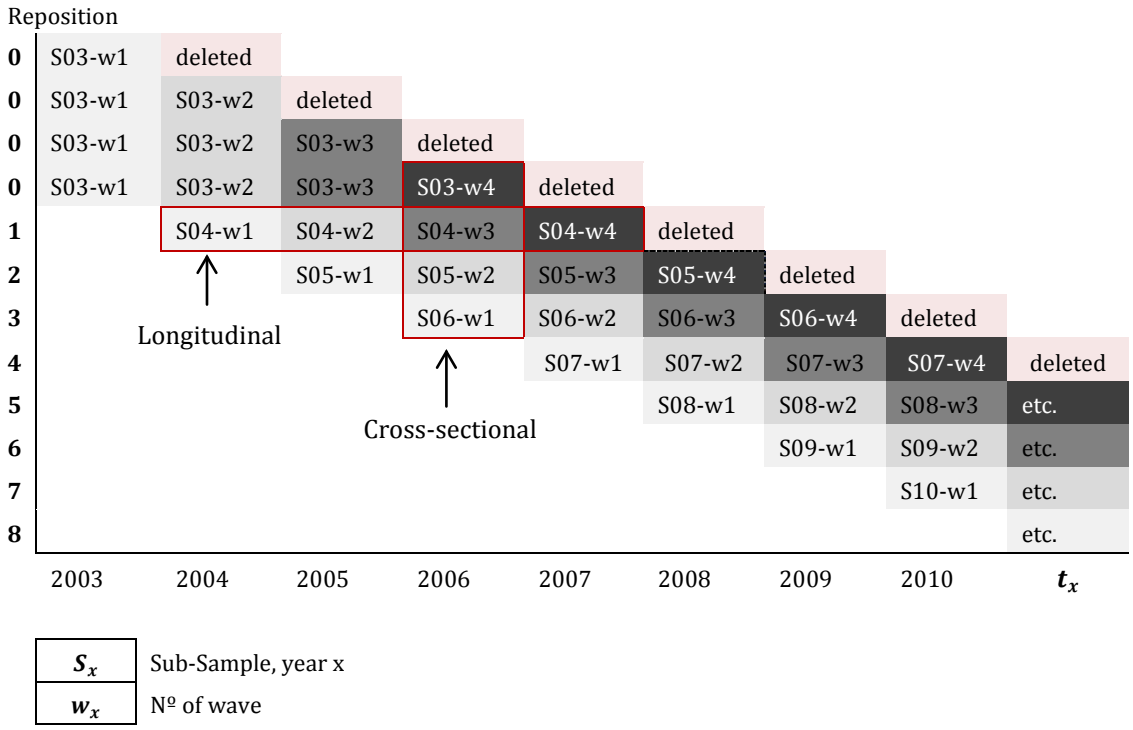

Figure III.6 shows the mechanism of the rotating panel. When the survey was first carried out in 2003, the total sample was fractioned in four segments identified in the scheme as S03 (Sub-sample,$year_x$). Since it was the first year of participation, the sample name in the panel adds the suffix w1 (number of wave for this sub-sample). The following year, 2004, three of those sub-

samples are kept and continue to be identified as S03, but their participation supposes a second wave (w2). One of them representing the 25% is removed and the total sample is updated with new individuals (S04). In 2005 two of the samples included in the first year are kept (S03-w3), the one introduced the previous year which is renamed as S04-w2 and a new one named S05-w1. In the fourth year, 2006, one the samples introduced in 2003 is removed and replaced with a new one named S06-w1; thus, a sub-sample remains for each year from 2003 to 2006. This diagram repeats itself in each wave since that moment, removing and incorporating new sub-samples in the following years.

It is important to highlight that this type of panel design only allows longitudinal analyses for four-year periods, which is the maximum time an individual is able to participate in the sample. After those four years, the sample is completely renewed. This has posed a restriction to carry out longitudinal analyses, since four years is a relatively short period of time for monitoring certain type of phenomena as residential dynamics.

Although this section has been mainly devoted to explaining the longitudinal dimension of data, EU-SILC design also allows cross-sectional analyses. The European Commission advises to prioritise on the collection of the latter. While the cross-sectional variables cover a wide range of topics, the longitudinal variables are limited to incomes and lack of resources information. Both types of data are presented in separate databases that cannot be linked as per confidentiality criteria, which has become one of the main critics to the design of this survey, since the use of longitudinal files means losing a large portion of source information (Iacovou, Kaminska and Levy 2012).

The cross-sectional data of this survey are available 15 months after the field work. Cross-sectional data from year N available in March in year N+2, and the longitudinal data are available in September + 2 years.

III.4.3 Information modules

EU SILC collects the information through two sets of variables named *primary target variables,* which are asked every year, and *secondary target variables*, which are repeated every four or more years. The *primary target variables* are present in all waves both at household level as well as at individual level. The household level includes five dimensions; (1) Characteristics of the home, (2) Income, (3) Housing, (4) Social exclusion and (5) Labour situation. The individual level includes other five scopes: (1) Demographic data, (2) Income, (3) Education, (4) Labour situation, (5) Health. Table III.6 summarizes the kind of information contained in each one of the modules in which the EU-SILC is organized, bearing in mind the two levels of data collection. The perspective of the analysis - that is, whether they are cross-sectional or longitudinal - is added in

the last column. The modules highlighted in colour identify the groups to which the variables used in this investigation belong.

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Table III.6. Information modules in EU-SILC survey, primary target variables

	DOMAIN	TYPE OF INFORMATION	VIEW
Household level	**Basic data**	Basic household data including degree of urbanization	C / L
	Income	Total household income (gross and disposable) Gross income components at household level	C/ L
	Social exclusion	Housing and non-housing related arrears Non-monetary household deprivation indicators, including problems in making ends meets, extend of debt and enforced lack of basic necessities	C / L
		Physical and social environment	C
	Labour information	Child care	C
	Housing	Dwelling type, tenure status and housing conditions	C/ L
		Amenities in the dwelling	C
		Housing costs	C
Individual level	**Basic data**	Basic data Demographic data	C / L
	Income	Gross personal income, total and components at personal level	C/ L
	Education	Education, including highest ISCED level attained	C / L
	Labour information	Basic labour information on current activity status (including information of last job if unemployed)	C / L C/ L
		Basic information on activity status during income reference period	L
		Total number of hours worked on current second/third jobs Detailed labour information Activity history Calendar of activities	L
	Health	Health status and chronic health or condition	C / L
		Access to health care	C

Clemenceau and Museux (2007:24)

Used modules

The second type of variables contained in the survey is named *secondary target variables*. These are included in special modules dedicated to some specific topic related to the life conditions and can only be treated from a cross-sectional perspective. The modules implemented until now are *Inter-generational transmission of poverty* (2005 and 2011), *Social participation* (2006), *Housing conditions* (2007 and 2012), *Over-indebtedness and financial exclusion* (2008), *Material deprivation* (2009), *Intra-household sharing of resources* (2010) and *Well-being* (2013). These variables are collected simultaneously with the *primary target variables* in each wave, but are only repeated - and not always - every four or more years, once the EU SILC sample has been fully refreshed.

The perspective of the analysis - that is, whether they are cross-sectional or longitudinal - is added in the last column. The modules highlighted in colour identify the groups to which the variables used in this investigation belong.

III.5. The individual dimension: SHARE project

SHARE is the acronym of *Survey of Health, Ageing and Retirement in Europe*. It is a European survey that registers data from the population aged 50 years old and over, with the purpose of providing data to analyse how the European baby-boom generations start and advance in their old age years. This project was born in 2002 due to a call made by the European Commission for financing the creation of a longitudinal survey about ageing which would allow international comparisons at a continental level. At first, this survey was financed by the European Commission by means of the 5th and 6th Framework Programme[16]; and currently it is financed by the 7th Framework Programme. Part of the financing is also the responsibility of the U.S. National Institute on Ageing and of the agencies in charge of managing the I+D resources in each participating country[17]. The Munich Centre for the Economics of Ageing[18] (MEA), belonging to the Max Plank Institute for Social Law and Social Policy (Munich, Germany), is responsible for coordinating and distributing data which are previously collected by the national statistical services and research institutes of each participating country.

[16] The European Framework Programme is an initiative developed by the EU that aims to fund I+D research in the European Continent. These programmes comprise various modalities from research projects to individual fellowships, covering a wide range of scientific topics.

[17] To read more about the funding of participating countries see: Börsch-Supan, A. 2013. "SHARE wave four: New countries, new content, new legal and finantial framework." Pp. 5-10 in *SHARE wave 4: Innovations & Methodology*, edited by F. Malter and A. Börsch-Supan. Munich: MEA, Max Plank Institute for Social Law & Social Policy.

[18] The Mannheim Research Institute for the Economics of Ageing (MEA) changes its emplacement to Munich (Germany) in March 2011 when it becomes the first European Research Infrastructure Consortium (ERIC).

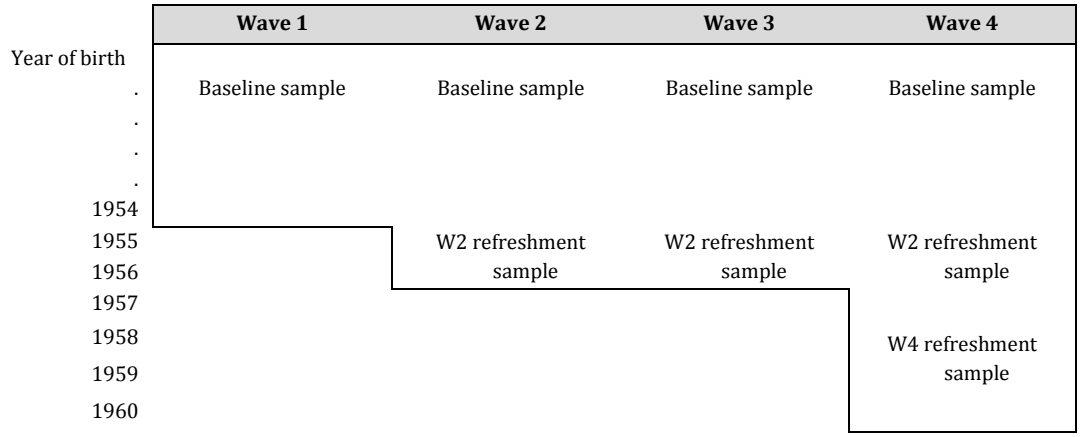
The first wave of this survey was carried out in 2004 and it is expected to continue at least until 2024 (Börsch-Supan 2013). Since its creation, and in a short period of time, SHARE has become the benchmark statistical source on older adults in Europe. Innovations on the survey design, the wide range of topics addressed and the number of participating countries (increasing in each wave) are features that have turned the survey into a powerful tool for studying the ageing process in the continent.

III.5.1 Sample composition

The eligible candidates to answer the SHARE questionnaire are people older than 50 years old and their spouses, the latter likely to be younger. In the last wave (2011) the definition of the population that is the study subject is described as: "*"Persons born in 1960 or earlier, and persons who are a spouse/partner of a person born in 1960 or earlier, who speak the official language(s) of the country and who are residents within private households, regardless of nationality and citizenship*"(Lynn et al. 2013:74). As exposed clearly by this definition, old people living in institutions are formally excluded, except for those residing in countries such as Austria or Check Republic which select the sample by means of registers including the population from collective homes (Lynn et al. 2013:74). Despite of that, those individuals that move to collective homes during the panel are registered. Even with these specifications, it is possible to assure that practically the whole sample registered by SHARE is residing in a private household at the moment of the field work. Due to the fact that the survey is addressed to older people, it is also registered whether the answers of the interviewed people are given by their own or with the help of someone else present at home.

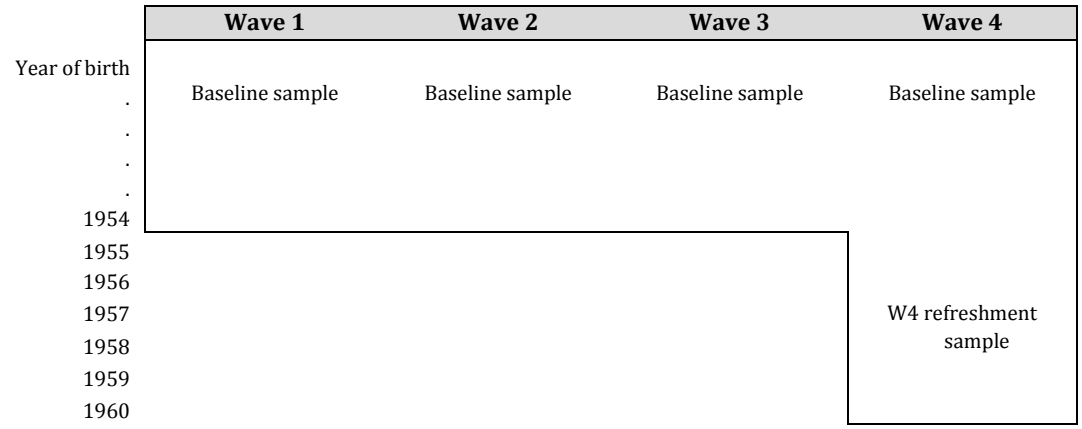
The SHARE sample is refreshed in each wave, mainly through two procedures: the inclusion of individuals belonging to new participating countries and the inclusion of generations that in each wave become older than 50 years old in those countries that were part of the project already. A third method to refresh the sample, especially in those countries implementing SHARE from the beginning, is to add cases to all ages due to the disappearance of the interviewed people, by death or incapacity to locate them, may have reduced considerably the sample size. Tables below (Table III.7, Table III.8 and Table III.9) show the diagrams of the different procedures for refreshing the sample:

Table III.7. Example A. Countries which had a refreshment sample at wave 2



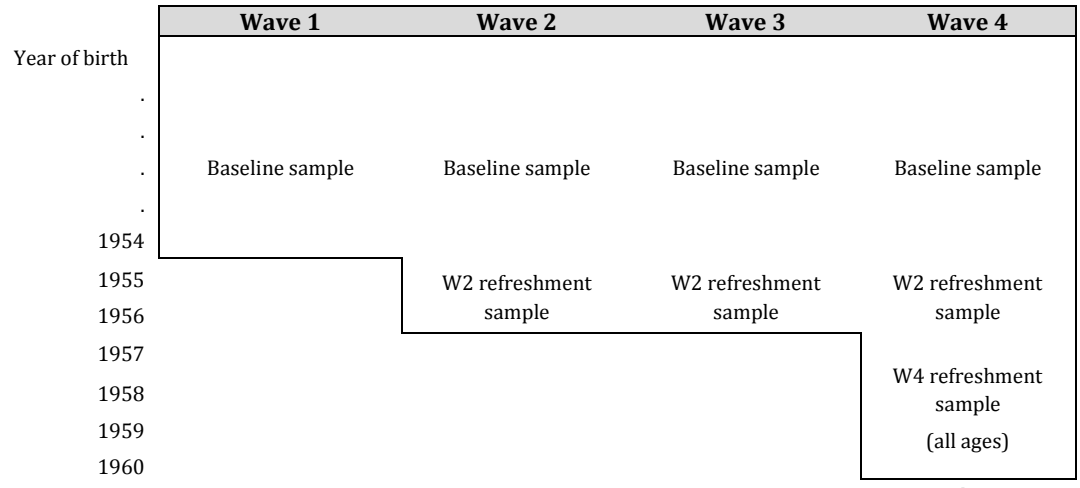
Source: Lynn et al., 2013: 76

Table III.8. <u>Example B.</u> Countries which had not refreshment at wave 2



Source: Lynn et al., 2013: 77

Table III.9. <u>Example C.</u> Countries which had a refreshment at wave 2 and full age range refreshment at wave 4



Source: Lynn et al., 2013: 77

Table III.10. SHARE sample size by country, gender and age (individuals)

		AT	BE	DK	FR	DE	EL	IL	IT	NL	ES	SE	CH	CZ	IE	PL	SI	HU	PT	EE	ALL COUNTRIES
Wave 1	Total	1893	3827	1707	3193	3008	2898	2598	2559	2979	2396	3053	1004	-	-	-	-	-	-	-	31115
	Male	783	1741	771	1384	138	1244	1139	1132	1367	996	1412	462	-	-	-	-	-	-	-	13811
	Female	1110	2086	936	1809	1628	1654	1459	1427	1612	1400	1641	542	-	-	-	-	-	-	-	17304
	50 to 64	993	2075	1008	1768	1635	1668	1439	1393	1802	1121	1645	548	-	-	-	-	-	-	-	17095
	65 to 74	544	992	369	768	887	714	716	785	715	701	816	252	-	-	-	-	-	-	-	8259
	75+	356	760	330	657	486	516	443	381	462	574	592	204	-	-	-	-	-	-	-	5761
Wave 2	Total	1341	3169	2616	2968	2568	3243	-	2983	2661	2228	2745	1462	2830	1134	2467	-	-	-	-	34415
	Male	546	1435	1176	1273	1184	1398	-	1345	1212	1003	1267	645	1191	514	1074	-	-	-	-	15263
	Female	795	1734	144	1695	1384	1845	-	1638	1449	1225	1478	817	1639	620	1393	-	-	-	-	19152
	50 to 64	563	1699	1492	1635	1286	1787	-	1421	1524	1004	1332	807	897	649	1393	-	-	-	-	18242
	65 to 74	476	773	618	718	833	820	-	971	681	651	808	356	690	282	605	-	-	-	-	9282
	75+	302	697	506	615	449	636	-	591	456	573	605	299	490	203	469	-	-	-	-	6891
Wave 3	Total	847	2832	2141	2483	1852	2951	-	2492	2210	2048	1893	1296	1837	-	1918	-	-	-	-	26836
	Male	343	1267	958	1078	864	1275	-	1129	1007	904	848	559	791	-	852	-	-	-	-	11875
	Female	504	1565	1183	1404	988	1676	-	1363	1203	1144	1045	737	1082	-	1066	-	-	-	-	14960
	50 to 64	314	1327	1134	1193	815	1498	-	1058	1112	860	740	644	910	-	1098	-	-	-	-	12739
	65 to 74	325	758	556	643	682	787	-	878	673	593	679	359	568	-	467	-	-	-	-	7968
	75+	208	747	451	647	355	666	-	556	425	595	474	293	359	-	353	-	-	-	-	6129
Wave 4	Total	5286	5300	2276	5857	1572	-	-	3583	2762	3570	1951	3750	6118	-	1724	2756	3076	2080	6828	58489
	Male	2230	2363	1036	2512	736	-	-	1605	1220	1606	894	1682	2576	-	753	1196	1322	895	2748	25374
	Female	3056	2937	1240	3345	836	-	-	1978	1542	1964	1057	2068	3542	-	971	1560	1754	1185	4080	33115
	50 to 64	2803	3097	1310	3226	654	-	-	1739	1509	1615	708	2059	3371	-	946	1533	1780	1165	3300	30815
	65 to 74	1589	1155	544	1301	602	-	-	1143	766	964	735	1035	1699	-	451	691	821	571	2045	16112
	75+	894	1048	422	1330	316	-	-	701	487	991	508	656	1048	-	327	532	475	344	1483	11562

Source: SHARE Project, waves 2004, 2006/07, 2009 and 2011

The sample configuration taken by SHARE follows a flexibility criterion currently applied by the majority of international surveys. Each country selects a representative sample of itself, without requiring homogeneity among countries. The idea behind this criterion was stated by Kish (1994:173); "*Sample designs may be chosen flexibility and there is no need for similarity of sample designs. Flexibility of choice is particularly advisable for multinational comparisons because the sampling resources differ greatly between countries. All this flexibility assumes probability selection methods; known probabilities of selection for all population elements*". This sampling method avoids possible risks as long as there is an appropriate accuracy in the size and stratification of the sample. Table III.10 summarises the sampling sizes of SHARE in different waves and their distribution per country, gender and age. It is observed that the sample has increased over the years, except for the case of the third wave corresponding to SHARELife. As detailed in the next section, this wave meant a change of focus in the questionnaire which was aimed to recode retrospective information. In 2004, the initial sample included 31,115 individuals. In the following wave the number rose to 34,415 people, dropping to 28,836 people in the retrospective wave in 2009. In 2011, after refreshing the samples of the participating countries and including four new territories, the last wave contains 58,489 individuals. In all the waves the population aged 65 and older has accounted for approximately 45%.

III.5.2 Survey design

The survey design of SHARE emphasises the longitudinal perspective, although it also allows the cross-sectional analysis of data. The idea is to monitor individuals along time, for which surveys are repeated follow a panel design.

Up to now, four waves have been carried out, every two years approximately, although time slightly varies from wave to wave. The fact that the survey execution depends on the national research groups hampers the coordination and increases the probability of unforeseen problems and delays in the field work and the data organisation. Because of this, the SHARE waves are usually identified by their order number rather than the reference year.

As summarised in Table III.11, the data from the first wave were available in 2005. At this moment, the participating countries were Germany, Austria, Belgium, Denmark, France, Greece, Italy, The Netherlands, Spain, Sweden and Israel. The second wave was available at the end of 2007 and the countries added were Check Republic, Ireland and Poland. Israel was not included in this second wave because it did not participate in the project any longer. The main goal of this second wave of SHARE was to initiate the longitudinal dimension of study in panel format, repeating the questionnaire to old people who were already surveyed in 2004.

Table III.11.Basic information of SHARE waves

YEAR OF DATA COLLECTION	YEAR OF DATA AVAILABILITY[a]	WAVE	COUNTRIES	FOCUS
2004/05[1]	2005	1	Austria, Belgium, Denmark, France, Germany, Greece, Israel, Italy, Netherlands, Spain, Sweden, Switzerland	Initial wave
2006/07[2]	2008	2	+ Czech Republic, Ireland, Poland - Israel	Starting longitudinal view
2008	2010	3	- Ireland	SHARE Life
2010/12[3]	2012	4	+ Slovenia, Hungary, Portugal, Estonia - Greece	Social Networks

[1] Field work carried out in France, Greece, and Belgium 2004/05, Israel 2005/06, the rest of countries 2004
[2] Field work carried out in Greece, The Netherlands and Ireland carried out in 2007, the rest of countries 2006/07
[3] Field work in Estonia 2010/11, in Germany and Poland 2011/12, the rest of countries 2011.
a Data availables in November.

Note: **+** New countries ; - Deleted countries

The third wave of SHARE, denominated as SHARELife, was available by the end of 2010 and modified the panel design used in previous years. Without excluding the longitudinal perspective, this time the survey focused on collecting retrospective information. SHARELife can be treated as an independent survey which registers information about the childhood of the European baby-boom generations. Those people surveyed in waves 1 and 2 were asked about their lives in different scopes like family, work, residence or health, giving the chance to connect situations lived in other phases of life and link them with old age conditions. Ireland leaves the SHARE project in this wave.

The fourth and last available wave of SHARE until now goes back to the initial panel repeating the questionnaire used in waves 1 and 2. The database counted on four new countries: Hungary, Portugal, Estonia and Slovenia. In this year Greece refrains from implementing the survey. This SHARE wave particularly focuses on social networks. Although in previous waves SHARE already included a specific module regarding structure, frequency and type of contact with social networks, specific indicators are created as the satisfaction that elderly individuals has with personal relationships, aiming at enabling a deeper analysis of this issue.

With respect to SHARE design, it is important to highlight that the variables of this survey are harmonised with other two sources: one at a European level, English Longitudinal Study of Ageing (ELSA) carried out in the United Kingdom, and Health and Retirement Survey (HRS) conducted in the United States, permitting to expand the international comparative analysis.

III.5.3 Information modules

The information of SHARE is organised in thematic modules, each of them focused on a specific biographical domain. This characteristic is the result of the aforementioned multidisciplinarity aim of the source. The data collection is registered using the *Computer Assisted Personal Interviewing* (CAPI), in which the interviews are face to face and the data are registered in a PC with a version of the electronic questionnaire installed. The reasons for selecting CAPI are the easier comparability with other surveys like ELSA and HRS and the inclusion in the questionnaire of some physical tests to be executed by the individual to be interviewed, which required a person to validate the results (Das, Vis and Weerman 2005). The same questionnaire was developed in all countries and coordinated by the CentreRdata, a research institute pertaining to the Tilburg University (The Netherlands). The only difference among the questionnaires distributed in each country was the language.

As shown in Table III.12, the first wave consisted of a total of 20 modules which, apart from being repeated, were complemented with three additional modules in SHARE second wave. With the incorporation of the retrospective viewpoint of SHARELife, those 23 modules were reduced to 15. In this third wave, the information gathered is practically the same as in the previous waves, although it discards some modules like social support.

The information can be classified regarding to the life dimension which the data are referring[19]:

- Health: This is the dimension that presents the greater volume of information. The eight modules related to this scope are: (1) physical health, (2) behavioural risks, focused on smoking and alcohol consumption, 3) cognitive functions, (4) grip strength, (5) walking speed, (6) chair stand and (7) peak flow. Modules 4 to 7 are based on the results from different physical tests through which to evaluate the ability of the old person. Mental health module (8) also includes some variables on feelings and emotions. Health Care module (9) contains information related to a more social dimension of health, with behavioural variables such as type and frequency of getting medical assistance.

- Financial and work situation: This scope is covered by the modules: (1) pensions, (2) financial transfers, (3) household income, (4) consumption, and (5) assets. All of them include variables which provide insight on the financial situation of old people and the source of their incomes.

[19] This classification is only one of the possible. Given that the link among life spheres, this division of domains cannot be treated as close groups. In many cases, the modules contain information classifiable in one or more of the ambits, reason why this should be viewed as a guide.

Table III.12. Data modules included in each wave of SHARE by theme

Wave 1		Wave 2		Wave 3 (SHARE life)		Wave 4	
CV	Cover screen	CS	Chair Stand	ac	Accommodation section	CV_R	Cover screen
DN	Demographics	PF	Peak Flow	cs	Childhood section	DN	Demographics
PH	Physical Health	XT	End-of-Life Interview	dq	Disability	SN	Social Networks
BR	Behavioural risks			fs	Financial history section	CH	Children
CF	Cognitive Function			gl	General life questions	PH	Physical Health
MH	Mental Health			gs	Grip strengths	BR	Behavioural risks
HC	Health Care			hc	Childhood health care	CF	Cognitive Function
EP	Employment and Pensions			hs	Childhood health section	MH	Mental Health
GS	Grip Strength			iv	Interviewer	HC	Health Care
WS	Walking Speed			rc	Retrospective children	EP	Employment and Pensions
CH	Children			re	Work history	GS	Grip Strength
SP	Social Support			rp	Partner section	PF	Peak Flow
FT	Financial Transfers			st	Demographics	SP	Social Support
HO	Housing			wq	Work quality	FT	Financial Transfers
HH	Household Income			xt	End of life interview	HO	Housing
CO	Consumption					HH	Household Income
AS	Assets					CO	Consumption
AC	Activities					AS	Assets
EX	Expectations					AC	Activities
IV	Interviewer Observations					EX	Expectations
						IV	Interviewer Observations
						XT	End-of-Life Interview

Modules that contains the variables included in the analysis

- Family and social support: Composed by the modules: (1) children and (2) social support. Both are fully destined to provide information on old people's offspring and their relationships. Besides, some of the variables included in module (3) Demographics are also useful to analyse the household composition.

- Housing: This scope is only covered by module (1) Housing. It refers to a set of variables through which each individual is asked about type of tenure, dwelling and the conditions or the accommodation. Given that SHARE is a panel survey, it also asked about residential movements displayed between waves, and the reasons behind this decision (relatives, work, economic situation, health, etc.).

- Perceptions: This dimension gathers the most subjective aspects of ageing and it consists of those modules that register the information related to beliefs, perceptions and expectations: (1) Activities and (2) Expectations. Although the first module "activities" may be confusing, it contains the variables regarding old people's motivation and satisfaction, the organisations they belong to, the frequency and the reason why they collaborate with them, how satisfied they are with their life, etc. The expectations module includes questions about the near future.

- Proxy: There are also some modules which are used to compare the information provided by old people. Module (1) Interviewer observations, includes variables such as age, genre, area or building where the old person resides. Although these variables have already been answered by the interviewed person, they are registered again in order to identify and amend contradictions or non-responses. Module (2) End-of-life interview is carried out when the interviewed person from previous waves has passed away. A close relative is contacted and asked about the last months of the person's life. It includes medical and health data mainly.

Apart from these modules, SHARE provides a series of variables calculated by the centre in charge of coordinating the survey, file named as *generated variables*. These variables may vary among waves and are added some time after the first version of data is available. They usually include data on physical and health measures, housing information, household composition and education.

III.5 Advantages and limitations of the main sources

As stated in the first part of this chapter, the main advantage of using SHARE and EU-SILC is the possibilities offered by treating them in combination. The sources are implemented close in time and are applied to the same population, so the temporal and spatial dimensions they cover are similar enough to combine them. Furthermore, both sources fulfil, to a greater or lesser extent, the multidisciplinarity, longitudinality and international comparability criteria. In the specific interest of this work, it adheres properly to multidisciplinarity and international comparability. Given the fact that ageing at home is a multidimensional process in which factors from different levels interact, from individual aspects of old people to contextual constraints, it was necessary to count with data that cover those dimensions with as much detail as possible. Besides, the awareness of the importance of structural conditions to display independent living makes desirable to consider a cross-national comparisons within Europe, and both surveys were precisely based on the idea of becoming a supranational instrument inside the continent. For these reasons, the combination scheme used to develop the empirical analysis means covering the structural dimension with the data provided by EU-SILC and using the data derived from SHARE to study the micro dimension of the ageing at home process. Many limitations and scope

biases that may be caused by using the surveys separately are minimised by their association. SHARE gathers detailed information on the micro dimension of the independent living of old people, focusing on collecting data on flows of help exchange. This facilitates the analysis of the relationship between the living conditions in old age and their impact on health and well-being. On the other hand, EU-SILC is used to show the influence of housing and living conditions variables on old people to stay at their homes. The fact of being a tool intended to generate structural indicators that are comparable among countries makes it essential for comparing the effect of the public policies implementation regarding housing and care within Europe. In this respect, another advantage is that both SHARE and EU-SILC allows us to establish how long old people do stay in their current residence.

Even though it has been said that longitudinality is not a principal axis in this research, since most of the analysis is done by using a cross-sectional view, it is necessary to point it out as an advantage. The shortage of longitudinal information at national level in some countries like Spain, Portugal or Greece turn SHARE into one of the few existing databases to explore the temporal dimension of social phenomena in these countries. The United Kingdom, Sweden, Germany, Denmark or The Netherlands, to mention a few, count with quite stable projects that collect longitudinal data on ageing, while in Southern Europe these surveys are still in a very initial stage. SHARE and EU SILC suppose a twofold improvement for Southern countries: 1) to permit the incorporation of Southern region to cross-national comparisons, and 2) to provide data to move forward in the national longitudinal analysis of ageing of these countries.

The wide sample size of these sources is another advantage. SHARE counts with a sampling universe composed only by individuals aged 50 years and over, which allows exploring the variety of stages, and associated profiles, that old age encompasses. Even though EU-SILC registers information of individuals aged 16 years old and over, the volume of its sample also permits selecting a sufficient sub-population older than 65 years old which enables this phase's distinction.

Nevertheless, there are some limitations which condition the results, although they do not disallow the analysis. Even though paradoxical, the first limitation arises from one of the main advantages, that is, multidisciplinarity. The fact that both sources gather a great amount of information on several aspects of old people's life makes that other aspects receive less attention. For example, living perceptions, feelings or expectations, that strongly condition the relationship of old people with their environment, are not included or are not treated in an extensive way. The same occurs with housing adaptations. SHARE provides information about the existence of devices in the dwelling to support daily living activities, but it does not specify which those modifications are or the moment they were undertaken. The time information is also inadequate in the variables regarding support flows, at least in view of the goals of this research. As previously stated, the reference period of receiving help is limited to the previous twelve months prior to responding the questionnaire. It makes difficult to establish causalities

between the life events, as illness or death of the spouse, and the beginning of the support flow. Regarding this, it is desirable to modify variables or include new ones which recode data about not the exact date but at least the approximate moment when the old person started to receive help and why.

The second limitation derives from the different territorial coverage. Although this research considers the wide territorial dimension of both sources mainly as an advantage, it is important to highlight that the fact that SHARE is not being implemented in the same countries as EU-SILC (which covers all the EU27) reduces the comparability of some analyses, since they are limited to those participating in SHARE. The comparisons of SHARE with analogous surveys as ELSA (carried out in the United Kingdom) or HRS (carried out in the United States) are also conditioned by the information contained in each one. Even though the survey coordinators present them as equivalent to SHARE, their comparability is not exactly as straightforward. Variables are indeed harmonised, but not all the questionnaires include the same amount of variables. For instance, in the case of social support variables contained in ELSA (United Kingdom), the quantity of questions is quite inferior to those presented in SHARE. The British survey does not register the type of assistance received or the frequency of this support. Consequently, a great volume of information contained in SHARE is lost when including the United Kingdom in the analysis.

Another limitation arises from the sample composition. Underrepresentation problems may arise for certain types of collectives, for example, dependent old people who are difficult to find or have serious health problems which prevent them from completing the questionnaire. In the case at hand, independent living, it would be advisable to carry out databases that consider institutionalised population with the aim to compare the profiles of those who stay at their home with those who live in institutions. The systematic exclusion of institutionalised old people, not only from SHARE and EU-SILC but also from the majority of elderly surveys, prevents the execution of analysis that compares one collective and the other, merely enabling the assessment of the intra-aspects of the independent living process and frustrating comparative analysis between those that age at home and those institutionalised. Furthermore, as stated by Peeterns, Debels, and Verpoorten (2011), to exclude old people living in collective homes from the surveys means underestimating the socioeconomic indicators such as the extent of hardship or residential quality. This bias is unlikely to be resolved since it derives from the intrinsic characteristics of the sources.

Chapter IV. AGEING AT HOME: THE UBIQUITOUS PATTERN AMONG OLDER EUROPEANS

IV.1. Introduction

Whether de facto (Fischer et al. 2000) or by preference (Barker and Prince 1990; DeJong et al. 2012; Gitlin 2003; Gurney and Means 1997), the reality is that the vast majority of the older population remain living at home during old age regardless if they rely on some external aid that help them to face the daily living. Movements to collective homes are normally only considered when serious damages on physical and cognitive functions appear that make a relocation to some kind of long-term care institution almost unavoidable (Laferrère et al. 2013). In addition, the postponement of institutional movements due to the increase in healthy life expectancy has prolonged the length of time during which elderly people remain in the private domain.

The evidences that permit to assume that ageing at home is the pre-eminent socio-residential pattern often it seems to be more an axiom than a hypothesis explicitly proven. The amount of older people ageing at home is usually inferred as opposition to those institutionalised, but not directly from the quantification of the age-at-home phenomenon by itself. Probably, the apparent obviousness of this trend has played down the interest in quantifying its magnitude, relegating the assessment of how many older people is "ageing at home" to the background.

Nevertheless, precisely by assuming that ageing in place is the prevailing pattern, it is indispensable to quantify to which volume we are referring. The aim of this chapter is to go into the demographic dimension of independent living in later life that serves an empirical basis that justify the assumption that ageing in place is the predominant type of residential behaviour among European old population. The key questions that guide this chapter are, firstly, conceptual: under *what premises could be operationlised ageing in place regarding to its complexity of definition?* In second place, and considering the premises established by the previous question*, what is the size of the older population that remain living independent in the EU15?* The results are analysed by country (EU15), age and gender in order to elaborate a European overview.

Data are drawn on a compendium of secondary sources, censuses (data extracted from Eurostat database) and surveys (EU SILC and SHARE), combined with some descriptive outcomes elaborated by other authors. Using this mixture of sources was necessary to overcome the limitations as a result of the systematic exclusion of older people residing in institutions from the surveys that converts these elderly population into a segregated collective, also in a statistical sense.

IV.2. Contextualising the estimation: The demographic ageing on Europe

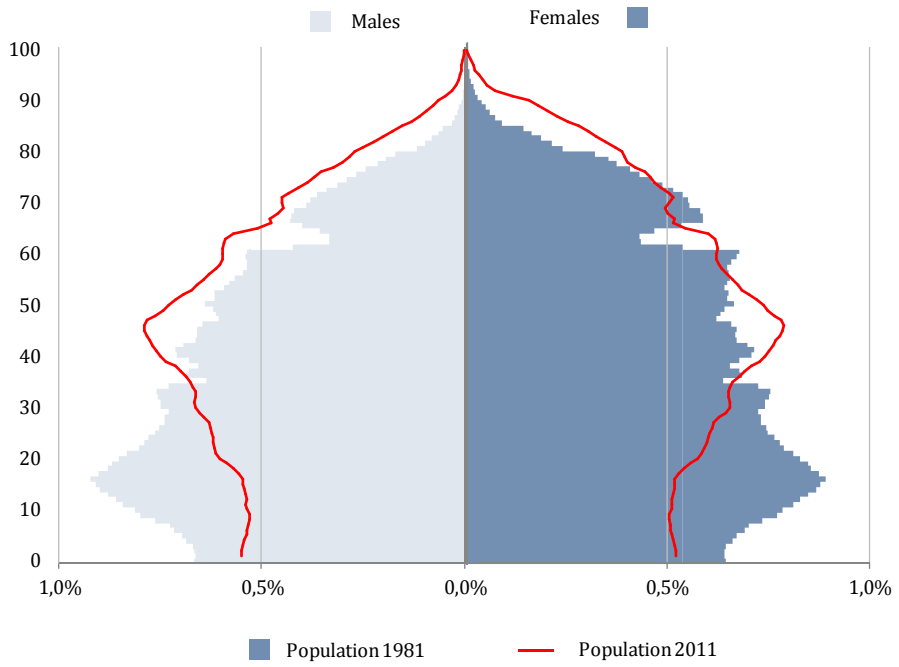
To commence with the demographic dimension of independent living, a good starting point to is describe the population exposed to experience it. The augment of older cohorts in Europe population is a fact today. This demographic change has been a direct consequence of the drop of mortality rates since the end of 19th Century to mid-20th Century, with time variations depending on the country. In 1929, Thompson introduced the concept of "transition" when describe this demographic change as a lineal development between previous societies and posterior to the transformation. Two decades later, Notestein (1945) denominated this process as *Demographic Transition*. This theoretical proposal explain the change from traditional societies to modern by the progressive decrease of mortality, that in an initial stage unleash an accelerated population increase once combined with high fertility rates. In posterior phases also fertility rates are reduced, achieving certain demographic equilibrium. Despite it is confirmed that the model proposed by Demographic Transition Theory it is not identical for all countries or world regions, and its intensity of occurrence have varied depending on the geographical location, it has been the theory most important elaborated in Demography until. Its postulates have been widely assessed proving or refusing its validity (Caldwell 1976; Lee 2003; Teitelbaum 1975).

From this controversy, some authors formulated additional theoretical proposals aiming to explain further the demographic change of modern societies and its evolution. The works of Van

de Kaa (1987; 2002) and Lesthaeghe (1995), identified a following phase to demographic Transition that was labelled as *Second Demographic Transition*[20]. Also, Omran (1971, 1998) elaborated a theoretical model to explain the mortality patterns transformation during the demographic transition, identifying the causes and mechanisms that trigged the sifth, which was named the *Epidemiologic Transition Theory*[21]. This model was later completed by the *Health Transition Theory* proposed by Frenk et al. (1991).

Since the mid-20th Century, older population in Europe has rapidly increased as in absolute numbers as in relatives. The augment of older cohorts is evidenced by the demographic pyramids presented in the Figure IV.7, which compare the population's structure in the EU15 in 1981 and 2011.

Figure IV.7. EU15 demographic structure, comparison 1981-2011



Source: Eurostat, National censuses data

[20] The Theory of Second Demographic Transition aimed to contextualised the changed produced in developed countries after World War II in the reproductive patterns. The decrease of fertility levels were conditioned by an increase of never married rates, a postponement of marriage age and the age of first child. Furthermore, this theory highlights the expansion of the number of child born in non-marriages couples, increase of divorced rates and the diversification of family structures.

[21] The Epidemiological Transition Theory was conceived by Omran (1971) as a monodirectional process that tend to outline a uniform development of societies with a beginning, the prevalence of infectious diseases, and an end marked by the emergence of non-communicable diseases. After this, and over this basis, Frenk et al. (1991) proposes a complementary model that conceive the metamorphosis of mortality patterns as a more dynamic phenomenon, in which the epidemiologic patterns of a given society responds to a mixture of social, economic, technological and cultural determinants. In any case, both proposals could be considered as complementary, due to the Health Transition Theory permit to change from descriptive view of the Epidemiologic Theory to explanations of the mortality patterns' change.

Table IV.13. Demographic indicators in EU15 countries focused on elderly population, selected years (1971, 1991, and 2011).

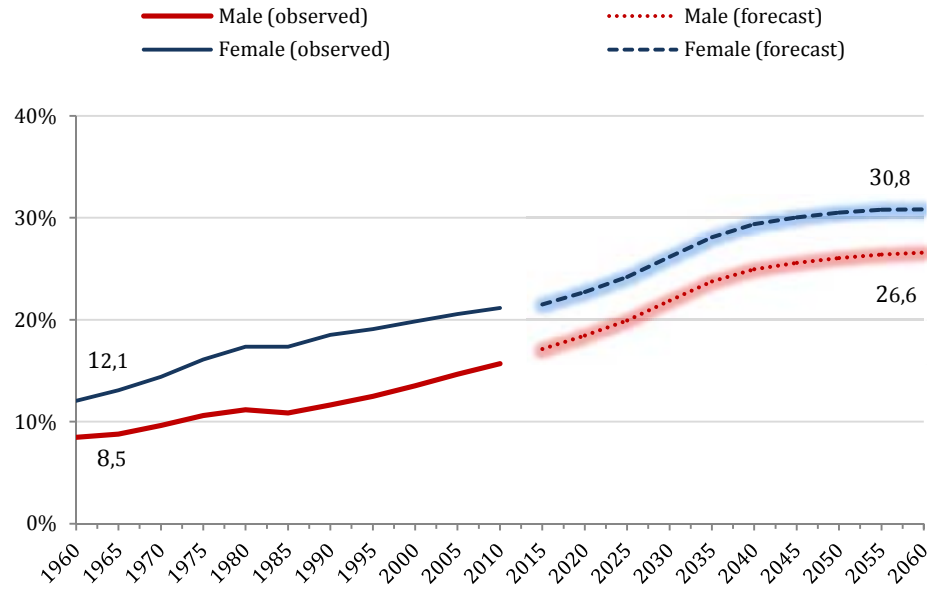
		B	DK	D[1]	IE	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15
Total population (*1000)																	
	1971	9651	4951	78069	2971	8805	34041	-[2]	53958	340	13119	7479	8663	4598	8081	55780	290508
	1991	9987	5146	79753	3521	10193	38875	58313	56744	384	15010	7711	9970	4998	8591	57338	366536
	2011	11001	5561	81752	4570	11310	46153	65048	60626	512	16656	8404	10572	5375	9416	62499	399454
% Older population																	
≥ 65+	1971	13.4	12.4	13.8	11.1	11.0	9.7	-[2]	9.2	12.6	10.2	14.1	9.7	9.3	13.8	13.1	11.8
	1991	15.0	15.6	14.9	11.4	13.8	13.8	14.0	15.1	13.4	12.9	15.0	13.6	13.5	17.8	15.8	14.7
	2011	17.1	16.8	20.6	11.5	19.3	17.1	16.7	20.3	13.9	15.6	17.6	19.1	17.5	18.5	16.7	18.2
≥ 85+	1971	0.7	0.7	0.6	0.7	0.9	0.5	-[2]	-[2]	0.6	0.6	0.7	0.5	0.3	0.8	0.8	0.6
	1991	1.4	1.6	1.4	0.8	1.2	1.2	1.6	1.2	1.2	1.2	1.4	0.9	1.0	1.7	1.5	1.4
	2011	2.3	2.0	2.4	1.3	1.8	2.3	2.6	2.8	1.5	1.8	2.3	2.2	2.1	2.7	2.3	2.4
Life expectancy at 65[3]																	
Healthy Life Expectancy																	
	Male	9.8	14.1	6.9	10.2	9.9	17.6	9.6	8.5	9.7	11.4	7.3	5.4	7.6	12.9	11.2	10.1
	Female	9.6	12.9	7.3	9.3	9.8	9.9	8.7	8.7	9.0	10.8	7.0	6.6	6.7	12.1	10.3	9.3
LE with limitations																	
	Male	7.1	2.2	10.2	6.6	7.5	9.5	8.5	9.2	7.0	5.4	10.0	11.0	9.3	4.8	6.0	7.6
	Female	11.0	6.2	13.1	10.8	9.5	11.8	13.8	12.9	11.3	9.6	13.7	13.3	14.4	8.7	9.4	11.3
Sex ratio (nº of females * 100 men)																	
≥ 65+	1971	144	128	160	119	128	142	-[2]	135	140	128	164	151	169	125	161	149
	1991	153	142	196	132	127	143	154	146	172	151	190	141	181	135	150	158
	2011	136	124	134	120	127	135	141	137	135	127	140	138	140	123	127	134
≥85+	1971	187	150	189	159	165	207	-[2]	-[2]	173	141	229	237	255	155	283	208
	1991	286	241	292	230	155	219	279	238	287	262	293	241	318	228	313	267
	2011	235	224	267	217	124	206	238	232	314	245	282	207	279	200	204	228

[1] Including former GRD
[2] No data available for this country*year
[3] Source: European Health and Life Expectancy Information System (EHLEIS), *OECD Health Data 2010*.

Source: Eurostat Statistical Database, National censuses .

Life expectancy at birth of the EU15 countries changed from 78 years in 1997 to 81 in 2007. Looking into national differences, Italy (82 years old), France (81 years old) and Spain (81 years old) are the countries where population can expect to live longer. Thus, during the years from 1985 to 2007, the percentage of the population older than 65 raised from 10% to 18% in the EU15.

Figure IV.8. Percentage of population aged 65 and over in the EU15, 1960-2060.



Source: Eurostat.

As figure Figure IV.8, during the period that is analysed in this study the elderly ratio of EU15 countries grew from 16% to 18%. In 1995, all the countries were close to the average with the exception of Ireland (11%) and The Netherlands (13%). In turn, the territories with the highest percentage of elderly population were Sweden (17%) and Italy (17%). In 2007, when the EU15 average was about 18%, Ireland was still the country with the lowest proportion of aging population (11%), while the countries with the highest elderly population were Italy (19%) and Germany (19%). Looking to the future, it is expected that this trend will continue. According to Eurostat projections[22], it is estimated that the over 65 age group will comprise almost 30% of the EU15 population in 2040, doubling their current presence.

IV.3. Who is ageing in place? Some previous conceptual considerations

The first step to measure the magnitude of 'ageing in place' as socio-residential phenomenon is to fix the parameters that determine which elderly population is experiencing this process. The

[22] http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Population_projections

changeable and dynamic nature of this practice supposes the impossibility to categorically separate who is living independent and who not. As a process, the individual characteristics are transformed over time in several directions, and not even the residential context remains totally static. Therefore, it is not possible to establish fixed groups that gather and classify the elderly people who live independently. What it is feasible, is to ascertain some premises to approach a sufficient distinction with regard to the theoretical concepts presented in Chapter II, Section II.7. Recalling 'ageing in place' definition, it was composed by two main features:

- *It can only be experienced in a private domain (dwelling).*
- *It entails a sufficient degree of functional and social autonomy. This means that older people carry out of their daily duties, it may exist certain formal/informal mechanisms of support that facilitate this.*

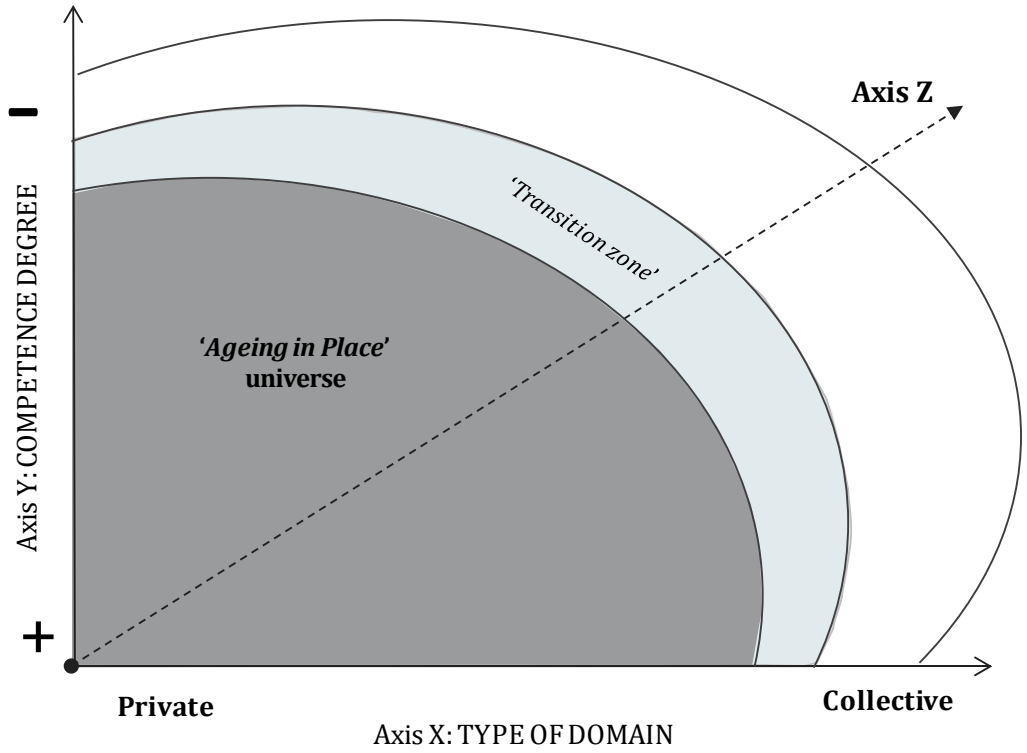
These assumptions can be graphically represented by means of two axes that situate where the 'Ageing in Place' population would be in a bi-dimensional space. On the one hand, the x-axis embodies the type of domain where the elderly lives, creating a space that ranges from private to the collective homes. On the other hand, the y-axis symbolises the level of autonomy presented by the person, as shown by the second scale that ranges from full autonomy to total dependence.

If only the first parameter is considered, it would be relatively simple to enclose the age-at-home population, as the type of residential domain is a criterion that involves two well-differentiated and easily assessable categories. Generally, older people uniquely reside at home or in an institution. Cases of residential modes that merge private and public domain are quite infrequent or suppose a previous step to a definitive move to a supportive setting. Nonetheless, the inclusion of the second factor, the level of autonomy, complicates the delimitation of 'ageing in place' population due to its multi-faceted definition, which diversifies the variety of residential strategies that older people can display.

In Figure 1 both factors are combined. The darker area represents those older people experiencing ageing in place; characterised by those living in their private homes and with a sufficient degree of autonomy to manage their daily routines. As we progress through the space delimitated by the diagonal axis (axis-Z), which means moving from the private to the collective domain and from a sufficient to an insufficient degree of autonomy, the colour becomes lighter. This area represents those older people that do not accomplish the conceptual requirements to be considered as ageing in place population. On the one hand, it assembles the elderly population living in collective homes, following the "type of domain" parameter from left to right. On the other hand, this area also retains those residential modes that, despite to be displayed in the private domain, are determined by an insufficient degree of autonomy. In these cases, which

include elderly people who have moved to another private household to cover the care needs, it is questionable whether the person is strictly doing 'ageing in place'.

Figure IV.9. Representing the 'Ageing in Place' universe



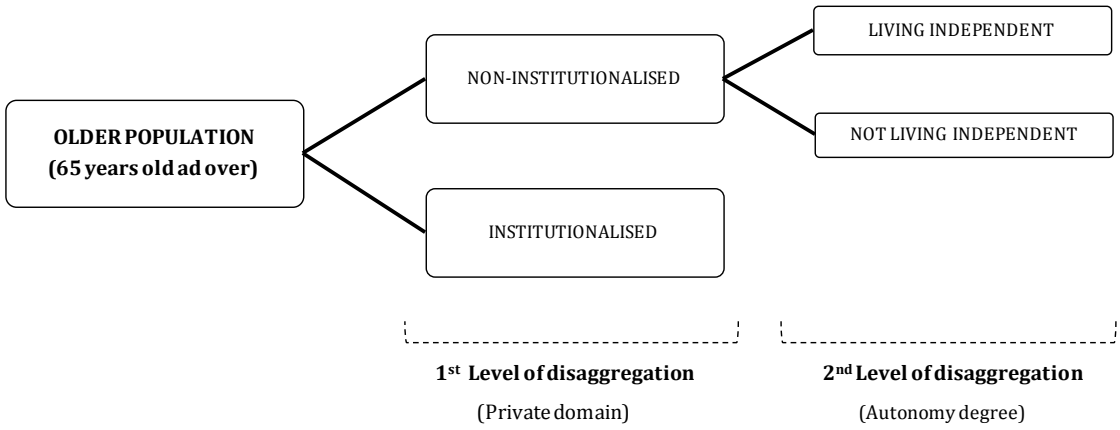
There is also a 'transition zone' as indicated by an intermediate shade that symbolizes the existence of mixed residential patterns as seasonal movements to relatives households or combination of stages amid the own dwelling and nursing homes, that could not be sorted clearly in any of the two categories. It is probable that elderly people situated in this area are the most difficult to place into one of the groups because it is not known if they are living independently or not. Many times, these types of mixed residential modes are a prior stage of a definite move to an institution or to a dependent household.

IV.4. Quantifying the 'Ageing in Place' population

Once the parameters of 'ageing in place' definition are established, the next step is to quantify the proportions of elderly ageing at home according to the two levels of disaggregation previously mentioned. In the analysis, the first level corresponds to the x-axis and splits the elderly population into two groups; those who remain in a private domain and those who live in a collective domain. Then, for those in a private dwelling a second distinction is made by using as

the disaggregation factor the autonomy degree they present. This distinction is needed because, as just mentioned, those elderly people who reside in a non-institutionalized environment are not necessarily experiencing the 'Ageing in Place' such as this research has defined in Figure VI.10.

Figure VI.10. Levels of disaggregation required to quantify the 'ageing in place' population



IV.4.1. Factor I: Type of domain

Surprisingly, despite that growing older in one's own home is a common phenomenon few data exists that adequately facilitates a cross-national comparison between the proportion of older individuals that remain in their private setting and those institutionalised. Censuses contain information about the population that is not residing in ordinary dwellings but this is collected with different procedures, definitions and categories that vary across time and space and are usually held every ten years. Moreover, not all these sources present the same level of access. In countries such as The Netherlands, Sweden or Denmark, the access to data related to the institutionalised population have more restrictions than in other parts of Europe, which complicates the possibility to carry out international analysis. In view of these possibilities, to quantify the volume of population that are ageing in place is it necessary to combine two types of data; descriptive results obtained by other researchers, despite their goals could differ from ours, and own calculations based on 2001 census information provided by Eurostat database.

In 1997, Ribbe et al. carried out a description of the nursing homes characteristics in ten developed countries. The most interesting contribution of this work for the present research is that it does not only includes the older institutionalised population in the analysis (three categories) but it considers the non-institutionalised as well (one category). As it is quite infrequent to gather both types of populations in the same descriptive analysis, the Ribbe's et al.

work serves as a useful example of classification of the different kinds of elderly accommodation according to the degree of received support. Furthermore, it provides a cross-national comparison between developed countries of different worldwide regions, namely Europe, Asia and North America, showing the distribution of population aged 65 and over by type of setting in each one.

Table IV.14. Percentage of 65+ population living at home and in institutions (prevalence data; different years in the early 1990s)

	USA	Japan	Iceland[a]	Sweden	Denmark	Netherlands	UK	France	Italy
Own home, independently or with informal and /or formal care (including domestic help and home nursing)	-	94.0	87.0	94.0	85.0	90.0	93.0	94.0	96.0
Residential homes (low levels of care)	**1.5**[b]	0.5	5.0	3.0	**10.5**[c]	6.5	**3.5**[d]	4.0	1.0
Nursing homes (high levels of care)	5.0	1.5	8.0	2.0	4.0	2.5	4.0	—[e]	< 2.0
Hospitals (intensive medical care)	-	4.0	-	< 1.0	< 1.0	< 1.0	1.5	-	1.0

Source: Ribbe et al. (1997:6).

a Including only elderly people of ≥ 67 years.
b Including only residential care homes and not group facilities such as board and care homes.
c Including some sheltered housing and other special dwellings for older people.
d Including some young disabled.
e No facilities described as nursing homes; 2% of elderly reside in nursing-home-like facilities.

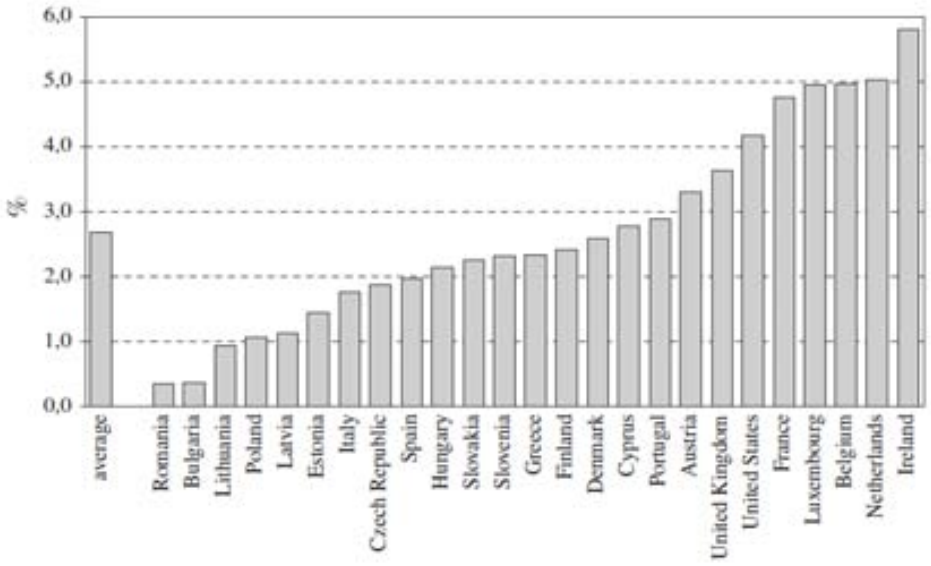
As Table IV.14 shows, in the beginning of the 90's it was very common for older people of industrialised countries to remain in their own home. The percentage of the population aged 65 and over who aged at home, being able to receive some kind of formal/informal care was very high. Proportions varied from 85% in Denmark, the country with the lowest proportion of elderly people living in private homes, to 96% in Italy, the country with the highest rate.

Paying attention to the distribution of the institutionalised older population by type of supportive environment, some regional differences can be found. European countries present the higher percentages of elderly population living in residential homes. Residential homes offer structural adaptations destined to supply the physical impairments, with eventual health services and assistance for the daily living activities (to eat, to get dressed, to make the bed, etcetera). In this category are also included those apartments or houses especially designed with facilities addressed to assist elderly mobility inside the home. This kind of housing complex has, above all,

been implemented in the Scandinavian countries, reason why Denmark cunts on more than 10% residing in this kind of accommodation. At this point, it could be discussed whether this setting should be included with the collective homes categories or should rather be considered as an environment that endorses independent living. Given that the foundational aim behind the construction of these housing complexes is precisely to enhance the elderly autonomy, they cannot be considered the same as nursing setting. Despite that many of these residential establishments provide health and care assistance as service, they are mostly conceived to maintain the privacy and intimacy of the older occupiers.

Among older people residing in nursing homes, Iceland (8%), United States (5%) and United Kingdom (4%) are the countries with higher percentages. This kind of accommodation is planned for individuals with severe health problems who need 24 hours of attention. Nursing homes are highly medicalised environments where the security of the residents prevails over their intimacy. Japan is the only country with the highest proportion of older population residing in hospitals (4%).

Figure IV.11. Percentages of institutionalised elderly (65+) in EU27 (2001) and USA (2005/09).



Source: (Peeters, Debels and Verpoorten 2013:761)

In a recent article, Peeters, Debels and Verpoorten (2013) studied the effect of excluding the institutionalised elderly population from income and living conditions statistics. To contextualise their work, they present a graph showing the percentages of the older population residing in care institutions for the EU27 countries (Eurostat, 2001) and the United States (US Census Bureau, 2005/09). The graph (Figure IV.11) reflects that the distribution of institutionalised elderly in the European context oscillates from 0.25% in Bulgaria and Romania, to almost the 6% in Ireland.

According to this graph, the regions with fewer proportions of institutionalised elderly were situated in the East and the South of the continent, while those with higher percentages were in the North and the West.

Although this is a helpful picture, the results should be interpreted with caution. In this graph, Peeters, Debels and Verpoorten (2013) overlooked the weight that the demographic structure of each country has on the overall proportion. The magnitude of institutionalised elderly in each country is heavily determined by the size of the older-old cohorts (80+) they present, given that this the population more prone to move to a supportive environment.

Using the same data as Peeters, Debels and Verpoorten (2013), this research quantifies the institutionalised and non-institutionalised elderly in three ways by (1) including the proportions of older people living in private households in the descriptive analysis (2) considering the age and the gender as basic features to depict the European trends and (3) standardising the rates using the total EU15 demographic structure as standard population to avoid the influence of the population composition over the calculations[23]. The rates has been standardised using the direct method, in which the nominator is composed by the summation of the specific rates (r_x) of five-years age groups from 65 years old to 100 years old, multiplied by the total magnitude of the EU15 countries population aged over 65 until 100 years old registered by the 2001 census (P_x). The denominator is the summation of the standard population registered by the 2001 census.

$$Stadarised\ rate = \frac{\sum_{x=65}^{\omega} r_x * P_x^{2001}}{\sum_{x=65}^{\omega} P_x^{2001}}$$

Confirming the trend shown by the results of Ribbe et al. (1997), in 2001 an ample majority of older Europeans were living in a private dwelling, with scant variance among EU15 countries[24] (Figure IV.**12**). Private accommodations were by far the predominant residential environment in 2001, reaching an average of 96% for the 65+ population[25]. Three countries of the Southern European region; Italy, Spain and Greece, are the territories with higher values of non-institutionalised elderly, exceeding the 97% in all cases. In contrast, Ireland is the country inside EU15 with the higher proportion of institutionalised elderly (7.5%), followed by Luxembourg (6.7%) and Netherlands (6.6%). Bearing in mind the results obtained by Ribbe et al. (1997) for the 90's decade and comparing them with those estimated by this research, it can be seen how the proportion of the elderly private households has increased since then. In the EU15 countries

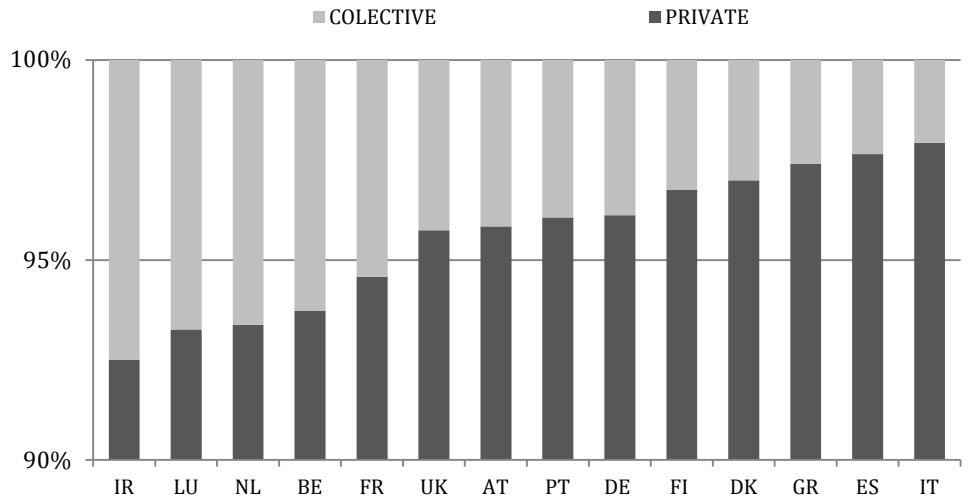
23 Standardised and non-standardised rates for the elderly (65+) living at home/in institutions for the EU15 countries are presented in the annex Table A.55

24 No data available for Sweden

25 It is important to remark that not even the censuses cover all the older population. They exclude the population that does not have a domicile either a private or collective e.g. the homeless.

included in both analysis (The Netherlands, Denmark, Italy and United Kingdom) the volume of older people living at home in 2001 were higher than those showed in the mid-1990s. This upward trend is especially visible in the Danish results where 85% of elderly lived at home in 1992, but rose to 97% ten years later. The values presented by Denmark in 2001 situate it closer to the profile of southern Europe than its habitual northern counterparts.

Figure IV.12. Standardised rates of 65+ population residing in private and collective settings, EU15, 2001.

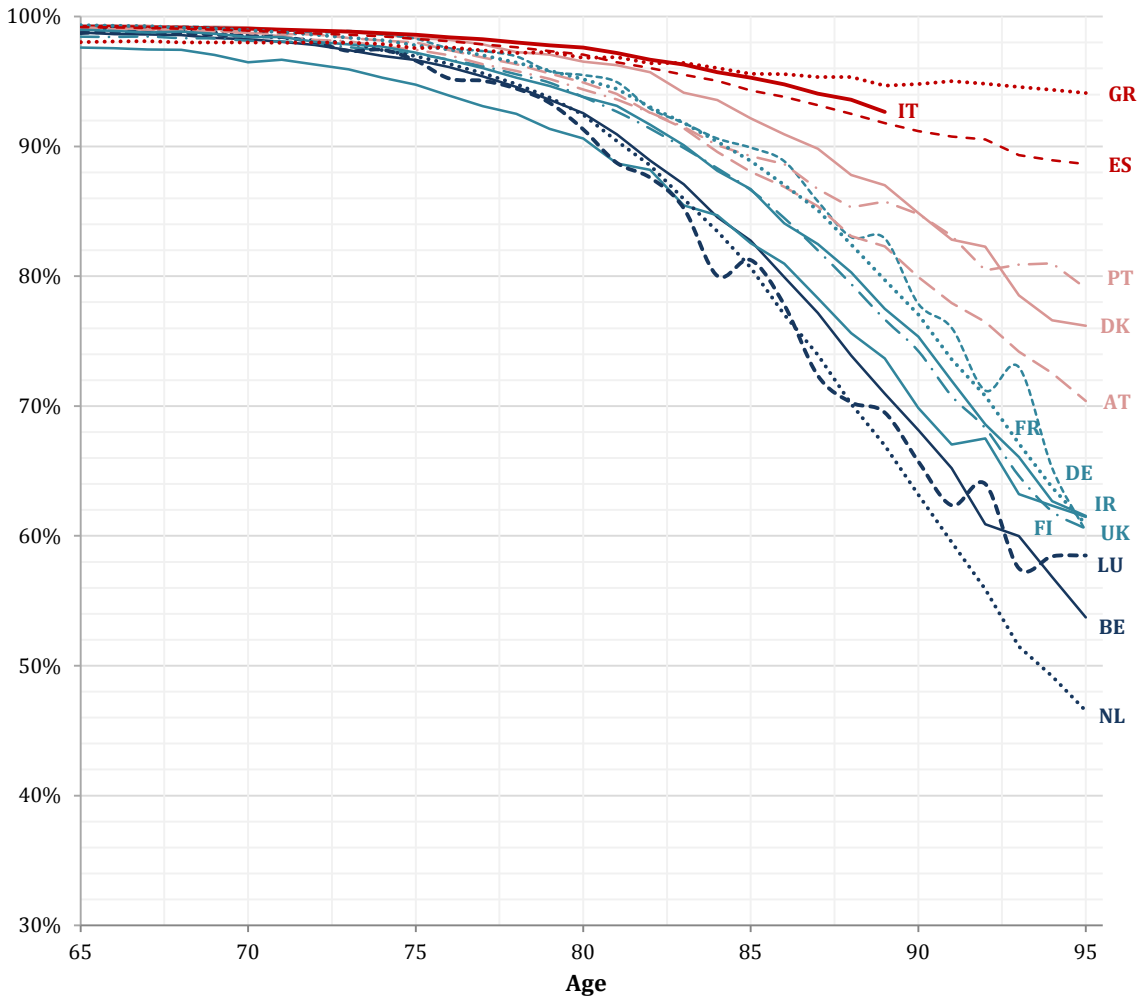


Source: Eurostat database, national censuses 2001.

The longevity increase of European population and the consequent extension of old-age years, has implied that the probability to remain at home not be the same during the course of old age. Among other factors, the worsening of health status has been identified as the main potential trigger of institutional relocation in old age, a circumstance that is inevitably linked with increasing age. As a result, the progressive raise of the oldest-old population in the developed world has been also accompanied by an increase in the probability of living in a nursing home after age 80 (Castle 2001). The appearance of chronic or degenerative illnesses involving physical and, above all, cognitive impairments is displacing towards the older cohorts, which produce that the admissions in nursing homes and care institutions occur more often among these collectives (Luppa et al. 2010). Research carried out in the UK reflected that while 20% of the entries in nursing homes where related with social and family aspects, nearly 90% were directly associated with severe disabilities (Bowman, Whistler and Ellerby 2004). In Northern Ireland, Connolly and O'Reilly (2009) identified that age and clinical conditions, especially dementia, are the predictors that are more related with care admissions. Also another research developed in Germany found evidences to correlate a weakened health status and institutionalisation; a 47% of patients living in nursing homes presented dementia as the main factor for first-entrance (Bikel 1996). Therefore, a deterioration of individual's functions and capacities is a foreseeable effect of

biological ageing that advances with chronological age. This means that a decrease in the volume of elderly people living at home could be expected as the later life course progresses.

Figure IV.13. Age-specific rates of older population living at home by age, EU15 countries (%).



Source: Eurostat database, national censuses 2001.

The analysis of 2001 data for EU15 countries confirms that older population residing at home diminishes with age (Figure IV.13)[26]. It observes a relative convergence among countries in the ageing at home trends up to age 80. In the younger years of old age the rates of elderly people living in private setting ranges from 90% (Ireland) and the 99% (Italy), presenting a relatively short margin between countries. Once we get to age 80, when the so called *Fourth Age* commences (an age typified by a high propensity of disability and disease), the rates start to drop, being the intensity of the fall influenced by the institutionalisation profile of each context.

[26] Detailed figures showing these same rates separated by country exposed in the annex, Figure A.59.

At the age 95, the older people that remain at home largely oscillates between the 47% (The Netherlands) to 90% (Greece).

The Southern region of Europe, especially Greece, Italy and Spain, show a differentiated pattern that outlines a lineal distribution across all ages characterised by high percentages of older people living at home, even in the advanced old age period; around the 95% in Greece, the 93% in Italy and the 91% in Spain at age 90. Portugal follows a rather similar pattern, but showing rates moderately more elevated apart from 90 years old (85%). The explanation of this huge proportion of older-old living at home responds to a mixture of cultural beliefs and social practices, that enhance family as omnipresent care provider and co-residence as vehicle to support exchange , accompanied by a poor public investment in care institutions that limit the alternatives to home as residential setting in old age.

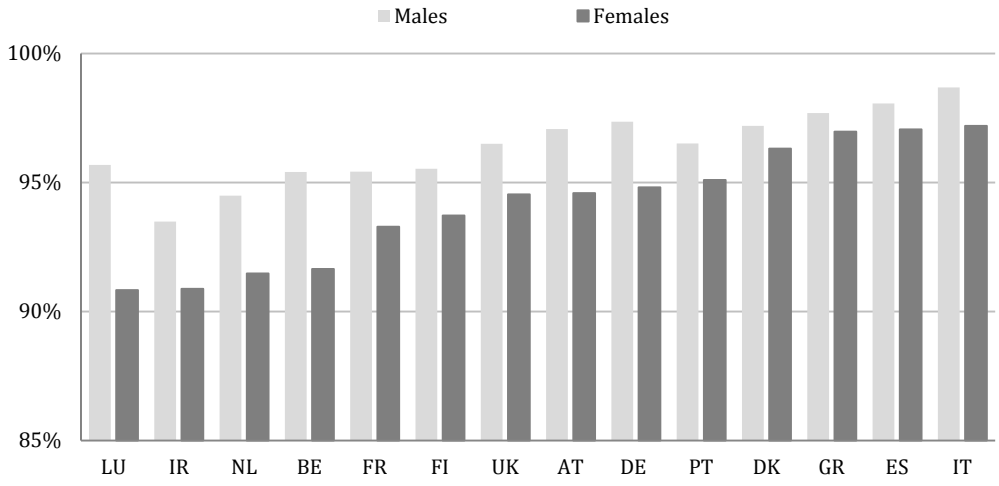
The rest of EU15 countries share a similar profile characterised by stable lower proportions of population living at home up to roughly 80 years old, which sharply decrease after this age with different intensity degrees. In countries as Germany, Austria or Denmark, the percentages of older-old population that still remain at home when they age 90 is situated between the 78% and the 70%. In United Kingdom, Ireland, France, Belgium and Finland the rate declining to 50%-60% among the population aged 95 and over. In Ireland, an earlier age pattern in which the older population leave their accommodations for an institution can be observed, showing the lowest percentages of older people living at home until age 85. Around this age, The Netherlands became the country showing lower rates of permanence at home. Together with Luxembourg, The Netherlands reflects a pattern defined by the lowest proportion of old people living at home in advanced later life. Around the age 80, the percentages start to decline rapidly in the case of Luxembourg and more gradually in the case of Netherlands.

Gender is another relevant feature that affects the transitions towards long-term care and, as a result, the length of time that elderly population remains in their accommodations. Martikainen et al., (2009) showed in a longitudinal study that elderly Finnish women were 40% more likely to enter to institutions than males. Also, Grundy and Jitlal (2007) obtained similar sex differentials in their analysis of the British older population between 1991 and 2001. The reasons argued why women are more prone to experiencing movements to long-term care are associated with higher life expectancy, living arrangements and the gender roles displayed inside of the household linked with care provision. To be married and, above all, live with a partner has been identified as a key source of informal care to remain living independent, due to this support reduce the risk of relocation in a nursing institution (Freedman 1996). Theoretically, the support exchange between partners should benefit in the same way to both sexes, but in practice the gender roles make that women assume more often the figure of care-provider than males inside of the households. In consequence, males used to count on a source of support that prevents them to a

nursing home movement that women do not preset so habitually. At the same time, higher females longevity makes them suffer from impairments and illnesses during longer periods, which increase the likelihood of nursing home entrance. Additionally, the socio-economic profile of older women, characterised by lower incomes and lower ownership rates (DeSantis, Segheri and Tanturri 2008), which also favour their entrance to long term care.

The results showed in Figure IV.14 back up the gender differentials in the age-at-home trends to remain in the private domain during old age is more common among males than among females in all EU15 countries.

Figure IV.14. Standardised rates of population aged 65 and over living at home by gender and country[27], 2001 (%).



Source: Eurostat database, National censuses 2001.

The differences among the EU15 countries are also reflected in the proportions separated by gender. The countries which revealed higher percentages of population living at home (Greece, Italy, Spain – Southern Europe- and Denmark) coincide with those that show shorter differences between males and females, and vice versa. In those countries where co-residence or ageing in place substitute to institutionalisation the gender rates are more similar.

Finally, to look beyond the situation depicted by 2001 data, it is worthy to retrieve the table elaborated by Walker (2005). This table (Table IV.15) summarises the European Commission projections (2003) for the year 2050 of institutionalised and non-institutionalised older people separated by country and age group.

[27] Rates standardised by the EU15 female 65+ population in 2001.

Table IV.15. Distribution of population aged 65 and over by type of domain, EU15 projections 2050 (%)[i]

		AT	BE	DK	FI	FR	DE	GR	IE	IT	LU	NL	PT	ES	SE	UK	EU-15
Private	65+	96	96	96	95	94	96	94	91	93	96	91	98	98	98	95	95
	80+	89	93	90	86	90	90	87	81	86	91	76	97	96	95	92	90
Collective																	
	65+	4	4	5	5	5	3	6	9	7	4	9	2	2	2	4	4
	80+	11	8	10	14	10	10	13	19	13	9	24	4	4	4	8	10

Source: based on Walker, 2005:12.

In 2050 it is forecasted that the proportion of elderly residing in a private and collective domain will continue the same pattern over the next decades, exceeding 90% in all EU15 countries. As moving to an institution is often associated with a deterioration of physical functions, the table shows how these percentages will increase with age. Ireland and The Netherlands will continue being the territories with higher rates of institutionalised elderly, both reaching 9 per cent among those older than 65 years and 19 and 24 per cent, respectively, for the population aged 80 years old and over. It is expected that Portugal, Spain and Sweden will be the countries with a higher proportion of elderly population living at home in the mid-term future.

IV.4.2. Factor II: Degree of autonomy

To reside in a dwelling during old age does not necessarily mean to be living independently. The lack of a minimum level of autonomy can unleash residential movements to another private home, normally pertaining to the elderly's kin network, which at times converts co-residence as a substitute of institutionalisation. This situation implies a role shift in which the household that provide shelter assumes the responsibility of older person assistance at the same time that the older person accepts a secondary position in the everyday decision-making processes. This tacit agreement supposes for the older person a loss of prominence in the daily organisation of household activities and the adaptation to pre-established routines, passing to a comparable position that it would be experienced, formal particularities of each environment aside, in a collective accommodation. As in case of institutionalisation, the situation implies a gain of security in detriment of intimacy and control over the quotidian routines.

The need of care and support has been stressed as one of the trigger factors of parent-children approaching residential movements (Malmberg and Pettersson 2007; Smits 2010). As in the case of the transitions to nursing homes, the likelihood to experience relocation in a supportive private home increases as person grows older and their capabilities are reduced due to a severe decline in health status. Despite the fact that multigenerational co-residence does not necessarily

signify a relationship of dependence between the older and younger member(s) of the household, to live with relatives has also been noticed as a mechanism to obtain the supply of care for those elderly people who lack the physical and/or mental conditions to live independently (Grundy and Tomassini 2003).

Traditionally, the European context has been divided into two family systems according to, amid other features, the intensity of the support exchanged among relatives. This typology distinguishes between the '*weak*' family societies (Northern and Western Europe), characterised by low family ties, from the '*strong*' family societies (Mediterranean region), with a high level of multigenerational living arrangements in which family members maintain tight relationships. In the first group of countries the individual's aspirations prevail whereas in the second one, the individual goals depend in great extent on the family expectations (Reher 1998). In strong family societies inter-generational solidarity is more a social duty than an option. The exchange of support it is something expected by oldest generations to the youngest that not depends as much on the individual decisions as in weak family societies. This does not mean that exchange of support is only present in strong family societies; the point is that the way it is understood by individuals differs.

This division of European family systems is a general classification that, as Reher (1998) specified in his text, also recognise the intra-heterogeneity of each regional group. In this line, Glaser, Tomassini and Grundy (2004) emphasised that the homogeneity of each family system is not so consistent; Italy and Spain differ from Greece and Portugal when looking at the amount and direction of support flows, and The Netherlands remains closer to Scandinavian countries than to Germany. Even with these specifications, the distances in multigenerational co-residence and family provision of care among European regions are reducing but still persist. Ogg and Renault (2006) presented results that underpin the idea of two main types of family inside Europe, identifying a North-South gradient regarding to the proportion of co-residence among generations. As move through this gradient the percentages of multigenerational living arrangements ranged from less than 4% in Sweden, Denmark and The Netherlands, to between 17% and 24% in Italy, Spain and Greece. As these authors showed, in the Northern countries it is more common that the exchange of support follows a downwards direction, i.e. from older to younger relatives, while in Southern countries are characterised by the reverse pattern.

Recalling the definition factors fixed in Figure IV.9 and Figure VI.10 the relocation to a private home as dependent member of the household is not strictly an ageing in place mode. Probably, due to the family system division in Europe this specification is more necessary in some countries than in others. To take the older members of the family in when their capacities weaken is still a relatively important form of support and care in the so-called *strong* family societies. In Southern European countries; Italy, Greece, Portugal or Spain it is rather common that older people with

severe care needs move to live primarily with relatives rather than move to an institution (Rogero-García 2009). In these countries, families often display the main role as care provider; being both the State and the health care-sector only a subsidiary source of assistance. Meanwhile, in other parts of Europe such as Sweden, the oldest-old are less likely to move in with their children for care, being this responsibility mainly assumed by the public sector (Pettersson and Malmberg 2009).

The depth to which co-residence has taken root in southern family systems where recorded by a survey implemented by the European Union in 1997. The results analysed by van Nimwegen and Hein showed that the 74% of the elderly people living in Spain, Portugal, Italy and Greece declared to desire living with their children en case of frailty, while in the United Kingdom, The Netherlands, Finland, Sweden or Denmark the percentage barely reach the 20% (Reher 1998). Also a comparison among two Eurobarometers carried out in 1992 and 1999 reveal that in southern countries the use co-residence as strategy to provide care to older adults is more likely than in Northern countries, preferred not only by the older population but also for their adult children (Walker 1999)

In this context, a second distinction is required namely to capture the potential ageing in place population. The difficulty of estimating population residing as dependent member of a household comes from the fuzziness of the concept 'dependent' and the subsequent problems to register and operationalise. Helpful information to advance in the estimation is to use the 'head of household' variable included in some statistical sources. Precisely because levels of co-residence have diminished in all European countries regardless if they present a weak or a strong family profile (Grundy and Tomassini 2003), the elderly population that are living with their relatives but not as a principal person of the household has high probabilities to have moved there because of need of a supportive private environment. Evidently, it would be too hazardous to infer automatically that if the older person appears as responsible of the household he/she present a sufficient capacities to living independent, and vice versa. *Autonomy*, *independence*, *competence* degree, or whatever of the denominations that the capacity of self-management in old age has, lies on multiple micro-macro aspects which stem an enormous range of cases that the 'head of the household' variable does not reflect. Even so, this information serves as a reasonably good proxy to discern who take the responsibility of the domestic environment, as first step to estimate the proportion of those older people living with a sufficient degree of personal autonomy.

IV.4.2.1. How many elderly people are householders of their homes?

Censuses and surveys collect information about the principal person of the household using two main definitions. On the one hand, some sources, such as the 2001 Spanish census, use an economic standard that attributes the function of head of household to the member with the highest income. This guideline can cause confusion above all in multi-generational households where younger workers with high salaries co-reside with their retired parents who receive incomes from public pensions. In these cases, the younger member is registered as the responsible of the accommodation despite an older individual being the actual householder. On the other hand, some sources, such as the U.S. census 2001, record as the head of household those people who rents or owns the accommodation. To construct the variable in this way alleviate, in part, confusions caused by the economic classification, due to the housing contract responsibility is more correlated with the household head than the income source (Ruggles and Brower 2003)

EU SILC survey includes information about if the respondent is the principal person of the household following the second criteria. Textually, the definition of person responsible of the accommodation (variables HB080 and HB090) is "*(...) the person owning or renting the accommodation. If the accommodation is provided free, the person to whom the accommodation is provided is the responsible person*"(Eurostat 2007:73). Moreover, this survey contemplates the possibility that the head of the household falls on two different people living in the same dwelling unit. This procedure reduces the impact of gender bias, as it is more frequent for males to have signed the accommodation contract.

Table IV.16. Proportion of 65+ individuals heading their households by age group and gender.

	AT	BE	DE	DK	ES	FI	FR	GR	IE	IT	LU	NL	PT	SE	UK	EU15
Males																
65-79	84.7	96.0	94.5	90.8	91.3	90.9	97.8	94.6	96.2	89.5	93.8	99.7	94.8	98.1	96.1	93.9
> 80	78.9	93.3	87.0	92.4	79.3	83.0	95.8	86.7	95.1	86.9	87.5	99.0	92.1	91.2	94.8	87.3
Females																
65-79	80.7	92.1	89.0	79.7	84.8	83.0	96.3	55.9	90.6	75.0	90.2	99.3	66.9	99.0	93.5	82.5
> 80	76.8	86.3	74.8	89.0	64.6	76.2	91.1	61.0	88.6	76.9	70.9	97.0	61.3	80.4	90.9	77.6
Total																
65-79	82.6	94.0	91.7	85.4	87.8	86.9	97.0	73.6	93.2	81.6	92.0	99.5	79.0	98.55	94.8	86.8
> 80	77.5	89.4	80.3	90.4	70.2	78.8	92.9	71.7	91.1	80.4	78.5	97.8	71.6	85.8	92.6	81.4

Source: EU SILC, 2007

As Table IV.16 shows, the vast majority of older people do not just stay in a private home, but they do so as the main person responsible of the household. The volume of heads of household for both sexes decreases as age increases, although with larger proportions in the case of males,

probably as a result of gender bias of this variable and the higher female rate of institutionalisation. In 2007, the EU15 average of elderly people who headed their homes reached the 86.8% for the 65-79 group, declining to 81.4% for those aged 80 and over. For males aged between 65 and 79 years the percentage was 91.6%, and dropped to 87.3% in the 80 years old and over group. For females, this percentage was almost lower than males in both age groups.

When analysing these data by countries it can be seen that the highest proportions are in The Netherlands where almost all of the 65 and over population headed their households, followed by France (97.8%) and the UK (94.8%). The countries of Southern Europe, especially Portugal (77.3%) and Greece (73.1%), showed significantly lower values. This outcome is probably related to the high percentage of multigenerational households and also with the more frequent pattern of moving in with children triggered by support needs.

IV.4.2.2. Measuring the independent living: aggregated indicators

A more precise mode to measure elderly autonomy has been the design of aggregated instruments that assess the personal competence. Above all in health sciences and psychology, competence has been evaluated by means of scales that quantify the individual's capabilities in physical and cognitive terms. The variety of assessment instruments is enormous, given that the domains that aim to measure are also wide[28]. The Royal College of Physicians of London and the British Geriatrics (1992) stated seven domains to which this scales belongs to; physical health, mental health, activities of daily living, psychosocial functioning, social resources, economic resources, and five specific areas to assess older people health status in clinical practice; physical health, functional ability, mental health, quality of life and carer strain.

In the specific case of independent living in later life, one of the most widely instrument applied to functionality assessment has been the *Activities of Daily Living Scale* (ADL-Scale), developed primarily by Kazt et al. (1970). This scale is rated on six items with a dichotomous answer, yes/no, that confers one point to those items which the older person needs assistance: bathing, dressing, going to the toilet, transferring, continence and feeding. Other family of tools that advance in the assessment of elderly functional capacities is the Instrumental Activities of Daily Living (IALD indexes) that broaden the evaluation to the cognitive and executive capacities. Lawton and Brody (1969) elaborated a scale that asks for the ability of the respondent to face eight activities indispensable to living independent termed "Performance Activities of Daily Living" (PADL).

[28] For a detailed revision of the different scales used to assess elderly competence see: McDowell, I. 2006. *Measuring Health: A Guide to Rating Scales and Questionnaires*. Oxford: Oxford University Press.

Table IV. 17. Functional assessments domains

ADL's	IADL's	Mobility
▪ Bathing	▪ Food preparation	▪ Walking
▪ Dressing	▪ Housekeeping	▪ Transferring
▪ Grooming	▪ Laundry	▪ Balance
▪ Toileting	▪ Shopping	▪ Stairs
▪ Transferring	▪ Managing personal finances	
▪ Eating	▪ Administration of medicaments	
▪ Continence	▪ Use of transportation	
	▪ Use of telephone	

Source: Gazewood 2009: 21

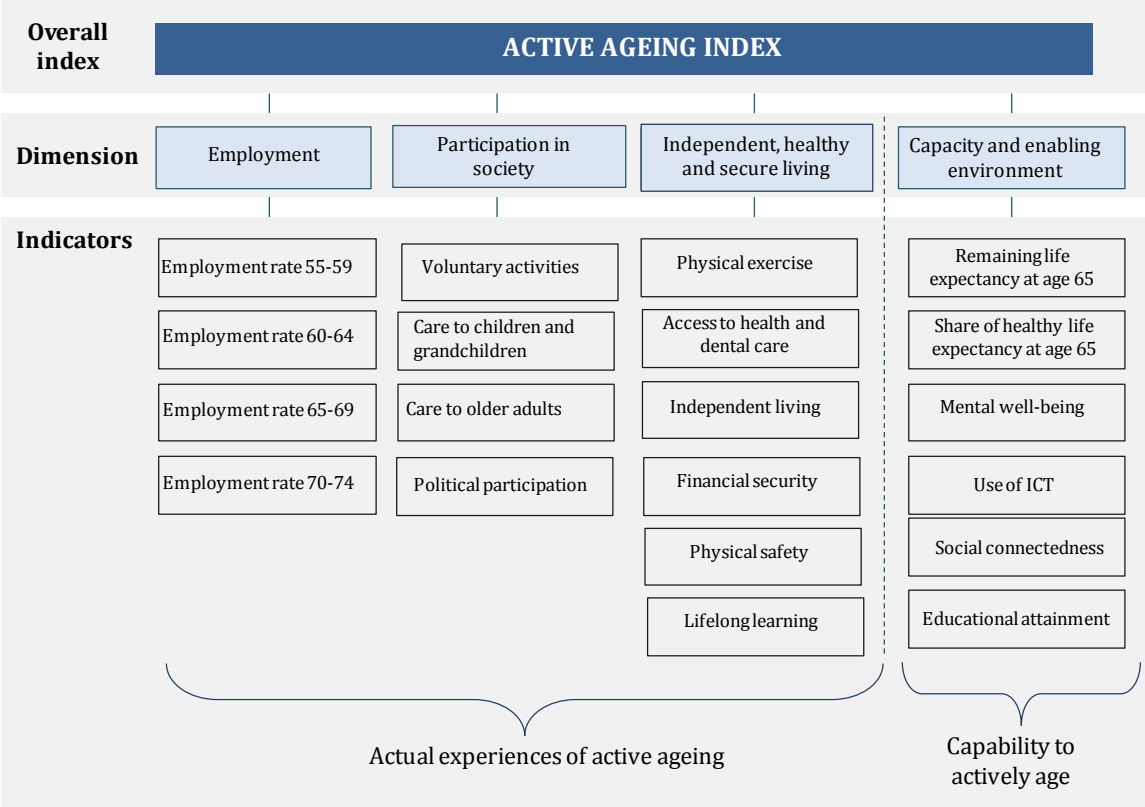
This included items related to problems related with daily routines as motor limiations, difficulty in shopping, cooking, or managing money. IADL scales has been normally are applied to not severely handicapped populations, as general survey, due to it covers activities performed in the domestic private ambit (McDowell 2006).

The assessment of elderly capacities by means of scales as ADL or IALD has had a practical aim being applied, above all, to nursing and health care practice and focusing on the individual aspects. Recently, the effectiveness of this kind of tools has been incorporated to policy practice introducing a macro perspective in the evaluation elderly independence. The Economic Commission for Europe of United Nations (UNECE) in collaboration with the European Union created the *Active Ageing Index* (AAI) project, part of the initiatives undertaken during the Year of Active Ageing in Europe 2012. This tool pursues to operationalise the multidimensional concept of active ageing, establishing a qualitative instrument valid to compare the potential of older people to age actively among European countries (EU27). Its innovation, comparing with the health sciences' indexes, is that this indicator stresses the social conditions of older population besides the individual circumstances by means of aggregated data.

The AAI index refers to active ageing, adopting the WHO definition which states that the term "refers to the situation where people continue to participate in the formal labour market as well as engage in other unpaid productive activities (such as care provision to family members and volunteering) and live healthy, independent and secure lives as they age". AAI integrates information regarding four domains that are separately calculated, thus permitting each of them to be used as independent measures: (1) Employment, (2) Participation in Society, (3) Independent, healthy and secure living, and (4) Capacity and enabling environment for active ageing. Each one of the dimensions of this aggregated index contribute to the final value by means of an assigned specific weight, denominated as explicit weight, assuming that not all the domains participate in the same way to an active ageing. The first and second dimension scores

suppose the 35% of the total index, the third dimension the 20% and the fourth the 10%[29]. Also, there are second set of assigned weights denominated as implicit weight, that are calculated multiplying the value of the explicit weight with the value of the indicator when aggregating the indicator to a domain-specific index (Zaidi et al. 2012).

Figure VI.15. Composing indicators of Active Ageing Index (AAI).



Source: Zaidi et al. (2012)

As Figure VI.15 shows, the third indicator of AAI index comprises the information to the independent living domain. The estimation of the degree of independence of European older population is effectuated using this scale. The independent living index is composed of another six indicators that cover some aspects related with the fact to "be independent" ; (1) **physical exercise** - percentage of people aged 55 years and older undertaking physical exercise or sport at least 5 times a week -, (2) **access to health and dental care** - percentage of people aged 55 years and older who report no unmet need for medical and dental examination or treatment during the last 12 months preceding the survey-, (3) **independent living** - percentage of people aged 75 years and older who live in a single household alone or in a couple household-, (4) **financial**

[29] UNECE recognize the controversy about how to establish the weight of each dimension, and declare that this point it is still under revision and discussion.

security - relative median income ratio[30] + No poverty risk[31] + No material deprivation[32]-, (5) **physical safety** -percentage of people aged 55 years and older who are not worried about becoming a victim of violent crime-, and (6) **lifelong learning** - percentage of people aged 55 to 74 who stated that they received education or training in the four weeks preceding the survey. As it occurs with the four main domains, also the indicators that compose each one of them are calculated considering a specific weight. In this case, indicators 1, 4, 5,6,7,8 represent the 10% and indicators 2 and 3 the 20%. Indicators 2, 3 and 4 are calculated with EU SILC data, while indicator 1 that drawn on Eurobarometer, indicator 5 from European Social Survey, and indicator 6 from the EU Labour Force Survey (EU LFS).

Table IV.18 summarises the results of AAI for the EU15 countries, despite the scope of the tool cover the EU27, ordered by rank position. According to these results, Sweden, Denmark and Netherlands, are those counties where elderly population present higher scores in the independent living assessment. On the contrary, the Southern region presents the lower scores of the EU15 area. Table IV.18 summarises the results of AAI for the EU15 countries, despite the scope of the tool cover the EU27, ordered by rank position. According to these results, Sweden, Denmark and Netherlands, are those counties where elderly population present higher scores in the independent living assessment. On the contrary, the Southern region presents the lower scores of the EU15 area.

[30] Ratio of the median equivalised disposable income of people aged above 65 to the median equivalised disposable income of those aged below 65

[31] Percentage of people aged 65 years and older who are not at risk of poverty (people at risk of poverty are defined as those with an equivalised disposable income after social transfers below the at-risk-of-poverty threshold, which is set at 50% of the national median equivalised disposable income after social transfers).

[32] Percentage of people aged 65 years and older who are not severely materially deprived. Severe material deprivation refers to a state of economic and durable strain, defined as the enforced inability (rather than the choice not to do so) to afford at least four out of the following nine items: to pay their rent, mortgage or utility bills;to keep their home adequately warm; to face unexpected expenses; to eat meat or proteins regularly; to go on holiday; a television set; a washing machine; a car; a telephone

Table IV.18. Ranking of Independent Living indicator, 55+ population, EU15 countries, 2010 (%).

	Physical exercise (1)	No unmet needs of health/dental care (2)	Independent living arrangements (3)	Relative median income (4)	No poverty risk (5)	No material deprivation (6)	Physical safety (7)	Lifelong learning (8)	INDEX	Rank
	EB-2010	**SILC-2010**	**SILC-2010**	**SILC-2010**	**SILC-2010**	**SILC-2010**	**ESS-2010**	**LFS-2011**		
DK	18,5	97,1	99,1	71,0	94,5	99,1	92,1	22,3	79,0	1
SE	28,9	92,4	99,3	79,0	95,4	99,3	85,2	15,5	78,7	2
NL	6,0	98,6	97,3	87,0	97,9	99,7	88,2	6,7	77,7	3
FI	19,7	93,6	94,7	78,0	95,3	98,3	86,5	11,5	76,6	4
DE	9,2	93,2	95,8	89,0	93,0	97,9	89,0	1,9	75,8	5
UK	14,4	96,2	94,7	81,0	87,9	98,7	85,5	8,0	75,7	6
IE	24,4	96,2	89,8	86,0	93,1	97,3	81,6	2,5	75,7	7
LU	9,7	96,2	84,7	100,0	96,9	99,9	-	4,4	74,7	8
FR	13,6	92,3	94,4	99,0	95,4	96,6	65,9	1,8	74,6	9
BE	17,5	97,5	88,2	75,0	92,2	97,2	78,2	2,9	73,4	10
AT	2,9	94,0	83,4	91,0	94,4	98,0	83,9	5,2	73,0	11
IT	1,6	89,8	84,0	92,0	92,3	93,7	-	1,8	69,9	12
ES	10,0	90,8	70,9	83,0	89,2	98,0	64,7	4,6	67,3	13
PT	8,1	85,6	80,2	82,0	89,9	90,4	62,0	3,4	66,7	14
EL	2,2	89,3	77,6	84,0	90,4	87,6	54,2	0,3	65,2	15
Mean	12,5	93,5	88,9	85,1	93,2	96,8	78,2	6,2	71.1	-
STDV	8,2	3,6	8,6	8,2	2,9	3,5	12,2	6,0	4.7	-
N	15	15	15	15	15	15	13	15	-	-
Min	1,6	85,6	70,9	71,0	87,9	87,6	54,2	0,3	63.2	-
Max	28,9	98,6	99,3	100,0	97,9	99,9	92,1	22,3	79.0	-

Source: Zaidi et al. (2012).

Table IV.19. Ranking of Independent Living indicator, 65+ population, EU15 countries, 2010 (%).

	Physical exercise	No unmet needs of health/dental care	Independent living arrangements	Relative median income	No poverty risk	No material deprivation	Physical safety	Lifelong learning	INDEX	Rank
	EB-2010	SILC-2010	SILC-2010	SILC-2010	SILC-2010	SILC-2010	ESS-2010	LFS-2011		
LU	9.7	98.6	84.7	100.0	96.9	99.9	0.1	4.4	74.2	1
SE	28.9	94.7	99.3	79.0	95.4	99.3	0.1	15.5	70.6	2
IT	1.6	91.0	84.0	92.0	92.3	93.7	0.1	1.8	68.6	3
DE	18.5	98.4	99.1	71.0	94.5	99.1	0.1	22.3	68.5	4
FI	19.7	94.8	94.7	78.0	95.3	98.3	0.1	11.5	68.2	5
UK	14.4	98.1	94.7	81.0	87.9	98.7	0.2	8.0	67.6	6
IE	24.4	98.2	89.8	86.0	93.1	97.3	0.1	2.5	66.8	7
DE	9.2	95.5	95.8	89.0	93.0	97.9	0.1	1.9	65.9	8
NL	6.0	98.9	97.3	87.0	97.9	99.7	0.1	6.7	65.8	9
FR	13.6	95.4	94.4	99.0	95.4	96.6	0.2	1.8	65.7	10
BE	17.5	98.6	88.2	75.0	92.2	97.2	0.2	2.9	64.7	11
AT	2.9	95.9	83.4	91.0	94.4	98.0	0.1	5.2	63.0	12
ES	10.0	95.0	70.9	83.0	89.2	98.0	0.1	4.6	60.7	13
PT	8.1	92.3	80.2	82.0	89.9	90.4	0.1	3.4	59.9	14
EL	2.2	90.5	77.6	84.0	90.4	87.6	0.1	0.3	58.1	15
Mean	12.5	95.7	88.9	85.1	93.2	96.8	0.1	6.2	65.9	-
STDV	8.2	2.8	8.6	8.2	2.9	3.5	0.0	6.0	4.2	-
N	15	15	15	15	15	15	15	15	-	-
Min	1.6	90.5	70.9	71.0	89.2	87.6	0.1	0.3	58.1	-

As this research is focused on the population aged 65 and over, the same table has been calculated using this sub-indicators only referring to this age range. As Table IV.29 reveals, the picture of the indexes regarding to the population aged 65 and over is slightly different. The most substantial change has been the upward ascent of Luxembourg and Italy, that rise up to, respectively, the first and third position in the raking of independent living al older ages in Europe, distancing, in the case of Italy, from its southern counterparts.

IV.5. Synthesis of the chapter

The descriptive analysis permits to extract two major conclusions. The first is the widespread dissemination of ageing in place as socio-residential situation in Europe. Both the descriptive analysis developed by this research and the data produced by other authors, provide empirical arguments to accept the hypothesis that ageing in place is majority behaviour, without much variation between territories. After the use two levels of disaggregation to delimitate the target population, results showed that far more elderly population age at home than in institutions, namely an average of 96% in the EU15. Age and gender plays a determinant role in this pattern. The fact that to age at home is more frequent in the so-called *Third Ag*e than in the *Fourth Age is because* the last phase is characterised by a health status decline that augment the probability of moving to a collective home. For the same reason, because women are more likely to experience institutionalisation, the percentages of elderly females ageing at home are somewhat lower than those presented by males. In addition, the majority of older people who do so are also the person responsible (or co-responsible if he or she is married or cohabits) for the household, i.e. 84% of the EU's population over 65 years. These data support and confirm the quantitative importance of the stay-put behaviour as residential pattern in old age.

Despite this data are enough to make a first general approach; it would be desirable to count on statistical sources that allow updating the results. National censuses undertaken in 2010, most of which are still not available at the time of writing, will be an excellent opportunity to go over this analysis and test if the increasing trend of older people living at home still continues today.

Chapter V. THE 'AGEING IN PLACE' CONTEXT. LIVING CONDITIONS AND RESIDENTIAL SATISFACTION IN LATER LIFE

V.1. Introduction

Some time ago, Hunt and Frankenberge (1981) wondered if the home is a castle or a cage for elderly people as metaphor of the effects that environmental conditions entail for old age well-being. The answer is not effortless and still remains being object of research and discussion. There are situations in which residential environment favours a satisfactory experience of ageing. A reasonably well consonance between living needs and living conditions facilitates the management of daily routines and assure the continuity of elderly social networks. However, at the same time, the older population can remain embedded in settings that does not meet their old age-related residential needs, provoking counterproductive effects such as deprivation, hygiene problems, frailty or isolation and deriving in a loss of life quality. Therefore, to age at home is not a process necessarily correlated with a satisfactory ageing experience, but it mostly depends on the level of adjustment, objective and subjective, between the older person and the environment. The outcomes of the ageing (at home) process, positive or negative, cannot be understood outside of the physical living space where it is experienced, not only in reference to the dwelling, but also in the context that surrounds the domestic sphere where the person is growing older.

The theoretical conceptualization of residential environment is based on a holistic view claimed from housing-related research during decades (Cortés 1995; Peace et al. 2008; Rapoport 1995). This perspective recognises the multifaceted nature of the living space, constructed through the interaction of physical-social-psychological aspects, and advocate for multidimensional approaches to the study of the interplay between the individuals and the places where they are settled down. Even so, and given that along this research the social aspects of ageing-in-place processes are widely discussed , and this chapter is focused on exploring the material sense of living conditions, understanding them as "the set of circumstances that define the dwelling related with the personal need that they must cover" (Cortés and Laínez 1998a:193). Despite that the structural conditions are only a part of the circumstances that should to be considered to understand the consecution of independent living, it is indispensable to dedicate them to some specific space in this research.

With this in mind, this chapter has two main goals. Firstly, in section V.2, to compare the living conditions of older adults living in the EU15 countries. As there is no pre-established set of characteristics to assess the older adult's residential environment, this work is centred on depicting the features of the dwellings related more with the ageing in place process; type of tenure, type of accommodation, and any adaptation that has been done to the dwelling. In addition, the most frequent housing problems reported by the elderly people are portrayed.

Secondly, in section V.3, the objective is to assess to which extent the living conditions are useful to predict the degree of satisfaction that older Europe and declare about their dwellings. The questions that this chapter aims to respond to are; what is the assessment that elderly individuals made about the environment where they are growing older? Does it depend on the objective or the subjective perceptions about the living conditions they present? Do living conditions work as predictors of residential satisfaction in the same way according to elderly spatial and socio-economic characteristics?

The data for the analysis mainly comes from two European surveys; EU-SILC, given that the information about the housing characteristics and problems is fairly well recorded in it, and SHARE, the second source, which procures additional variables that enrich the descriptive view.

V.2. Mapping the territory: Living conditions of older Europeans in the beginning of 21st Century

The residential context of older Europeans has been subject of a deep transformation since the end of the World War II. Regarding the past, housing quality standards have undergone a threefold general amelioration that reaches to the area, the buildings and the dwelling where older people live. In EU15 countries, public investment has supported the construction and renovation of neighbourhoods aiming to achieve a comfortable and safer environment, being a

part of the initiatives specifically designed to transform, above all, urban areas in "friendly" places to older people. These interventions have been implemented to improve the ecological characteristics as quality of water and air, noise levels, access to green areas, recycling etc, and to guarantee the personal safety especially in relation to theft and assault, and to facilitate access to local infrastructure as public transport, primary health services, shopping, amenities etc). The reduction of architectural barriers (pavement, stairs, installation of ramps, etc) has been another of the most relevant measures with regard of older population. Furthermore, the vast majority of the elderly accommodations in the EU15 countries nowadays count on the basic facilities; namely shower/bath only for the use of the household, indoor flushing toilet and hot running water, and moreover, many of them are well equipped with heating or cooling systems,

Objectively, older population residing in EU15 countries are in a rather privileged housing situation compared with older people living in other world regions. Nevertheless, this does not mean that the enhancement of housing standards have presented a homogenous pattern across the EU15 zone; inter- and intra-divergences are visible between and within national contexts. On the first place, the housing stock of Southern countries presents more deficiencies than in the North and West areas. Domanski et al. (2006) identified a spatial pattern of improvements in housing quality upgrading in the EU27 that increases as we move from the East to the West and from the South to the North of the continent. Furthermore, they identified a persistent gap between housing conditions of EU15 countries and the 10 new Member States (NMS)33 and three candidate countries (ACC3)34 in terms of building construction, dwelling size and structural facilities. On the other hand, housing quality is unevenly distributed inside of each national context due to internal socio-economic inequalities, situation that specially affects older population that remain over-represented in sub-standard accommodations. Both differences are accumulative; low-income home-owners enjoy relatively good housing conditions (e.g., Sweden, The Netherlands, Denmark and Germany) compared with their low-income counterparts in other countries (Norris and Winston 2012).

V.2.1. Type of tenure

Type of tenure is not a purely structural characteristic of the residential environment, but it is a personal feature that defines social and economical link that individuals sustain with the dwelling and it strongly influences the residential decision-making processes. For instance, home ownership has been pointed out as one of the factors that contributes more to households who do not move. Home ownership symbolises security, family and legacy, representing a source of

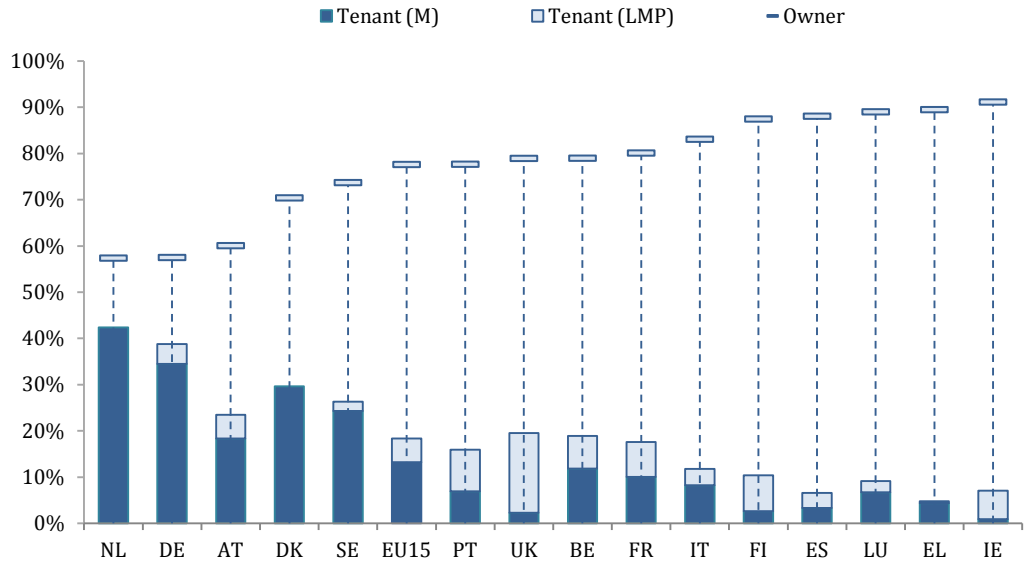
33 New Member States (2004): Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia.

34 Three acceding and candidate countries: Bulgaria, Romania and Turkey

income and wealth not only for older adults, but for the future of their descendants as well (Clark and Dieleman 1996).

The importance of tenure status to those older individuals that are ageing at home is precisely the associated living conditions that mostly present each one of the tenancy modes. Older adults that are owners of their homes are more prone to staying in higher-order settings than tenants or free renters when they present higher income (Norris and Winston 2012). One of the reasons is that owners decide "when" and "how" to undertake reforms or adaptations in their dwelling with more freedom than tenants, which are conditioned by landlord's willingness.

Figure V.16. Tenure rates of population aged 65 and over, EU15 countries 2007.



M: Market or private sector tenants,
LMP: Lower than market price tenants
Note: Free renters proportions have been deleted from the graph.

Source: EU SILC, 2007.

The tenure structure of older Europeans is characterized by a widespread prevalence of home ownership, that in 2007 supposedly 78%, on average, among those aged 65 (Figure V.16). To depict this noteworthy increase it is enough to compare these data, an average of 78% elderly owner in the EU15, with the proportion of elderly population owning their dwelling in 1995 that barely reached 60% (Whitten and Kailis 1999). Despite the high incidence of ownership, rates have been traditionally considered as an archetypal characteristic of Southern residential systems,. Actually, the results show how different regions across EU15 present elevated rates of owners: Ireland (91%), Greece (89%), Spain (88%) and Finland (87%). On the contrary, Netherlands and Germany (both 57%) and Austria (60%) present the lower rates of elderly owning their homes.

Behind the recent expansion of ownership among older Europeans, a cohort effect is hidden due to the lead of baby-boom generations, that have progressively arrived to their old age and are owners of their homes. These cohorts easily accessed to property during earlier life-course stages due to the liberalisation of real estate markets and the widespread of mortgage funding. The maintenance of the tenure status also in later life stages has triggered the increase of ownership rates across EU15. This effect is more visible in those areas that traditionally have had strong rental markets as Netherlands or Germany, where this tenure is mostly spread among the recent-arrived elderly cohorts.

Rental modes reveal an important presence among older population, at least in Northern and Western EU15 countries. The Netherlands (42%), Germany (35%) and Denmark (30%) reveal higher percentages of overall tenants. In this category, the descriptive analysis distinguishes between contracts effectuated at market price and contracts lower than market price[35], aiming to identify the weight of subsidised housing in the whole rental market. Subsidised elderly tenants are a considerable part of the rental modes especially in United Kingdom, where the percentage reach 17% of the whole tenure structure that means 88% of the whole renters aged 65 and over. Although not with such elevated percentages, older people from Portugal (9%), Finland (8%) and Ireland (6%) also present percentages of subsidised housing somewhat higher than rentals at market prices. With the exception of the countries in which the low-price rental market is well-regulated and socially integrated as common tenure alternative, such as the Netherlands or Denmark, to reside in a subsidised accommodation could have negative implication on living conditions. This kind of housing used to display sub-standard facilities and was located in deprived areas for the socio-economic profiles of their occupants and the abandoning of the authorities remain an important focus of housing exclusion and segregation.

[35] In some countries, there is a fairly clear distinction between the market or private sector renters and subsidised or public sector renters. Reduced-rate renters would include those (a) renting social housing, (b) renting at a reduced rate from an employer and (c) those in accommodations where the actual rent is fixed by law. All tenants in this situation would be included in category 3 (Accommodation rented at below market price). If there is a clear nationally meaningful distinction between the market and prevailing rent and 'reduced-rent' sectors, it should be used to distinguish between categories 2 and 3. But if there is no clear distinction between a 'prevailing rent' and a 'reduced-rent' sector in the rental market: then there is no (or almost no) market sector in rents, either because virtually every household owns their home, because all tenants live in social housing, and all (or most tenancies) are long-term with restrictions on rent increases, or all rents are fixed. If this is the case, the concept of market rent does not have a real empirical meaning in the country: at least in terms of trying to usefully distinguish a group paying market rents from a group paying rents below that value. In a situation where there is no clear distinction between a 'prevailing rent' sector and a 'reduced rent' sector, all renters would be classified as 'Tenant or subtenant' paying rent at a prevailing or market rate'. Eurostat. 2009. "Description of SILC user databaser variables:Cross-sectional and Longitudinal." Pp. 257, edited by E. Commission: Eurostat.

Table V.20. Tenure rates by group of age in 2007, EU15 countries, (%)

	Owner			Tenant			Tenant (LMP)			Rent free		
	< 65	65-79	80+	< 65	65-79	80+	< 65	65-79	80+	< 65	65-79	80+
AT	56.1	63.1	50.2	32.6	18.2	18.6	6.9	5.2	5.1	4.4	13.5	26.0
BE	65.9	80.8	71.5	25.4	11.1	15.1	7.1	6.7	8.1	1.7	1.4	5.3
DE	51.5	58.3	51.4	40.6	34.2	37.1	6.1	4.1	5.1	1.8	3.4	6.4
DK	73.0	74.0	53.6	27.0	26.0	46.4	-	-	-	-	-	-
ES	80.3	88.4	86.9	9.2	3.2	3.7	3.1	3.1	3.5	7.3	5.2	5.9
FI	73.6	88.2	84.3	11.5	2.8	1.8	13.9	7.2	10.2	1.0	1.8	3.7
FR	57.0	81.4	76.0	22.0	9.3	12.2	16.6	7.3	8.2	4.4	1.9	3.7
EL	70.4	90.0	88.0	21.8	4.5	4.0	1.5	0.4	0.4	6.3	5.2	7.6
IE	76.8	91.2	91.0	9.2	0.9	0.9	12.8	6.2	6.3	1.2	1.7	1.9
IT	70.4	83.9	80.7	13.9	8.4	7.7	4.6	3.6	3.4	11.2	4.0	8.2
LU	59.0	89.2	88.0	32.4	6.6	7.6	4.8	2.4	2.5	3.8	1.9	1.9
NL	73.8	61.2	39.5	26.0	38.6	59.9	-	-	-	0.2	0.2	0.6
PT	75.1	77.9	76.9	10.7	7.4	5.5	5.6	9.1	8.8	8.6	5.7	8.8
SE	67.0	77.2	61.1	32.0	21.1	35.5	1.0	1.6	3.3	-	0.0	0.0
UK	71.3	81.3	71.1	14.3	2.0	3.0	13.4	15.4	23.4	1.0	1.2	2.5
EU15	68.4	78.4	74.7	20.6	13.3	13.1	6.8	4.9	5.9	4.2	3.4	6.3

Source: EU SILC 2007.

Looking at the tenure rates of older Europeans at different ages (Table V.20), it is observed that, in some cases the percentages of elderly owners aged between 65 and 79 years old are closer to the rates of population under 65 than those showed by 80 and over older adults, as is the case of Netherlands or Denmark. In turn, in those countries where ownership is by far the prevalent tenure, namely Spain, Italy, Greece, Ireland or Finland the ownership rates remain stable among age groups of elderly population. Curiously, in these countries it is the under 65 years old population which present lower rates of home ownership. It is not clear if differences between older population (>65) and younger (<65) responds to different age patterns of ownership access that will finally be equated as the years pass, or it can be expected a change in older tenancy structure in coming decades with the onset of younger population to older ages.

V.2.2. Type of dwelling

The European dwellings are characterised by the highly specialisation of the domestic space. Each room in an accommodation tends to be physically separated from the other and dedicated to a definite function; kitchen for cooking, bedroom for sleeping, bathroom for personal hygiene,

etc (Altman and Chemers 1980). Apart from this, there are not so many structural features shared by the enormous diversity of the European housing stock. The buildings morphology responds to a conjunction of multiple factors that range from the construction tradition to legal frame or from climatology to cultural habits of each region. For this reason, the result is extremely difficult to set up for a classification that reflects in detailed housing characteristics that, at the same time, presets a manageable size for empirical analysis. In detriment of specificity, the built environment used to be divided into two major categories, "houses" and "buildings", which integrate the most of the dwelling types present in the European context.

Table V.21. Distribution of population aged 65 and over by dwelling type, EU15 countries, 2004 (%).

	AT	DE	SE	NL	ES	IT	FR	DK	BE	PT	EL	IE	All countries
House													
Farm house	9	4	5	2	4	5	6	5	2	4	4	20	5
Free standing one or two family house	44	51	45	19	31	41	50	54	50	36	52	56	43
One or two family house as row or double house	6	12	11	50	20	16	20	17	31	14	5	20	20
Total	58	67	60	71	56	61	77	76	83	55	60	97	67
Building													
Building (3 to 8 flats)	11	20	11	22	23	22	7	8	8	29	22	1	15
Building (9+ flats but no more than 8 floors)	28	9	26	0	18	15	13	13	6	13	17	1	15
High-rise (9+floors)	2	3	2	0	4	1	3	1	2	3	0	0	2
Total	41	32	38	22	44	39	23	22	15	45	39	2	32
Special accommodation													
Housing complex (with services for elderly)	< 1	1	< 1	5	0	-	< 1	2	1	< 1	-	2	1
Housing for elderly people (24 hours attention)	< 1	-	1	2	< 1	-	< 1	1	1	-	-	-	< 1
Total	< 1	1	1	7	< 1	-	< 1	2	2	< 1	-	2	1

Source: SHARE 2010/12, wave 4; Greece and Ireland, data SHARE 2006/07 wave 2.

As descriptive analysis shows, houses are the predominant type of dwelling among older population comparing with buildings[36]. About 67% of people aged 65 and over are residing in

[36] To assess how elderly are distributed regarding to their dwelling type, this research has used the SHARE survey. The variable contained in this source collects a higher number of categories (8) than those presented in EU SILC (4). In addition, SHARE variables give the chance to identify those elderly living in housing complexes designed specifically to cover old age residential needs. The decision to use this variable is going in detriment of the number of analysed countries due to Finland, United Kingdom and Luxembourg not participating in this survey.

some of the types included in the "house" category against 32% that are living in some kind of building. Elderly people living in Ireland (97%) and Belgium (83%) present the highest percentages in this kind of residence, particularly in the "freestanding family house"; an accommodation characterised by a separate house that normally is surrounded by a terrain or garden and whose size could vary. In other countries such as France, Germany, Denmark, Greece or Netherlands older people residing in private accommodations, both single family house or terraced /double houses, exhibit an elevate proportion that exceeds 50%. Looking at building category, Portugal (45%) and Spain (44%) reveals the maximum percentages on this category.

Another relevant aspect showed by Table V.21 is the proportion of elderly people residing in an adapted accommodation. Housing complexes that addressed to cover old-age needs are a residual type of dwelling in Europe but with increasing importance in recent years, above all in the Scandinavian countries. The results about the elderly people residing in special accommodation complex presented by Table V.21 comprises two categories; those settings in which the occupants have total privacy and control over the daily activities, and a second type that refers to residential complexes with 24 hours of health attention[37].

The data confirm that only in Northern Europe a notable proportion of older population are living in this kind of housing. Above all in The Netherlands, where a 5% of 65 years old and over population reside in apartments built with an age-friendly design, and also in Denmark and Ireland (2% in both cases), whose percentages reveal a moderate importance compared with the rest of the analysed countries. One of the plausible reasons for these results is that the social democratic welfare regimes of Scandinavian countries have invested in these initiatives more than the rest of their European counterparts (Giarchi 2002; Houben 2001b).

V.2.3. Adaptation of the accommodation

Housing adaptation is one of the strategies to improve the living conditions in old age for those that desire to 'stay put'. Housing stock has not been originally planned to cover the structural requirements of older people in terms of autonomy, accessibility, protection and location, reason why specific health- and safety-related adjustments are required to remain living with a sufficient degree of independence (Braubach and Power 2011). Some of the physical attributes that configures the living space can be modified or introduced to fulfil elderly residential needs; to manage minor chronic impairments or functional disabilities that affect the activities of daily living (ADL's), to prevent eventual accidents and injuries inside home or simply to enhance the domestic comfort.

[37] As the variable's definition is not clearly explained by the survey, it has to be taken into account that the second category could be situated closer to the collective's types of accommodation (institutions) rather than to private settings.

Since the 90's, a research fielddenominated as Gerontechnology (Charness et al. 2001) focused on search for technological solutions, products and systems has been developed to transform homes in an accurate environment for growing older. This discipline does not overlook the market opportunity that involves the spread of the use of ICT technologies by older adults and it has developed in parallel with companies and industries.

Braubach (2004) underlined four home activities that are particularly problematic for disabled older adults that must be considered in the indoor home design: (1) entering and exiting the home, (2) moving around the dwelling, (3) climbing stairs, and (4) using sanitary and kitchen facilities. Also Braubach and Powel (2011) sort their extended list of possible housing adaptations38 as part of two main strategies; the introduction of new elements in the home space as ITC technologies that facilitate the daily living activities and the undertaking of reforms that transform the existing space.

Another classification of the possible types of supportive aids, this time based on the disability level presented by the older adult, was elaborated by Biocca and Sandström (2004), with the aim to establish a guideline to construct future older population housing. Their classification entails two levels. The ***First Level System*** (or Basic System) assembles those dispositive considered for older with few or minor impairments to carry out their routines, which includes (1) Home safety: elements to prevent home dangers and damages (water flow, smoke or gas alarms), (2) Safety of people: elements to intervening after chronic or impairing health problems, with higher importance in cases in which elderly live alone (active alarm for illness/ fall emergencies), (3) Easy house management: Different kinds of technologies (sensors, actuators, alarms, etc) that are connected to a station (PC or control panel) to facilitate the basic home routines (air conditioning or energy control, garden watering automation, planning of heating functioning, etcetera), (4) Easy management of some routines: Elements to control the home comfort (entrance door automation, doors/windows/curtains automation, lighting system control, etc).

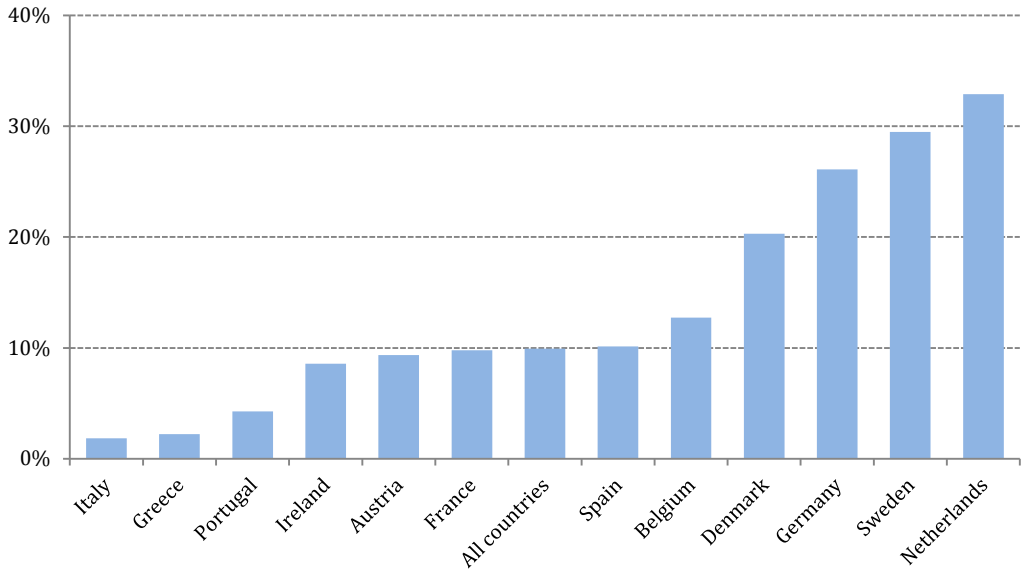
The group denominated as ***Second Level System*** represents those additional products or tools, intended to comply specific needs derived from severe cognitive problems as dementia or Alzheimer, which integrates (1) Supporting tools: elements that allow older people with cognitive problems to perform the daily life activities with less difficulty, such as personal care or eating, (2) Health data monitoring: blood pressure, glycaemia, etc, (3) Wandering monitoring: to prevent elderly of environmental dangers (4) Lifestyle monitoring: to prevent before react.

The criticisms to "smart" home devices argue that this means to externalise the health care services to the private domain, transferring the care duties to the individuals and their families. Furthermore, the access to home technologies depends on the market prices, so they are not

38 The complete list of adaptations is included in the annex.

affordable for all older individuals, and also require a period of adaptation to learn how its functioning.

Figure V.17. Proportion of population aged 65 and over living in adapted accommodations, EU15 selected countries. 2007-2011.



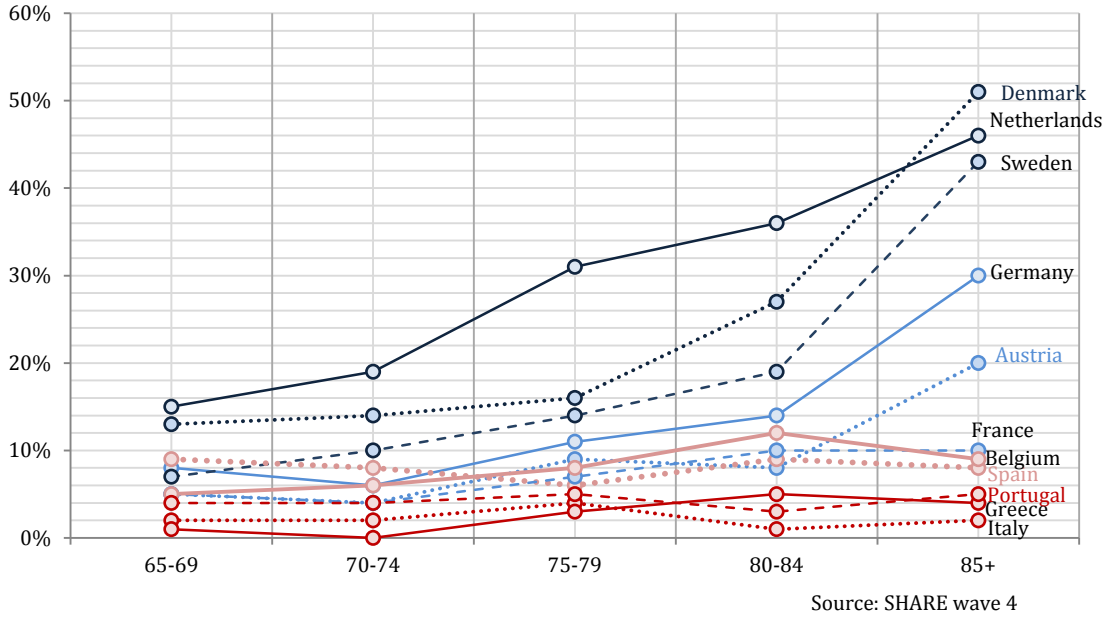
Source: SHARE wave 2; Greece and Ireland, SHARE wave 4; rest of the countries.

In EU15 countries participating in SHARE, the average of population aged 65 years old and over that declared to reside in an accommodation with some kind of structural adaptation reaches 10%. The largest proportion of modified dwellings was located in Netherlands (33%) and Sweden (29%), while Germany (26%) and Denmark (20%) also present elevated percentages. Countries of Southern Europe; Italy (2%), Greece (2%) and Portugal (4%), show the lowest percentages of special facilities in the elderly homes with the exemption of Spain, whose values remain closer to the EU15 countries average (10%).

Given that the introduction of devices and reforms are strongly linked with health conditions, age is a determinant aspect. Whilst an individual becomes older and the health status deteriorates the likelihood to needs for some kind of structural adjustment increases. A study of older German adults show that while the incidence of falls within the population aged between 60 and 79 is 9.2%, the rate for those aged 80 and over reaches 20% (Braubach and Power 2011). The distribution of older population living in dwellings with housing adaptations goes in this line (Figure V.18); between 65 and 69, 7% of the older population has some kind of structural adaptation in their dwellings, a proportion that linearly increases with age, reaching 21% for those aged 85 and over. Those countries in which the averaged proportion of housing adaptations is higher, namely Netherlands, Denmark, above all, and Sweden, the difference

between younger and older-old is larger than in other parts of the continent. For instance, in Netherlands and Denmark, older adults in the group of 65-69 years old present a percentage around 15% of adapted dwellings. The same data for the group 85 and over reach 46% in Netherlands and more than a half in the case of Denmark (51%).

Figure V.18. Distribution of elderly with housing adaptations by age group and country (%). 2010.



In southern countries such as Italy, Greece or Portugal, however, age seems not to be a differentiation factor of the proportion of older households with housing adaptations. In this region, there are not so marked differences between ages, being the percentages below 5% in all age groups. This means that the distribution pattern of adapted housing in southern Europe is characterised by low percentages that are maintained in similar levels at all ages. Spain is the exception to this trend, sharing with their southern counterparts the stable distribution of the percentages by age but with visible higher proportion in each group. In the oldest age group (85+), the proportion of elderly Spanish residing in adapted accommodations (9%) is closer to Belgium or France values, than to Italy, Greece or Portugal.

V.2.4. When housing does not meet needs: residential problems of older households

One of the correlated effects to the generalised improvement of elderly housing standards has been the enlargement of the gap that separates the collectives with the best and the worst

residential conditions (Domanski et al. 2006). While an extensive majority of elderly population are settled in high-quality accommodations compared with those in which their parents lived, older adults remain over-represented in poor housing, making them a population with a high risk of vulnerability and social exclusion. In EU15 countries, the (relative) homogenisation of housing standards have derived in the variability of the differences in the elderly living conditions sometimes appear more sweeping among socio-economic sectors of older population than between countries inside EU15.

Besides, the existence of inadequate living conditions is not an exclusive phenomenon of the low socio-economic segments of older Europeans. A rather frequent situation in inner-city settings is that external agents convert a well-prepared dwelling in an inadequate context due to outdoor transformations. The lack of public investment in equipments such as transport network or streets maintenance involve that elderly population remain trapped in an area that limits their mobility and their access to services. Also, the deterioration of the surrounding area can complicate, even interrupt, the condition of their quotidian routines such as to go for a walk, shopping, or visit or to be visited by relatives and friends. In addition, the arrival of new groups of population modifies the neighbourhood appearance. Whether to become a deprived/segregated urban area, or to transform it into an affluent zone (gentrification), ecological processes make that elderly people have to face unexpected environmental transformation.

Different classifications attempt to sort the housing and environmental problems that older people have to deal with. Struyk and Turner (1984) identified two main sources of residential inadequacy; structural deficiencies, referring to serious and quasi-permanent damages in the residential context, and maintenance deficiencies, which are more easily corrigible. Another classification is those proposed by Cortés and Laínez (1998a), who argued that the mismatch between residential conditions and residential needs at older ages can appear in three different ways; a mismatch in the dwelling (lack of bathroom or shower, shortage of space, number of rooms), a mismatch in the building (no elevator or stairs, age of the building, number of dwellings, access), and a mismatch in the neighbourhood (noise, pollution, parks in the area).

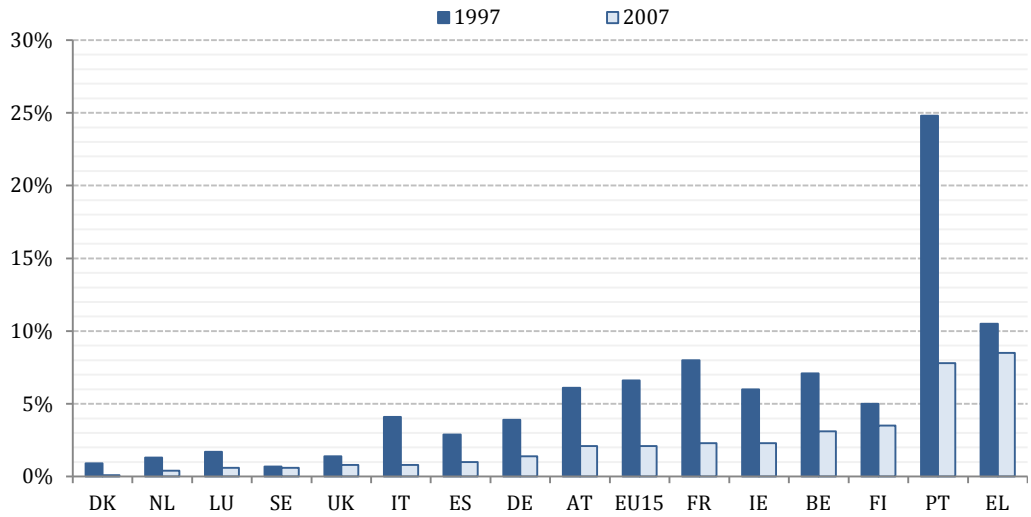
To describe the potential deficits of elderly housing, the results comprise three sections; the first two focused on the objective dimension of housing deficiencies; the lack of basic facilities and the size of the dwelling. The second section is focused in a more subjective evaluation of the residential environment that reflects the perceived shortfall of living conditions.

V.2.4.1. Basic facilities deprivation

A traditional mode to assess the housing adequacy is to observe the existence, or not, of some structural features that a dwelling should contain to assure a minimum level of living quality. These housing features are referred as *basic amenities* and usually allude to three essential

facilities: to have a bathroom/shower inside the dwelling, indoor flushing toilet and hot running water. Studies as those carried out by Whitten and Kailis (1999), or the more recent, developed by Bonvalet and Ogg (2008) made use of this indicator to assess the housing adequacy of elderly household.

Figure V.19. Older households lacking at least one basic facility (%). 1997-2007 comparison



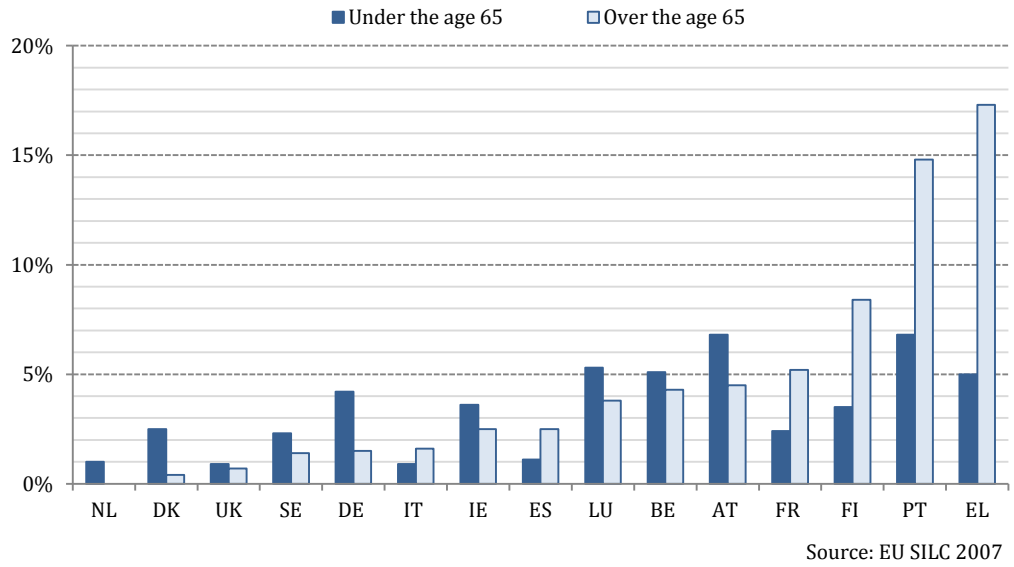
Source: ECHP (1997), EU SILC (2007)

The number of elderly households lacking at least one basic amenity is fairly low in all EU15 countries. This graph compares EU SILC 2007 with ECHP 1997 data to reflect the qualitative change that has occurred in just a decade. While in 1997 an average of 7% of dwellings that were occupied by older people lacked some basic facility in the EU15 area, this percentage decreased to 2% in 2007. This advancement in the quality of elderly people's accommodation was to a large part due to overall improvements made in those countries with the highest proportion with elderly dwellings lacking at least one basic facility. While there are still striking differences between the two Southern countries, Portugal and Greece, and the rest of the countries, in Portugal, where in 1997 still 25% of dwellings occupied by older people were without some basic facilities, this had declined to 9% in 2007. No other elderly population in the EU15 reached such high levels in 1997 as Portugal and Greece, although other countries that exceeded the EU15 average were Finland (11%) and France (8%). On the contrary, elderly residents of Denmark, Sweden, Netherlands and the United Kingdom had almost universal coverage of these two basic amenities (99%). In 2007, when the EU15 average for the older population equalled 2%, Portugal and Greece (9%) continued showing substantially larger proportions in the deficiency of basic coverage in the basic equipments.

These results are in consonance with the Struyk and Turner's insights (1984) about the North-American older adults that showed how the improvement of elderly housing standards pointed

out towards the reduction of the deficiencies related with the structural conditions of the dwellings, and an increase of the maintenance-related difficulties.

Figure V.20. Older households lacking at least one basic facility by age group, 2007 (%).



Source: EU SILC 2007

Comparing with the rest of the population, the lack of basic facilities in the elderly households is unequally distributed depending on the country (Figure V.20). In Mediterranean countries, older population is residing in dwelling sensibly less adequate, in structural terms, than the population aged under 65. Specially in Greece and Portugal, the differences between the percentage of elderly dwellings lacking of some basic facilities (17% and 15% respectively) and those occupied by the rest of the population (in Greece 5% and in Portugal 7%) is considerably wide. This trend is also found in Finland and France, and with less relevance in Italy and Spain.

In the rest of the countries, the pattern is reversed and dwellings where older people live are those that present better conditions. Especially in Germany, Austria, and Denmark, the proportion of younger household that does not count on the more basic facilities are higher than those shown by the elderly population.

V.2.4.2. The size of the accommodation

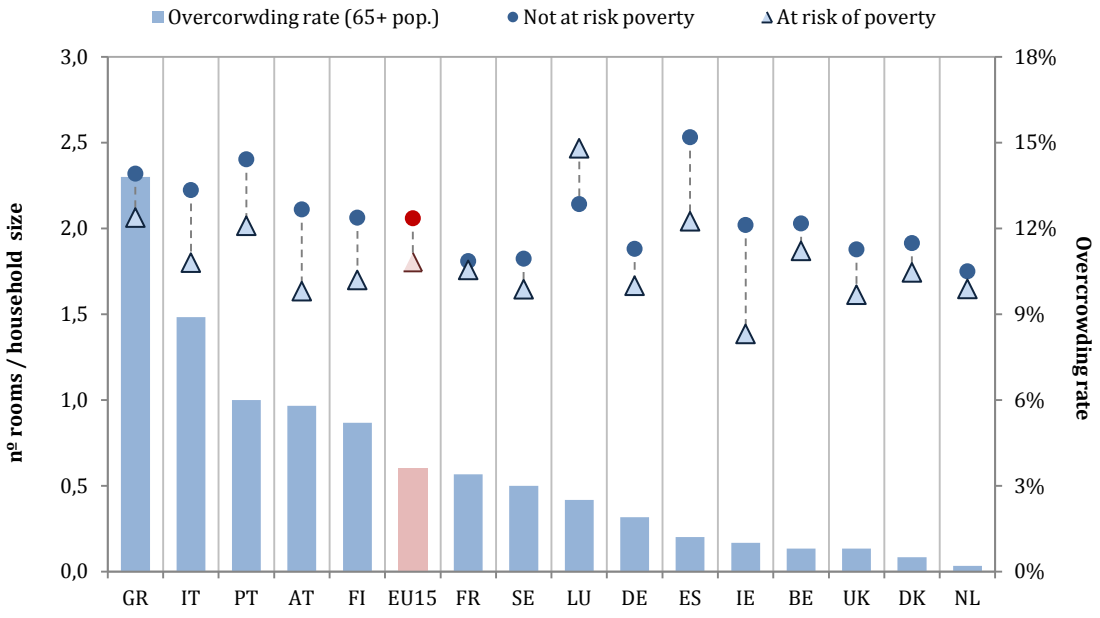
Another widespread problem related with the objective dimension of the dwelling is its size. The progressive reduction of household members has resulted in the enlargement of housing disposable space per person. The effect of the size of the dwelling over elderly well-being is two-fold; an accommodation might not adjust properly to the household size as an excessive space (oversize) or as lack of it (overcrowding). An excessive number of rooms often derive in difficulties for the cleaning and maintenance of the dwelling, originating overhoused problems

for older adults. At the same time, shortage of space can originate lack of intimacy or lack of hygiene, reason why it has been often utilised as an indicator of sub-standard housing.

The improvement of housing standards of European older population may expect that the problems related with an unsuitable dwelling space are primarily associated with an excessive size of the accommodation than to the lack of space. In 2007, the households of older Europeans presented an average size around two members residing in an accommodation in which they have an average of four disposable rooms. This means that the EU15 countries presented an average of two rooms (separated kitchens or bathrooms are formally excluded from the variable) of each member of the older household. Elderly households in Southern countries used to be composed by a superior number of members, which situate them in the upper zone of the graph. The results suggest that the most important differences in ratio are due to the size of the accommodation. In Ireland, Spain, Luxembourg and Belgium the size of the accommodation exceed 4 rooms, whereas in Greece and Italy this relationship is more adjusted.

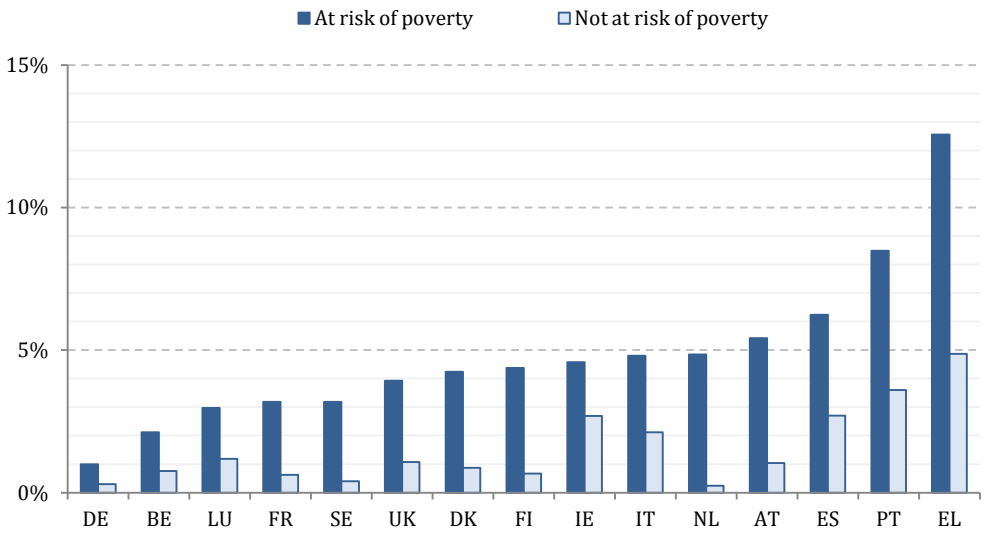
As previously mentioned, the socio-economic status of elderly household is related with the quality of the accommodation they occupy, which also respects to its size. Indicators of disposable space elaborated with respect to the household financial resources show that elderly living below the poverty threshold tend to reside in settings with lower disposable housing space than those in a better financial situation, in all countries except Luxembourg, (Figure V.21).

Figure V.21. Disposable space indicators by socio-economic status of the elderly population, EU15 countries, 2007



Source: EU SILC 2007 and Eurostat database 2007.

Figure V.22. Lack of space by elderly socio-economic status, EU15 countries, 2007.



Source: EU SILC, 2007

However, the distance between both collectives of older adults is not the same in all the countries. In Ireland, Southern Europe and Austria there is a noteworthy distance among the disposable space between below or above poverty threshold households, which reveals significant differences on the dwelling size depending on the financial resources available in the household. On the contrary, France, Netherlands, Denmark, Sweden and United Kingdom barely show differences in the disposable space indicator by elderly poverty status. This points out that dwelling size is to a certain extent homogeneous in these territories among older people, regardless their income. Greece and Italy, the countries that show the lowest ratio of housing unit space, are by far the territories with higher overcrowding rates among elderly population in the EU15 territories as well. Elderly Greeks age 65 and over are specially affected by problems of shortage in their accommodations, with a 13% suffering from overcrowding. Portugal, Italy and Austria also show rather high overcrowding rates, above the EU15 average. Based on these results, it would expect low rates of shortage of space as reported problem by elderly Europeans, however, results point out in other direction (Figure V.22).

An insufficient dwelling size is a problem mainly declared by those households under the poverty threshold. There are differences, above all, in those countries where the overcrowding rate of population aged 65 and over is noticeably elevated; such as in Greece, Italy and Austria. In other countries, lower overcrowding rates are characterised by scant distances in the disposable space ratio showed by the elderly households at risk of poverty and those who do not. Also, the more deprived elderly households show elevated percentages of housing with lack of space. This is the case of Netherlands, Denmark or United Kingdom.

V.2.4.3. Self-reported problems

Another way to describe the lack of adequacy in the housing conditions of the elderly population is to address the deficiencies that they themselves report. Sometimes, the objective observations about the residential environment are more useful to assess the adequacy degree of elderly living context than objective attributes.

Table V.22 displays the distribution of elderly population considering two groups of problems as a proxy of residential perceived quality.

Table V.22. Older people self-reported problems by socio-economic status, EU15 countries, 2007 (%)

	AT	BE	DE	DK	ES	FI	FR	GR	IE	IT	LU	NL	PT	SE	UK	EU15
DWELLING																
Too dark																
Above poverty	4	5	2	3	9	4	7	8	6	8	3	5	15	5	9	6
Below poverty	5	6	3	1	13	4	12	9	7	14	6	6	24	5	9	10
Leaking roof																
Above poverty	6	9	7	4	19	3	10	23	14	20	10	11	20	3	8	12
Below poverty	13	10	10	2	29	4	15	36	16	30	16	10	30	7	10	21
Not comfortably warm																
Above poverty	1	13	2	7	8	1	3	15	1	7	-	1	47	2	4	7
Below poverty	6	20	10	6	16	3	10	34	3	20	4	4	71	6	5	17
Not cool during summer																
Above poverty	14	11	13	14	22	15	23	30	7	28	10	12	37	8	8	19
Below poverty	20	11	13	10	26	11	21	40	7	31	9	10	41	10	6	22
ENVIRONMENT																
Noise																
Above poverty	20	20	23	15	21	12	16	20	10	25	19	25	26	10	16	20
Below poverty	18	16	27	9	18	9	19	11	11	22	22	24	19	9	13	17
Pollution, grime, etc																
Above poverty	7	15	19	6	12	13	18	14	7	20	17	15	20	5	11	15
Below poverty	6	13	20	5	11	8	14	7	7	17	15	14	16	1	9	12
Violence or vandalism																
Above poverty	10	17	9	10	15	11	16	8	11	13	11	12	10	11	23	13
Below poverty	10	14	9	8	14	8	12	3	13	12	7	12	8	14	19	12

Source: EU SILC 2007

The first a cluster of variables provides the distribution of housing problems that are directly derived from the dwelling condition and the second group of variables displays information regarding the environmental problems surrounding the home. The results are separated by the

position of the household in relation to a deprivation indicator (above/below risk of poverty)[39] hypothesising that those older adults with worse financial situation are likely to reside in sub-standard housing and, therefore, are more prone to declare a larger amount of housing-related problems. As expected, a higher percentage of older adults living below the poverty threshold declare to suffer from living condition problems (Table V.22). This gap among problematical living conditions perceived by elderly is observed across all the countries in major or minor degree. Older Europeans residing in the Mediterranean region, especially in Portugal, are by far those that mostly identify some kind of deficiency in their residential context, even in households not at risk of poverty. For instance, around 20% of older adults residing in Spain, Italy, Portugal or Greece declare problems related with housing maintenance as leaky roof, damp walls/floor/foundation or roots in windows, frames or floor. The proportion of this kind of problems in deprived households increase substantially reaching 30% in Spain, Italy and Portugal, and 36% in Greece. At the same time comfort-related problems (not enough warmth in winter or not cool enough during summer) are a cause of inadequacy also in the southern region of Europe. The incapacity to keep the accommodation adequately refrigerated during the summer seems to be a remarkable problem by elderly population in the whole continent and for both collectives of older adults. Problems derived from extreme temperatures together with the incapacity to acclimatise the domestic environment to themselves affect the well-being due to individuals becoming more sensitive to climatic changes during old age. As average, in EU15 countries 17% of older population below and 7% above the poverty threshold declare not to have a comfortably warm home during winter, once more showing the higher rates among southern older Europeans. Problems derived from a deficient refrigeration system seems to affect in the same way the different socio-economic groups; 19% of older population above poverty threshold and a 22% of older population above poverty threshold report living in a dwelling not cool enough during summer. It is important to remark that the regional climatology of the different European regions seems not to influence the perception about the comfort-related problems as much as the conditions of the housing stock quality.

The environment that surrounds the dwelling also accomplishes a relevant role in the achievement of independent living in older ages. Many times, the satisfaction of the residential situation is more related with the bounded area than with the internal state of the dwelling. Although residential conditions fulfil the elderly requirements, if the community presents severe deficiencies the environment can act as a worsening factor in elderly life quality. As the table shows, there are not so remarkable differences on the rates of self-reported environmental problems when comparing them with those directly related with the dwelling conditions. The distances between socio-economic groups of older population and countries are reduced; even

[39] The construction of the poverty indicator is explained in the section V.3.2. of this chapter

reverse in the pollution category. Noise from street or neighbours appears as a fairly common perceived problem among older Europeans, without much distinction between socio-economic groups. In 2007, Portugal (26%), Netherlands (25%) and Italy (25%) older population not at risk of poverty were more likely to suffer from noise, and Germany (27%) and Netherlands (24%) the countries where older population at risk of more poverty perceive noise problems, coming from neighbours or the street. Surprisingly, environmental problems related with pollution or grime are perceived more by older population with higher socio-economic status in 14 of the 15 countries (in Ireland the proportions are equal). One again, the Southern countries display higher percentages (Italy and Portugal 20%) and also Germany for those living in deprived households.

The proportion of older population suffering from security and safety problems rate slightly vary depending on their socio-economic status, although it is a problem more often declared by individuals with higher socio-economic position. The perception of vandalism or violence in the surrounding area is a problem specially perceived in the United Kingdom (23% of older population not at risk of poverty and 19% of older population at risk of poverty). On the contrary, Greece is the country with the lowest proportion of problems in this category; 8% and 3% respectively.

To summarise, it can be said that the elderly people declare to undergo fewer problems due to the physical characteristics of the dwelling than those derived from the environment. The older population of South European countries reported higher deficiencies derived from the condition of their accommodation than the rest. Older population from Northern and Western Europe linked their housing problems with environmental issues more than the elderly people from Southern Europe.

V.3. Living conditions as predictor of residential satisfaction in old age

The basic function of a dwelling is to provide shelter, concealment and security to their occupants in a practical sense, separating private sphere from public domains. Assuming the multidimensional nature of the living space (Lawrence 2002; Rapoport 1995), it should not be forgotten that every accommodation presents a strong material meaning that highly shapes how individuals evaluate it. An extensive part of the value that an accommodation involves for their occupants lies in a sense of usability regarding to the needs it covers. The appraisal of the housing context through its “tangible” conditions is established by weight the offered possibilities in a material sense according to personal goals and aspirations. The adequacy degree of a given built environment are primarily constructed by the quotidian use that people made of a dwelling and its potential to cover the needs of the household (Coolen 2008; Rapoport 1995).

In old age, the instrumental dimension of housing plays a determinant role to achieve a satisfactory experience of growing older at home. The physical elements that conform the living

space; type of accommodation, services in the area where it is located, design and facilities can influence the elderly well-being positively or negatively. Maintenance and reparation are real barriers that shape the age-at-home outcomes; stairs, second floors, kitchen or bathrooms in which mobility is problematical, damp walls, basic ventilation, etcetera, are some of the structural deficiencies that elderly people have to deal with to obtain a comfortable setting. The way in which older dwellers amend the required reparation differ, depending on personal characteristics, residential trajectory and perceived situation that older person presents. In many occasions, the reforms are not undertaken if they are not preceded by some domestic accident or illness that makes the deterioration of the lack of adequacy of some elements of the accommodation visible. In other situations in which reforms are never undertaken, older population learn to co-exist with the bad state of housing elements and start to perceive them with normality, even assessing their living context as positive.

Data was drawn from the EU SILC, wave 2007, covering a wide range of residential characteristics, both the accommodation and the area. From the total sample, a sub-sample composed by individuals aged 65 years and over residing in the EU15 countries has been selected.

V.3.1. The assessment of living environments

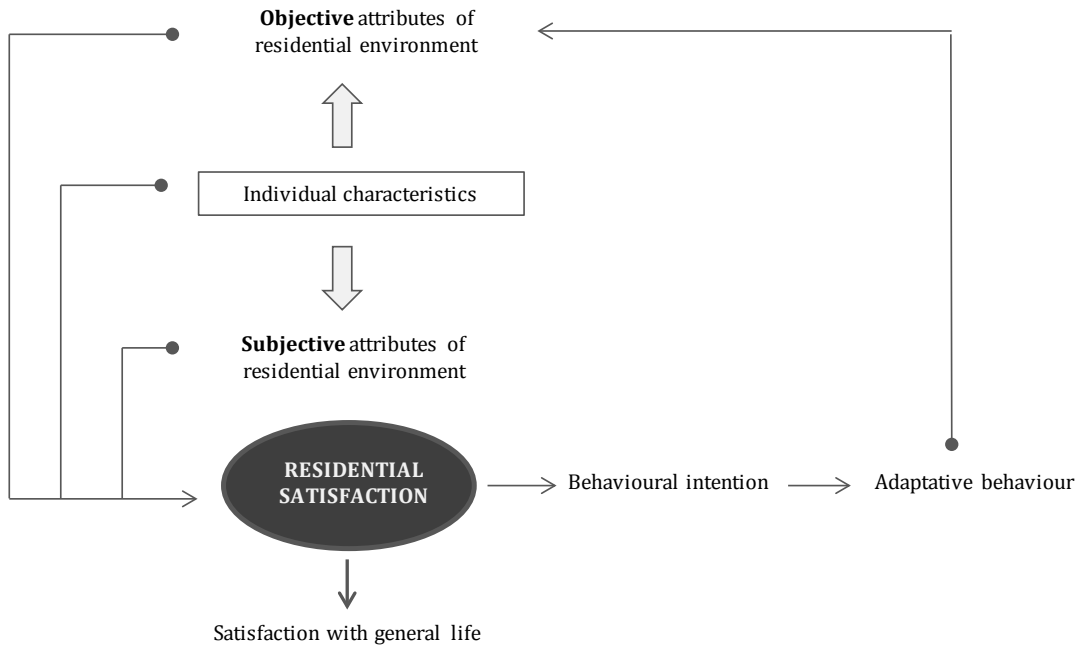
A method to explore the perceptions that individuals assert about their living environments has been made to evaluate their residential satisfaction. Residential satisfaction is, essentially, a measure[40] of the degree of housing adequacy perceived by the occupants of a certain living space. One of the most popular definition of this term is the one elaborated by Canter and Rees (1982:185) who consider that residential satisfaction is "the degree to which (individuals) feel (the residential environment) is helping them to achieve their goals". Also Weidemann and Andresson (1985:56) define residential satisfaction, but in more emotional terms; "It is (the residential satisfaction) the emotional response to the dwelling, the positive or negative feeling

[40] The emergence of residential satisfaction as an indicator of housing quality was prompted after the World War II, when Western countries searched for a valid indicator of the effectiveness of social housing policies that began to be implemented in that period. Soon, this item was dismissed as a suitable measure of the success or failure of social housing development due to its fuzziness for this purpose, but remained in the questionnaires of housing surveys due to its potential to research analogous residential perceptions. Since then, residential satisfaction has been mainly utilised in two fundamental ways; (1) To carry out comparative analysis of the subjective perceptions about living environment between settings, populations or programs, and (2) in multivariate analysis, to identify the factors that are more associated with residential satisfaction (Francescato, G. 2002. "Residential satisfaction research: The case for and against." Pp. 16-34 in *Residential Environments. Choice, Satisfaction and Behvior*, edited by J.I. Aragonés, G. Francescato, and T. Gärling. Westport: Bergin & Garvey.. There is a third use of residential satisfaction in which it serves as an indicator of more general measures such as happiness or satisfaction with life. For instance, Oswald et al. Oswald, F., D. Jopp, C. Rott, and H.W. Wahl. 2010. "Is aging in place a resource for or risk to life satisfaction?" *The Gerontologist* 51(2):238-250. introduced living conditions to measure the influence that ageing at home has over the general life satisfaction.

that the occupants have for where they live. As such, it is a global representation of the affective response of people to the social-physical environment in which they live". This means that "residential satisfaction" is a subjective concept that reflects an opinion, a personal assessment of the different spatial levels that comprehend the residential environment. But, what does "residential environment" refer to? Francescato (2002) explained it clearly when he pointed out that this concept should be understood as a multifaceted construction due to (1) both objective (living conditions) and subjective (living experiences) aspects that contribute in the same way to conform the evaluations about the residential environment, and (2) the living space does not only refer to the dwelling, but also to the neighbourhood.

Amerigo and Aragonés (1997:48) proposed an interaction model to explain how objective and subjective elements interplay in the assessment of the living space (Figure V.23).

Figure V.23. Amerigo's systemic model of residential satisfaction



Source: base on Amerigo and Aragonés (1997:48)

Every residential environment presents certain material conditions (size, structure, services, facilities, etc) that individuals and households evaluate regarding to their personal characteristics (age, gender, living arrangements, health status, etc). The personal characteristics operate as a "filter" transforming the physical elements in subjective attributes, in a process that contrasts real with ideal residential conditions. Depending on if this assessment is positive or negative, the person shows one or another behaviour towards its residential environment. For example, Amerigo and Aragonés (1997) showed that people that never have had to make reparations or

reforms in their homes or that have never participated in community declare a lower degree of residential satisfaction that those that have been involved in them. It suggests that the more positive the evaluation is, the more active the attitude towards the living environment would be.

Environmental psychology is the scientific field that has researched more in depth the predictors of residential satisfaction, whereby it has been habitual to conceptualise the investigations under the *P-E fit models*[41]. In a theoretical sense, according to Kahana (1982) and later Kahana et al. (2003), a balanced relationship among older population (P) and their environment (E) would derive a more optimistic evaluation of their residential context. However, empirical studies have not found results to be consistent. For instance, while Christensen et al. (1992), supported the potential of P-E models as a theoretical construction, they pointed out that residential satisfaction of older North-Americans depended more on a positive evaluation of the residential environment than a sufficient adjustment between the needs and the residential conditions of older households.

V.3.2. Data and methods

To evaluate to which extent living conditions could help to predict residential satisfaction among older Europeans, data comes from the EU SILC survey in its wave of 2007. Despite the existence of more recent rounds, in 2007 this source included a special module focused on living conditions with more detailed information about housing/neighbourhood characteristics than those contained by the basic annual questionnaire. Furthermore, this wave is the only possible choice since the level of residential satisfaction uniquely appears in this specific module. From the total sample of 206,313 individuals, a sub-sample is extracted of the population aged 65 years and older, containing 58,178 individuals. Only the countries pertaining to the EU15 are kept. The analysis of the data has been carried out in two phases. In the first phase, Principal Component Analysis (PCA) is used with the aim to reduce the living conditions variables and obtain the underlying factors that serve as predictors of residential satisfaction. The second phase assesses the association between the predictors obtained in the PCA and a positive appraisal of the residential situation among the older EU15 population. In this second analysis the data are presented according to the country and the total disposable income in the household with the aim to test if spatial and socio-economic discrepancies exist in the self-evaluations of the elderly residential environment.

To determine the socio-economic status of elderly household the “poverty indicator” that was included in EU SILC 2007 has been used.

[41] As was shown earlier in the Chapter II, Section II.8., these models are based on the level of congruence between the preference or the needs of the older population and the pressure of the environment.

$$Disposable\ income = \frac{(Total\ disposable\ income^{42} * Inflation\ factor)}{equivalised\ household\ size^{43}}$$

Those households that have a total income (gross and disposable) below the threshold of 60% of the median are identified as population residing in households at risk of poverty. The poverty indicator is constructed through the "*equivalised disposable income*" variable, which is calculated by means of a set of household income variables as follows:

V.3.2.1. Principal Components Analysis with categorical data

Principal Components Analysis (PCA) is one of the most applied methods for data dimension reduction in social sciences. Together with other factorial procedures, this multivariate technique seeks to simplify the information contained in a set of observed variables ($\boldsymbol{x_1}, \boldsymbol{x_2} \ldots, \boldsymbol{x_p}$) assuming that one or few latent variables underline the data structure ($\boldsymbol{y_1}, \boldsymbol{y_2} \ldots, \boldsymbol{y_p}$). This method, developed by Pearson (1901) and Hotelling (1933), summarises an original set of p variables by means of lineal combinations with maximum variance. The solutions are given by the eigenvalues and eigenvectors of the covariance matrix of y :

Equation V.1

$$\frac{\mathbb{V}[a'y]}{\| a \|} \rightarrow max_a$$

PCA scores are obtained through the equation;

Equation V.2.

$$x_{ij} = a_{il} * \mathbb{Z}_{lj} + \ldots + a_{ik} * \mathbb{Z}_{kj} = \sum_{s=1}^{k} a_{is} * \mathbb{Z}_{sk}$$

---

[42] Calculated as the sum for all household members of **gross personal income components** (gross employee cash or near cash income; gross non-cash employee income; gross cash benefits or losses from self-employment (including royalties); unemployment benefits; old-age benefits; survivor' benefits, sickness benefits; disability benefits and education-related allowances **plus gross income components at household level**: income from rental of a property or land; family/children related allowances; social exclusion not elsewhere classified; housing allowances; regular inter-household cash transfers received; interests, dividends, profit from capital investments in unincorporated business; income received by people aged under 16; regular taxes on wealth; regular inter-household cash transfer paid; tax on income and social insurance contributions.

[43] The equivalised household size **= 1+ 0.5 * (HM$_{14+}$ -1) + 0.3 * HM$_{13-}$**. HM14+ number of household members aged 14 and over (at the end of income reference period). HM13- number of household members aged 13 or less (at the end of income reference period)

Where a are the coefficients and $\mathbb{Z}$ the standardised values that variables have in each one of the cases. Thus, each principal component $\boldsymbol{y}$ (named as $\boldsymbol{p}$ for the whole group of variables) could be expressed as the product of a matrix formed by the eigenvalues (A), multiplied by the vector x that contains the original variables $x_1, \dots, x_p$.

$$y = \mathrm{A}x$$

Where,

$$y = \begin{pmatrix} y_1 \\ y_2 \\ \vdots \\ y_p \end{pmatrix},\ A \begin{pmatrix} pa_{11} & a_{12} & \dots & a_{1p} \\ a_{21} & a_{22} & \dots & a_{2p} \\ \vdots & \vdots & \ddots & \vdots \\ a_{p1} & a_{p2} & \dots & a_{pp} \end{pmatrix}, x = \begin{pmatrix} x_1 \\ x_2 \\ \vdots \\ x_p \end{pmatrix}$$

One of the assumptions that integrate the classical formulation of PCA is that the input variables must have a normal distribution or, at least, a reasonable approximation to normality (Dunteman 1989). This postulation makes PCA a method fundamentally appropriate to be applied with *continuous* variables, which has created controversy about its use with discrete data. There is not a unitary consensus about the correct application of PCA; while some authors neglect categorically the adequacy of any type of factorial analysis with categorical data; other authors admit its utilization with exploratory aims to observe relational tendencies on condition that the categorical variables being ordinal or once they have been transformed in ordinal (Kim and Mueller 1994). This procedure, the transformation of *binary* items into ordinal variables (indicators), has been a quite common strategy to use PCA in psychometrics. Even so, the advocates of a more restrictive use of PCA insist that the main problem of employing categorical variables with this statistical technique, both *dichotomous* (two response categories; e.g. male/female, yes/no) and *ordinal* (more than two response categories with an order relation between them; e.g. Likert scales) violate the distributional assumption of PCA .

One of the offered solutions to overcome the "normality" problems has been to use the *tetrachoric* correlation matrix instead of the usual Pearson's correlation matrix to estimate the Principal Component eigen values. The tetrachoric correlations, as well as *polychoric correlations* in case of ordered-category data (Olson, 1979), assume that discrete data are truncated versions of continuous variables and, for that reason, tend to be normally distributed.

In its more basic formulation, the calculation of tetrachoric matrix can be estimated from a 2 x 2 table of frequency by solving for the correlation parameter ρ in a bivariate normal density function (Bonett and Price 2005). A more complex formulation of tetrachoric correlations is that elaborated by Becker and Clogg (1988), which is based on the estimation of the percentiles of the

odds ratio and row/columns category scores to calculate a scaled log-odds ratio (Δ). This procedure can be expressed as:

$$((g-1))/\,(g+1) \qquad \text{Equation V.3.}$$

Where g is the population odds ratio.

Furthermore, according to the Becker and Clogg (1988) method of calculation, the estimation of the Wald confidence interval for tetrachoric correlation scores is:

$$\rho \pm \rho_{\frac{\propto}{2}}\overline{\text{se}}(\rho) \qquad \text{Equation V.4.}$$

where ρ is an estimate of the tetrachoric correlation, $\overline{se}(\rho)$ is an estimate of the tetrachoric standard error estimate, and $\rho(\propto/2)$ is the $\left(1-(\propto/2)\right)$ quartile of the standard normal distribution.

The size of the sample with which the tetrachoric correlations are calculated has to be relatively large, as small samples can result in a confidence interval too wide to give useful information.

V.3.2.2. Binary logistic regression

One of the most common uses given to the components emerged from the PCA is to include them as variables in a logistic regression analysis. Logistic regression aims to predict the values of an observed dependent variable throughout other set of variables (denominated as *independent*), modelling their relationship by a function based on a nonlinear probability distribution. As in other nonlinear techniques, logistic regression assumes that categorical data are manifestations of a latent continuous variable and, for that motive, they would tend to be normally distributed. Although different types of logistic regressions share to a great extent the same basis and procedures, given that in our case the used technique is a binary logistic regression (used with dichotomous dependent variables), this section focuses particularly on its explanation.

On its basis, binary logistic regression estimates the probability that an event occurs (or not) regarding to a set of explanatory variables (x_i). For that reason, binary logistic regression can only be implemented by using dependent variables (y_i) with two response categories (y =yes/ $y=$ no, y =agree/ y =disagree, y =ocurrence/ y =failure of an event, etc). The formulation of the function is:

Equation V.1.

$$P\left(Y = \frac{1}{X_k}\right) = \frac{e^{(a+b_{1+\cdots+}b_k X_k)}}{1 + e^{(a+b_{1+\cdots+}b_k X_k)}}$$

The upper component of the equation refers to the fact that an event occurs, meanwhile the other components represent the variables that explain the dependent variable. The coefficients resulting from logistic regression (called as coefficient β) result from dividing the probability that an event occurs $\Pr(y = 1/x)$ by the probability that this event does not occur $1 - \Pr(y = 0/x)$. Coefficents β can be exponentiated in order to obtain the so-called *odds ratio:*

Equation V.2.

$$\Omega(x) = \frac{\Pr(y = 1/x)}{\Pr(y = 0/x)} = \frac{\Pr(y = 1/x)}{1 - \Pr(y = 0/x)}$$

The odds ratio ranges from 0 to 1, so it is highly useful when the predictions are made in terms of probability, despite they cannot be interpreted in terms of probability but they should be read as a correlation or association among variables.

Therefore, the logistic function that permits to estimate the parameters could be expressed as:

$$ln\left[\frac{P}{1-P}\right] = \alpha + \beta_k X_x$$

Where α is the value of the constant and β_k are the parameters.

The estimation of the odds ratio is made by the Maximum Likelihood Estimation, which utilises iterative calculations to maximise the value of the sum of the coefficients of the model. The objective is to find the values of α and β_k that generate the coefficient closer to 1.

The evaluation of the goodness-of-fit for a logistic regression model can be made by interpreting the value of the statistic pseudo-R^2. The function to calculate it is:

$$Pseudo\ R^2 = 1 - \frac{\ln \hat{L}_F}{\ln \hat{L}_o}$$

In its denomination, the prefix "pseudo" is due to the similarities that this indicator shares with the statistic R^2 generated by the Ordinary Least Squares (OLS) regression; both range on a scale from 0 to 1, in which the higher values indicate a better model fit and low values indicate the

reverse outcome. However, despite the likeness of how to read the statistics, the interpretation of pseudo-R^2 is not so straightforward as in the case of R^2. In linear regressions, R^2 could be interpreted directly as the proportion of variance explained by the model.

The interpretation of this statistic has to be an approximation to the variance of the outcomes. In some cases, these statistics can also be used to compare the explanatory capacity of different models.

There is not a unique method to calculate R^2 for logistic regression neither a consensus about which is the best way to do it. For instance, Mittlbock and Schemper (1996) made a revision of several methods to calculate R^2 in logistic regression. Also Menard (2000) discussed several others.

V.3.3. Analysis

Under an ecological perspective, the state of the living conditions in a material sense and the perception about its adequacy are key elements to understand the age at home process. For this reason, the main objective of this analysis is to assess up to what extent living conditions are useful to predict residential satisfaction of older Europeans with the aim to shed light on the relationship established by older individuals and their surrounding environment, and the evaluations that they make about this space.

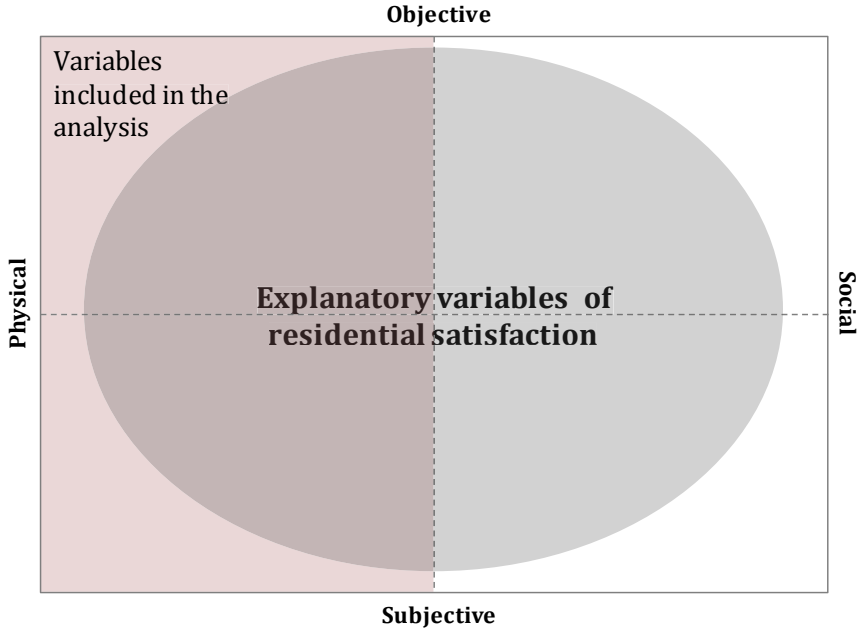
Given that the improvement of elderly housing standards has been generalized but not homogeneously distributed, this analysis considers two patterns of dissimilarities; (1) a spatial pattern: if living conditions are a good predictor for residential satisfaction in all EU15 territories, by taking into account the share of elderly housing standards by country, and (2) a socio-economic pattern: if living conditions operate as a predictor of residential satisfaction in the same way for material deprived elderly households compared to those who present a higher socio-economic situation.

V.3.2.1. Predictors of residential satisfaction

There is not a fixed and generally accepted taxonomy of living conditions indicators that guide the residential environment evaluations. The lack of homogenised measures to determine the physical quality of housing multiply the number of variables used to carry out empirical analysis. Nonetheless, the copious amount of characteristics used to construct the residential satisfaction predictors, they have in common that they range across two axes theoretically defined (Figure V.24). On one hand, the explaining factors of residential satisfaction have been constructed by using both the objective and subjective attributes, depending on the role that individuals play in the assessment of living conditions and the way in which the information is recorded in the

statistical source. On the other hand, the variables integrating the residential satisfaction predictors also range from physical to social aspects of the environment. The shadowed area of this figure indicates the dimensions to which the variables included in this analysis pertain.

Figure V.24. Axis of the residential satisfaction explanatory variables.



In addition, the study of residential satisfaction is not limited to dwellings. It contemplates two spatial levels that are the most common type of environmental stratification: dwelling and neighbourhood. This spatial division is nominatively clear but confusing in practice; due to its boundaries they vary once the concepts are operationalised. Sometimes the dwelling does not refer only to the indoor space, but also to outdoor areas such as gardens, back yards, porches and terraces, etc. The neighbourhood is a place even more complex to enclose due to the area, community or district being used as interchangeable terms, as recalled by Aragonés, Francescato and Gärling (2002). In this research, the dwelling-level is restricted to the interior space of the accommodation basically for data limitations' reasons. Unfortunately, the survey does not recode any variable regarding the outdoor facilities of the accommodation. At a neighbourhood-level, statistical sources are not much precise with respect to its borders, so it is necessary to make the assumption that it alludes to the immediate surrounding area where individuals develop their daily life; i.e. to what Marans ad Rodges (1975) denominate as "micro-neighbourhood"[44].

[44] Marans and Rodgers Marans, R.W.and S.W. Rodgers. 1975. "Towards an understanding of community satisfaction." Pp. 299-352 in *Metropolitan America in Contemporary Perspective*, edited by A. Hawley and V. Rocl. New York: Halstead Press. proposed, some time ago, one of the clearest operationalisations of environmental levels; the "macro-neighbourhood", responding to the administrative division of urban environment, and "micro-

Table V.23. Living conditions variables included in the analysis (EU SILC 2007)

VARIABLE	TYPE OF INFORMATION	SPATIAL FRAME
Shower/bathroom in the dwelling	Objective	DWELLING
Toilet in the dwelling	Objective	
Heating system	Objective	
Refrigeration system	Objective	
Adequate electrical installations	Subjective	
Adequate plumbing installations	Subjective	
Shortage of space	Subjective	
Leaking roof, damp walls/ floors/ foundation, or rot in window frames or floor	Objective	
Dark/not enough light	Subjective	
Adequately warm in winter	Subjective	
Adequately cool in summer	Subjective	
Access to grocery	Objective	NEIGHBOURHOOD
Access to banking services	Objective	
Access to postal services	Objective	
Access to public transport	Objective	
Access to health care services	Objective	
Noise from street or neighbourhoods	Subjective	
Pollution or grime	Subjective	
Crime/Vandalism	Subjective	

The EU SILC survey contains 19 categorical variables that collect information about the residential conditions of the European population. Most of them are binary (two categories of response; yes/no), covering the left part of the previously mentioned axes (Table V.23). Those variables that refer to physical aspects of the dwelling, as the existence of basic facilities or comfort-systems, have been identified as "objective". In turn, those variables that interrogate about the dwelling/neighbourhood state have been labelled as "subjective".

Due to the way in which the EU SILC questionnaire asks these variables, it could be actually argued that all the information collected pertains to the subjective domain since this source only registers the answer of the respondent, without offering other contrast measures, e.g. size of the accommodation in square meters. Considering this handicap, the analysis classifies as "objective" variables those that could be easily verified by an external observer (lack of shower or toilet, inadequate electrical installations or damp in walls or floors). The variables identified as

neighbourhoods", small groups of dwellings that conform a familiar space to their inhabitants. Most of the time, housing research is focused on the second type of spatial frame.

"subjective" are those based integrally on opinions referred to perceived problems; lack of space, noise or if the accommodation is adequately warm in winter.

Table V.24. PCA output using tetrachoric correlation matrix

Variable	Comp1	Comp2	Comp3	Comp4
Shower	-0.024	-0.130	**0.448**	0.153
Toilet	0.022	-0.127	**0.440**	0.155
Heating system	-0.051	0.060	**0.492**	-0.085
Refrigeration system	0.017	0.271	**0.360**	0.028
Dark/not enough light	-0.010	**0.325**	-0.008	0.120
Shortage of space	0.023	**0.371**	-0.021	0.002
Leaking roof, damp walls/ floors/ foundation, or rot in window frames or floor	-0.035	**0.340**	-0.091	0.053
Adequately warm in winter	0.034	-0.032	**0.387**	-0.134
Adequately cool in summer	0.017	0.020	0.254	-0.263
Adequate electrical installation	0.002	**-0.526**	-0.090	0.049
Adequate plumbing installation	-0.013	**-0.497**	0.027	0.073
Access to grocery	**0.470**	0.025	-0.019	-0.013
Access to banking	**0.463**	-0.008	0.015	0.007
Access to postal services	**0.454**	0.028	0.010	-0.054
Access to public transport	**0.392**	-0.015	0.008	0.078
Access to primary healthcare	**0.444**	-0.034	-0.012	-0.014
Noise	0.000	0.013	0.008	**0.555**
Pollution	0.013	0.031	0.006	**0.559**
Vandalism	0.009	0.046	0.030	**0.452**
Variance explained	21.5%	13.9%	13.0%	11.9%
Variance cumulative	21.5%	35.4%	48.4%	60.3%
KMO indicator	.806			

Note: PCA uses orthogonal rotated solution using Varimax rotation method

Source: EU SILC. 2007

To assess how living conditions influence the evaluation that older population make about their residential environment, a PCA using *tetrachoric correlation matrix* is carried out as a first step. The outcome of the PCA identifies four components that explain 60% of the total variance that gathers the living conditions variables to be interpreted as underlying factors (Table V.24). The Kaiser-Meyer-Olkin indicator (KMO) is a goodness of fit measure that shows the adequacy of the sample when comparing the magnitudes of observed correlation with the magnitudes of partial correlation coefficients. The value of KMO, 0.806, confirms the robustness of the model and permits its interpretation.

Once rotated, the component matrix offered four components that group the residential characteristics. According to the magnitude and signs of the eigenvalues displayed in the PCA matrix, the resulting components have been labelled as follows:

- ***COMPONENT 1. Accessibility to community services***: As the table shows, the first 'factor' explains 21.5% of the total item variance, and it is positively correlated with accessibility to all community services variables; good access to grocery, banking services, postal services and primary health care services and, to a lesser degree, to easy access to public transport. All the variables integrated in this factor refer to objective attributes of the neighbourhood.

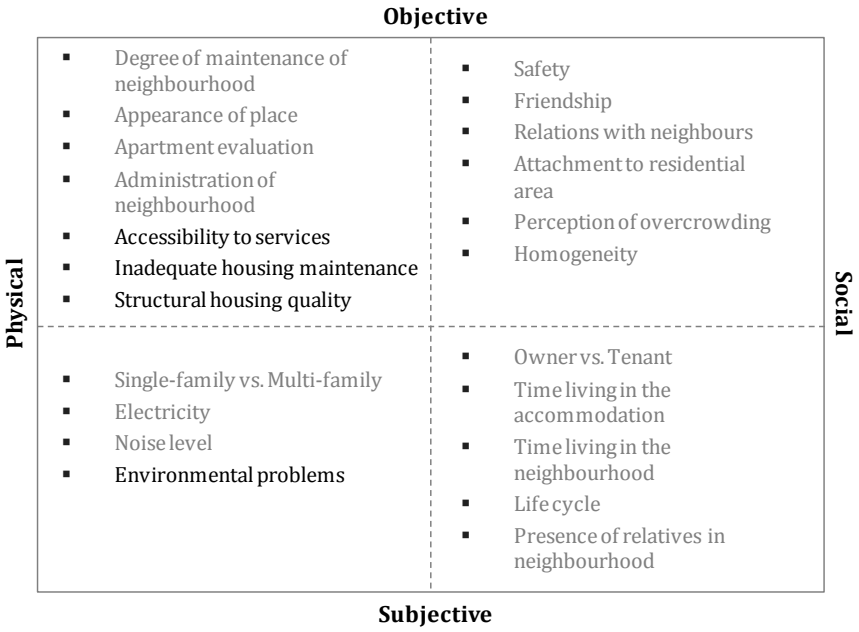
- ***COMPONENT 2. Inadequate housing maintenance***: The second of the factors refers to poor maintenance of housing conditions. This factor is negatively correlated with an adequate state of electrical and plumbing installations, and positively associated with some of the self-reported problems by the elderly people: dark or not enough light, lack of space and leaking roof, damp walls/ floors/ foundation, or rot in window frames or floor. All of these variables reflect subjective information regarding to the accommodation.

- ***COMPONENT 3. Structural housing quality***: The third factor is positively associated with housing facilities and mainly has to do with the existence of heating system, the existence of indoor flushing toilet, shower or bath for the only use of the household. To a lesser degree, this factor is also associated with the fact that the accommodation is adequately warm in winter and has a refrigeration system.

- ***COMPONENT 4. Environmental problems***: The last factor collects the subjective information about the neighbourhood. Three variables are positively associated with the perception of environmental deterioration of the area in this order: noise, pollution and vandalism.

Using the scheme elaborated by Amerigo and Aragonés (1997:52) to classify some of the predictors of residential satisfaction found out by other authors, the components resulting of this analysis would be placed as follows:

Figure V.25. Position of predictors of residential satisfaction according to Amerigo and Aragones' scheme



V.3.2.2. Assessing residential satisfaction in older age

The second phase of this analysis aims to explore how the living condition factors help to understand the degree of residential satisfaction among Europeans. This is done by carrying out a binary logistic regression analysis on each EU15 country, in which, apart from the four factors obtained with the PCA, several control variables regarding socio-demographic and health features are included. In addition, the data is separated into two sub-samples regarding the socio-economic profile of elderly households so as to test whether living conditions are a better predictor of satisfaction in the case of deprived older people.

Specification of the model

- *Dependent variable*

The additional housing module implemented in 2007 by the EU SILC survey contains an item that collects information on the degree of satisfaction of the person with the residential environment ('*overall satisfaction with dwelling'*)[45]. This variable recodes the evaluation that the respondent declares using a scale that ranges from (1) to (4): (1) being *very dissatisfied,* (2) *somewhat dissatisfied,* (3) *satisfied* and (4) *very satisfied*.

[45] The degree of satisfaction with the dwelling is asked in terms of meeting the household needs/opinion on the price, space, neighbourhood, distance to work, quality and other aspects.

Table V.25. Overall residential satisfaction of population aged 65 and over, by country and socioeconomic status (4-point scale).

	Not at risk of poverty			*At risk of poverty*		
	Mean	N	S.D.	Mean	N	S.D.
Austria	**3,45**	2431	0,590	**3,28**	413	0,627
Belgium	**3,25**	1823	0,809	**3,21**	535	0,687
Germany	**3,29**	5799	0,952	**3,16**	970	0,93
Denmark	**3,72**	1679	0,547	**3,72**	278	0,531
Spain	**3,11**	4511	0,637	**3,04**	1863	0,674
Finland	**3,38**	2814	0,661	**3,26**	478	0,673
France	**3,37**	3623	0,584	**3,17**	519	0,634
Greece	**3,04**	2414	0,579	**2,84**	873	0,641
Ireland	**3,35**	2053	0,842	**3,21**	919	0,904
Italy	**3,05**	8852	0,548	**2,89**	2324	0,618
Luxembourg	**3,56**	928	0,586	**3,47**	81	0,572
Netherlands	**3,74**	2716	0,498	**3,71**	173	0,537
Portugal	**2,98**	1876	0,706	**2,83**	668	0,757
Sweden	**3,57**	2255	0,551	**3,41**	221	0,608
United Kingdom	**3,71**	2826	0,513	**3,73**	1168	0,497
EU15	**3,31**	46600	0,703	**3,15**	11483	0,742

Source: EU SILC, 2007

The results reveal that the average of residential satisfaction among older Europeans is rather high, at 3.31 for the households not at risk of poverty and 3.15 for older households at risk of poverty. The countries of Southern Europe are those with lower values, while the Netherlands, United Kingdom and Denmark observe the highest.

Surprisingly, there are no notable differences among the reported satisfaction of elderly people with lower financial resources and those who do not. These results are explained because residential satisfaction is not always congruent with the objective physical state of the living space, given that previous experience and the emotional links with the space determine the final evaluation. In the case of the elderly population, the dissonancy is intensified by the influence of long-term stability periods. The 'attachment to place' feeling is cumulative; the more the person remains, the link with the space is strengthened as it represents a space of memories where the most relevant biographical events take place, especially in the family dimension, such as the birth of children and childrearing (Clapham 2005; Gilleard and Higgs 2005). Another explanation for the lack of congruence between living conditions and perceptions is of a psychological nature. The declared degree of satisfaction is affected by the *Pollyanna effect* or *Positive Bias*; the

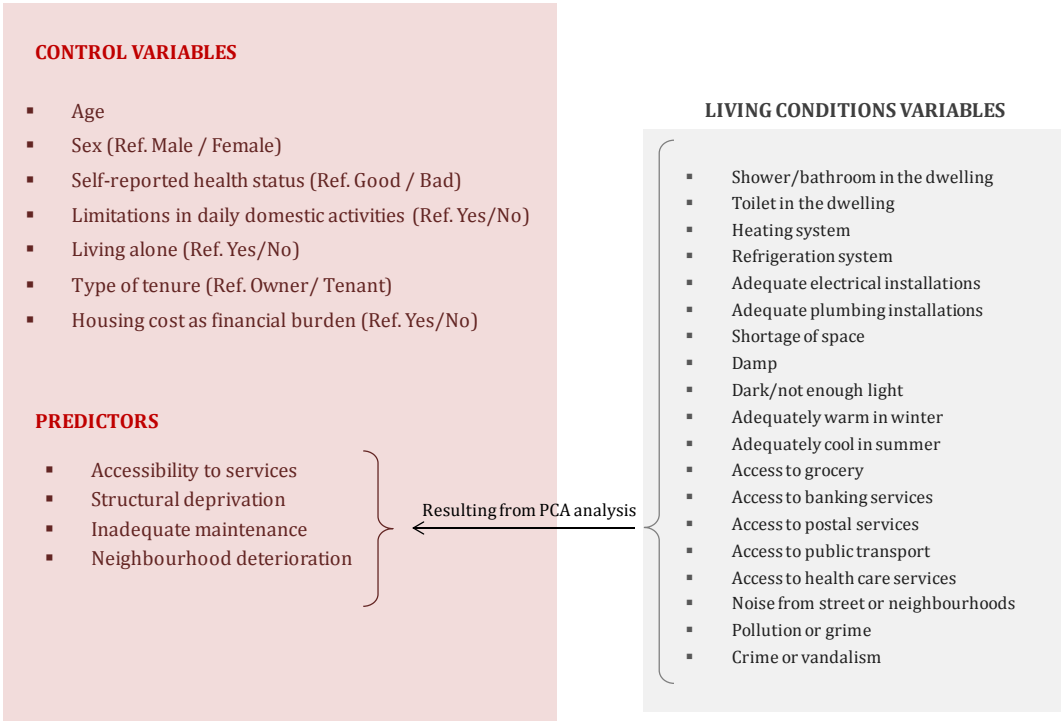
tendency to give more positive than negative evaluations, ideas and conclusions when individuals are interviewed (Baumeinster et al. 2001; Boucher and Osgood 1969).

To carry out the logistic regression analysis the ordinal variables have been transformed into dichotomous ones, reducing them into two responding categories; "satisfied" (aggregating categories 1 and 2) and "not satisfied" (aggregating categories 3 and 4).

- *Control variables and predictors*

In addition to the PCA factors, other variables are introduced in the model to control the regression outcomes; demographics (sex and age), health status (self-reported health status and limitation in daily activities), living arrangements (if the older adult is living alone), type of tenure (owner vs. tenant) and financial burden (if housing costs are a financial burden). The introduction of the control variables is necessary as it is confirmed that some personal features influence the reported degree of residential satisfaction of older population. Some studies have shown that older-old (80+) are more likely to elaborate positive assessments about their housing situations that younger elderly (65-79), due to the fact that most of them have lived in rather worse conditions than currently, hence they are more used to adversity, because of the lack of alternatives as well as they tend to relativise the environmental stress comparing with other vital changes experienced in later life as widowhood or disability (Piquart and Burmedi 2003).

Figure V.26. Independent variables included in the Binary Logistic Analysis.



In this line, health status is another feature that shapes older people satisfaction. Normally, older adults with impediments to carry out daily living routines are more prone to report negative evaluations of their residential settings. Also, tenure is another characteristic that has to be consider due to, as it has been proved, tenants are more inclined to show disconformities with residential situation, derived from the lower control that elderly renters have over the structural changes on the domestic sphere compared with owners. The theoretical development of *Locus control* (Rotter 1966; 1990) explains how the perception about the control one has to transform the environment, internally (responsibility of the individual) or externally (responsibility of external agents), conditions the individual satisfaction. To undertake modifications on the dwelling, tenants need to count on the compliance of the landlord who is responsible of the property maintenance (external locus control), and not always responds properly to the tenant's restructuring demands (James III 2008)

- *Results*

For each EU15 country and socioeconomic group of elderly (15 x 2) two regression models have been carried out; the first contains uniquely the control variables and the second one adds the predictors obtained in the previous PCA with the aim to test the predictive potential of living conditions factors.

Table V.26 presents the pseudo-R^2 indicator by country and socio-economic status (at risk/not at risk of poverty). As expected, the introduction of living condition factors in the model improves the model fit, i.e. the potential of living conditions as a predictor of elderly residential satisfaction. The comparison of pseudo-R^2 of each logistic model confirms that the physical features of elderly residential environment do not operate in the same way considering the national context and the disposable resources of the household, validating the hypothesis of inter and intra-divergences on residential satisfaction predictors. Firstly, it can be observed that living conditions are a better predictor of elderly residential satisfaction of deprived older households. In all countries, the pseudo-R^2 scores of older people at risk of poverty are higher than those presented by older adults that are not suffering financial scarcity. In the EU15, the physical conditions of the dwelling and the neighbourhood have more weight on the positive evaluation of residential environments as lesser resources exist. Secondly, the pseudo-R^2 scores tell us that there is a clear spatial pattern divergence that cannot be clearly associated with the traditional classification of welfare regimens (Esping-Andersen 1999). Countries with similar poverty rates among older people reveal, however, a different level of association among living conditions and residential satisfaction.

Table V.26. Predictive potential of residential satisfaction regression models; *pseudo-R^2* values of adjusted variance.

	Not at risk of poverty		*At risk of poverty*	
	MODEL 1	MODEL 2	MODEL 1	MODEL 2
AT	0.037 **	0.180 ***	0.143 **	0.320 ***
BE	0.017 **	0.042 ***	0.045 *	0.104 **
DE	0.004 **	0.011 ***	0.003	0.076 ***
DK	0.055 *	0.086 *	0.226	. .
ES	0.018 ***	0.082 ***	0.026 ***	0.122 ***
FI	0.052 **	0.148 **	0.046	0.302 **
FR	0.132 ***	0.323 ***	0.151 ***	0.405 **
GR	0.041 ***	0.293 ***	0.017 **	0.224 ***
IE	0.010 *	0.056 ***	0.028 **	0.068 ***
IT	0.044 ***	0.158 ***	0.048 ***	0.167 ***
LU	0.041	0.176 ***	0.488 **	. .
NL	0.104 **	0.203 **	0.110	. .
PT	0.038 ***	0.105 ***	0.058 ***	0.316 ***
SE	0.091 **	0.143 **	0.136	0.487 **
UK	0.074 ***	0.322 ***	0.031	

Source: EU SILC 2007

Model 1: Control variables (age, sex, health status, limitations ADL, living arrangements, tenure, housing cost as financial burden)
Model 2: Control variables + living conditions predictors; accessibility to community services, inadequate housing maintenance, structural housing quality, environmental problems.
. = Not be able to carry out binary logistic regression due to lack of cases.

To assess in which sense living conditions could predict residential satisfaction, different binary logistic regressions have been performed (2 for each EU15 country), The results are displayed in Table V.27, for those older people living in households not at risk of poverty, and Table V.28, referring to older population residing in households under the poverty threshold.

Analysing the control variables, it is observed how different factors are correlated with a higher satisfaction degree depending on the context. Amongst them, the variable "type of tenure" shows special relevance as a explanatory factor of older people satisfaction in the case of those older adults with higher socioeconomic degree. In most countries being a tenant is negatively correlated with a positive evaluation of the residential environment. This situation is particularly evident in the Mediterranean region, which is characterized by high rates of ownership across all ages and socio-economic groups. The coefficients of Spain, France and Italy reflect that the older tenants of these countries are more willing to declare dissatisfaction. On the contrary, Danish older tenants are the only ones that show more willingness to declare a high satisfaction degree with their dwellings compared to owners.

Table V.27. Binary Logistic Regression results for Elderly population residential satisfaction NOT AT RISK OF POVERTY, EU SILC 2007

		CONTROL VARIABLES							PREDICTORS			
		Age	**Sex**	**Health**	**ADL**	**Alone**	**Tenure**	**Burden**	**P1**	**P2**	**P3**	**P4**
Country	*N*	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß
AT	2127	0,99	0,86	1,69	0,70	1,31 **	0,56 *	0,78	0,91	0,09 ***	2,11 **	0,33 ***
BE	1624	1,02 **	0,99	0,93	1,10	0,78	0,89	1,99	1,10	0,29 *	1,46	0,87
DE	4157	1,01	1,04	0,77 *	0,82	1,07	1,32 **	1,08	1,24 **	0,43 **	1,39	0,88
DK	897	1,03	1,33	0,46 **	0,42	0,65	0,52	0,30 **	1,92 *	0,27	1,34	1,64
ES	1486	0,99	0,93	0,85	0,57 *	1,41	0,55 **	1,17	1,29	0,31 ***	2,31 **	0,71
FI	389	0,95 *	0,69	0,51	0,48	0,59	0,21 **	0,73	1,36	0,34	1,74	0,65
FR	878	1,03	1,19	3,79 **	1,16	0,82	0,10 ***	1,35	2,12 **	0,16 ***	2,39	0,42 **
EL	2093	0,99 **	1,00	1,46	0,93	1,34	0,44	0,49	1,29	0,16 **	4,16	0,61 *
IE	1898	1,02	0,87	1,21	1,09	0,84	0,76	0,83	1,11	0,33 ***	1,73	0,60 **
IT	5625	1,01	0,97	1,36 **	0,83	0,94	0,42 ***	1,40	1,29 ***	0,27 ***	6,20 ***	0,51 ***
LU	791	1,07	1,13	0,48	0,57	0,81	3,27	0,67	2,33 ***	0,19 **	1,45	0,63
NL	968	1,04 **	4,18 **	1,22	1,31	0,49	0,21 *	1,04	1,22	0,11 **	3,24	0,63
PT	503	1,07 **	0,87	0,79	0,83	0,48 **	0,51	0,43 *	1,41	0,43 **	1,69 **	1,23
SE	979	1,02	1,00	2,16	0,88	1,41	0,37 **	0,54	1,83 **	0,31	8,22	0,34 **
UK	1497	1,03	1,14	1,57 *	1,32	1,08	0,46 *	0,82	1,88 **	0,08 ***	4,40 **	2,13
EU15	25912	1,01 **	1,01	1,11 *	0,81 ***	1,10	0,76 ***	0,90 *	1,24 ***	0,30 ***	3,41 ***	0,70 ***

Signification level; ***p < 0.000 ; ** p < 0.05 ; *p < 0.1

Control variables; Age (continuous), sex (ref. male), health status (ref. good health), limitations ADL (ref. yes), Living alone (ref. yes), Tenure (ref. owner), burden (ref. housing cost is a financial burden).
Predictors: P1 (Accessibility to services), P2 (inadequate housing maintenance), P3 (Structural housing quality), P4 (Environmental problems).

Table V.28. Binary Logistic Regression results for Elderly population residential satisfaction AT RISK OF POVERTY, EU SILC 2007

		CONTROL VARIABLES							PREDICTORS			
		Age	**Sex**	**Health**	**ADL**	**Alone**	**Tenure**	**Burden**	**P1**	**P2**	**P3**	**P4**
Country	*N*	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß	Exp ß
AT	250	1,04	0,48	Om.	1,61	0,43	0,22 **	0,31	0,76	0,08 **	1,03	0,70
BE	472	1,10 **	1,08	1,02	0,65	1,07	0,77	1,28	1,19	0,36	1,85	0,49
DE	640	1,01	1,12	0,57*	0,77	0,98	1,20	1,20	1,48 **	0,21 ***	1,37	0,71
DK	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	.
ES	438	0,98	0,92	0,61	0,81	2,22 **	0,53	1,62	1,55 **	0,40 **	2,80 **	0,61 *
FI	104	1,10	0,13 **	0,04 **	0,09 **	1,09	Om.	2,54	1,79	0,25	0,27	0,25
FR	94	1,07	1,85	6,45 **	0,66	0,59	0,18 *	0,21	0,57	0,17 *	0,89	0,13 **
EL	734	0,99	0,93	1,09	0,92	1,28	0,27 **	0,59	1,43 *	0,20 ***	2,69 ***	0,74
IE	844	1,03	0,99	1,49	1,03	0,95	0,67	0,87	1,04	0,38 ***	1,41	0,54 **
IT	1238	1,01	0,94	1,04	0,81	1,24	0,41 ***	Om.	1,24 **	0,31 ***	5,79 ***	0,62
LU	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
NL	.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
PT	135	1,08	0,46	0,11 **	1,00	0,28 **	0,14 **	Om.	3,12 *	0,32 *	1,19	2,02 *
SE	101	0,87	4,50	2,16	8,86	0,06	2,00	0,03 *	0,53 **	0,00 **	0,10	0,02
UK	593	1,09 **	1,12	0,71	3,50	0,42	0,54	0,44	1,77	0,18	0,12	1,73
EU15	6055	1,02	0,96	0,97	0,84 *	1,04	0,57 *	0,70 **	1,31 ***	0,28 ***	2,43	0,67 ***

Sig.= Signification level; ***p < 0.000 ; ** p < 0.05 ; *p < 0.1

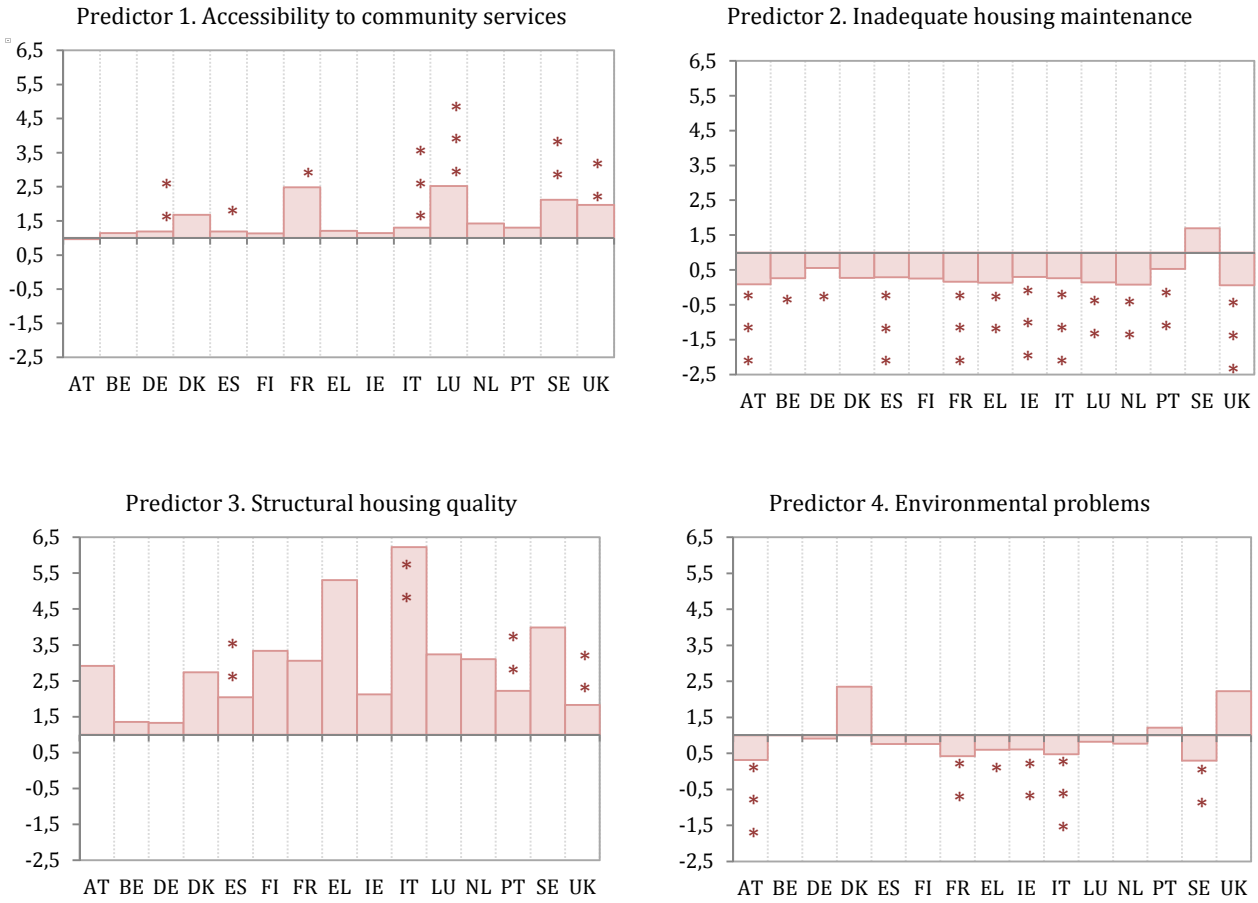
Control variables; Age (continuous), sex (ref. male), health status (ref. good health), limitations ADL (ref. yes), Living alone (ref. yes), Tenure (ref. owner), burden (ref. housing cost is a financial burden).
Predictors: P1 (Accessibility to services), P2 (inadequate housing maintenance), P3 (Structural housing quality), P4 (Environmental problems).
. = not enough cases (Demark, Luxemburg and Netherlands in model b)

Om. = variable deleted from the analysis.

Regarding to those older people with low socioeconomic profile, the association between tenure and residential satisfaction is not so evident. Only the countries of the Mediterranean region; Italy, Greece, France and Portugal, together with Austria, maintain the negative correlation between being a tenant and a fairly good evaluation of the dwelling. The fact that home ownership is a tenure wide extended in these territories, means that older people with low income have also accessed ownership, while in the Northern and some parts of the Western regions of the continent it is associated with an advantaged financial situation.

The first conclusion extracted from the analysis of the predictor variables, those resulting of PCA analysis, is the existence of a consistent convergence in the sign of the association between these variables and the level of satisfaction declared. This association is fairly intuitive and consists of a positive association of the satisfactory assessment of residential context with the variable access to community services and structural housing quality, and a negative relationship with an inadequate housing maintenance and environmental problems.

Figure V.27. Relationship between satisfaction and living conditions in older ages. Results of logistic regression analysis. Elderly households above the poverty threshold.



Regarding the older adults with higher socio-economic status (Figure V.27), the first predictor (the accessibility to community services) is significantly related to elderly residential satisfaction in countries in each of the European regions, but more in Scandinavia (Denmark and Sweden), and Western Europe (Germany, France, and Luxembourg), than in Southern Europe (Italy). Structural housing quality presents a significant association in Italy, Austria, Spain, Luxembourg, Portugal and United Kingdom. This aspect reflects how the concept of home goes beyond the limits of the dwelling, when the evaluation of the living conditions also encompasses the characteristics of the surrounding area.

The predictor that mostly explains the residential satisfaction of older Europeans is the housing maintenance. This variable shows an important correlation in most of the countries and, besides, quite a similar intensity of association. The deficiencies related with the conservation of the dwelling; dark or not enough light, lack of space and leaking roof, damp walls/ floors/ foundation, or rot in window frames or floor, influence the assessment that elderly population make about their accommodation negatively, with the exemption of Sweden. Due to the fact that in old age elderly population reduce their daily activities to the domestic sphere; it is plausible that the state it presents becomes more palpable and older people increase their concern about it. Also because the impairments that appear in old age can turn into problematic situations that before were not limited so much in their daily routines.

The third predictor, structural housing quality, enhances the positive evaluations of elderly accommodations. When the accommodation count with the basic facilities as indoor flushing toilet, shower or bath for the only use of the household or heating system, older people tend to express a more favourable opinion about their dwellings. This correlation is significant, above all, in Southern region and the UK. The explanation of the lack of association with other Northern and Western countries is that most of them, as descriptive section showed before, already have these facilities. The quality of the housing equipment in these regions is higher than in the Southern part of the continent, so older living there are more exposed to suffer dissatisfaction with this elements in the South of Europe.

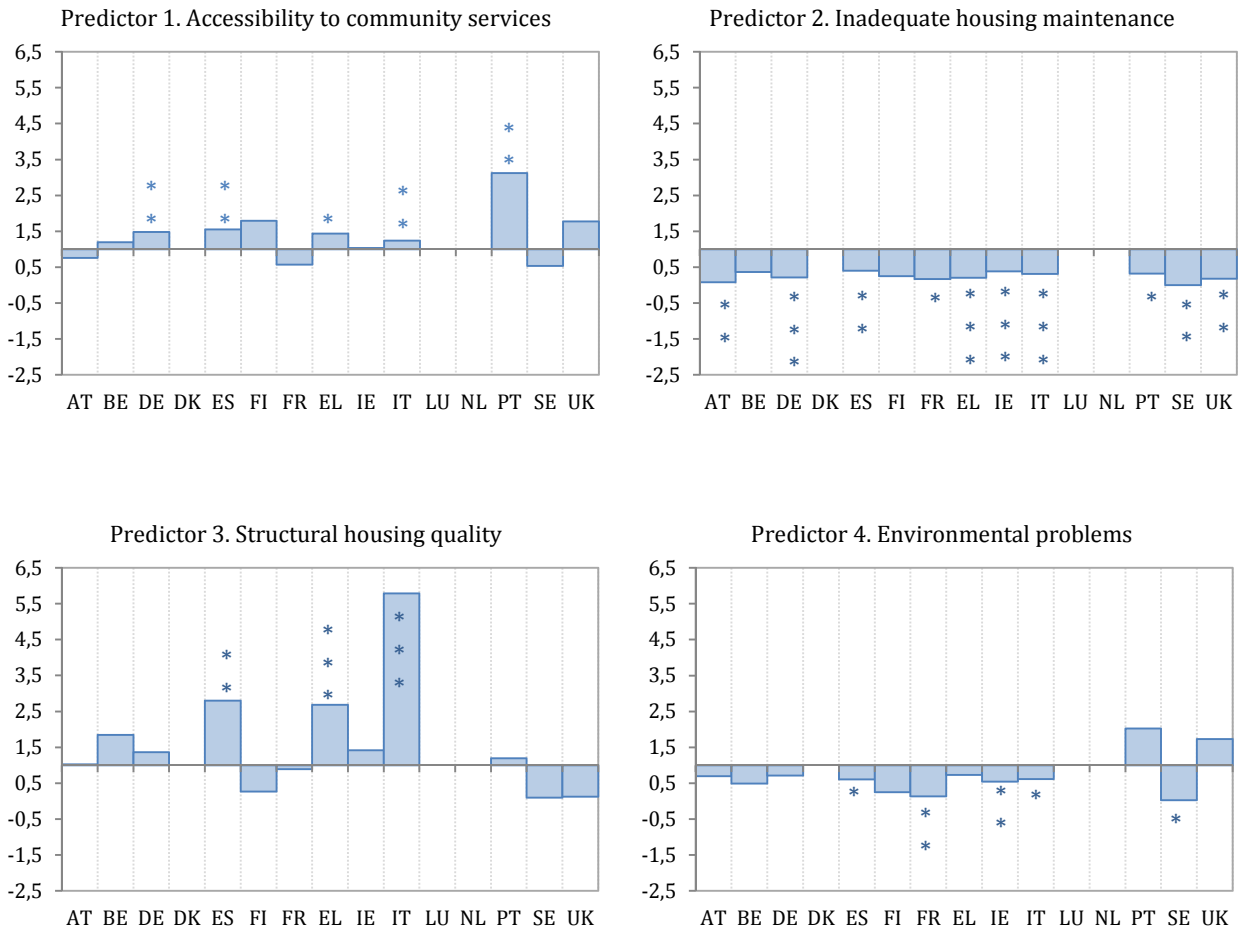
The fourth predictor alludes to the existence of environmental problems as vandalism, noise or pollution in the area where the dwelling is located. For those older households with higher incomes it seems to be a fairly relevant determinant of residential satisfaction. The spatial pattern here is somewhat more diverse. Northern countries such as Sweden, Western countries as Germany or Austria, but also Italy, present a negative correlation between the presence of environmental problems and a good assessment of their residential context.

The other group analysed, those older adults with severe material deprivation, share in great extent the pattern displayed by the previous group (Figure V.28). Having easy access to services is significant in Southern Europe (Spain, Portugal, Greece and Italy) and Germany. These results

differ to those showed by the elderly population with higher incomes in the spatial pattern of the association. Also in these cases, to have maintenance problems in the dwelling influences the opinion about the setting in negative way, more or less with the same intensity as previously analysed group. The effect of deficient housing conditions is cross national, presenting significant correlations as in Sweden or UK, as in the southern countries.

For older deprived households, the fact to live in a dwelling with inadequate structural quality heavily conditions the assessment of the residential situation. In this case, only Greece, Italy and Spain present significant correlation between this predictor and the degree of housing satisfaction. As previously shown, the significance of these results is also explained by the amount of dwellings lacking of the basic facilities.

Figure V.28 . Relationship between satisfaction and living conditions in older ages. Results of logistic regression analysis. Elderly households below the poverty threshold.



The environmental problems perceived by older adults are also a factor that constraint the positive evaluation of the environment. Alike in the case of the group of higher incomes this variable is significant in different countries across the continent. In Sweden, France, Austria,

Spain, Italy and Greece, the population over 65 years old declare less degree of conformity with their residential setting if some problem as pollution, noise or crime are found.

V.4. Synthesis of the chapter

As age-at-home is the most widely used residential type among elderly population, the housing facilities and the perception that older people feel about them are essential issues to understand the link between well-being and residential environments. On this basis, the objective that this chapter set out was two-fold. Firstly to map the residential conditions, in a structural sense, under what they are living and secondly, to assess the importance of these conditions in residential satisfaction.

The question that aims to respond the first section of this chapter wondered under *what conditions do the elderly population that age at home live in Europe nowadays?.* The changes that underwent during last decades in housing stock quality suggest that standards of elderly dwellings tend to follow the same direction of improvement in the EU-15 countries, but still presenting different intensities depending on the country. Rather than converging, the national differences of housing quality of elderly population have persisted despite that older Europeans remain living in fairly adequate settings in general terms. The gap between Danish (< 1%) and Portuguese (8%) elderly population residing in dwellings lacking some basic facilities back up this assumption.

Apart from cross-national differences, intra-national differences in housing standards can be found. The elderly households at risk of poverty are over-represented on dwellings lacking the basic facilities and are living in accommodations with less disposable space.

Part of the elderly housing stock improvement is linked with the expansion of home ownership among older cohorts. Significant transformations have taken place in the traditional strong rental market countries, as Netherlands or Germany, where the baby-boom generations with higher proportion of owners are arriving to their old age years. Regarding to the type of dwelling, the descriptive analysis supports the idea that it is quite difficult to elaborate a typology that considers all the national types of a particular accommodation where elderly population live and, at the same time, is easily to handle and operate.

Results showed that the objective deficiencies were highly linked with a spatial pattern. Southern countries such as Portugal and Greece presented higher percentages of older people who in 2007 still lacked at least one of the essential facilities. In contrast, Denmark and Netherlands presented the lowest ratios. National differences are concentrated more in the accommodations deficiencies perceived by the elderly population than in the environment where the dwelling is located. Elderly population from southern countries reported that their dwellings lacked conditions

related with the accommodation; not enough light and shortage of space, associated with the housing location most commonly identified in all the territories.

The second part of this chapter aims to respond to three central questions. The first one was; what is the assessment that elderly population made about the environment where they are growing older? In general, older Europeans evaluate their residential situation with scant variance among countries and socio-economic groups rather positively. Independently on the disposable household income, the assessment of housing situation is about 3-4 score in a 4-points scale. Even elderly population below poverty threshold, who is expected to be sited in worse quality accommodations, declare to be satisfied or very satisfied.

The second question was; *does the satisfaction degree depend on the objective or the subjective perceptions about the living conditions they present?* Actually, residential satisfaction depends on a wide spectrum of characteristics and circumstances that range from physical to social and from objective to subjective attributes. The construction of residential evaluation responds to a mixture of elements, in which physical conditions play a main role. As results remark, a great part of residential satisfaction of elderly Europeans is still explained by the physical features of their accommodation or by the subjective evaluations that they made of this attributes.

The third and last question that this chapter sets out was Do living conditions work as predictors of residential satisfaction in the same way according to elderly spatial and socio-economic characteristics? These analysis have shown that the different intensity in the improvement of housing stock depending on the country inside the EU15 have made that in Northern and Western countries the influence of residential conditions over residential satisfaction is more related with outdoor aspects than in the South of the continent. In Greece, Italy, Spain and Portugal, housing maintenance and, above all, structural conditions of the dwelling determine the positive evaluation of the accommodation they occupy. This spatial pattern is even more evident in the case of older households living under the poverty threshold.

Chapter VI. RESIDENTIAL DYNAMICS IN LATER LIFE: SHOULD I STAY OR SHOULD I GO?

VI.1. Introduction

When we conceive ageing in place as the fact to remain at home during old age, it may erroneously infer that this process solely can be experienced if elderly population display a sedentary behaviour. Actually, permanence is only one of the possible residential strategies to live independently, whereas mobility is the other side of the coin. There are occasions in which, paradoxically, a change of dwelling is the most appropriate choice to remain *attached* to the private domain. Under this lens, the residential movements could be understood as a re-adjustment mechanism of living conditions, aiming to optimise the duration and the quality of independent living in later life. In many cases, a change of accommodation responds to an improvement strategy that aims to adapt the housing reality to the household needs. The reduction of the household size after children's leaving or due to widowhood, the search of relative's proximity or the preference for a better climate conditions, are triggers that convert mobility in a behaviour towards the preservation of independence in terms of resources, well-being and comfort. As Pastalan (1995:1) stated "(...) *to move or not to move is really part of the ageing in place debate*".

Starting on this basis, this chapter goes in depth on the factors that condition the choices to live independent in later life; *permanence* and *movement*, hypothesizing that:

i. The duration of elderly residential trajectories in Europe are conditioned by the dynamism (level of mobility) that each national housing system enhances. Then, it is expected to find remarkable spatial divergences in the propensity to remain in one's own home during old age.

ii. Changes in later life benefits the (revealed) choice for a mobile pattern, while stable trajectories in other life domains, above all family, encourage permanence.

Thus, the first objective of this chapter is to measure the length of residential trajectories of elderly Europeans and assessing the convergences and divergences among countries. The second objective is to identify the determinants that shape *permanence* as revealed choice, testing the effects that changes in later life (those experienced in family and health domains) has on the probability to choose this kind of ageing-at-home strategy. The ultimate objective is to contribute to a deeper understanding of *permanence* as residential choice, transcending its habitual conceptualisation as "lack of movement", highlighting its own meaning as residential process of analogous relevance and complexity to mobility.

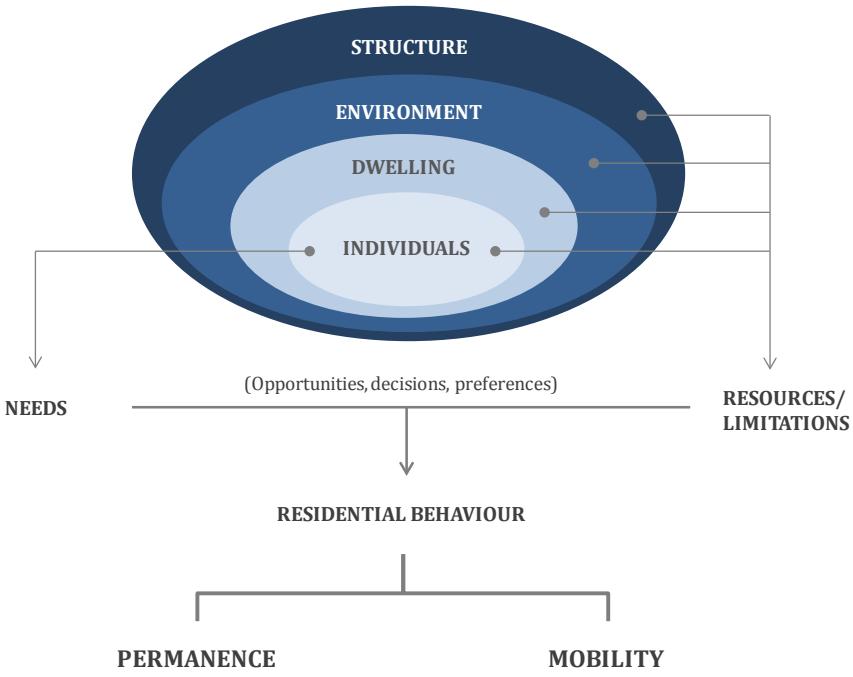
VI.2. Background

The choice for a given residential strategy, as it is mobility as it is stability, responds to an evaluation of the opportunities and limitations that individuals have. Sometimes, residential decisions are planned in view of foreseeable changes such as retirement or children leaving, permitting the dwellers to anticipate the way they prefer to face the housing adaptation. Nonetheless, other times these decisions have to be made suddenly triggered by unexpected biographical events such as widowhood or the sudden onset of a disease (Cribier 1980; González-Puga 2004b). For that reason, the concept of strategy applied to residential dynamics implies that it is not necessarily allied to a previously organized or desired residential situation. In both cases, it is an adjustment in which individuals aim to optimize their resources to obtain the most appropriate setting according to a subjective interpretation of what this place would be.

Therefore, the basic scheme of elderly residential decisions highlights that it depends on a complex interplay between personal circumstances and the conditions enforced by the environment. This converts housing choices into multidimensional processes in which different levels of reality interact to produce the observed residential strategy. As Figure VI.29, shows the **individual** is situated in a first level. The decisions about the most adequate living setting are shaped, primarily, by the needs that emerge in this level. The needs to cover are strongly linked

to the life's phase that individuals are experiencing, which in the case of older people are highly related to the decline in health status. Also at the individual level, the psychological dimension plays an essential role in the perception of the most suitable strategy. As it was shown in Chapter V, expectations, values and the experiences lived in one's previous trajectory influences the assessment of what would be the best choice to fulfil the new needs. This subjective component of residential decision making means that people who are facing similar situations may opt for different solutions.

Figure VI.29. Scheme of elements participating in residential choices of private domain

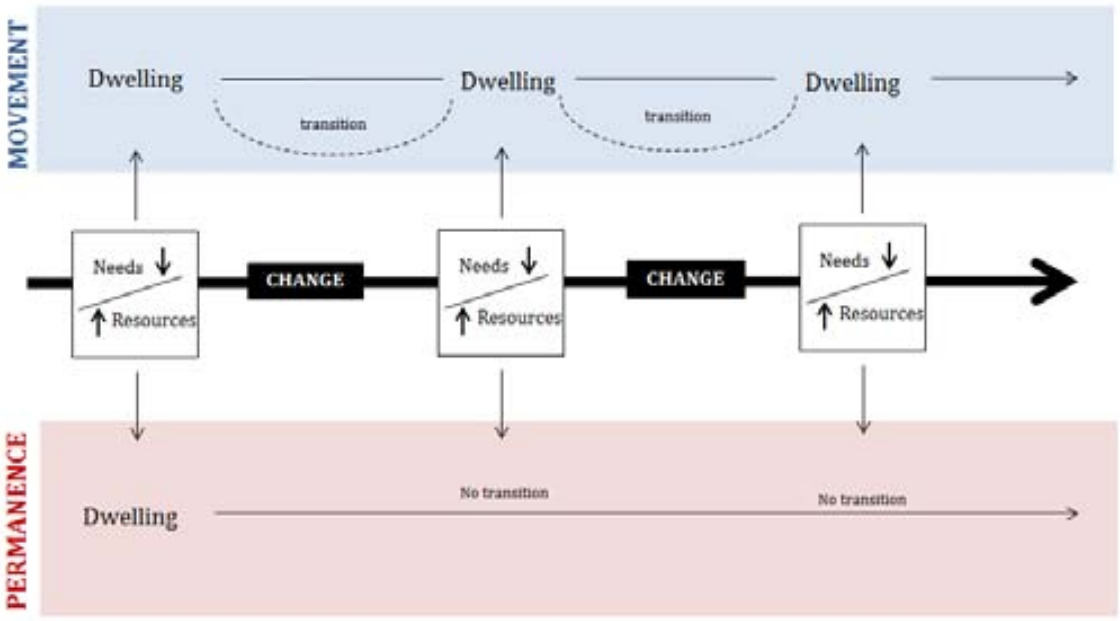


The external level of reality that surrounds the individual provides the available resources. They range from *meso* to *macro*, depending on the proximity and degree of control that individuals have over them: **dwelling**, which encompasses the domestic domain, **environment**, from neighbourhood to city, and **structure**, referred to the economic, historical or political conditions. The interplay between these levels establishes the opportunities and limitations that make a particular living strategy viable or not. In the case of ageing at home, these decision-making processes adopt the form of two basic strategies: *permanence* and *mobility*.

In the context of Figure VI.29, a second scheme (Figure VI.30) is proposed that systematises the interplay of factors that determine the residential choice of elderly. When older individuals face any change in their life course which substantially modifies their daily routines, e.g. more leisure time after retirement or the decline in health status, an evaluation of the new needs is produced

as a result of this change (Mulder 1996). Depending on the opportunities and limitations, the outcome of the evaluation could be to move or to stay.

Figure VI.30. A scheme of a residential trajectory pattern



It should be noticed that any career is influenced by the three "times" that shape the development of the life course: historical, social and biographical time (Clark, Deurloo and Dieleman 2003; Gurney and Means 1997; Kohli and Meyer 1986). These “times” represent the different levels that must be taken into account in applying the life course perspective to the study of residential dynamics. Historical time and social time determine the conditions, both facilitative and limiting, influencing the contextual conditions under which the individual makes the decision-making process. Thus, economic conditions, ageing-related policies and socio-cultural attitudes towards older people, also act to structure the life course.

VI.2.5. Permanence as living strategy in later life: the neglected topic

Theoretical and empirical approaches focused on *permanence* as residential strategy are rather less advanced than those focused on mobility, even more when our interest revolves around the later-life housing choices. Most of the times, permanence has been treated indirectly when it has been opposed to movement, but is seldom subject of study *per se*. In empirical studies, the operationalisation of housing choices has been based on two alternative options that put the focus on movement; to move or not to move, but hardly ever under an own label which gives entity to the process of ‘stay put’. The study of permanence, stability or immobility has been

relegated to a hidden position as election, deriving in a terminological "invisibility" that has kept the intentional choice of staying at home in a theoretical limbo.

But, why elderly residential mobility has captured more attention than stability, even if it has been shown that the older population is eminently static (Angelini and Laferrère 2011)?. The economic and political concern about the patterns, triggers and consequences of mobility come from a more global interest about the ageing of western societies. As Kendig (1984) or Malmberg (2010) investigated, the effect that the older household's dynamics could unleash on the housing consumption of other age groups, especially its influence on the housing stock and prices, in view of the arrival of baby-boom cohorts to their old age years has been a recurrent topic. In this line, as elderly cohorts have grown older, the study of transitions to institutional care and their linkage to well-being also have raised questions about the consequences of mobility for both individuals and public policy (Myers 1990; Myers and Ryu 2008). Another factor is that research on residential dynamics was initiated and it is mostly developed in contexts where elderly mobility is higher as in the United States, and, in the case of Europe, Sweden, United Kingdom or The Netherlands.

This compendium of factors has unleashed an accidental after-effect, weakening the fact that permanence at home is the most frequent choice among elderly Europeans. As Lawton underlined, the relevance of the decision to stay is equal to residential mobility in its complexity:

> *"Remaining in place involves a decision, or, rather, a series of decision revised over time, as awareness of changes in personal and environmental situations is processed internally. The number of instances in which the decision is out of the person's hands because of public or private actions of others, or because family are making the decision is very small. (...) The bulk of the evidence suggests that remaining in place is actively chosen and selected above other alternatives most of time"* (Lawton 1985:457).

These words of Lawton emphasize one of the essential aspects of permanence; it also supposes a mindful decision. To opt to stay implies an evaluation of the opportunities and constraints in the same way as mobility. Recent research as those conducted by Mellander, Florida and Stolarick (2011) advocate that permanence should be considered as a process by itself not merely as the opposite to mobility or the lack of it. Despite that their work does not only refer to the aged population, it is an outstanding contribution given the lack of studies focused on residential immobility. These authors conclude that the aspects related with community quality-of-place, such as the attractiveness of the physical environment, the services located in the area, or the chance to meet new friends, highly influences the decision to stay, more than community economic conditions or individual economic or demographic factors. This result points out that the immediate environment plays a determinant role in the choice of permanence and it must not only be considered as a determinant factor to in-migration, but also as a constraint for out-migration of the whole population, not only the elderly people.

Another recent article focused on the older Swedish population, Hjälm (2013) shed light on residential decisions in later life. In her qualitative study it is concluded that lifelong stayers give a sense to their sedentary behaviour. This means that for them to stay at home is also an ongoing process which is not decided at once and never renegotiated, but it implies a decision and an election such consciousness as mobility. Another finding of this research is that 'stay put' is not associated with feelings of be trapped or resigned to do not have another option. In fact, Hjälm's study confirms that, in many cases, the decision of elderly to be a stayer is well considered and a stance that forms part of their identity.

VI.2.6. Conceptual frames to explain mobility decisions in older ages

Research on residential mobility has generated a considerable amount of interest, particularly to conceptualise the decision-making process about moving. From an economic perspective, the Tiebout's classic contribution (1956) views relocation choices as an optimisation process in which individuals aim to maximise their utility options. Mobility decisions are also shaped by the perceptions that individuals have about their residential environment and the presumed advantages of a new location (Clark and Davies 1990).

The emergence of the *Life Course Approach* (LCA) as a paradigm to understand the development of biographies signified a crucial step to research the complexity of decision-making processes about relocation (Clark et al. 2003; Clark and Dieleman 1996; Dysktra and Wissen 1999; Kendig 1984; Kulu and Milewski 2007; Willekens 1999). Kendig coined the term "career" (1990:133) to designate residential paths as "*the sequence of dwellings that each person or household occupies over life*". The terminological substitution of the term "trajectory", more used in LCA, by "career" in housing studies was prompted because it integrates the idea of a "sequence of states" with a determine direction but, furthermore, it reflects more accurately the intention towards the amelioration of living conditions (Clark et al. 2003). The conformation of a residential career is initiated with the entrance of an independent household in the housing system and continues with the successive movements and adjustments on housing according with the household needs. The end of residential trajectory arrives with the breakup of the unit as independent unit due to death or institutionalisation (Clark et al. 2003:144). At the same time, the usefulness of LCA applied to mobility research lies in that it allows to consider the interdependence among life spheres; family, work, health, and residential (Willekens 1991) as explanatory mechanism of biographical development. In the case of residential career it should be a necessary condition, although not indispensable, the existence of a trigger event that provokes the relocation. The search for a new accommodation is not a goal by itself, but it is an instrumental behaviour that individuals do to cover new needs (González-Puga 2004b).

The research of elderly residential mobility has produced theoretical proposals that aim to synthesise the triggers of old-age mobility. In 1981, De Jong and Fawcett identified and classified seven categories of possible goals that stimulate individuals to change their domicile. The most relevant in the case of older populations were well-being and comfort improvement, environmental amenities, increase of autonomy and proximity of family networks. Some years later, Litwak and Logino (1987) elaborated another conceptual development that sorts the type of residential movement regarding the event that motivates it, distinguishing among three kinds of triggers: retirement; that can provoke a move due to the search of a more pleasant environment or as a result of a decrease in income, first symptoms of physical/mental deterioration, and the final movement towards care institutions..

Despite that this approach was pioneer in the use of longitudinal perspective to analyse the triggers of mobility in old age to link events and type of movements, authors such as Blöem, Tilburg and Thòmese (2008) pointed out that the decision-making process that entail a change of accommodation for elderly is more complex than the theoretical systematisation reflected by Litwak and Logino (1987).

Mulder and Hooimeijer (1999) developed an explanatory model of elderly residential mobility using the life course approach that, as Litwak and Logino did, distinguishes between trigger events and necessary conditions that allow the residential movement. This model improves the Litwak and Logino's proposal by introducing the interdependence of life spheres. With this underlying idea, Mulder and Hooimeijer identified in the form of resources or restrictions three main life dimensions that provide the conditions which provoke the residential movement. These spheres are: work, family, and health. It is important to note that while this conceptual scheme was not exclusively developed to research mobility of older population, Blöem, Tilburg and Thòmese (2008) applied it to these collectives with fairly good results. Thus, in the work sphere they identified as trigger event retirement and, related with that, a change in disposable income. Regarding the family sphere, the trigger event in old age used to be widowhood and the moving out of children and in the health domain the deterioration of physical-cognitive functions and chronic impairments.

The academic literature on the causes of elderly mobility is very extensive, but as a way to summarise it only some examples are highlighted here. Above all in the United States, Europe and Australasia different case studies analyses different aspects or residential mobility such as the characteristics of older movers (Biggar 1980; González-Puga 2004a; Smits, Van Gaalen and Mulder 2010; Tatsiramos 2006), types of movement (Clark and Davies 1990; Speare and Meyers 1988), reasons that trigger these residential movements (Sergeant and Ekerdt 2008; Speare, Avery and Lawton 1991) or transitions that are associated with them (Bonvalet and Ogg 2008; Börsch-Supan 1990; Kulu and Milewski 2007; Piggot and Sane 2007).

VI.1. Analysis

This analysis about elderly residential dynamics aims two objectives. The first is to describe the duration of elderly trajectories in the private domain, measured as the proportion of time that older individuals have remained stable in the same accommodation, observing the convergences and divergences inside the European context. This analysis uses a retrospective view that goes back in time until the moment in which elderly started to reside in the accommodation. The importance of measuring the period of residence lies in the accumulation effects of environmental determinants on independent living. On the one hand, it can be assumed that as the period that older individual remains in a dwelling is extended, the possibilities to experience a mismatch between the living needs and the housing reality increases. On the other hand, a long-term trajectory in the same dwelling also strengthens the emotional attachment that the older people feel about their homes.

Once the settlement duration of elderly Europeans is determined, the second analysis uses longitudinal data to assess the residential (revealed) choices during old age focusing on the factors associated with those elderly who remain in their home during the studied period (8 years panel).

VI.1.1. Looking behind: Duration of the residential trajectories of older Europeans

A satisfactory outcome of being at home in old age depends on an adequate equilibrium between the living environment conditions and the needs that elderly (interpret) they have to cover. As Lawton (1989) pointed out, and other scholars mentioned later (Phillips et al. 2010), the balance of this relationship is affected by the speed that each one of the elements varies across time. On the one hand, during later life the biographical changes accelerate and become closer spaced supposing new life challenges and limitations, especially at a functional and cognitive level. In a brief period of time, impairments that the person has never presented before may appear, such as losses of mobility, hearing/vision or memory, generating other conditions and needs which they have to learn to handle and live with.

On the other hand, the basic structure of the dwellings is not so fast transformed by the passing of years. Despite that some housing elements are more likely to be object of modifications; the dwelling could be renovated, either through domestic reforms (renewal of bathroom or kitchen) or interventions on the building (elevator, parking area, gardens). The environment could also be transformed by means of urban redevelopment plans or the arrival of new neighbours to the community (e.g. gentrification), although the geographical and architectonical features of the housing unit basically persists in a rather similar form. Similarly, the physical space inside the boundaries of a dwelling as the size and the type of accommodation, the room's distribution or

location, is mostly static. Thus, the unbalanced pace with which individuals and environment evolve across time can during later life produce a mismatch between the living needs and living conditions as the length of the residential trajectory increases, as the present needs can differ substantially from those that motivated the choice of the dwelling when it was first obtained.

Therefore, *duration* appears as a key element to understand the ageing in place process in a sense of adjustment between the elderly people and their residential environment. The next pages are dedicated to analyse the duration of elderly home settlement and the variance among European countries.

VI.3.1.1. Data

The bulk of the data that recodes the duration of elderly settlement come from SHARE survey's Wave 1 (Denmark, Sweden, Netherlands, France, Germany, Italy, Spain, Greece, Belgium and Austria), Wave 2 (Ireland) and Wave 4 (Portugal), comprising 13 of the 15 countries that form part of the EU15. SHARE gathers information on the variable "years in accommodation" (ho034_) through the question *how many years have you been living in your present accommodation*?, without limitations or distinctions among tenure type. The data corresponds to the wave in which each country started to participate in SHARE. This question is asked the first time individuals form part of the sample and only is repeated if the person changes their place of residence between waves. Due to attrition effect derived from the design of the panel it is preferable to use the variable in its first collection.

Data for the remaining countries that do not participate in SHARE, Luxembourg and the United Kingdom, have been extracted from EU SILC's 2007 round. EU SILC is not the most suitable source to measure duration of residential trajectory due to the definition it uses to register the date of settlement for tenants[46], which is identified as the date of the last contract independently if the elder person had been living there for more time. This type of information collection conditions to some extent the final results to make the trajectories seem shorter that they are in reality. Even so, it is a good proxy for descriptive purposes on condition that not forgetting the possible bias once interpreting the results of these two countries.

[46] The specifications of the duration variable collection in EU SILC the information through the variable "year of contract / purchasing / installation" (HH031) establishing the date as: **Tenants:** The year of signing the contract for tenants or subtenants paying rent at market price or at lower price than the market price. If the tenant/subtenant renews the contract under new conditions, the variable refers to the renewal date. **Owners:** The year of purchasing for the owners. If a person bought the house after living there as tenant the year of purchasing will be considered. If the person inherits the accommodation the question refers to the year of inheritance. **Rent free:** The year of installation is required if the accommodation is provided rent-free or no year of contract or purchasing can be given. If accommodation is provided free the information required refers to the year of installation of the person who has been living longer than the others have, this person is the person who has the right of enjoying the accommodation free." Eurostat. 2007. "Description of SILC user database variables: Cross-sectional and longitudinal." edited by EuropeanCommission: Eurostat.

VI.3.1.2. How long in the same dwelling?

The settlement duration assessment of older European cohorts has been elaborated using as indicator the percentage of life-span[47] that population aged 65 and over has spent in the dwelling they occupy in the moment of the survey. This estimation procedure serves to overcome the possible interferences that the effect of the number of years lived would have on the duration of the permanence when different age groups are compared. For that reason, the continuous variable "years in accommodation" was transformed into another continuous variable that expressed the life-time proportion that individuals remained in the same accommodation, avoiding the age-effects over the duration exposure and permitting to contrast elderly groups. This variable was created as:

$$\boldsymbol{L_t = \left(\frac{y_{ti-tw1}}{y_{t0-tw1}}\right) * 100}$$

where the proportion of life-time residing in the same dwelling (L_t) is calculated by dividing the number of years between the moment of settling into the accommodation and the date of the survey (y_{ti-tw1}) by the age (in years) of the respondent when the survey was held (y_{t0-tw1}).

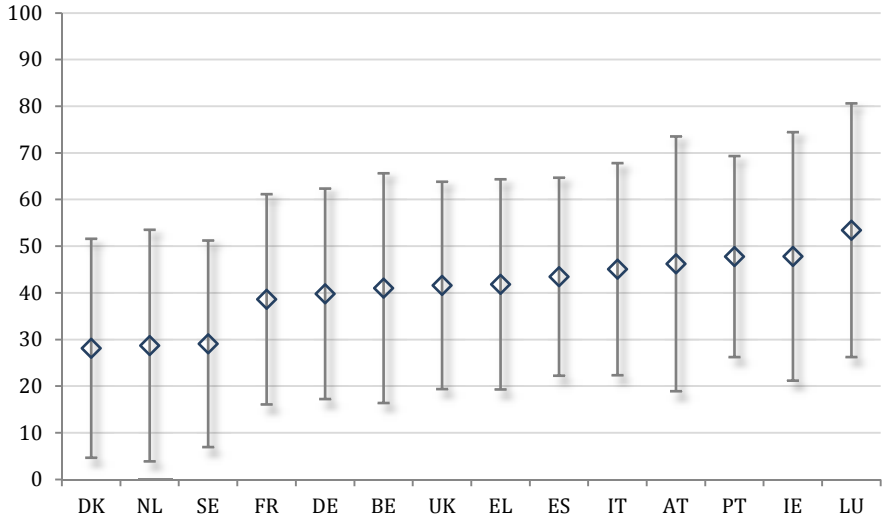
Figure VI.31 presents the average proportion of life-time that elderly have remained in their dwelling, comparing their magnitude between and within countries. It indicates that the duration of the settlement suppose on average 40% of elderly life, which means that older Europeans present residential trajectories characterized by long-term pattern of stability.

As expected, the mean duration of the elderly residential trajectories differ between countries, which can be sorted in two main groups. On the one hand, there is a former cluster of countries comprised by Sweden, Denmark and Netherlands, where older people present an average of the 30% of life time residing in the same dwelling. The second cluster of countries encompasses the rest of countries, being the elderly of Luxembourg (53%) and Ireland (49%) together Portugal and Austria, both with 45% are those that show a higher average proportion of life-time settled in the same home.

This graph reveals a differentiated position of a former group of countries characterized by strong intra-grupal homogeneity in the average proportions and a significant distance with the rest of the EU15.

[47] The proportion of life-span is calculated considering the time that has passed since the person was born, measured in years.

Figure VI.31. Average proportion of life-time living in the same home and standard deviations by country (%), selected years 2004-2012.



Note: EU15 population aged 65 and over

Source: SHARE w1, w2 (Ireland), w4 (Portugal), EU SILC 2007 (Luxembourg and United Kingdom)

This division can be interpreted as a reflection of the influence that residential systems[48] existing in Europe have had on the duration of elderly residential trajectories. The housing tenure structures (strong rental markets vs. the omnipresence of home ownership as tenure) and the scope of public policies have been the factors that have driven European residential systems to favour mobility, as in the case of Northern countries, or stability, mostly in Southern Europe. In the case of Northern countries, they present a more dynamic residential system, in which the rental market is a real alternative to home ownership that is also supported by public investment (Gibb 2002). On the contrary, in Southern Europe, the ample predominance of home ownership to all ages together with (or as consequence of) a poor development of rental markets have incentivised the stability (Allen et al. 2004). Figure VI.31 also reflects how the internal variability is fairly similar and high among countries, as shown by the high standard deviation.

Table VI.29 shows the same indicator, the average of life-time lived in the current home for the elderly residing in the EU15 countries[49], but disaggregated by age and gender. No significant gender differences in the length of residential permanence can be discerned. Older males and females present very similar results, differing only in Portugal (for the group 65-79 a 5% of

[48] The idea of residential system can be defined as a scheme of interrelations between contexts which explain the interplay among different dimensions of housing phenomenon. The idea of residential system can be defined as a scheme of interrelations between contexts which explain the interplay among different dimensions of housing phenomenon. Boelhower and Heijden made a useful scheme, in which the macro factors (economical fluctuations, demographic trends, political measures, etc) interplay, defining the housing profile of each society (Boelhouwer, P.and H. Van der Heiden. 1993. "Housing policy in seven European countries: The role of politics on housing." *Journal of Housing and Built Environment* 8(4):383-404.).

[49] With the exemption of Finland which does not have available data.

longer duration of females) and Germany (in the 80+ group males have remained an average of 12% more of life-time in the same dwelling).

Table VI.29. Mean proportion of time-life residing in current dwelling by age group (%), EU15 countries.

	AT	BE	DE	DK	ES	FR	EL	IE	IT	LU	NL	PT	SE	UK	EU15
Male															
65-79	46	41	40	32	43	36	39	48	44	45	30	45	31	31	39
80+	41	43	47	24	44	43	47	56	50	48	27	47	30	33	41
Total	43	42	44	28	44	40	43	52	47	46	29	46	30	32	40
Female															
65-69	47	40	40	27	44	39	43	44	45	42	29	50	29	32	39
80+	45	42	35	26	43	40	43	55	50	43	23	50	25	30	39
Total	46	41	38	26	43	40	43	50	47	43	26	50	27	31	39
Total															
65-69	47	41	40	29	44	38	41	46	44	43	30	48	30	32	39
80+	43	42	41	25	43	42	45	56	50	46	25	48	27	31	40
Total	45	42	41	27	43	40	43	51	47	45	27	48	29	32	40

Source: SHARE w1, w2 (Ireland), w4 (Portugal), EU SILC 2007 (Luxembourg and United Kingdom)

In general terms, women over 80 years old have lived a lower proportion of adult life in their dwellings than males. These results are, once again, a reflection of the '*feminisation*' of older-old transitions to residential care due to their higher life expectancy, a phenomenon appreciable in countries where institutionalisation is a fairly extended residential alternative for disabled elderly as UK, Sweden or Netherlands.

VI.3.1.3. The moment of settling down

Keeping in mind the results presented in previous section, the high proportion of time that older Europeans have been residing in their homes makes to presume that the moment in which they accessed them is situated fairly back in time.

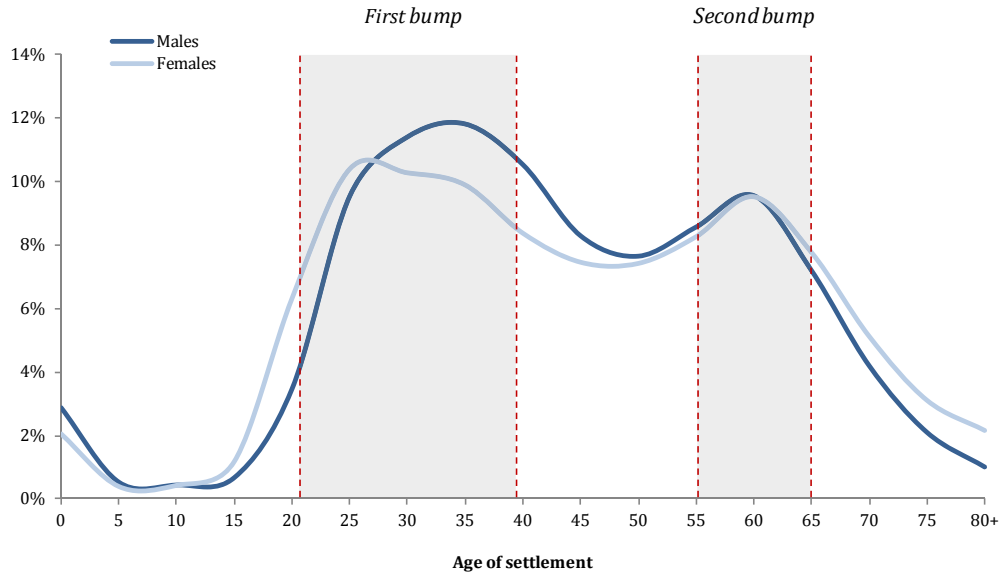
The distribution of the ages in which older Europeans settled down (Figure VI.32) reveals that the moment they start to live in the dwellings they occupy today took place in two major periods of their life course: during early adulthood and in the years prior to reaching old age. Both periods are indicated in the figure by a shadowed area, labelling the former moment as "first bump" and the second moment as "second bump".

The first bump outlined by the elderly settlement rates corresponds to those that presents the longer residential trajectory characterized by living in the same dwelling since early adulthood. The graph shows how the trend increases abruptly around age 15 for both sexes, although with a higher intensity in the case of females, reaching the maximum percentages between ages 20 and

35. Older women show a pattern of settlement that situates the trend of access few years before than males. The peak at which older women began living in their current residence is fixed around 25 years, while for men this occurs when they were around 35 years old, although both sexes present a fairly similar percentage of settlement in theses ages, between the 10% and the 12%. Gender differences in the age of first marriage are one factor that explains this gap in younger ages.

The young adulthood is a biographical period characterized by high mobility rates initiated when leaving the parental home and prompted by a blend of factors that encompass family formation processes and a progressive increase of household incomes. Subsequent events as the birth of children or upward work mobility act as *enhancers* of residential movements when they set off new situations (as increase of household size) or provide higher resources to improve living conditions (Feijten 2005). When older cohorts of Europeans were in their younger adulthood, the biographical calendar of individuals was more standardized due to more rigid social norms that limited the individual decisions about the pace and the path of self-biography. Leaving the parental home, marriage and childbearing were chained events that happened rapidly and close in time (González-Puga 2004a). Part of the height of the first peak that, as the Figure showed started to decrease at age 35. This is due to the mobility caused by household formation and growth in household size in order to adapt the domestic space to the changing needs. Furthermore, advances in the work career favours residential mobility in young adulthood due to the progressive increase in incomes that permits investing in a new dwelling to improve living standards, specially the transition to home ownership.

Figure VI.32. Distribution of ages in which elderly settled in current home by gender, EU15 countries.



Source: SHARE wave 1, 2 and 4. EU SICL 2007 for UK and Luxembourg

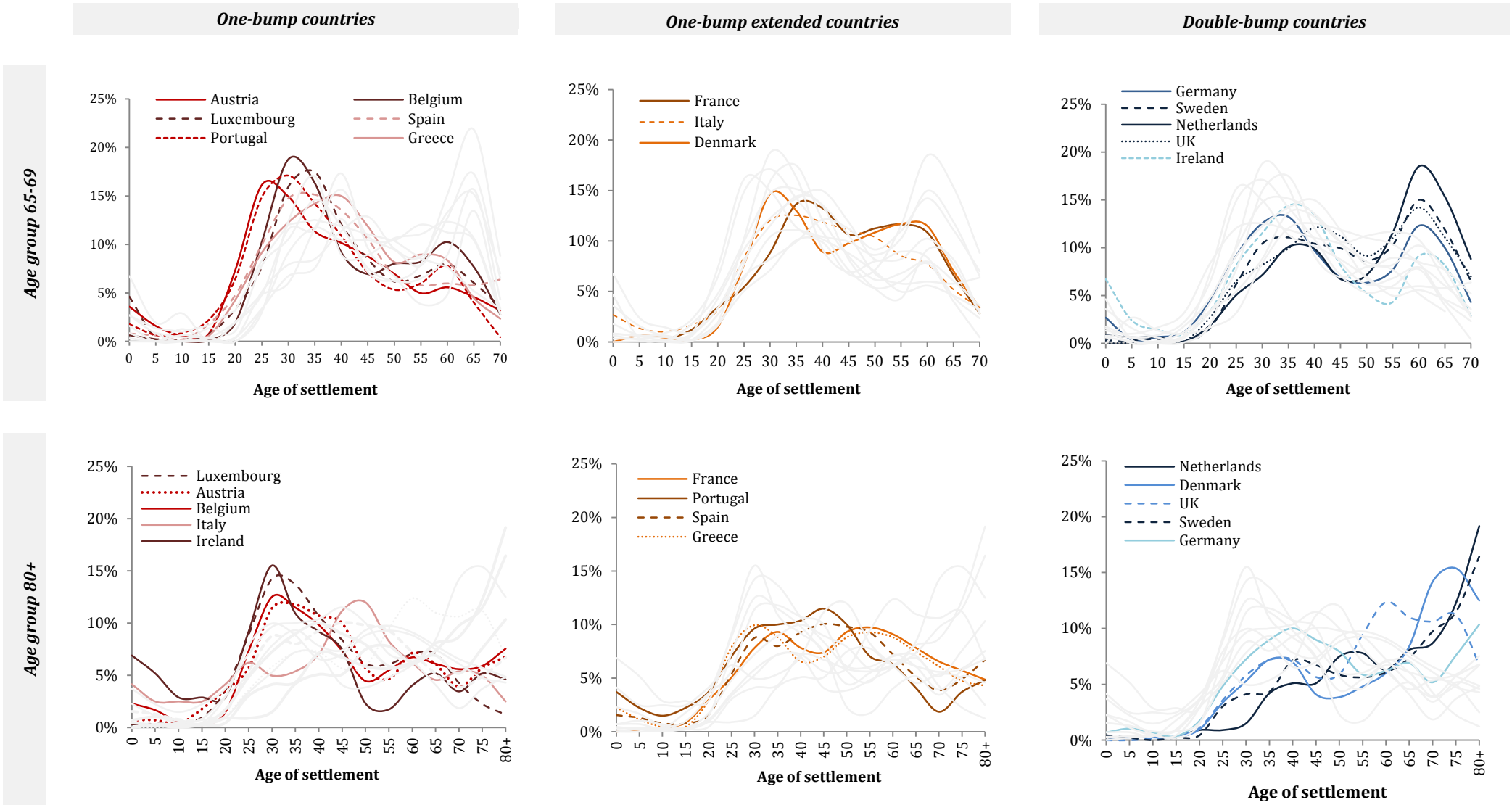
There is a second main period when elderly Europeans settled down, i.e., around the years that mark the threshold towards old age. Between age 55 and 65, the distribution of the ages in which accessed to current dwelling start to rise up again describing a new bump, this time less pronounced than the former one. This second rise corresponds to those elderly people who installed in their current home in the beginning of old age. As has been mentioned before; change in the daily routines, the increase in leisure time or the reduction of household size are situations experienced during this stage of the life course that caused more than 8% of elderly to start living in the place they occupy today at the age of 60. This second settlement peak reflects the elderly mobility and presents a more similar age-profile between sexes than during the younger period of family formation.

Given the diversity of residential systems in Europe, it is worthwhile analyzing the distribution of the age in which older people started to living in their current dwellings by country, differentiating by age group. As the data are right-censored, the distribution is affected by the number of years lived in the accommodation, due to younger elderly have more probabilities to move in the future than the older. For that reason, the distribution of the age at the last residential move of the lower (65-69) and the upper age group (80) is shown for each country.

Figure VI.33 shows a classification of the three main types of profiles of elderly housing trajectories in Europe, according to the life period in which the settlement intensity of older cohorts was higher. The first profile corresponds to those countries in which elderly display a long-term trajectory of residential permanence as many accessed their dwellings in young adulthood. The countries that show this type of profile have been labelled as *one-bump countries*.

The second profile is denominated as *double-bump countries* and gathers those countries in which a second peak is observed around retirement age that is higher than the first. There is a third profile that mix the prior two characterized by one extended bump that comprises the peak of settlement in young adulthood that is extended until older ages. This profile, named as *one-extended-bump* outlines a curve that comprises ages from 20 years old to almost 65. In the younger group of elderly the countries displaying “one-bump” pattern are Austria, Belgium, Italy, Spain, Portugal and Greece, all of them countries with high percentages of owner among older population and low mobility rates in old age. That explains why the bulk of the settlement ages are concentrated around young adulthood. Looking at the older-old group (80+), it observed how the ages of settlement are soften and the first bump it is less marked, although still visible. In older cohorts, Spain disappears as one-bump country and it is Ireland which follows this pattern. In the second cluster of countries, denominated as double-bump countries, the moment of access was also located in young adulthood but more markedly in the beginning of old age.

Figure VI.33. Share of age of installation in current accommodation



Note: Data from Finland not included in any of the two sources.

Sources: SHARE wave 1: Austria, Germany, Netherlands, Sweden, France, Spain, Greece, Italy, Belgium, and Denmark. SHARE wave 2: Ireland. SHARE wave 4: Portugal. EU SILC 2007: Luxembourg and UK.

The second bump is a profile displayed by these countries with higher mobility rates in old age, a distinctive feature of some Western and, above all, Northern European countries (Andersson and Abramsson 2011). The younger cohorts of elderly (65-69) from Sweden, Germany, Netherlands, and UK are the most representative examples of this trend, where the proportions of elderly who moved into their current home during the second period, around the onset to old age, exceeded those who did so in their early adulthood. The same tendency is observed in the group of older-old (80+), which present a settlement distribution that increases with age. The mixed profile denominated as "one-extended-bump" shows that the space between the two bumps is not well defined. The most representative country of this trend is France and suggests that the mobility rates of elderly have maintained relatively constant from age 30 to 65.

VI.1.2. Determinants of residential stability in older ages

Empirical research on the factors that shape residential decisions in old age has often utilised statistical models to assess factors related with the probability of experiencing relocation. The variety of techniques has been diverse; from Logistic Regression Models to Event History Analysis, these statistical procedures have used dichotomous variables to contrast mobility with remaining at the same home. Above all in Economics, Discrete Choice Models has been a powerful tool to evaluate which variables increases or decreases the likelihood to move in old age. Some good examples of its application are the works of Angelini and Laferrère (Angelini and Laferrère 2011) or Bonnet et al. (2008)

Given the theoretical-empirical vacuum, the aim of this analysis is precisely use the discrete choice model to reverse the focal point from mobility to permanence, shedding light on the determinants that shape the choice of stay to live independently in later life.

VI.3.2.1. Data and Methods

This analysis is drawn from data from SHARE in its longitudinal format. The fact that this survey has been designed as a panel allows identifying those who changed their place of residence between the waves 1 and 4 and who do not, considering also who move in wave 2[50]. The period that cover this panel survey comprises from its first wave (Wave1, 2004) to its last available round (Wave 4, 2011), covering a period of 7 years. Recalling to the sources chapter (Chapter II), the time passed between SHARE waves is not the same for all the countries neither between waves. The flexibility of the source in this aspect impedes to determine an exactly period shared by all countries, that in a fairly good approximation this research enclose from 2004 (the year in

[50] Wave 3, SHARELife, is explicitly excluded because it is not designed to serve as panel wave, but as retrospective survey.

which were started the field work of wave 1) to 2011 (the last year in which field work of wave 4 was finished for the selected countries).

The pace of implementation of SHARE conditions the number of countries that can be included in the analysis. To select only those individuals that can be traced across the three panel waves of SHARE reduce them to nine: Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, and Belgium. The aim of this decision has been homogenise the time of exposure to residential change in all of the spatial units. Therefore, EU15 countries added (Ireland) or deleted (Greece) in wave 2 or wave 4 (Portugal) are excluded from the analysis.

As panel data, the attrition and censored effects must be taken into account. On the one hand, data are right-censored due to residential choices are only registered until a point in time established by wave 4. Then, as it is ignored if the individuals stay or move in the future, the results must be interpreted carefully. Table VI.30 contains the number of individuals that have remain in the sample across waves by country and type of choice, to stay or to move, once eliminated those that cannot be traced across the panel (attrition effect).

Table VI.30. Description of the longitudinal sample (number of individuals that remain in the panel during the studied period)

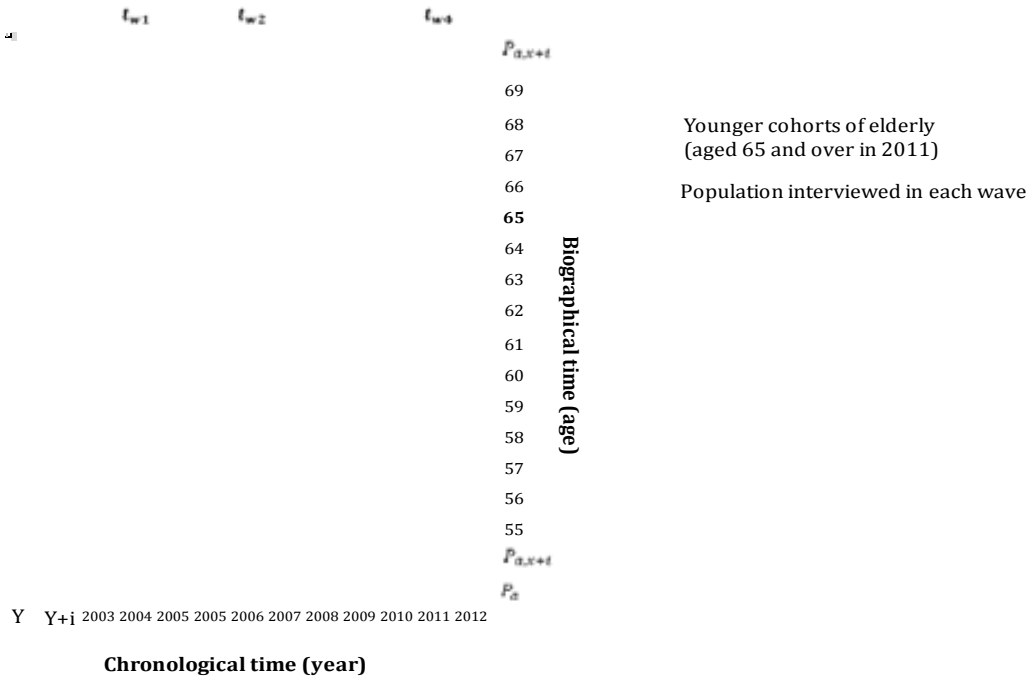
	t_{w1}	t_{w2}	t_{w4}		$t_{w1:w4}$	
	Initial sample	Move	Move first	Move second	Permanence	Move
Austria	310	4	11	1	294	16
Germany	324	8	7	5	304	20
Sweden	509	33	37	19	420	89
Netherlands	383	13	27	4	339	44
Spain	349	11	7	7	324	25
Italy	518	14	7	4	493	25
France	529	7	23	6	493	36
Denmark	340	40	13	10	277	63
Belgium	692	19	24	10	639	53
Total	3954	149	156	66	3583	371

Note: initial population aged 58 and over Source: SHARE, waves 1, 2 and 4.

Furthermore, it has been necessary to open the sample age-range with the objective to reduce the attrition effects as panel data. Despite along this work the older population is considered those aged 65 and over, in this case the sample is composed by some individuals under this age threshold. The criterion has been to keep those that in Wave 4 (last available wave) were aged 65 and over, which supposes that the monitored individuals were aged 57 and over at the start date of the panel (Figure VI.34). The motives to extend the age range have been both theoretical and

methodological. On the one hand, it has been shown that residential movements among private settings in old ages are concentrated around the retirement moment, showing many times an anticipatory behaviour that brings forward the residential movement (Angelini and Laferrére 2008), which makes it necessary to expand the age range of the sample to obtain sufficient cases in both categories of the dependent variable.

Figure VI.34. Scheme of age-range covered by the selected sample



VI.3.2.2.1. Probit Regression Model

Probit models are used to assess which factors influence elderly to opt to remain in their home as strategy to an independent living. This type of non-linear method was first introduced by Bliss (1935) and later developed by Finey (1952) to model regressions with binary and discrete dependent variable. The two categories of this dependent variable assume the *Bernoulli probability distribution,* which takes the value of 1 in the case of success and 0 in case of failure. The underlying idea is that both categories are mutually excluding, if ones occurs the other cannot be materialised, and exhaustive because the categories count on all the possible outcomes (Evans, Hastings and Peacock 2000).

Probit regressions belong to the so-called Discrete Choice Models, a family of methods that takes its name to the fact that the categories comprised by the dependent variable are viewed as the outcome of an individual choice between two alternatives. In its development, probit analysis assumes the existence of a latent (unobserved) variable y_i that could be interpreted as the

likelihood that an individual has to experience the success event. The alternative responses are formulated as follow:

$$y_i = \mathbf{1} \text{ if } y_i > 0$$

$$y_i = \mathbf{0} \text{ if } y_i \leq 0$$

The calculation of this latent variable y_i is expressed by the function:

Equation VI.1

$$y_i = \beta_0 X + \mathcal{E}, \mathcal{E} \sim N\,(0, \sigma^2)$$

Where β is a K-vector of the parameters X is a vector of the explanatory variables and $\mathcal{E} \sim N(0,1)$ is the random error. The notation of probit models can also be summarised by the expression:

Equation VI.2

$$Pr\,(Y = 1|X) = \Phi(X_i'\beta) + \mathcal{E}_i$$

where Φ is the cumulative density function of the standard normal distribution that not impose any restriction on the linear index $X_i'\beta$, including it into the required unit interval [0,1] (Winkelmann and Boes 2006)

Probit models are calculated by means of the Maximum Likelihood Estimation, in contrast with the regression models that are estimated by the Least Square Estimation. The Maximum Likelihood function is the probability that y_i adopt the observed value for each element of the sample (β) conditioned to the X values. This method assumes that the probability of y_i presents the observed values depends on the β values and if the event is produced or not. The Maximum Likelihood estimation can be written as:

Equation VI.3.

$$L(\beta) = \prod_{Y=1}(Pr = 1) \prod_{Y=1}(Pr = 0)$$

This means that the probability that a group of observations takes the observed values of latent variable y_i is equal to the product of the probabilities of each observation.

Which distinguishes probit model from other discrete choice methods as Logit, is that probit make the assumption that the probability distribution of the dependent variable follows a normal standard distribution; meanwhile Logit assumes the logistic probability distribution.

Rather, applying the chain rule of differentiation, we obtain the marginal probability effect (MPE) that for binary explanatory variables could be expressed as:

Equation VI.4.

$$X_j = \Phi\left(X_{1i}^T\beta\right) - \Phi\left(X_{0i}^T\beta\right)$$

Where the value of $\Phi\left(X_{1i}^T\beta\right)$ when Xij = 0 and the other repressors equal fixed values minus and when $\Phi\left(X_{0i}^T\beta\right)$ and the other repressors equal the same fixed values.

VI.3.2.2. Stability rates of older Europeans

Empirical research has demonstrated that residential stability rates in old age are fairly high compared with those showed by individuals in younger life stages. As Angelini and Lafèrrere (2011) showed in their study about residential choices using SHARE panel data (Waves 1 and 2), annual rate of residential mobility of elderly Europeans aged 50 and over is scarcely low, namely less than 2%. The rates range among countries from 4% of annual elderly who move in Sweden to an annual mobility rate of barely 0.3% in the case of elderly Greeks. Using the same SHARE data, this analysis calculates the rates of permanence and mobility of elderly Europeans in the period established by the panel, but this time only selecting the individuals that in wave 4 were aged 65 and over as target population (aged 57 and over in the beginning of the panel).

As Table VI.31 shows, the percentage of elderly that remained stable during the studied period reach the 95% of average, which means that a vast majority of the older population was interviewed in the same home in the three waves of SHARE. Under the discrete choice theory, this can be interpreted as the 95% of individuals present in the sample were "choosing" to stay instead of moving.

Observing these results by country, it is detected how the effects that different national profiles related to residential patterns persist. Southern and Western-Central countries present percentages of permanence that exceed the total average, meanwhile the Northern countries observe lower levels, especially in the case of Sweden (90.5%) and Denmark (91.3%) where the proportion of elderly that change their place of residence is around 10%.

Table VI.31. Stability/mobility rates of older population for the period 2004-2012, by country and age group (%).

	Younger than 65		65-79		80+		Total		
	Stability	Mobility	Stability	Mobility	Stability	Mobility	Stability	Mobility	AMR[1]
Austria	96.1	3.9	98.5	1.5	95.9	4.1	96.6	3.4	1.2
Germany	95.6	4.4	95.6	4.4	100.0	-	95.9	4.1	1.1
Sweden	89.2	10.8	92.6	7.4	93.6	6.4	90.5	9.5	3.1
Netherlands	94.7	5.3	94.4	5.6	91.2	8.8	94.6	5.4	2.5
Spain	95.8	4.2	97.7	2.3	94.5	5.5	96.1	3.9	1.5
Italy	96.4	3.6	98.3	1.7	100.0	-	97.4	2.6	0.7
France	94.8	5.2	96.8	3.2	100.0	-	96.0	4.0	1.0
Denmark	90.8	9.2	92.0	8.0	87.3	12.7	91.3	8.7	3.7
Belgium	96.9	3.1	96.2	3.8	95.8	4.2	94.8	5.2	1.4
Total	94.6	5.4	95.9	4.1	95.4	4.6	95.3	4.7	1.8

Note: AMR[1]; Annual Mobility Rate for each year of the period between wave 1 and wave 4 of SHARE.

Source: SHARE waves 1, 2 and 4

The analysis of these results by age group and country reveals that stability is mainly concentrated in the first years of later life, in the so-called Third Age. Viewed in terms of life course, the higher rates of mobility showed by the results coincide with those life phases of later life in which relocation increases. In late adulthood, around the period that precedes old age, an increase of mobility is produced that is triggered by retirement and children leaving. This is why the stability rates in these age groups are slightly low compared with those of the age group 65-79 years for the majority of the countries, with the exception of Sweden. A similar effect is shown by the data of the upper age group, the population aged over 80. In the more advanced stages of life, an increase in mobility is triggered, above all, by a severe decline in health status that often implies a transition to collective homes or co-residence with care. However, the SHARE panel data does not trace those elderly living in nursing homes, reason why this increase cannot be attributed directly to transitions to care institutions. The fact that countries such as Germany or France present a stability rate of 100% confirms that movements among private settings in this age are quite unusual, and normally are motivated by the search of care, as a result of seeking relocation in the household of relatives or in housing complexes specifically designed for the needs of the oldest-old, events that this source also collects.

VI.3.2.3. Discrete choice model of permanence

To identify the factors that shape the permanence in a private dwelling during old age, a Discrete Choice Model of permanence was run using the probit method. This type of analysis assumes the existence of a latent (unobserved) variable y_i that in the analysis is interpreted as the likelihood that an individual display a stable residential pattern during the old age years, i.e. permanence in home.

i. Specification of the model

As probit models require, the dependent variable is binary and is codified in discrete values (0, 1) that identify the two alternative residential choices to ageing at home; permanence (reference category) and mobility. Following the notation exposed in the previous section, the categories of the dependent (unobserved) variable are:

$y_i = \mathbf{0}$ if $y_i > 0$	To remain at home
$y_i = \mathbf{1}$ if $y_i \leq 0$	To move towards another private setting

Table VI.32. Description of explanatory variables

	VARIABLE	Type of variable	N	Min.	Max.	Mean	Std. Dev.
GROUP A (t_{w1})	Age	Categorical	7145	1	3		0.498
	Gender	Categorical	7145	1	2		0.604
	Years in education	Continuous	7141	0	25	9.543	4.708
	Marital status	Categorical	7137	1	4		1.169
	Household composition	Categorical	7145	10	40		6.637
	Type of tenure	Categorical	4958	1	3		0.585
	Years in accommodation	Continuous	5051	1	90	2.650	1.639
	Dwelling size (nº rooms)	Continuous	5089	1	25	4.163	1.667
	EU15 group or country	Dummy	7145	0	1		0.455
GROUP B (t_{w1}: t_{w4})	Marital status change	Dummy	7145	0	1		0.221
	Household size change	Dummy	7145	0	1		0.796
	Health status change	Dummy	7145	0	1		0.814
	IADL limitations change	Dummy	6966	0	1		0.631

At this point, it is important to remind that the categories that divide the dependent variable allude to residential strategies exclusively framed in the private domain. This means that both

permanence and mobility are conceptualized as two behaviours that share the same final goal, namely ageing at home. Under this perspective, the probit model evaluates the factors that shape the residential (revealed) choices made by elderly omitting from the analysis those movements to institutions or whatever type of full-assisted care accommodations.

The independent variables introduced as explaining factors collect two types of information. On the one hand, the Group A variables provides information on the characteristics of the individuals at time point t_{w1} corresponding to the first wave of SHARE. On the other hand, the Group B variables gives information about the changes that occurred in the period covered by the panel survey between point of time t_{w1} (SHARE, Wave 1) and t_{w4} (SHARE, Wave 4). According to this, the probit model to adjust using the equation VI.1, it could be expressed as:

$$Pr(permanence = 1) = \Phi\left(\beta_0 + \beta_1 age + \beta_2 gender + \beta_3 education + \beta_4 marital\ status + \beta_4 marital\ status_{change} + \beta_5 household + \beta_6 household_{change} + \beta_7 health_{change} + \beta_8 IDLA\ limitations_{change} + \beta_9 tenure + \beta_{10} duration + \beta_{11} space + \beta_{12} EU15_{region}\right) + \mathcal{E}_i$$

ii. Results

Four models have been run, introducing to each one a set of variable that introduce a particular dimension: the first contains the demographic features that serve as control variables, the second adds the information about the individual and social resources, the third introduces the residential variables, and the fourth model adds the information about the spatial dimension by means of a cluster of European regions. Regarding the demographic characteristics, probit outcomes exposed in Table VI.33 show how gender does not increase the probability to remain in the home in any of the probit models. Despite sex differentials in longevity makes that women are more prone to spend more time in their accommodation and their economic disadvantage compared to males (DeSantis et al. 2008), it means that they have less financial resources disposable to plan a residential move. The effect of biological age on residential stability, however, present a positive influence on the stability pattern: to belong to the middle age group of elderly (65-79) increases the probability to stay compared with the younger cohorts of elderly (<65) by a 3%. These results go in line with the literature that states that the more mobile years from mature ages in advance are those around the ages 50 and 59, when retirement acts as a powerful trigger event of residential movements. It is important to highlight that results for the oldest group (80+) are not significant, despite that mobility in old age increases. This is because this analysis only considers the movements between private settings, and given the close link that age has with health status in advanced ages, it is expected that their transitions are to a nursing homes or hospital (Castle 2001).

Table VI.33. Discrete choice model of residential permanence in old age (marginal effects).

	Model 1			Model 2			Model 3			Model 4		
	Coeff		**S.E.**	**Coeff.**		**S.E.**	**Coeff.**		**S.E.**	**Coeff.**		**S.E.**
Gender												
Male	Ref.			Ref.			Ref.			Ref.		
Female	-0.01		0.01	0.00		0.01	0.00		0.01	0.00		0.01
Age (t1)												
< 65	Ref.			Ref.			Ref.			Ref.		
65-79	0.03	***	0.01	0.04	***	0.01	0.03	**	0.01	0.03	**	0.01
80+	0.02		0.02	0.04	**	0.02	0.02		0.02	0.03		0.02
Years in education	0.00		0.00	0.00	*	0.00	0.00		0.00	0.00		0.00
Marital status (t1)												
Married				Ref.			Ref.			Ref.		
Never married				0.03	*	0.02	0.03	*	0.02	0.03	**	0.02
Divorced				0.00		0.02	0.01		0.02	0.01		0.02
Widowed				0.00		0.02	0.01		0.02	0.01		0.02
Change of marital status (t1:t4)												
No				Ref.			Ref.			Ref.		
Yes				-0.08	**	0.02	-0.08	**	0.03	-0.07	**	0.03
Household composition (t1)												
Ego alone				Ref.			Ref.			Ref.		
Couple alone				0.06	**	0.02	0.05	**	0.02	0.05	**	0.02
with others (mainly relatives)				0.08	***	0.02	0.08	***	0.02	0.06	**	0.02
Change household size (t1:t4)												
No change				Ref.			Ref.			Ref.		
Increase				-0.03	**	0.02	-0.04	**	0.02	-0.04	**	0.02
Decrease				-0.04	**	0.02	-0.04	**	0.02	-0.03	*	0.02
Health status change (t1:t4)												
No change				Ref.			Ref.			Ref.		
Improve				0.00		0.01	0.00		0.01	0.01		0.01
Worsening				0.02		0.01	0.02		0.01	0.02		0.01
IADL limitations changes (t1;t4)												
No changes				Ref.			Ref.			Ref.		
Decrease				-0.01		0.01	0.00		0.01	-0.01		0.01
Increase				-0.02		0.02	-0.01		0.02	-0.02		0.02
Tenure(t1)												
Owner							Ref.			Ref.		
Tenant							-0.07	***	0.01	-0.07	***	0.01
Rent free							-0.05	**	0.02	-0.07	**	0.02
Years in accommodation							0.06	***	0.00	0.04	**	0.00
Dwelling space							-0.01	**	0.00	-0.01	**	0.00
Group of countries												
SE-DE-NL										Ref.		
Others										0.06	***	0.01
N			5638			5513			4763			4763
LR chi2(4) =			20.89			97.72			160.16			206.64
Prob > chi2 =			0.000			0.000			0.000			0.000
Pseudo_r2			0.006			0.029			0.0565			0.073

***p < 0.000 ; ** p < 0.05 ; *p < 0.1

Note: Probit model. Dependent variable "Individual have remained/moved from their private dwelling in the period between wave 1 and wave 4". The estimated coefficients are marginal effects.

Regarding to the variables that integrates the cluster of resources factors, individual and social, it can be seeing the first effects of *change* as stability constraint factor. Marital status and living arrangements are influence the decision of remain in home, mainly in a sense of support and resources. The results point out that not to have been married increases the probability of residential permanence between wave 1 and wave 4 compared with those who were married in the beginning of the panel.

Also the elderly who changed their marital status during the studied period are less prone to have chosen a stable strategy to ageing at home (8%). The bulk of these changes in marital status correspond to those elderly that have lost their partner while the panel was carried out. Widows and widowers are less likely to experience residential stability than couples during old age, especially in the period subsequent to the death of the spouse. Two trigger mechanisms limit residential stability in the case of widowhood. On the one hand, the death of the spouse means the loss of the informal care provided by the spouse. On the other hand, it also means a decrease in household income (Bonnet, Gobillon and Laferrere 2008).

Household composition, the existence of children or other relatives, is also positively associated to a more stable residential behaviour in later life. Despite the fact that co-residence between generations does not necessarily imply support from adult children to older parents, sometimes it is a good indicator of family solidarity in financial and functional terms (Tomassini and Glaser, 2007). In this line, results of living arrangements variables indicates how living with others, either with a partner or other relatives, increase the probability (6% and 8% respectively) of displaying a stable strategy compared with those that were living alone in first wave. This is because elderly residential choices are shaped not only by individual needs and resources, but also by the household and family needs and resources (van Wissen and Dysktra, 1999). As noted by Mulder (2007), the fact that the family is the largest care provider at older ages amplifies the dependence of the elderly on their relatives to make decisions about the place where they prefer to grow old. The assistance provided mainly for relatives, but also by friends or neighbours, supply to older households informal resources to remain stable.

As occurred with the coefficients of the marital status variable, also the change of household size reduces the probability to remain in the same accommodation. Regardless the familiar unit increases or decreases, older population that have experienced some kind of variation in the household composition have 4% less probability to have chosen permanence. Again, the role of living arrangements as a relevant source of intra-household support that favours the sedentary strategies of older population, above all for those that suffers from impairments or disabilities. However, this does not seem to be the case, because individual resources, introduced as health variables in the analysis, are not significant in any of the four probit models. These results go in line with oldest age-group. Probably, the lack of association of health status variables (changes in

the perceived health and changes in the instrumental daily living activities) is due to the weight they have in the transitions to collective's homes and dependent supporting households are not captured by the data. Health status changes, above all health deterioration, conduce to a type of relocation is outside of the scope of this analysis.

The dwelling is a key element to understand the decision of the elderly to stay, and the type of tenure is probably one of the most cited factors that shape the residential choice, not only at older ages, but during the entire life course. Home ownership has been pointed out as one of the main "retaining" factors that favours the stable strategies, not only at older ages but at all ages (Helderman, Mulder and Ham 2004). To be an owner broadly determines stable residential behaviour to symbolise security, family and legacy (Sabia 2008: 4) when a dwelling represents a source of income and wealth for them during old age and for the future of their children. The results of the model support this line, revealing that to be tenant, subtenant or free renter of the accommodation decrease the probability of opting for a stable residential mode during the studied period comparing with owners.

The length of the residential trajectory also increases the probability to be a stayer in later life. As many years have remained the person in the same dwelling, more probability exists that this individual has remained between wave 1 and wave 4. The 'attachment to place' feeling has been identified as one of the most significant determinants that shape decisions about residential stability (Gilleard and Higgs, 2005: 128), which is cumulative and increases with age. The emotional link that older people maintain with their dwellings arises from the fact that most important life events take place in the domestic sphere, especially in the family dimension, such as the birth of children and childbearing (Clapham 2005). Moreover, the dwelling symbolises independence and autonomy in a psychological sense, extremely important in western cultures where dependency has strong negative connotations (Sixsmith and Sixsmith 2008). The effects of this immobility triggered by emotional reasons are quite contradictory, presenting both positive and negative outcomes on elderly well-being. To remain integrated in a well-known community provides older people with a sense of continuity that in many cases contributes to their independent living and social participation.

Inside the spatial determinants of permanence, those related to the macro level features of each territory are extremely important. Socio-historical context also influences the decision-making process. This is because housing is an asset that depends heavily on economic fluctuations, thus it is important to assess the effects that the historical moment has on the residential system in each territory, understanding the interplay of all factors that determine the dynamics of the housing market (Gurney and Means 1997; Boelhower and Heijden 1992). Therefore, the tenure status or housing type choices not only depend on individual needs or individual resources, but are also determined by the price and composition of the housing market (Clark, Deurloo and Dieleman

2003: 147). The type of welfare state and, consequently, the existence of public policies, also have a great impact on residential (im)mobility trends among the elderly population. The fourth model introduces the spatial dimension. Given the lower rates of stability of Northern countries, this cluster has been contrast with the rest of participating countries. As expected, the probability of residential permanence in the South and Western countries of Europe is the 6% higher than in the Northern region.

VI.2. Synthesis of the chapter

The development of this chapter has been constructed by two main objectives established in the introduction. The first was to measure the length of residential trajectories of elderly Europeans, assessing the convergences and divergences among countries. In this respect, it can be said that the **differences of settlement duration of elderly Europeans follow two major trends** that rely on the general profile of each country in term of stability/mobility. On the one hand, those regions that traditionally have presented more elevated mobility rates in the continent are those in which elderly present lower duration means as well. The most representative countries of this pattern are Denmark and Netherlands (both with an average of 27%), followed by Sweden (29%) and United Kingdom (32%). On the other hand, the countries with lower mobility rates, logically, present higher duration means. Ireland is the country where older population maintain in the same home during a longer period of life (51%), followed by Portugal (48%) and Italy (47%).

The second objective has been to identify the determinants that shape *permanence* as revealed choice, testing the effects that changes in later life (those experienced in family and health domains) has on the probability to choose this kind of ageing-at-home strategy. The most important finding has been that biographical **changes in family sphere**, both marital status and living arrangements, **act as constraint factor of stability** in later life as strategy to live independently. The results suggest that the baseline situation of individuals is not so important in determining the length of time that the elderly remain in their home. That is, permanence is favouring those trajectories that do not undergo substantive transformations in life domains or have sufficient resources to face them. Meanwhile, when an older person who has to deal with changes such as widowhood has to evaluate the new situation, different options to those from the present (i.e., stability) have to be considered. In doing so, permanence seems to be the type of behaviour that is associated with a certain inertia, which used to be maintained on the condition that sudden events should not “shake” the day-by-day reality of the person.

Chapter VII. SUPPORT MECHANISMS TO LIVING INDEPENDENTLY AT OLDER AGES

VII.1 Introduction

The existence of some kind of support that enhances older people to remain at home despite functional impairments is an intrinsic assumption of the ageing in place definition. In later life, counting on additional assistance to manage the every-day activities, either one-off or repeatedly for an undetermined period of time, seeks to compensate the loss of competence that ageing process implies. The final purpose of the care received at home is to enlarge and prolong the duration of independent living as much as possible, guaranteeing a minimum of life quality to the older person. Also at a macro level, understanding how the support at home for older individuals is organised is an essential issue due to that, ageing-in-place policies have transformed the domestic sphere into the main space of care and assistance in later life.

Care, more than an activity, is a comprehensive experience that evolves as individuals transform their needs, that is the reason why its study can be approached in multiple ways. As holistic concept, its signification varies depending on the caregivers, the cause of the support needs, its duration, the direction of exchange flows and the places where it is provided. In this case, the chapter approaches support in later life focussed on the nature of the care provided inside the boundaries of home. The aim is to explore the factors associated with receiving informal and/or formal assistance in the domestic sphere, which is from unpaid or paid caregivers, with the objective to assess how it shapes the duration of independent living; i.e. to relocate in a nursing home.

The first part of the empirical analysis examines the influence of the following two characteristics have on receiving care at home; **health status profile**, which determines the older person needs to establish the intensity of the required support and the **composition of older people social network**, which highly conditions the opportunities that older people have to obtain care at home. The second part analyses up to what extent both aspects prevent institutionalisation and enlarge the duration of ageing in place. The hypotheses that ground this chapter are:

i. As individuals grow older, the probability to demand some type of care increases because of the effect of biological ageing.
ii. This support tends to be provided by informal sources; mainly relatives.
iii. Family is the extensive care provider at home for older adults, but with different intensity depending on the country.

Given the cross-national perspective of this work, spatial comparisons among cluster of countries inside Europe are carried out in order to test similarities and differences. A descriptive overview about the implementation of ageing in place policies and the investment of European countries on Long-Term Care (LTC) has been elaborated as an introduction to statistical analysis and as a basis that justify the classification of European regions used in the analysis.

The question that this analysis aims to respond is *what are the health profiles associated with each type of home care (informal and formal) and to what extent the composition of social networks affect the provision of each type of care?* Due to the different welfare regimes in Europe, which conditions the relationship among informal-formal care (Bolin, Lindgran and Lundborg 2007; Bonsang 2009) the third question is: *How health status and social network composition affect the provision of informal and*?

VII.2 Background

Care is a multi-dimensional concept under which those practices that contribute to maintain or recover the well-being of individuals are composed on. Receiving support is often concomitant to ageing in place and, probably, the factor that most contributes to obtaining it (or attaining it with a higher level of satisfaction), above all in advanced later life. The augment of the population living independently in their homes has converted the home in the main setting for support provision (Wiles 2005).

To ground this analysis regarding the mechanisms that allow ageing at home, what the concept of care refers to is briefly exposed as well as its link with the domestic space.

VII.2.1. The concept of care

As an activity, care refers to the individual and social practices destined to endure the survival of individuals across lifetime. As an object of research, care is a broader concept that encompasses places and relations that convert the fact to provide or receive support in an evolving experience. The origins of care as subject of study are rooted in feminist research, which seek to explore and revoke the factors that produce female's social inequality, has drawn the attention of its meaning. Care has been constructed as a gendered concept due to its provision and is mainly bounded in the domestic sphere, naturalising it as an activity to which females present more and better aptitudes, not only to assist to others, but also to take care of themselves. Also, welfare policies have contributed to this gendered vision of care, not only regarding the nature of the policies but also to the measures implemented, reinforcing the position of women as figure that ensures a stable family life (Milligan 2009).

Following the path initiated by feminist research, other disciplines as Geography has investigated the meaning of care in relation with its spatial dimension, wondering how spaces and individuals interact to conform the experience of care. The development of this line of research has utilised a set of reiterative dichotomies that, in opinion of researchers as Daly and Lewis (2000), has biased their actual scope. The contraposition of paid/unpaid care (Walters et al. 1996), if it is public or private (Cohen 1998), if it is provided or received, formal or informal, or the age of the individuals who receive it: children vs. elderly people are, in fact, parts of a same process. In reality, the awareness about these dichotomies being components of an entire experience has made the meaning of care evolve to the multidimensional signification that it presents nowadays.

The awareness about the economic dimension of care has supposed the visibility of care giving as a social concern, prompting the participation of structural forces in its supply. Welfare states have developed public policies that partially regulate the provision of an activity that until not so long ago was strictly private. One of the most cited attempts to systematise the concept of care in relation with welfare regimens was carried out by Daly and Lewis (2000). These authors elaborated a heuristic proposal on labour, responsibility and costs which they identify as key dimensions (despite the fact that they recognise that others can be identified). For Daly and Lewis to embody care as labour aims to link it to work activities, seeking for a similar status that stimulate the concern about the conditions under which they are carried out. The normative dimension of care is understood in terms of obligations and responsibilities, and the role of states in weakening or reinforcing the social relationships around it, emphasising the importance of the discourses associated to it. The third dimension of care is the cost. As an activity, care implies costs, both financial and emotional

Figure VII.35. Daly and Lewis' proposal of "social care" conceptualisation

	MACRO-LEVEL	MICRO-LEVEL
Conceptual reference	Division of care (labour, responsibility and costs) for children, elderly or ill adults between the state, the market, the family and community	The distribution of care (labour, cost and responsibility) among individuals within family and community and the character of the state support for caring and carers
Empirically indicated by	▪ The care infrastructure (Cash and benefits in kind) ▪ The distribution of provision between sectors	▪ Who performs the caring ▪ Who is the recipient of the cash/benefits in kind that are available ▪ Which kind of relations exists between the caregiver and receiver ▪ Under what economic, social and normative conditions is caring carried out ▪ The economic activity patterns of women of caring age
Trajectories of change	More/less: ▪ State ▪ Market ▪ Family ▪ Community	▪ An alteration in the distribution of caring activity ▪ An alteration in the identity of carers ▪ An alteration in the conditions under which caring is carried out and the nature of the State's role therein ▪ An alteration in the relations between caregiver and receiver

Source: Daly & Lewis 2000: 287

Milligan (2009) situate the multi-faceted nature of care concept in the large diversity of landscapes and organisational *spatialities* that arise from the intersection of public/private and formal/informal dichotomy. That results into two inseparable dimensions: caring as material entity which allude to it as physical activity – labelled by Milligan as 'caring for'- and caring as emotional entity that represents the affective aspect of caring – labelled by Milligan as 'caring about'-. Caring as material entity implies a more specific view: it occurs in a concrete spatial-temporal coordinates.

Summarising, despite the fact that in this chapter care is approached using one of the most common dichotomies, formal vs. informal, this multifaceted nature of care and the multiple actors and places that intervene in its configuration should be kept in mind. The next section is focussed on exposing the characteristics of the central scenario of ageing in place experience, the home, and their link with care in later life.

VII.2.2. Home as care setting in later life

The outcomes of independent living depend on the relationship that older individuals establish with their living environment. That means that home plays a central role in achieving independent living not only as intimate space where private life occurs, or precisely because of it, but also as space of care. In this sense, besides being the tangible frame where individual relationships are undergone, places are subject of ongoing negotiation processes, which means changes over the time when different people give a signification to the same space (Wiles, 2005).

The extension of later life, and consequently the increase of the time that people are ageing at home, has multiplied the number of scenarios where care is provided. Nowadays, the assistance to elderly people in case of frailty is distanced from the traditional institutionalisation model. Day care centres, clubs, day hospitals or the own home are some of the examples of the new locations where care to older adults is now supplied. Collectives homes are normally considered in an anterior phase to pass away, when the impairments or illnesses seriously damage the capacities of the older person (Laferrère et al. 2013).

This shift in which the traditional care institutions placed have blurred their physical boundaries has been denominated as extitution. The idea of extitution implies the des-localisation of care and the redefinition of the places of assistance in a process that conduce to the virtualisation of the care institution (López-Gómez and Tirado 2004; Vitores 2002). In this process, new ITC technologies or call-centre operators play a main role connecting places and people, creating a network between the outpatient and the care worker, and diversifying the form, the speed and care. It is the de-territorialisation of care but not the de-materialisation of institutional objectives (Milligan 2003, 2009). The extitution of care have transformed the meaning of the own home both for older people and their caregivers opening the private space to new actors as formal and informal caregivers and involving a re-ordination of public and private places.

Thus, to convert the own home in a place of care require a re-organisation of the space many times, introducing new structural adaptations in the dwelling and the apparition of new actors as formal caregivers.

VII.2.3. The link between formal and informal care at home

A recurrent object of research on the support received by older people has been the relationship established between informal and formal care. The central debate has wondered if these two types of support are substitutes or complementary activities, mainly referred to the care provided by families and those provided by the structure (States and the market) (Bolin et al. 2007; Bonsang 2009; Kemper 1992; Rogero-García 2009; Van Houtven and Norton 2004). This is not a minor question because of the implications that this provision of care have for individuals

and families, but also for the public expenditure. The empirical results pointed out that it depends on the purpose to what the care is required for; as Scanlon (1992) showed the difference lies in that health care is mostly utilised with the aim to restore or maintain a good health status, meanwhile long-term care seeks to achieve a more general well-being and quality of life.

Some findings pointed out that the assistance provided by professionals and public services replace those offered by the social networks. For instance, the increase of hours of informal care, decrease by 10% the probability of receiving formal care at home (Bolin et al. 2007). In similar studies carried out with United States data, the findings follow the same line. Van Houtven and Norton (2004) find out evidence of this substitutory relationships among types of care at home; to be receiving informal care act as substitute.

Regarding to the European differences, the Bolin (2007) study identifies different modes in which formal-informal care is related and determined by the way in which family relationships are constructed in each region and the availability of home-care professional services. In Western Europe the substitutive effect of both types of support is relaxed in comparisons with southern countries, where they have a really replacement nature. In strong-family societies, i.e. Southern Europe, the tight ties between family members also reflect as the deficient role of the state. Rogero-García (2009:395) identifies three models of informal-formal care linkage.

- *Model of supplementary care*, in which relatives are those who assume the bulk of elderly care, being formal care substitute, temporal or punctual, informal care.

- *Hierarchical compensatory model,* is based on a scale of preferences about caregivers by those who are in need. The spouses or partners would be in the first place, in the second place the children and, in the last place, the formal carers. This model can be combined with previous (model of supplementary care) when the lack of informal caregivers drive to a replacement by formal assistance.

- *Complementary care model (or model of specificity tasks),* which states that when care demand exceeds the capacities of informal careers, formal care complements them.

With this in mind, this chapter approaches the relationship among informal and formal care, in a sense of paid or not paid support in the domestic sphere. As a previous step to assess to what extent they prevent relocation in an institution and extend the duration of independent living.

VII.3 Data and Methods

The data source used for this analysis is the SHARE survey in its waves 2 and 4. One of the breakthroughs made by this survey has been to provide cross-national data for the study of

elderly social relationships, permitting to test what the effect of different family systems and welfare regimens has over the care provision to frail older individuals.

Since its first wave, SHARE permits to know if the older person has received, or not, some kind of assistance in the last 12 months. If the answer is affirmative, it is also possible to know the object of the assistance, who is the provider, the frequency of this help, etc., besides to allow monitoring the regularity of the support flows (if it is constant, appears or disappears) between waves thanks to its panel design.

Table VII.34 summarises the variables that permit to identify if the care received at home is formal and/or informal. Regarding informal support, this source also permits a higher level of disaggregation due to the fact that it registers the location and origin of informal caregivers; i.e. if the support comes from inside or outside of the elderly household and the link that the caregiver maintains with the older adult (relative or non-relative). It is important to notice that only the variables related to informal support appear across all SHARE waves just as they are shown in Table VII.34.

Table VII.34. Variables recoding support at home in SHARE

	Variable		Question	Categories
RECEIVING FORMAL SUPPORT	Paid care	hc032_[1]	During the last twelve months, did you receive in your own home any of the kinds of care mentioned on this card?	Professional or paid nursing or personal care Professional or paid home help, for domestic tasks that you could | not perform yourself due to health problems Meals-on-wheels None of these
RECEIVING INFORMAL SUPPORT	Outside of the household	sp002_	Given help from outside of the household (family / friend / neighbour) in last 12 months	Refusal Don't know
	Within the household	sp020	Is there someone living in this household who has helped you regularly during the last 12 months?	Yes No

[1] Variable hc032_ deleted in wave 4 of SHARE

The variables concerning to formal assistance have been deleted from the questionnaire in wave 4, having to be inferred by other similar items included in the recently implemented "social networks" module. Also, the possibility of distinguishing among the reason of the formal care (nursing care, domestic tasks or meals-on-wheels) is not repeated in wave 4. Otherwise, in wave 4 this information can be extracted from the variable that registers the person who provides

support. This variable contains the categories "Therapist or other professional helper" and other referring to "housekeeper/home health care provider", allowing the distinction among professional and non-professional formal caregivers inside the home. Even so, there is no another information that permits to contrast and validate the information of formal support at home. The results regarding this type of support should therefore be interpreted with caution.

Table VII.35. Type of informal support, SHARE.

	Variables		Question	Categories
NON MONETARY SUPPORT	Personal care[51]	sp004d1_1	Which types of help has this person provided? (in last 12 months)	Refusal Don't know Selected Not selected
	Practical household help[52]	sp004d2_1		
	Help with paper work[53]	sp004d3_1		
FINANCIAL SUPPORT	Financial support	ft009_ ft014_	Have you or your partner given any financial or material gift or support to any person INSIDE or OUTSIDE of this household amounting 250€ or more?	Refusal Don't know Yes No
	Amount	ft011_	About how much did you or your partner give to this person altogether in the time since the last interview, that is since /the last twelve months?	Continuous variable
	Reason of financial gift	ft0013_ (question asked up to 3 times)	What was the main reason for this assistance or gift?	To meet basic needs To buy or furnish a house or apartment To help with a large item of expenditure (other than buying a house) For a major family event (birth, marriage, other celebration) To help with a divorce To help following a bereavement or illness To help with unemployment For further education To meet a legal obligation (e.g. alimony or compulsory payments for parents' care) No specific reason Other reason

[51] Dressing, bathing or showering, eating, getting in or out of bed, using the toilet, etcetera.
52 With home repairs, gardening, transportation, shopping, household chores.
53 Filling out forms, settling financial or legal matters.

Another essential information provided by SHARE in its first and second wave is the aim for which the support is provided. In these waves, the source makes it possible to distinguish among four needs that trigger the demand of assistance: financial, personal care, domestic tasks and help with paperwork (Table VII.35). In this case there exist some variations in data collection between waves 2 and 4. For instance, the variable that differentiates among types of non-monetary informal care has been eliminated in wave 4 as it has been comprised in a unique item. This means that some information is lost.

The reduction of the information regarding formal care at home in wave 4 is compensated by the introduction of a new module that contains data about the composition of the social network of older adults. In this module the persons with more interaction with the older Europeans, up to seven people, considering relatives, with several degrees of kinship, to non-relatives, as friends, neighbourhoods or ex-colleagues are identified. Formal carers are also considered as part of this social network. The information recorded about each one of the members comprises the gender of each member, the frequency of the contacts with them and the physical proximity, besides the satisfaction of older people with the whole social network.

A crucial data for this analysis arises from its longitudinal format. SHARE traces people that have moved to a collective home between waves, giving the opportunity to link previous conditions with those that remain and those institutionalised. It should be taken into account that the number of cases is fairly low due to attrition bias, limiting the sub-groups analysis.

The statistical analysis is developed using logistic regression method, whose foundations are deeply explained in Chapter V, Section V.3.2.2.

VII.4 Analysis

The ultimate objective of this analysis is to explore the effect on those who receive support at home in later life has as a favouring factor of permanence like opposing institutionalisation. Before that, a descriptive analysis presents the landscape of European public policies focussed on promoting ageing in place, offering a brief overview about the divergences in the two areas more related with ageing in place: housing policies and long-term care public expenditure. After that, two logistic regression models are carried out to assess the factors associated with receiving informal/formal care at home. The same model is repeated by each one of the European regions - three clusters of countries according with Houben's (2001b) classification of ageing in place policies in Europe - examining the association that these variables present depending on the regional context. Finally, the last section examines the influence that receiving formal or informal support prevents institutionalisation, and the role of social network composition in this provision.

This analysis is circumscribed uniquely to the support provided inside the private domain. This means that formal care is here identified as paid care, regardless if it is public or private. Other types of formal care as those provided in hospitals or doctor consultations are intentionally excluded.

VII.4.1. Public policies to living independent in Europe. An overview.

In the conceptual framework of this work (Chapter II), it was shown in detail how ageing-in-place has converted in the cornerstone of policy guidelines on housing, care giving and social services in Europe. Despite the idea of maintaining older people living at home is a common policy of EU member states; the implementation of measures that enhances it differs a lot across the continent, above all due to the state's welfare organisation differences. Although these policies are present in most European governments, their design is conceived from quite different perspectives. Hillcoat-Nalletamby et al. (2010:821) identified two underlying discourses in 'Ageing in place' policies in Europe, exemplified by France and England. On one hand, they identify public policies assuming that the responses to population ageing must be constructed by systems of national solidarity within the welfare system. This vision, that is embodied by the French context, strongly associate old age with physical decline and dependency based on how to obtain the wider public coverage of these needs. On the other hand, the vision identified with the British neo-liberalism promotes "Ageing in Place" policies in which individuals assume responsibility for their personal well-being. Older people are seen as independent individuals, pro-active decision-makers, and consumers of health care services. The neo-liberal notion of ageing in place policies treats older people as a homogeneous group of equal opportunities and resources, and is present in a subsidiary way.

One of the most outstanding attempts to classify the "Ageing in Place" policies developed in Europe, is the work carried out by Houben (2001b), which analyses how ageing in place premises are translated into practice depending on the national context. In the first place, Houben points out that the promotion of independent living by European governments has been characterised by (1) the lack of coordination between the areas involved in providing housing, care and social services and (2) a progressive de-centralisation of European states that have diversified the number of regional and local authorities involved in providing services that enhance older people to stay at home. In the second place, Houben also notes that the way in which these measures promoting independent living for the elderly have been implemented vary widely between European regions.

Adjusting the Esping-Andersen classification of European types of welfare systems (1999), Houben (ibid) developed a summary table of the characteristics of each system with respect to the areas responsible for the services related to "Ageing in Place".

Table VII.36. Public sector characteristics by type of welfare state (EU15)

	SOUTHERN EUROPE	CENTRAL EUROPE	NORTHERN EUROPE	WESTERN EUROPE
	Greece; Spain; Portugal; Italy.	Ireland; France; Belgium; Austria; Germany; Luxemburg.	Denmark; Sweden; Finland.	United Kingdom; Netherlands.
Type of welfare state	EMERGING CORPORATIVIST	CORPORATIVIST	SOCIAL-DEMOCRATIC	MIXED: CORPORATIVIST LIBERAL/ SOCIAL-DEMOCRATIC
HOUSING				
With family / Relatives	++	++ / - -	- -	- -
Public intervention in the sector	- -	± / +	++	++
Quality of housing	-	± / +	++	++
Regulation of housing adaptations	-/ ±	± / +	++	++
CAREGIVING				
Who provides care	Family ++	Family +	State ++	Family + / State+
Funding	Insurance	Insurance	Taxes	Insurance / Taxes
In-home care	- -	±	++	++
Care away from home	- -	±	++	++
SOCIAL SERVICES				
Care sector workers	- -	-	±	++

Note: + + = above the mean; ± = mean; - - = below the mean

Source: Houben (2001b:655)

As shown in Table VII.36, southern European countries (Spain, Italy, Portugal and Greece) are characterised by weak, underdeveloped welfare systems that are labelled as emerging. With respect to 'Ageing in Place' policies, these territories have a low level of state intervention in housing issues and low-quality housing options. In the care giving sector, resources assigned to this type of needs among the elderly are rather scarce, suggesting the care giving responsibilities be primarily on families and individuals. In addition, in these countries the number of people older than 65 years who live with one of their children or other relatives is considerably higher than in the rest of the European countries.

Western Europe (Germany, Ireland, France, Belgium, Austria, and Luxemburg) has followed a model that is called *corporativist,* in which the family has a very important role in care giving and housing of older people, although its intensity varies between countries. Housing quality is reasonably good, thanks to government investment in the construction of public housing, and access to care giving services is usually provided by insurance policies. In these regions,

decentralised government complicates the coordination of institutions involved in providing assistance in later life.

The Scandinavian countries (Sweden, Denmark and Finland) have implemented a *social democratic* welfare system characterised by broad coverage of all types of social needs by the state. In these countries, all the measures are focused on the individual rather than on the family (as in other systems such as the corporativist). The housing stock presents higher quality standards, the state being the one who guarantees eldercare through its tax structure. In addition, these countries have the highest number of publicly funded housing projects that are adapted to meet the needs of the older population. Public funds are widely utilised (not only to underprivileged groups) thereby eliminating the stigma associated with receiving public assistance that exists in other territories.

The United Kingdom and The Netherlands are considered *mixed corporativist* welfare states. In the first case, the *liberal-corporativist* welfare system is characterised by public measures directed only to the more underprivileged population sectors. Local authorities and non-profit charitable organisations are responsible for administering public assistance. With respect to housing, although the Thatcher government began a period of liberalisation of the public sector in the 1980s, a major social housing market continues to exist. There is also institutional interest in coordinating initiatives that combine housing and care giving with the objective of facilitating "Ageing in Place". The welfare system in The Netherlands is also mixed, but it combines the corporativist and social democratic models. In this case, access to housing, health care, and social security is financed by a collective insurance system.

VII.4.1.1. European perspectives in 'Ageing in Place' housing policies

The model of housing policies addressed to favour the permanence of older people at home have followed two distinct models which sometimes coexist in the same territory; those that seek to adapt the dwelling where elderly reside, favouring ageing in place, and other that seeks to create special buildings for older population favouring mobility. The first considers that helping older people remain in their homes requires the implementation of cash transfers to fund housing adaptations or architectonic interventions in buildings that adapt spaces to older people's needs. This has been the focus of policies implemented in the countries of Western and South Europe, where the family has an important weight in providing care, and property is the most common type of public housing. The other model is one that, rather than adapting the existing housing, promotes the creation of residential complexes specifically designed to meet the needs of old age. This model was developed in the countries of North Europe, Sweden, Denmark, Finland and The Netherlands, and this was the basis for the creation of specifically designed residential complexes where the elderly live independently, but with constant medical attention. It is important to

emphasise that in countries of North Europe it is common that both policy perspectives are developed at once. This "elderly building complexes" are characterised by:

- Care giving is disconnected from housing.
- Care giving is adapted to the desires and needs of the elderly, respecting their decisions, in contrast to what occurs in care institutions.
- Leisure activities are disconnected from the place of residence.
- In the case of the residential projects for the elderly, the size of living units is respected so they are similar to those of standard housing units.
- Adaptation of the bath and kitchen in these residential complexes to avoid problems of mobility to support autonomy for the elderly population.

VII.4.1.2. Home care provision in Europe

The support that states provide that aims to enhance the independence or reduce the dependence of disabled people and to their carers has been denominated as Long Term Care (LTC). OECD stated that LTC *"(...) brings together a range of services for people who are dependent on help with basic activities of daily living (ADL) over an extended period of time. Such activities include bathing, dressing, eating, getting in and out of bed or chair, moving around and using bathroom. These long/term care needs are due to long-standing chronic conditions causing physical or mental disability*" (OECD 2005b). Moreover, LTC also encompasses services that aim to cover the instrumental activities of daily life (IADL) as meals, shopping or house work (Lipszyc, Etienne and Xavier 2012). However, LTC definition is rather more complex due to (*ibid*):

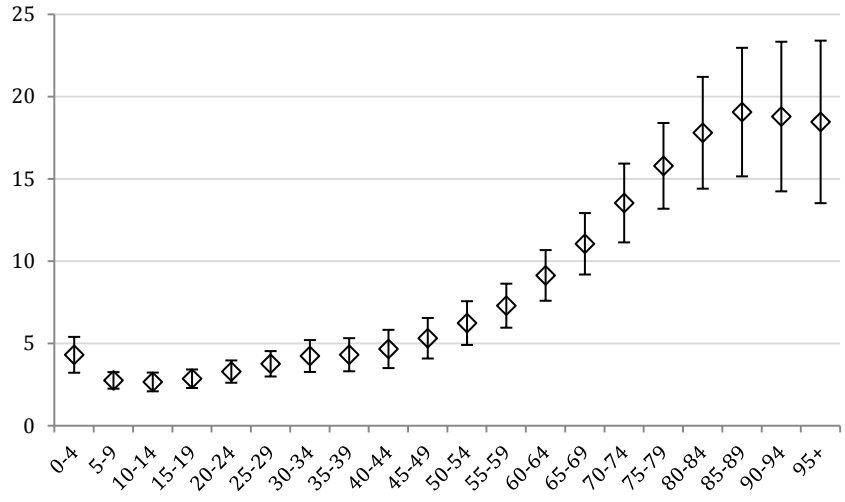
- It not being possible to establish the exact boundaries because it comprises of health and social care, and both components are interplaying,
- LTC services are provided in many different settings from the home to institutional, sometimes combining both.
- Long-term care could be dispended internally or externally, apart from other mixed forms such as assisted living arrangements or sheltered housing.
- LTC coexist with informal care, not being clear if as a substitute or a complement.

Despite its fuzzy limits of definition, long-term care emerged as one of the pillars of future public policies in Europe.

The demographic ageing has driven the attention towards the long-term expenditure of states under the assumption that there is a causal relationship between the older cohorts increase and

the augment of health care public expenditures. There is, however, another interpretation for this relationship among demographic ageing and LTC public costs; the so-called *Death-Related cost Hypothesis*. This statement arguments that when individuals grow older and their probability to die increases, they use health system services more frequently. This means that age and health cost are correlated but not during all later life, but only in the last years of life (Pavloková 2010).

Figure VII.36. Public Health Care expenditure by age group as % of GDP per Capita, EU15 countries, 2008.

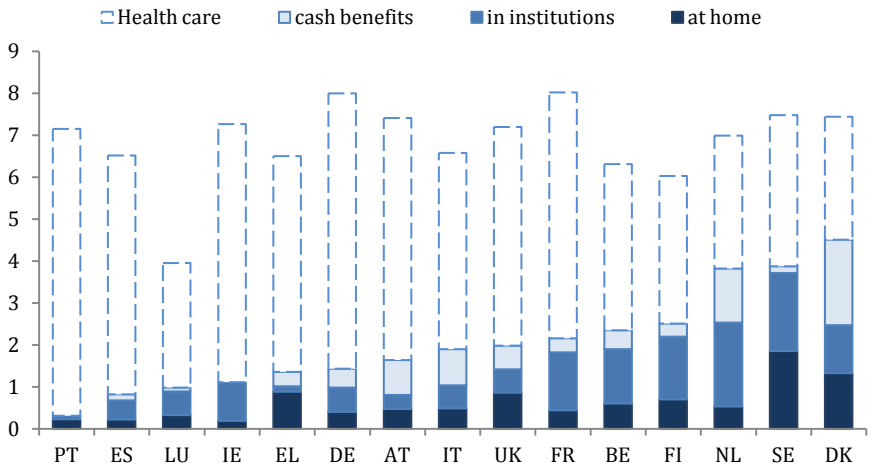


Source: European Commission 2009; The Ageing Report: Economics and budgetary projections for the EU27 member states, 2008-2060.

The Figure VII.36 shows that the dispersion on Health Care expenditure on EU15 countries confirm two different facts; on one hand, that the expenditure on public health care increases parallel to age and, on the other hand, that as the expenditure increases the dispersion of the investment is amplified, which means that the divergences among European countries augments.

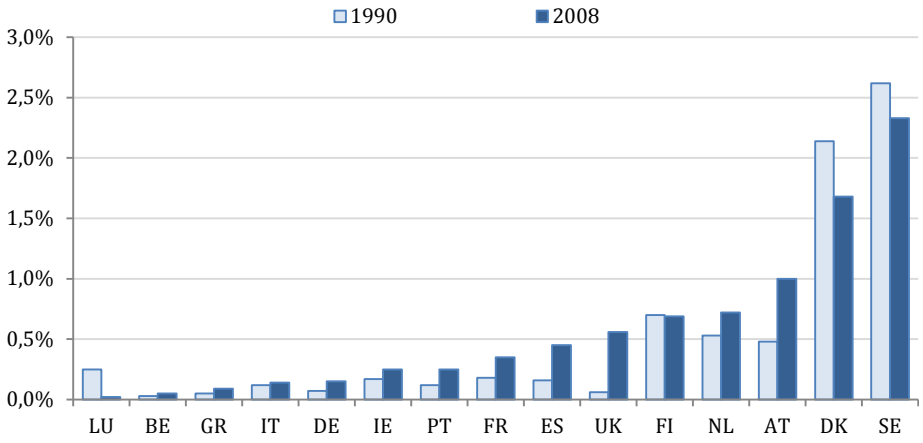
The proportion of GDP addressed to cover health care in EU15 countries is shown in Figure VII.37. Except in Luxembourg, this percentage exceeds 6% in all cases. While France and Germany (8%) are the countries with higher total percentages, Denmark, Sweden and Netherlands those with higher public expenditure specifically addressed to cover old-age related needs. On the contrary, countries of the Southern region of Europe (Portugal, Spain and Italy) and Western Europe (Luxembourg and Ireland) are those with fewer resources destined to cover older population health care needs. Depending on the country, the distribution of this expenditure varies. Sweden is the country that invests more resources in care home, followed by Greece, despite its percentages being significantly lower. In turn, Denmark and Netherlands mostly intend their public investment for cash transfers.

Figure VII.37. Public expenditure on health care as % of the GDP by type of care, EU15 countries, 2010.



Source: The 2012 Ageing Report,
Directorate-General Economic and Financial Affairs (European Commission)

Figure VII.38. Public expenditure on care allowance, accommodation, and assistance in carrying out daily tasks, EU15 countries (% of GPD).



Note: These expenditures cover care allowance, accommodation, and assistance in carrying out daily tasks
Germany 1991 ; Ireland, Greece and Portugal year 1995; Belgium 1998; Sweden 1993; Luxembourg 2001
Detailed data on public expenditure of elderly the annex, Table A.61

Eurostat database, 2013

Most of the countries have increased their public expenditure on home care to older adults in last decades (Figure VII.38). This increase, however, has not been cross-national because precisely in those countries where the investment in elderly care was traditionally higher, Denmark and Sweden have reduced the amount of public expenditure. The low amounts intended to cover for

old-age needs in the majority of the countries of the EU15 at the beginning of the 90's makes that the margins to improve were larger.

What seems to be clear is the diversity of home care which is provided in Europe[54], not only between national contexts, but also between regions within the countries. Genet et al. (2011) elaborate an extensive revision of European implementation of home care policies, highlighting their main features:

- Variations across Europe: mainly in type of policies of home care, practical organization of home care and the availability of services. Also the percentages of elderly people covered by these measures diverge. In France, for instance, it is estimated that home care is provided to over one-third of the population aged over 75, 2003 data reveals that in Finland 6% of population aged over 65 were receiving home care regularly.

- Variations within countries: High decentralisation in home care provision; regulation, delivery and availability of services are different and depend on several local and regional administrations.

- Differences on the eligibility criteria: countries of Southern regions tend to use the socio-economic status as threshold, meanwhile in Finland, Netherlands or Denmark public home care systems are often universal and services are more comprehensive. Sometimes, age or degree of impairments is used as eligibility criteria in these countries.

- The number of care providers is elevated: public, non-profit, private for-profit or mixed modes. Their importance in each country diverges. UK, Ireland and Scandinavian countries tend to have a great proportion of contracted services.

- Home care is integrated together with other types of services.

In view of the above, it can be said that the main characteristic in formal home care provision to older population in Europe is its wide diversity of ideas underlying public policies and their translation into practice. Despite in this analysis the influence of structural conditions is not directly considered; a cross-national comparison that permits to approach to some extent the effect of the contextual conditions over home care in later life is carried out.

[54] For an extensive review of home care implementation in Europe by country see: Genet, N., W. Boerma, M. Kroneman, A. Hutchinson, and R.B. Saltman. 2012. "Home Care across Europe." *Observatory Studies Series* 27:61-62.

VII.4.2. Informal and Informal support at home in later life

This analysis is focussed on one of the most treated dichotomies in relation to care; the formal or informal nature of the source that provides support. Before presenting the data it is important to keep in mind that, in this analysis, formal support refers to paid providers inside the home, not the care structures implemented by public or private entities. The descriptive results of the introductory section firstly look at the source of the support (informal or formal); secondly, to the location of this source in case of being informal (inside or outside of the household); thirdly, the relationship of the older adult with the caregiver (relative or non-relative); and lastly, the needs that motivate the assistance (practical, care or financial in the case of informal and nursing or domestic in the case of formal).

The data reveals that the 52% of Europeans aged 65 and over with impairments55 were receiving some kind of support in the domestic sphere in 2011, regardless if this support was formal or informal, the needs it aimed to cover, practical, nursing care or financial, or the source which provided it, inside/outside of the household. This percentage oscillates depending on the national context, from a 59% for Denmark, the country with the highest rate, to the 29% for Portugal, country with the lowest proportion. The distribution of older people receiving care at home, moreover, also presents divergences regarding to gender. The proportion of women older than 65 years old with limitation in their daily activities that are receiving support in their homes is sensibly higher than male percentages. For the analysed countries, the average of older males is 45%, meanwhile for older women it reaches an average of 59%. This trend is observable in all countries, having Denmark the highest differences between sexes and Germany the lowest.

Table VII.37. Percentage of population aged 65 and over receiving support at home by gender, EU15 selected countries, 2011 (%).

	AT	DE	SE	NL	ES	IT	FR	DK	BE	PT	Total
Males	48	41	46	39	39	41	47	59	49	29	45
Females	63	51	58	55	53	53	68	77	65	39	59
Total	48	41	46	39	39	41	47	59	49	29	52

Percentages referring to population aged 65 and over with GALI limitations.
Note: In the estimation, those individuals that are receiving both formal and informal support at home (practical/care) and also financial help provided by another household are considered.

Source: SHARE wave 4

55 To determine the degree of limitations the Global Activity Limitation Index (GALI) has been used, which is a measure of health conditions developed with the aim to be a cross-national comparative tool. Its construction is based on a concise set of questions regarding if the person presents long-standing limitations (duration of at least 6 months), the circumstances that cause the activity limitation, the activities that the individual usually performs, and if the individual suffers from some severe limitations (considering at least 3 levels). To know more about GALI index development see: Robine, J.M.and C. Jagger. 2003. "Creating a coherent set of indicators to monitor health across Europe: the Euro-REVES 2 project." *The European Journal of Public Health,* 13(suppl 3):6-14.

Logically, the amount of support received at home is not determined by chronological age but given that, over time, biological ageing inevitably drives to a loss of functionality, it is to be expected that the percentages of older people demanding some kind of support increase as individuals grow older. The decline of functionality unchains the search for additional assistance to face the new living needs. Depending on the impairments' magnitude and reversibility, the coverage of this needs require different frequency and type of support.

Figure VII.39. Distribution of older population with impairments receiving support at home by age, EU15 selected countries, 2011.

Percentages referring to population aged 65 and over with GALI limitations.
Note: The estimation considers formal, informal and financial support at home to population aged 65 and older.
Source: SHARE, wave4

Figure VII.39 describes this fact, representing the distribution of population over 65 years old with limitations that count on additional assistance at home, integrating both formal and informal care. According to SHARE data, in the first years of later life, 40% of European older women and 29% of older males were support receivers (age 65). This proportion is maintained relatively stable and close between genders; even supposing a small increase of male's proportion over female's around age 70. Beyond this age, the proportion of older adults receiving support progressively increases, whereby the difference between genders is maintained and women receive the most care at home. At the age of 85, 70% of oldest-old women and 60% of oldest-old males are being assisted in their domiciles. In the very advanced stage of later life (age 90), the assistance in the own dwelling is the norm among frail older adults; 90% of older women and 80% of older males are receiving home care in Europe. This finding goes in line with one of the initial hypothesis of this chapter which stated that the demand of support at home increases in advanced later life.

VII.4.2.1. Sources and types of support inside home

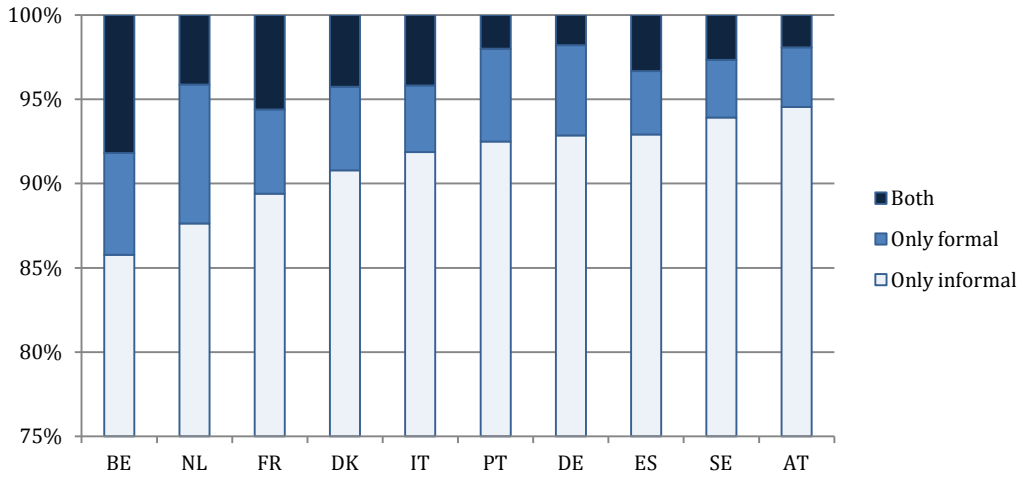
In Europe, the informal assistance provided to older people at home is much more frequent than formal, being able to appear alone or combined with other private or public care providers (Abuladze and Sakkeus 2013; Bolin et al. 2007; Bonsang 2009). The informal support at home is defined by (1) it being provided by the social network of the individual, (2) it is a voluntary activity for which the provider does not receive any monetary compensation in form of payment or salary and (3) it is not an organized activity (Andersson, Levin and Emtinger 2002). Otherwise, paid assistance in the domestic space is another strategy for those older people with support needs. In this case, it refers to this support provided by public or private entities that entail some monetary exchange. The sources of paid support present an ample spectrum of profiles that range from private services with qualified professionals to unskilled domestic employees. Great part of the formal assistance at home is characterised by a structural scarcity due to formal care in a sector with scant regulation of work conditions (salaries, number of working hours, etc) and a low professionalization of the providers (Tobío et al. 2010). This leads to formal caregivers who are linked in many occasions with other inequality profiles as being immigrant or have a low socio-economic status. The more evident cases are those of immigrant women, because home care is a sector of easy access to those arriving from a foreign country and who are in an irregular situation. An insufficient formal care sector is not only the result of the difficulty to gain direct contact with caregivers, as private companies also contribute with having low skilled and underpaid staff (ibid).

The evidences of the main role of family in later-life care provision are cross-national in Europe; data from United Kingdom reveals that 87% of individuals aged 65 and over with some kind of disability were assisted by their families, 53% being those that only receive support from that source (Comas-Herrera, Wittenberg and Pickard 2003). A similar result has been found in Spain, where 88% of the support received at home is provided by an informal source (Durán 2002). Also in Southern Europe, 37% of Italian elderly with impairments to perform ADL activities were exclusively assisted by their families (Gori, DiMaio and Pozzi 2003). The results presented by Figure VII.40 go in this line, showing that among the population aged 65 and over that are receiving home care, the vast majority is uniquely to only receive help from their social networks, exceeding 85% in all countries. Family obligations still persist, but there signs that point out that this is changing. Currently, family support provision, that is still higher in Southern Europe, coexists with a rising preference for formal assistance coming from the state. This means that solidarity norms about support are not reducing, but they are transforming towards a mixed mode (Daatland and Herlofson 2003).

The assistance provided by public or private providers at home is fairly infrequent. In fact, formal care appears as a complement to informal support more than a unique alternative, as described on the basis of the results in Figure VII.40.

Despite the general pattern, the proportion of informal home care diverges among countries. Sweden, Austria and Spain are those countries with higher percentages of informal support, and Belgium, Netherlands and France, those with lower proportion. The countries with lower proportion of formal carers are also those that have higher percentages of both sources combined, so probably it is not that older people in these countries count on less informal support, but it is given in a shared form together with formal care.

Figure VII.40. Source of support in home received by older females aged 65 and over, selected countries EU15, 2011



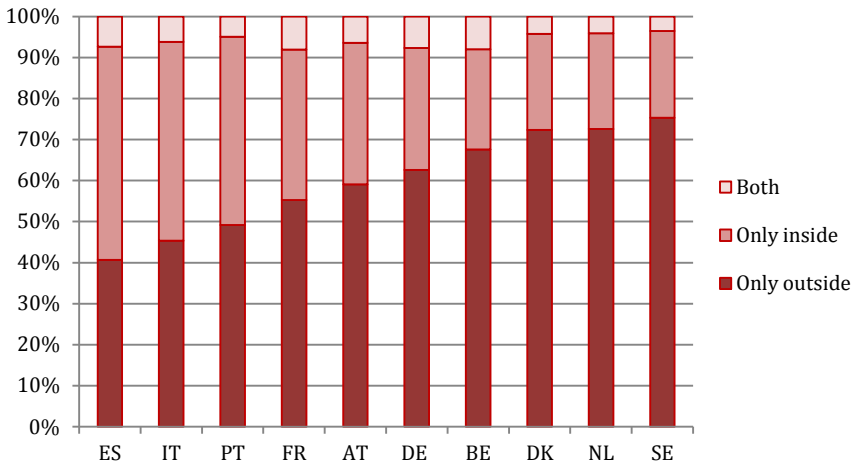
Source : SHARE, wave 4

Formal support has most relevance in the Netherlands, where 8% of older people that are receiving care at home, are doing so from a formal source. Also Belgium and Portugal, both around 6%, have a significant amount of older people receiving formal assistance. In turn, countries such as Sweden (3%), Austria and Spain (both 4%) are the countries with lower informal care. These results can be confusing because, as other research has stated, it could be expected that the percentages of the use of formal and informal sources would be affected by the development of welfare state and the socio-cultural patterns of each region (Viazzo 2003).

That is, formal support is concentrated in Northern Europe, above all, but also in Western region, and informal care mostly in Southern region. However, the utilised variables do not distinguish between formal sources; public or private, nor the type of formal support provided by the State

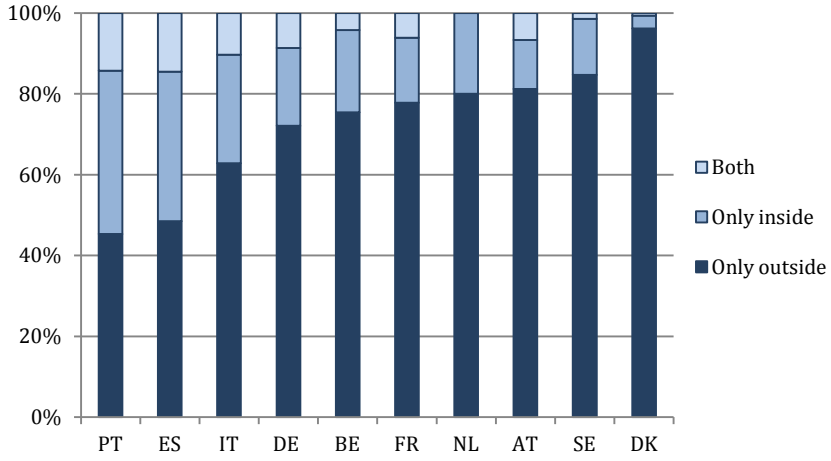
i.e. cash transfers or benefits of any kind. This lack of specifications influences the spatial patterns, resembling countries that in theory should present different profiles. Some types of formal support provided by the state as subsidised care professionals would be included in formal care. At the same time, other public measures as tele-assistance do not compensate the participation of informal providers, but complement it. As a result, older people living in very different context, as could be Spain and Sweden, present fairly similar distribution of percentages.

Figure VII.41. Origin of informal care at home. European older males aged 65 and over, selected countries EU15, 2011.



Source: SHARE, wave 4

Figure VII.42. Origin of informal support in home of European older females aged 65 and over, selected countries EU15, 2011.



Source: SHARE, wave 4

The informal support can come from inside or outside of the household. Logically, this distinction is conditioned by the opportunities derived from the living arrangements that the older individual presents. Despite the fact that co-residence between generations does not necessarily imply support from adult children to older parents, sometimes it is a good indicator of family solidarity in financial and functional terms (Tomassini and Glaser 2007).

The generalised trend is that the informal support provided to older people at home comes from a member of the social network that lives in a different household (Figure VII.43 and Figure VII.44). Despite that generally the informal support received at home by older males and females follow a very similar pattern, the protective effect of living with a partner becomes more evident for males than for females, presenting higher proportion of those that only receive support from their own household. Gender roles make it more likely that females assume the care duties in the households, playing the role as caregiver of their partners more often. This is why the proportion of older males with help from inside of the household is somewhat higher than of females. Also by effect of widowhood, females are more prone to not having a partner that can assume the care tasks.

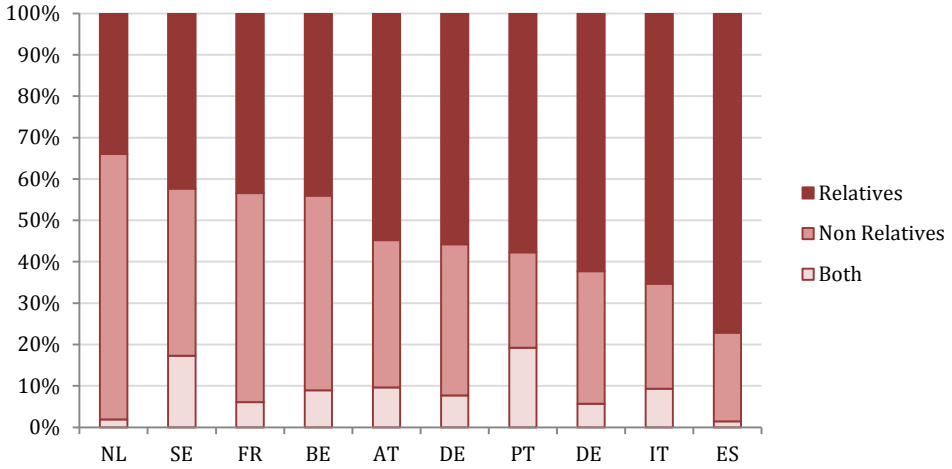
Regarding to the spatial divergences, in Southern Europe there is a certain balance between the proportions of assistance provided by own household members or external caregivers. This is explained by a higher percentage of adult children living in multigenerational households, which increases the likelihood to receive assistance from a household member (Kohli, Künemund and Lüdicke 2005b; Tomassini et al. 2004). Also, if movements between older people and their adult children are considered as a substitute of institutionalisation, it would make these percentages increase. On the contrary, Northern countries display lower percentages of caregivers from inside the households. These percentages are especially low in Sweden (21%), Netherlands and Denmark (Both 23%). The combination of both only presents significant values in the Southern countries Spain, Italy and Portugal.

Figure VII.43 and Figure VII.44 contain two types of information; on the one hand the relationship that link the caregiver with the older adult and, on the other hand the possible combination between providers. They also confirm the spatial differences in terms of the relationship that older persons maintain with the outsider caregivers. Mostly in Western and Southern Europe for males relatives are the most important source of support in later life. In these countries, about half of older adults that only receive assistance from their kinship network. On the contrary, Belgium, France, Sweden and the Netherlands, especially the latter country, show a higher percentage of helpers without a kinship relationship. The presence of non-relatives (only) helping older people in daily tasks, either friends, ex-colleagues, or

neighbours, are more relevant in this context. However, for older males from Spain, Portugal and Italy, the informal care from non-family network presents the lowest proportion.

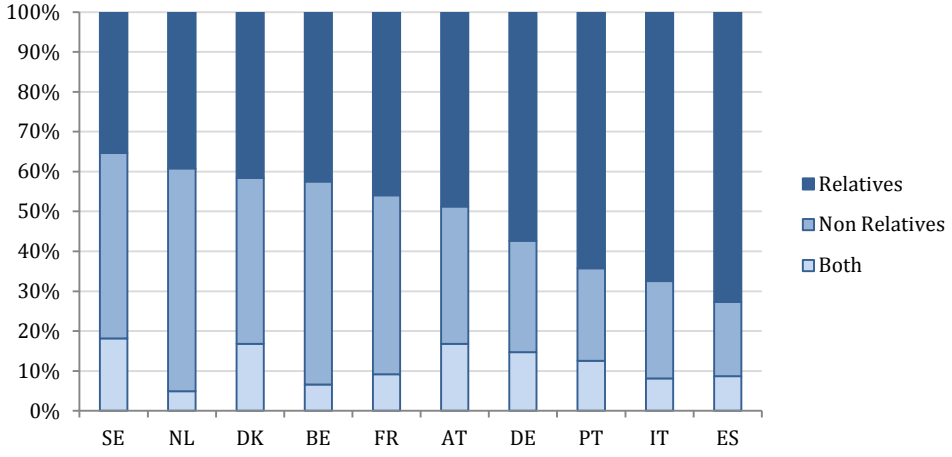
As age increases, the percentage of informal care obtained from household members is reduced progressively due to the effect of household dissolution, in favour of the support provided from other households (Table VII.38).

Figure VII.43. Person(s) providing informal support outside of the household to MALES aged 65 and over, EU15 selected countries, 2011.



Source: SHARE, wave 4

Figure VII.44. Person(s) providing informal support from outside of the household to FEMALES aged 65 and over, EU15 selected countries, 2011.



Source: SHARE, wave 4

As previously mentioned, mainly widowhood and the definitive home-leaving of children in the case of Southern Europe diminishes the social network, thus limiting the available candidates from the own household to be informal caregivers. Northern European countries are a clear example of how as age increases the support from inside the household significantly lessens and the support from outside augments. The most different profile is found in the southern countries, as the percentage that receive care from own members of the household remain high, compared with the rest of the countries, even among the oldest old. The move of the oldest-old to their children's home is still a quite frequent solution as a way to cover the needs of those with severe disability in Southern Europe. The descriptive analysis points out that for instance in Portugal 48% of older people receiving home care come from members from the same household. Spain and Italy shows rather similar percentages, 38% and 41% respectively, far above the rest of Europe. In turn, the countries of the Northern Europe, Sweden Denmark and the Netherlands present higher percentages of oldest-old receiving care from outside of the household, nearly 90%.

Table VII.38. Distribution of the source of informal support by age group, EU15 selected countries, 2011 (%)

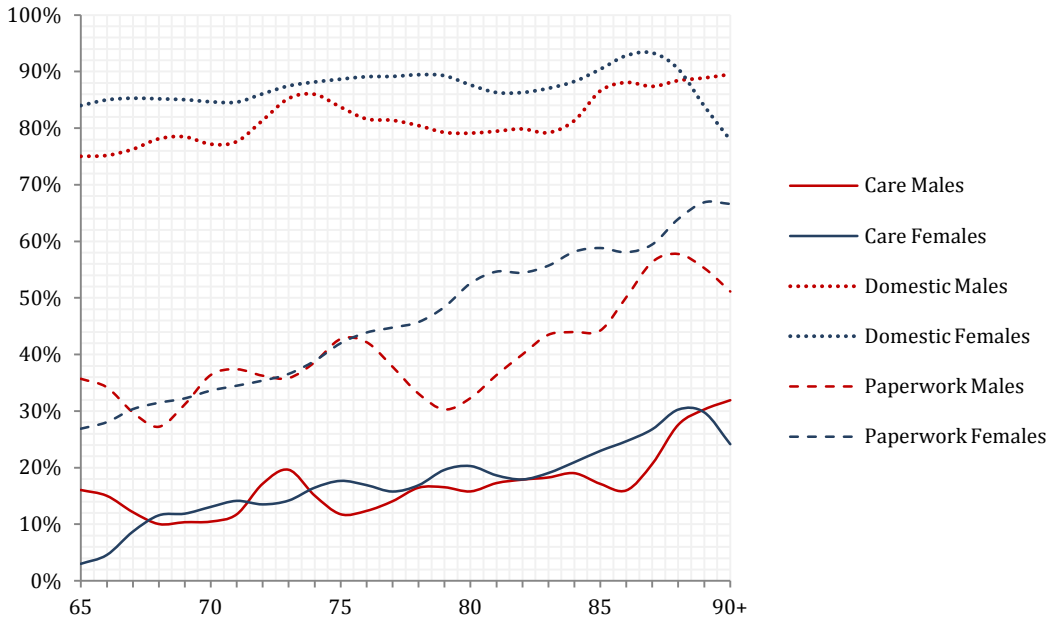
	AT	DE	SE	NL	ES	IT	FR	DK	BE	PT	Total
Only from outside hh											
65-74	73	73	78	77	37	63	61	86	67	57	67
75-84	75	61	77	75	49	56	67	88	71	43	65
85+	70	69	89	83	48	42	84	88	82	34	70
Only from inside hh											
65-74	21	22	18	23	53	34	31	13	27	40	28
75-84	18	29	22	22	39	34	25	9	23	42	27
85+	23	21	9	14	38	41	12	10	13	48	22
Both											
65-74	6	5	4	0	9	3	8	1	6	3	5
75-84	7	10	1	3	13	10	8	3	6	15	8
85+	6	10	2	3	13	17	4	2	5	17	8

Source: SHARE, wave 4

The exchange of support between mainly relatives and friends or neighbours, does not necessarily mean care, despite it probably being the more crucial goal. Support can also mean assistance with cleaning tasks or paperwork, a source of additional income, or simply the psychological benefit of 'being there' (Freedman, 1996). SHARE gives the opportunity to distinguish among different types of assistance, both informal and formal.

The Figure VII.45 contains the proportion of the older population that receives assistance from outside of the household considering the need that motivates it. The bulk of the support provided to elderly Europeans in their homes is mainly for practical purposes, that comprises both care and domestic tasks. As age increases, the search for additional assistance due to impairments and as individuals become older, the demand of practical assistance also increases. Observing these trends by gender, it is viewed how women are more likely to count on practical help, maintaining their distance with males across all ages.

Figure VII.45. Need to cover by the informal support received at home. Distribution of percentages by age and gender.



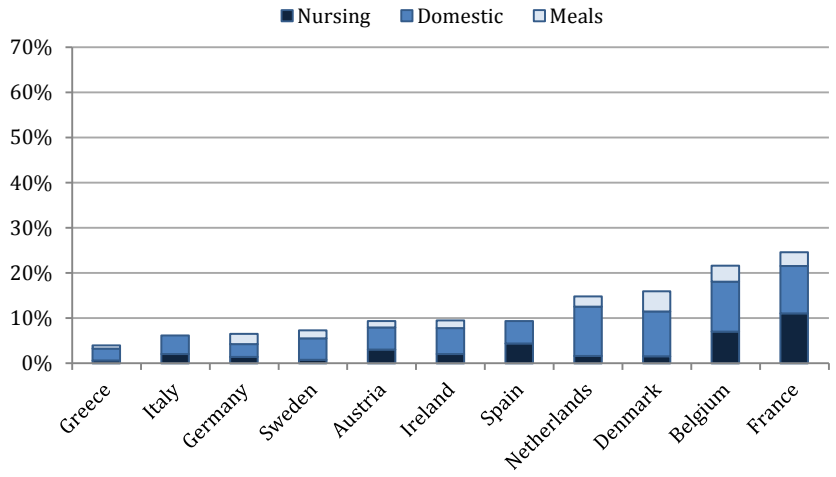
Source: SHARE, wave 2

The support in form of financial help, however, does not present such elevated percentages, following a steady low pattern. In fact, the monetary transfers between households follow a downward direction more than upwards. The exchange of financial support is habitually established between older parents and their adult children. This data pointed out that financial support to older people is concentrated in the first stage of old age, between the age 65 and 75, being slightly more elevated for females (7% at age 65) than for males (5% at age 65).

SHARE survey does not collect such detailed information about formal care as in the case of informal support. The unique possible distinction is the type of formal care that is provided in the domestic sphere using wave 2, because this variable is deleted in wave 4.

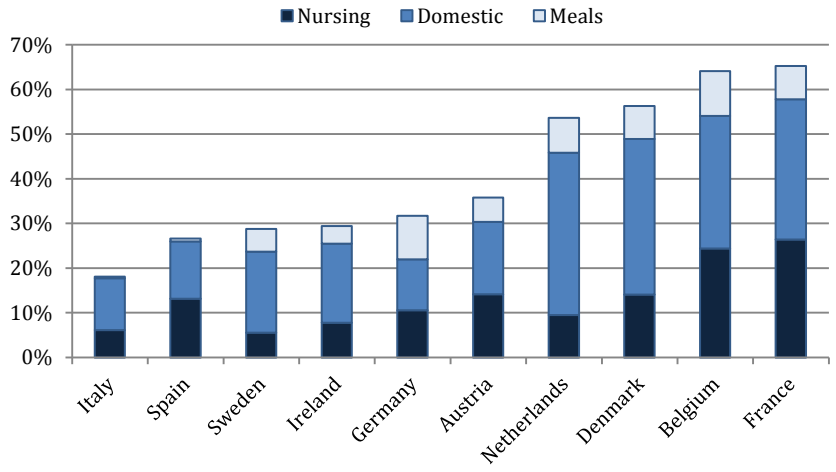
Domestic assistance is the most extended type of support in all countries. Help with the daily activities as cleaning tasks and maintenance of the dwelling are probably the activities more affected by the impairments experienced by older adults. The formal support in the domestic sphere notably increases with age and also varies the objective with what the assistance is provided. In both groups, those aged 65-79 and those aged 80+, domestic assistance is the most common objective of support, but in the upper group the nursing needs increase. Once again, it is the appearance of impairments associated with biological ageing that act as a trigger for the demand of formal nursing care.

Figure VII.46. Paid assistance in home by type of service, 65-79 population, EU15 countries, 2006.



Source: SHARE wave 2.

Figure VII.47. Paid assistance in home by type of service, 80 and over population, EU15 countries



Source: SHARE, wave 2

The spatial pattern shows that whereas in the group of 65-79 the proportion is maintained fairly low under 10% for most of the countries, except the Netherlands, Belgium Denmark and France, in the older group the country with the lower percentage, Italy almost reaches 20%. Those countries that already present high proportions of formal care at home in the group 65-79 are also those with higher proportions in the group 80; France and Belgium have more than 60% of the older population receiving formal help and the Netherlands and Sweden exceed 50%. In turn, Southern European countries are those that lower proportions of formal carers present in both groups.

VII.4.2.2. Determinants of support provided at home in later life

The factors that have been selected to assess the informal and formal care provision at home are health status and social networks. In the first place, health status variables have been selected due to needs emerging from the functional dimension activated by the demand of care; the capabilities presented by the older person will determine the type of support they demand. In the second place, social network composition has been included because as family is the most extended care provider, the availability of social resources determines the opportunities to cover the needs derived by physical or cognitive impairments. Furthermore, these two elements interact: when individuals grow older and health limitations appear, the size of the social network decreases. In Europe, this effect is especially evident in the Southern countries, where those severely limited have less than two network members, on average (Abuladze and Sakkeus 2013).

With this in mind, this analysis explores the association among health status and social network composition with the type of care received inside the domestic sphere for older Europeans.

VII.4.2.2.1. Specification of the model

The sample considered by the analysis only refers to those older individuals aged 65 and over that at the moment of the survey were receiving home care or did it during the previous 12 months, formally excluding those that do not declare having received care (which does not mean that are not in need). Thus, the total sample is composed of 5332 individuals.

As an empirical strategy, two binary logistic regression models have been implemented; one that evaluates the factors correlated with receiving informal care and another that looks at the formal care. The dependent variable "to receive informal care" comprises of nursing care and practical help, and also assistance provided by those who come from both inside and outside of the household avoiding the biased provoking for those older adults that are living alone. Despite that, formal care also refers to that care provided by public institutions, either in form of benefits in kind or cash, the characteristics of the data source does not allow making this distinction. Then,

to create the dependent variable regarding receiving formal care for this analysis, it only considers assistance that implies some kind of monetary transaction such as nursing professionals, personal to housekeeping, etc.

Table VII.39. Summary of variables included in the logistic regression models

	Variable	Type	Specifications	Categories	Obs	Min	Max
Dependent variables	Receiving informal support at home	D	Model 1	No / Yes	5332	0	1
	Receiving formal support at home	D	Model 2	No / Yes	5332	0	1
Independent variables	***Demographics (control variables)***						
	Gender	D	Gender of the respondent	Male/ Female	5332	1	2
	Age group	CA	Age of the respondent	65-74/ 75-84/ 85+	5332	1	3
	Health Status						
	No IADL limitations	D		No / Yes	5332	0	1
	Low IADL limitations	D	Between 1 and 3	No / Yes	5332	0	1
	High IADL limitations	D	Between 4 and 6	No / Yes	5332	0	1
	Low motor limitations	D	Between 1 and 3	No / Yes	5332	0	1
	High motor limitations	D	Between 4 and 6	No / Yes	5332	0	1
	Hospitalisations	D	Hospitalisation in the previous 12 months	No / Yes	5332	0	1
	Social Network composition						
	Partner in household	D	Partner is living at the same household	No / Yes	5332	0	1
	Daughter	D	Having (at least) one female child	No / Yes	5332	0	1
	Children living < 1km	D	At least one child living in 1 Km radius	No / Yes	5332	0	1
	Size of SN	CO	Size of the social network (up to 7 people)	-	5332	0	7
	Women SN	D	Presence of women in the social network	No / Yes	5332	0	1
	Child in SN	D	Presence of children in the social network	No / Yes	5332	0	1
	Relatives in SN	D	Presence of relatives (distinct to partner or children) in the social network	No / Yes	5332	0	1
	Friends in SN	D	Presence of friends in the social network	No / Yes	5332	0	1
	Additional support at home						
	Formal support	D	being receiving informal support outside of the household	No / Yes	5332	0	1
	Financial l support	D	being receiving formal support inside of the household	No / Yes	5332	0	1
	Informal support	D	being receiving formal support for domestic tasks	No / Yes	5332	0	1

Note: D= Dichotomous; CO= Continuous; CA=Categorical.

The explanatory variables have been organised in four clusters (Table VII.39). The first cluster contains the control variables as demographic features; gender and age, the latter coded as

categorical. The second cluster of variables introduces the first dimension of the analysis, health status of the respondent, by means of variables that inform about their level of functional autonomy. The explanatory variables have been organised in four clusters (Table VII.39). The first cluster contains the as control variables the demographic characteristics gender and age, the latter coded as categorical. The second cluster of variables introduces the first dimension of the analysis, health status of the respondent, by means of variables that inform about their level of functional autonomy. The first three variables refers to the level IADL (Instrumental Activities of Daily Living) impairments to manage the every-day life: using the phone, prepare hot meals, housekeeping, perform light daily tasks as making the bed, being responsible of own medications and ability to manage own finances. Three dichotomous variables referring to the number of IADL limitations have been implemented; No IADL limitations, low level of IADL limitations (between 1 and 3) and high level of IADL limitations (between 4 and 6). The mobility inside the home is also considered in the health dimension. It is one of the most important impairments that condition the living in the domestic sphere, by means of level of motor limitation; low level (1 to 3 motor limitations) and high level (4 to 6). This cluster also introduces the information if the respondent has been hospitalized in the previous 12 months, as a proxy of appearance of illnesses.

The lack of available data have made that the structure of this social networks has been inferred many times from other information as marital status (proxy of existence of a partner) or to have children, which in reality does not guarantee that any exchange of care is established between older parents and their adult children. Fortunately, in its 4 wave, SHARE incorporates information about who the persons are that make up the social network of the older people, allowing to overcome the problems related with living arrangements proxies. Thanks to this information it is possible to assess not only the existence of potential carers, but also their relation with the respondent. The variables regarding to this dimension comprises if there is the partner in household, if there are children, other relatives or friends in the social network, and also test the importance of gender through two variables, namely if the older respondent has at least one female child and if there are other women in their social network. In addition, other complementary sources of support at home are considered: in each model the fact about receiving formal/informal care is introduced as variables, as well as the possibility of receiving financial help.

VII.4.2.2.2. Results

Table VII.40. shows the results of two logistic regression models that assess the association of different factors with the fact of receiving informal support (Model 1) or formal support (Model 2) at home by older people. As expected, the stage of later life that older person is experiencing has a strong association with both types of support.

Table VII.40. Logistic regression model comparing the types of support received by older people at home; Informal vs. Formal.

	MODEL 1			MODEL 2		
	To receive informal support			***To receive formal support***		
	OR		S.E.	OR		S.E.
DEMOGRAPHICS	0,95		0,07	1,09		0,22
Female						
65-74						
75-84	1,54	***	0,12	1,22		0,27
85 and over	2,42	***	0,29	1,80	**	0,45
HEALTH						
No IADL limitations	0,39	***	0,08	0,60		0,23
Low IADL limitations	0,59	**	0,12	0,84		0,30
High IADL limitations	2,07	**	0,53	1,41	**	0,54
Low motor limitations	0,18	***	0,02	0,93		0,25
High motor limitations	0,37	***	0,04	1,31		0,34
Hospitalisations	1,69	***	0,14	0,65	**	0,14
SOCIAL NETWORKS						
Partner in household	2,61	***	0,11	1,34	**	0,15
Daughter	1,15		0,10	0,52	**	0,10
Children living < 1km	1,71	***	0,06	0,46	**	0,13
Size of SN	1,06	**	0,03	1,73	***	0,10
Women SN	1,17		0,12	1,86	*	0,61
Child in SN	1,21	**	0,11	0,39	***	0,10
Relatives in SN	0,86		0,14	0,25	***	0,08
Friends in SN	1,48	***	0,14	0,27	***	0,06
ADDITIONAL SUPPORT						
Formal support	2,15	**	0,52			
Financial l support	2,39	***	0,35	0,84		0,32
Informal support	-		-	2,14	**	0,52
Observations	5332			5332		
Pseudo-R^2	0.30			0.18		

***p < 0.000 ; ** p < 0.05 ; *p < 0.1

Source: SHARE, wave4

In the case of informal support, the outcomes point out that when an individual is older than 75 he/she has more possibilities of counting on informal support than those in the younger age group (65-74). In the case of formal support, the influence of age is displaced to the upper age group. Being older than 85 years increases the possibility to counting on formal assistance compared to younger older. It suggests that formal care is an option often chosen when impairments become severe and specialised health care is needed or the assistance task overpass to informal carers. The associated "costs" of formal care, financial but also personal (due to the

introduction of "outsiders" in the daily life) causes the older people to tend to opt for informal support if possible.

The association of health status variables on type of support reveals fairly intuitive results. In both cases, a disadvantaged functional profile is associated with being a support receiver. Even so, the variables association varies depending on the type of home assistance. In the case of older population that counts on informal support, the profile is negatively associated which do not present or present low IALD limitations and low motor limitation, meanwhile to have formal carers is positively associated with a high degree of impairments to manage the IADL activities. This means that formal support is most probable when the capabilities seriously weaken and impede the usual development of daily activities. However, to present severe motor limitation also increases the possibility to receive informal care by 2.4 times. If the older person has been hospitalised in the previous 12 months, it also has more possibilities to receive informal care in the post-hospitalisation phase which could require some kind of assistance.

Regarding the second cluster of variables, social networks composition, the presence of family members in the social network is crucial to the provision of informal care. It is important to notice that the availability of relatives or friends to provide help that contributes to ageing at home depends on a complex combination of factors: the ability to provide care, the presence of other disabled people, culture, expectations, etcetera (Schofield et al., 2006). Consequently, the existence of family members *per se* does not ensure the provision of support in later life; it is the relationship with them what mostly influences the informal care provision.

Previous research has shown that 80% of older Europeans have, at least, one family member in their social network and 62% admit than it is only composed by family members (Abuladze and Sakkeus 2013). The partner and the children are the most cited confidants, and it is reflected in the results; to reside with a partner or near children (in a radius of 1 kilometre) are the most determinant factors to receive care from an informal source. Several studies focused on the European context have pointed out that spatial proximity and co-residence enables the exchange of support between family members (Hank, 2006; Bordone, 2009; Isengard and Szydlik, 2012). As it was shown in the descriptive section, a great part of the informal care at home is given by the members of the household. In the case of older population, partners acting as providers of informal care are especially older women who most frequently assume this supportive role to their partners. The results of the model confirm this fact revealing that to live with a partner augments the possibility to receive informal care by 2.4 times. In this line, when the older people declare that children form part of their social network, the association of receiving informal care is positive. This positive correlation is also found with formal support, which increases the possibility of receiving formal support by 1.4 times if the partner is in the household. This positive association is possibly due higher incomes to contract some kind of services. From

outside of the household, children are the most frequent caregivers. Results show, especially if they reside near their older parents, a positive correlation for receiving informal support. The opposite association is found in the case of formal care, suggesting that close spatial proximity among older people and their adult children is for some an impediment to formal care. Those older people that count on friends in their social network are more prone to receiving informal care, whereas the same situation displays a negative association with formal care.

Regarding formal support, it seems that the size of the social network has a positive effect over its provision. As network's size increases, the possibility of receiving care from a formal source increases. On the contrary, to count on relatives or friends in the social network is less common to opt for contracting a care service.

The last variables give information about the relationship that maintains the different support sources. Despite the link between formal and informal care there is a subject of discussion, these results point out to formal and informal care, at least when they are provided in the domestic sphere they are complementary. In both cases, the introduction of the opposite type of care as independent variable has showed a positive correlation.

These two models have been repeated for three European regions (Table VII.41 and Table VII.42), grouping the countries according to the classification of ageing in place policies developed by Houben (2001b). This classification is used as a proxy of structural conditions and cultural values that underline the social relationships with family and friends. As it is observed in the models carried out regarding informal support (Table VII.41), the correlation between age and the possibility to receiving formal care is convergent in all regions. Compared to the younger group of older people (65-74), those aged 85+ are more prone to present needs covered by informal assistance in all countries. Due to the biological consequence of the decline of physical and cognitive conditions, the increase in the demand for support due to age is not influenced by the structural contingencies of each region. The same explanation is given to the health variables that are significant in all regions; presetting low or high motor limitations (negatively correlated) or previous hospitalisation (positive correlated). Convergence between the Western and Southern regions of Europe in the negative association of the health factors (not presenting IADL limitations) with informal care or the low level of these impairments with this type of support also exist.

Regarding social networks, it is noticeable that the cross-national effect of living with a partner as guarantee of informal support provision. Above all in Northern and Western Europe, to co-reside with a partner is strongly linked with the fact of receiving informal support.

Table VII.41.Determinants of INFORMAL support at home by European region

	NOTHERN			WESTERN			SOUTHERN		
	OR		S.E.	OR		S.E.	OR		S.E.
DEMOGRAPHICS									
Female	1.35	*	0.25	0.88		0.10	0.89		0.12
65-74									
75-84	1.58	**	0.30	1.40	**	0.15	1.81	***	0.25
85 and over	3.23	***	0.92	2.40	***	0.42	2.03	**	0.43
HEALTH									
No IADL limitations	1.74		0.92	0.29	***	0.10	0.34	***	0.10
Low IADL limitations	1.65		0.88	0.48	**	0.16	0.57	*	0.18
High IADL limitations	4.01	**	2.57	1.62		0.69	2.31	**	0.90
Low motor limitations	0.09	***	0.02	0.18	***	0.02	0.24	***	0.05
High motor limitations	0.25	***	0.07	0.37	***	0.05	0.64	**	0.11
Hospitalisations	2.17	***	0.46	1.29	**	0.15	2.22	***	0.35
SOCIAL NETWORKS									
Partner in household	3.28	***	0.35	2.95	***	0.18	1.90	***	0.14
Daughter	0.77		0.16	1.13		0.13	1.63	**	0.28
Children living < 1km	0.62		0.32	0.74		0.09	0.92		0.13
Size of SN	1.06		0.08	1.07	*	0.04	1.02		0.05
Women SN	0.95		0.25	1.18		0.18	1.16		0.21
Child in SN	1.01		0.22	1.27	*	0.17	1.57	**	0.29
Relatives in SN	1.27		0.51	0.71		0.16	0.68		0.21
Friends in SN	1.65	**	0.36	1.43	***	0.19	1.07		0.20
ADDITIONAL SUPPORT									
Formal support	2.20		1.47	1.90	**	0.59	2.72	*	1.43
Financial l support	3.11	**	1.16	2.16	***	0.46	2.59	***	0.67
Informal support									
N	1064			2665			1603		
Pseudo R2	0.38			0.33			0.26		

***p < 0.000 ; ** p < 0.05 ; *p < 0.1 Source: SHARE. wave4

[1] = Variable not included in the analysis because of lack of cases

Northern countries: Denmark, Sweden and Netherlands ; Western countries: Austria, Belgium, France, Germany ; Southern countries: Italy, Portugal and Spain.

In the case of Central and, above all, Southern countries children have also a crucial role in the provision of informal care, whereas in Northern countries this variable does not present a significant association. In Western, above all, and in Southern countries the fact that children form part of the social network of older individuals is correlated with informal home support. These results go in line with previous research that stated that children are more prone to give help to their older parents in Southern countries of Europe (Daatland and Herlofson 2003). In

addition, results show how care is still a strong gendered activity; in Southern region the fact of having a daughter augments the odds of receiving informal care by 1.63. The importance of friends (also considering neighbours) in the social networks is only significant in the case of Northern and Western regions, benefiting the supply of informal care.

It is also important to remark that in Western and Southern Europe the informal support provided is combined with formal support, and in all regions it is also combined with financial support.

Table VII.42. Determinants of FORMAL support at home by European region

	NORTHERN			WESTERN			SOUTHERN		
	OR		S.E.	OR		S.E.	OR		S.E.
DEMOGRAPHICS									
Female	1.03	*	0.25	0.88		0.10	0.89		0.12
65-74									
75-84	2.09								
85 and over	3.61	**	0.30	1.40	**	0.15	1.81	***	0.25
HEALTH									
No IADL limitations	0.32	***	0.92	2.40	***	0.42	2.03	**	0.43
Low IADL limitations	0.36		0.92	0.29	***	0.10	0.34	***	0.10
High IADL limitations	0.60		0.88	0.48	**	0.16	0.57	*	0.18
Low motor limitations	0.78	**	2.57	1.62		0.69	2.31	**	0.90
High motor limitations	0.37	***	0.02	0.18	***	0.02	0.24	***	0.05
Hospitalisations	0.57	***	0.07	0.37	***	0.05	0.64	**	0.11
SOCIAL NETWORKS									
Partner in household	1.23	***	0.46	1.29	**	0.15	2.22	***	0.35
Daughter	0.49	***	0.35	2.95	***	0.18	1.90	***	0.14
Children living < 1km	-		0.16	1.13		0.13	1.63	**	0.28
Size of SN	2.10		0.32	0.74	**	0.09	0.92		0.13
Women_SN	2.31		0.08	1.07	*	0.04	1.02		0.05
Child in SN	0.32		0.25	1.18		0.18	1.16		0.21
Relatives in SN	0.09		0.22	1.27	*	0.17	1.57	**	0.29
Friends in SN	0.17		0.51	0.71		0.16	0.68		0.21
ADDITIONAL SUPPORT									
Formal support	-		-	-	-	-	-	-	-
Financial l support	-		-	0.81		0.40	1.45		0.97
Informal support	3.14	*	2.02	1.94	**	0.62	2.33		1.21
N	983			2665			1603		
Pseudo R2	0.26			0.33			0.26		

***p < 0.000 ; ** p < 0.05 ; *p < 0.1 Source: SHARE. wave4

[1] = Variable not included in the analysis because of lack of cases

Northern countries: Denmark. Sweden and Netherlands; Western countries: Austria. Belgium. France, Germany; Southern countries: Italy. Portugal and Spain.

The same model has been run with the dependent variable that refers to formal home care provision (Table VII.42). Individuals aged 85 and over are more prone to receiving formal care at home compared to younger elderly (65-74). The health profile of those that are receiving formal assistance is quite similar in all countries. Fairly well conditions augment the possibilities of receiving formal support in all countries (no IALD limitations). This result is probably referred to the older population that, without serious impairments, has some kind of contracted service which assists them with domestic tasks. On the contrary, high levels of limitations prevent the fact to receive formal care at home. These results could seem counter-intuitive because formal care is more common when serious impairments appear. Nevertheless, as for the effects of informal care that mostly covers these needs, serious impairments often lead to an institutionalisation within a short space of time, making formal care present this negative association in all regions.

Regarding social network composition, it is observed that the effect of the partner is cross-national, increasing the likelihood of receiving formal care. As mentioned before, the existence of a partner means a source of additional income that allows covering the eventual payment for home care services. Apart from that, social network variables show the greater divergences among regions; Northern Europe presents a more differentiated profile, whereas the West and South display more similar results between them. In Northern Europe, the composition of the social network does not seem to influence the provision of formal care. Only the variable to have a daughter is negatively correlated. This means that in this group of countries, to receive formal care at home in later life is not so much associated with the existence of informal resources as in other parts of the continent.

In turn, in Western and Southern Europe this association is more evident, presenting the same sign of the correlation in the odds ratio presented by the model. In Western and Southern Europe, counting on informal caregivers also increases the likelihood of receiving formal care. That supports the idea that in this region, informal and formal support to the older adults in the domestic sphere is complementary, more than substitutive activity.

VII.4.3. The effect of home care over living independent duration

The transitions to collective homes normally take place when older individuals presented a severe decline in health status. Even in these cases, in quantitative terms there are few older adults that relocate in an institution in later life. Research carried out with SHARE data have shown that institutionalisation in Europe is fairly exceptional and many times it is a previous step to death (Laferrère et al. 2013). The objective of this analysis is to assess to what extent receiving formal and informal care at home prevents institutionalisation, as the existence of this

mechanism of support is implicit in the ageing in place formulation as the most important strategy to manage the impairments arisen as individuals grow older.

VIII.4.3.1. Specification of the model

The objective of this analysis is to assess if the support received at home by older adults act as preventative factor of nursing care entries. The dependent variable has been constructed using the information contained in the wave 4 of SHARE that recode if the respondent has moved to a nursing home since the last interview, as part of the panel monitoring. Thus, a dichotomous variable "to be in the same accommodation" or "move to an institution" has been created, the former being the reference category.

Table VII.43. Summary of variables included in the logistic regression model

Variable	Type	Specification	Categories	N	Min.	Max.
Permanence in own home between wave 2 and 4	D	To have remained at home between wave	Reside at home/Reside in a collective home	5431	0	1
Gender	D		No/Yes	5431	1	2
Age group	C		65-74/75-84/85+	5431	1	3
High IADL limitations	D		No/Yes	5431	0	1
High motor limitations	D		No/Yes	5423	0	1
Alzheimer	D		No/Yes	5424	0	1
Formal (domestic)	D		No/Yes	5431	0	1
Formal (Nursing=	D		No/Yes	5431	0	1
Previous institutionalisation	D		No/Yes	5431	0	1
Informal IN	D		No/Yes	5391	0	1
Informal OUT	D		No/Yes	5431	0	1
Partner in household	D		No/Yes	5430	0	1
Daughter	D		No/Yes	5431	0	1
Children proximity	D	(1km)	No/Yes		0	1
Children SN	D		No/Yes	5431	0	1
Relatives SN	D		No/Yes	5115	0	1
Non relatives SN	D	Having relatives in the SN different than partner and/or children	No/Yes	4629	0	1

D= Dichotomous, CA=Categorical

The information used as explanatory variables, however, refers to the previous wave of SHARE, i.e. wave 2, in order to know which were their living conditions before the institutionalisation. In this case demographics, but also, health variables are used as control variables, centering the analysis on the care provided before institutionalisation. Given the scant number of individuals

that are residing in nursing care, especially in Southern countries, it cannot be possible to perform the analysis separating the European regions. Furthermore, Italy has been excluded from the analysis because the panel does not monitor any case of institutionalised elderly there.

The model used a similar scheme as in previous models, but adapting them to the analysis purpose. Despite the information about social network composition referring to the moment when elderly already reside in a nursing home, this analysis presumes that its composition has not varied since previous years.

Due to the important association among receiving home care and age showed by the models implemented in the previous section, this time age is used as a differentiation factor and two models have been implemented, one that contains the population of 65 and over, and another that only contemplates the population of 75 and over. Given that most of the residential care entries are registered among the oldest–old, it is interesting to assess how is the effect of receive care at home for the older group of elderly people.

VIII.4.3.2. Results

The results of Table VII.44 suggest that the supply of care is associated with the extension of independent living. Health variables are not significant, except in the case of being diagnosed with Alzheimer that show a negative association with the permanence in the dwelling. In this regard, other studies have shown that degenerative illnesses, above all if they involve irreversible cognitive damages, are one of the most important causes of institutionalisation (Laferrère et al. 2013). Residential care is mostly utilised when their own home does not fit the needs any longer, even with additional assistance. The results point out in this direction, showing that regardless the type of home care the person is receiving, the appearance of illnesses such as Alzheimer trigger relocation to a collective home.

Looking at the support variables, both models confirm the protective effect of intra-household support. As for both the 65+ and 75+ group, the informal support provided by the member of the household prevents institutionalisation; having received support from inside of the household increases around 4 times more the odds to be at home in wave 4. In this respect, the variable "to be living with a partner" offers more clear results. It is positively associated with having remained at home between waves, being this effect higher in the model that considers the younger older population (65+), given that it is 8.2 times more probable to remain instead of moving to residential care, whereas the model of older population (75+) presents an association of 5 times more. In contrast, the result about the effect of informal care from outside of the household over permanence is not so clear. On the one hand, there is not a significant association with informal care from outside of the household in the previous years or institutionalisation. On the other hand, however, the physical proximity of children is positively associated with having

remained at home between waves. The physical proximity of children in a radius of one kilometre, could be interpreted as an indicator of bigger opportunities to receive external care, which otherwise does not assure its provision.

Table VII.44. Logistic regression model of the effect of support on independent living

	65+ population			75+ population		
	Model 1			Model 2		
	OR		**S.E.**	**OR**		**S.E.**
DEMOGRAPHICS						
Female	1,62		0,51	1,56		0,59
65-74	Ref.		Ref.	-		-
75-84	0,65		0,30	Ref.		Ref.
85+	0,23	**	0,11	0,32	***	0,12
HEALTH STATUS (w_2)						
High IADL limitations	0,46		0,27	0,51		0,33
High motor limitations	0,61		0,20	0,68		0,26
Alzheimer	0,12	**	0,09	0,07	**	0,06
SUPPORT (w_2)						
Formal (domestic)	1,58		0,74	3,10	*	1,91
Formal (Nursing)	0,45	**	0,15	0,51	*	0,20
Previous institutionalisation	0,24	**	0,13	0,13	**	0,09
Informal IN	4,42	**	4,95	4,48	**	5,26
Informal OUT	1,00		0,32	0,94		0,35
SOCIAL NETWORKS (w_4)						
Partner in household	8,23	***	3,28	5,04	***	2,34
Daughter	2,04	**	0,60	2,65	**	0,93
Children proximity (1km)	1,26	*	0,41	1,22	*	0,48
Children SN	0,72		0,32	0,59		0,34
Relatives SN	2,51		1,44	3,56	*	2,59
Non relatives SN	1,60		0,56	1,24		0,51
N	4602			1551		
Pseudo R	0.23			0.20		

***p < 0.000 ; ** p < 0.05 ; *p < 0.1 Source: SHARE, wave 2 and 4

Note: Italy does not included in the analysis due to the lack of institutionalised elderly

Formal support, however, shows the opposite relation. If the older adult was receiving nursing care in wave 2, the probabilities of remaining at home in wave 4 decreases. Also to have experienced some other institutionalisation in preceding years is positively correlated with relocation in a collective home in wave 4. In this case, the formal assistance provided at home seems to respond to a severe decline of health status, which inevitably conduces towards residential care. In the case of older-old (75+), to be receiving domestic assistance in wave 2 also prevents institutionalisation in wave 4. Thus, support compensates the loss of functionality due

to minor impairments, or not as serious as considered for institutionalisation, contributing to enlarging the duration of independent living.

Regarding to the social network composition, these models show the persistence of gendered roles about care: those that count on a daughter are more prone to remain at home. The descriptive analysis showed that female children are those that mostly assume the role as informal caregivers in absence of a partner or even when the partner is alive, especially in the case of their older mothers. This support also contributes to the extension of ageing in place experience, increasing around 2 times the probability to remain at home.

The results of model 1 point out that the presence of children, other relatives or non-relatives (mainly friends or neighbours) in the elderly immediate circle is not associated with the extension of independent living. However, the outcomes of model 2 show that to have relatives as part of the social network augments 3.6 times the odds to have remained at home between waves and, therefore, has a beneficial effect over independent living. This change of pattern is due to the effect of widowhood, which mostly affects the older-old adults. As elderly individuals lose their partners, and with them the main source of informal care, they tend to search for other opportunities to cover their support needs. Normally, these opportunities are found in other people belonging to their social network, mostly relatives.

VII.5 Synthesis of the chapter

This chapter has confirmed the crucial role that support at home entails for the ageing in place experience. In first place, because a great part of elderly Europeans are counting on some kind of support at home, with different intensity degrees depending on their needs. This support used to be informal and used to come from inside of the household, being mainly provided by the partner. This pattern is cross-national, although in Southern Europe, due to the living arrangements in this region – a high proportion of multigenerational households and late home-leaving of children – children also play a relatively important role in the informal care provision from inside of the household.

Statistical analysis pointed out that, in Europe, the determinants of home care provision present certain convergence in terms of health aspects (conditioning factors of needs), but diverge in the social resources that older individuals count on to cover them. Since needs are related to biological ageing it is mostly homogenous among countries, whereas the way older people cover it is more of a social issue, being more sensible to the cultural and social organization of each country. In Western and Southern Europe, the importance of relatives is greater than in the North. Counting with family in the social network, different to partner and/or children, augments the possibilities to be receiving care at home, whereas in the Northern countries this variable does not present any statistical significance.

Also, the results of this analysis have shown insights that point out the complementary nature that formal and informal support have in the domestic sphere. The relationship among these two types of care is not so straightforward and depends on a multiple combination of factors that, unfortunately, the analysis could not consider due to data limitations. Despite the utilised survey contains detailed information about informal care and social networks, it would be desirable to count on the same detailed information about formal care, in order to test the interplay between both. This aspect needs to be further researched.

The final aim of this chapter, which is to assess the effect of home care in the extension of independent living, permits to confirm that informal care contributes to prevent institutionalisation, conditioned to the seriousness of the illnesses that the older person suffers. This means that informal support can substitute the care provided by collective homes during some time and, until the impairments require a higher degree of attention, formal care at home appears as a previous step to institutionalisation.

Chapter VIII. AGEING IN PLACE AS PREFERENCE: A CASE STUDY OF OLDER SPANISH POPULATION.

VIII.1. Introduction

One of the arguments utilised by the institutional promotion of Ageing in Place is that this residential solution is the most desired by older people. This statement is mostly supported by studies that have interpreted such behaviour, i.e. evidence of older people that mostly age at home, as a "choice" (Bonnet et al. 2008; Clark and Dieleman 1996). However, it is less common to approach elderly living decisions based on the assessment of their stated preferences (Hjälm 2013; Mellander et al. 2011). That means not putting the focus on whether older people are effectively ageing at home, but it is more about what their ideal preferences are in regard to the best environment where to grow older.

When the preferences are only identified through observed behaviours, it runs the risk that the resulting picture is biased. Revealed choices are the final result of a decision-making process in which the original preferences are shaped by the limitations that individual have to face to achieve a determined residential situation. Social and financial resources, health status or personal relationships act as constraint factors that shape the baseline desires of individuals, conditioning the possible options, and, therefore, the final behaviour. In some way, stated

preferences are the subjective basis of the decision making process, while *revealed* preferences are the ultimate consequence of this evaluation.

The relevance of older adults' stated living preferences lies on the effect that a mismatch between wishes and reality can have for later-life well-being. To remain living in an unwanted place, even if it is the own home, can lead to negative outcomes such as isolation, loneliness or frailty. Then, to achieve an accurate understanding of the benefits to live independently in old age and to develop a solid ground for ageing in place as policy practice, it is necessary to consider the aspirations and expectations that older people have about where and with whom they prefer to live, regardless the living situation they are experiencing.

In light of this, the aim of this chapter is to explore the individual dimension of ageing in place, focussing the analysis in the specific case of Spain. The chapter examines what would be the preferred setting to live in later life, identifying the factors that condition the election of each one of the alternatives (the own home, relative's home and institutions). The questions that guide the analysis are: *is ageing in place the preferred solution of Spanish elderly? Would they prefer the same setting considering a health decline*? The initial hypotheses are:

The stated preferences vary, depending on the situation about which older people are asked. A hypothetical need for care makes elderly start to consider more seriously other types of living arrangements to cover their need for support.

Co-residence still has a considerable weight in the collective imaginary of older Spanish people as mechanism to seek informal care.

This analysis also aims to shed light onto the persistence of socio-cultural values that influence the stated preferences about where and how to live in later life. The last section of the empirical analysis is focussed on assessing the willingness of the Spanish population aged 18 and over to choose ageing in place as preference, in order to test if the individualisation process undergone by western societies has affected the familiaristic view of late life care to older adults. The initial hypothesis is:

It is expected that younger cohorts have less willingness towards family-oriented living arrangements.

The fact that this chapter is focused on the Spanish context is related with a secondary objective, which is to identify different ways in which older people accomplish independent living in Europe and to highlight the specificities of Southern European countries in this respect. EU policy guidelines cannot assume as main premise of ageing in place that the most beneficial solution for older people is to live at home without taking into account country-specific effects of this practice for themselves and for their families. The social and structural idiosyncrasies shared by Southern European counties, which is characterised by familiaristic cultural norms and by the poor development of the welfare state, seems to be forgotten at times in the creation of a common

"ageing in place" policy (Genet et al. 2012). Achieving effective measures that encourage a healthy and positive experience of ageing in southern Europe should embrace the major role of relatives' homes as alternative to institutionalisation. Spain is a perfect example of how the housing dilemma of those frail elderly and their families does not only consider two options; ageing at (the own) home vs. institutionalisation, but that they still heavily see co-residence with relatives as a supportive environment. To be aware of these particularities is essential to achieve a more realistic overview about independent living in Europe.

VIII.2. Background

In Spain, as in the rest of Southern Europe , to grow older in a private setting is the most common mode of living, even in the most advanced stages of later life, as is confirmed by the rate of the institutionalised population that is maintained at very low levels (chapter IV). This picture has to be interpreted with caution because, in Spain, remaining in a private setting in old age is not associated with independent living in the same sense as it could be interpreted in the northern-western part of the continent. Despite that the picture is gradually changing, relocating in a relative's household to cover care needs is still quite a frequent mechanism of support when an older member of the family cannot be self-reliant for longer. The particularities that define ageing in place experience in Southern Europe are conditioned by; (1) the way in which the care responsibilities towards the older frail members of the family is understood converts co-residence into an option to provide/receive care often valuated by both the older population as and their carers (2) the deficient development of welfare states contribute to the shortage of housing/care alternatives, deriving in an increase of the weight that families has on the provision of care (3) institutionalisation is still a stigmatised residential solution for both the older population and their families and is associated with those who present severe health problems or without close family networks. This perception is more likely in the oldest-old generations, as they are precisely those who are more exposed to being relocated to collective homes, but they are also likely to provoke a feeling of guilt among adult children for institutionalising their elderly parents.

VIII.2.1. Ageing in Place in Spain: Between the choice and the lack of alternatives

The increase in life expectancy has produced a twofold outcome in terms of residential patterns and living arrangements depending on the phase of later life that the older adult is experiencing. On the one hand, in the so-called Third Age, the increase in longevity has extended the time that older people remain in their private home with sufficient capacity to live independently. On the other hand, a longer life involves the increase of the likelihood to make a transition to a collective

homes in the last stage of old age (Fourth Age), when abilities are severe damaged (Castle 2001). The Spanish context has not been any different to the rest of the European countries. In fact, older people remain in their homes for as long as possible, thereby only considering relocation, to either a relative's home or an institution, when their health status sharply declines. The main differences lies in that, as it was shown in Chapter IV, Spain shows an extraordinary low proportion of institutionalised elderly even among the oldest-old population (80+). Collective homes have historically been a secondary option compared with relatives' homes when elderly can no longer take care of themselves. The relocation in these type of settings has been mostly utilised when family networks are not able to take up care duties, due to physical distance, the requirement of special equipment or complicated treatments, the need of full-time attention, or simply when the older person lacks close relatives who agree to carry out care tasks.

Care provision comes from a combination of resources provided by family, state and market (Daly and Lewis 2000)[56]. In Spain, this combination is clearly dominated by family, in the extensive sense in which this institution is conceived in the south of Europe, being residually complemented by the State and private sector (Tobío 2008). The family assumes almost exclusively the bulk of care provision, not only to elderly but, in general, to all the age groups who are in need of assistance. It is estimated that the 88% of health care given to the domestic sphere in Spain is provided by an informal source (Durán 2002). In the so-called *strong-family societies* (Reher 1998), the responsibility of assistance and shelter to vulnerable members of the family falls almost exclusively on informal providers, the vast majority of whom are women. The archetypical profile of Spanish caregivers is fairly homogeneous; women (83%), aged around 55 years old, married, with children and without a paid employment (Tobío et al. 2010).

In Spain, informal care to older members of the family is a social commitment with deep cultural roots grounded by the idea of *reciprocity.* It entails that the flows of support among relatives are dilated in time strengthening family ties and, unlike the concept of exchange, does not imply simultaneity; i.e. it is produced in a moment or a series of moments across the life course. The idea of reciprocity involves that there is a non-explicit *obligation* to give that involves a *right* of receive in the future, supposing that what is given and what is received is something of a similar nature (Tobío 2008). Applied to informal care, the idea of reciprocity serves to explain how the support provided from parents to their children is to some extent viewed as an "investment" for their future security, which also adult children assume as part of their commitment with their older parents.

Despite the decrease of multigenerational households in the European context is well-documented (Festy and Rychtarikova 2008; Glaser et al. 2004; Kohli et al. 2005b), studies as

[56] The exposition of the concept *social care* elaborated by Daly and Lewis (2000) is broader developed in Chapter VII, Section VII.2.1.

those carried out by Iacovou (2000) showed remarkable differences between what she labelled as protestant countries (Netherlands, Denmark, Germany, UK, France, Belgium) and catholic countries (Ireland, Austria, Spain, Portugal, Italy and Greece). In the former group the percentage of people aged 65 and over living with their children was 12% both for males and females, showing a greater propensity to live alone and with a couple. The average percentage of multigenerational households for southern countries was significantly higher; the 33% in case of males and 32% in case of females.

These data point out that co-residence still represents a fairly extended living arrangement in Spain, and acquires a particular relevance as a mechanism to cover care demands of older adults (Abellán, Esparza and Pérez-Diáz 2011). The 22% of males aged 65 and over and 23% of women with disability were residing in their children's home in 2006. These percentages of co-residence were even higher in the case of older persons who are living alone; widowed, separated or never married (Pérez-Ortíz 2006). Furthermore, a rotational pattern of co-habitation between older adults and their adult children has been identified that sometimes, but not always, responds to a punctual need of care. According to Perez-Ortíz (2006), 9% of Spanish elderly declared that they were temporarily in another household for health care reasons. In the same analysis it was found, moreover, that having some kind of disability decreased the probability to live alone, especially in case of males.

A given explanation to the relevant role of co-residence as a substitute of institutionalisation is the influence of macro-structural conditions. On the one hand, co-residence is not only the reaction of individual and familial contingencies but also to socio-economic uncertainties. On the other hand, previous research has shown that when the state assumes less responsibility on care provision and the welfare state is reduced , it are the families who cover the supply of support (Isengard and Szydlik 2012). In Spain, the state's protection of the older and dependent population at home has been traditionally deficient and auxiliary, having focused on pensions and health care. The state only appears to provide some support when individuals cannot count on other resources or relatives who assist them. The conceptualisation of care as a private activity has led to the state not taking an active role and the services being tightly rationed due to low levels of supply (Comas-Herrera et al. 2003).

Also the high decentralisation of the state's responsibilities has meant that the authorities responsible to attend dependent elderly pertain to different levels, from local to central administrations, in which different criteria are applied to measures.

A recent attempt to alleviate this deficiency was the *Ley de Promoción de la Autonomía Personal y Atención a las personas en situación de dependencia y a las familias de España* (Law for the Promotion of Personal Autonomy and Attention to People in situation of Dependency), presented in 2006 as the pillar for the construction of the future *National System of Attention to Dependence*,

but cutbacks on social expenditure due to the economic crisis has meant that no expenses have been made since 2012.

Despite that from the beginning this law was criticised by present evident deficiencies (Castillo, Pérez and Martín 2010; López-Cumbre 2006; Serrano-Pascual, Artiaga-Leiras and Dávila de León 2013), its original aim was to improve the deficient coverage of the dependent population needs by public institutions in Spain, especially addressed to the elderly population. The law foresaw to create a series of new services with both benefits in kind such as teleassistance or care home, as well as cash transfers to the family or private caregivers. The highlighted problems were (1) the organization of social protection system that distribute the responsibilities of policy development to distinct level authorities, which diversify the way in which these policies are applied, even the resistance of some regions to apply the norms (Ley de Dependencia 2011) and (2) the lack of accordance between the foreseen services and those actually provided during the time that the laws was in force. Furthermore, the predominance of cash transfers measures over benefits in kind, maintained the importance of family as factual care provider.

VIII.2.2. Collective homes: the last resort?

The fact that elderly conserve good physical and cognitive conditions for longer periods together with family providing the bulk of care has maintained older Spanish inside the boundaries of the domestic sphere. The cases in which Spanish elderly are relocated in institutions are unusual and normally prompted by the incapability of the individual and their relatives to face a serious health status decline. The lack of informal support or the proper kind of informal support in terms of intensity and quality, is the primarily reason of elderly institutionalisation.

For a great part of older Spanish, collective homes are the last option to consider when the circumstances enforce the search of additional assistance. Despite that this picture is changing gradually, care institutions have been historically viewed as the last resort, reserved to those that do not have relatives, are abandoned or for other reasons cannot dispose of a source of informal support to manage their daily live with a minimum satisfactory level (Rojas-Ocaña et al. 2006). In consequence, the transition to institutional care in Spain did not use to be a proactive choice, but the outcome of a lack of alternatives. In one of the few qualitative researches focused on the older Spanish population living in institutions, Bazo (1991) noticed that many of the institutionalised elderly expressed their resignation when they have to relocate in a collective home. They affirmed that this decision was taken, fundamentally, because there was no other possible choice. In a more recent research, Lázaro and Gil-López (2005) found analogous results among non-institutionalised elderly in Spain. For 20% of old people living at home the main reason to consider institutionalisation was because they did not have another feasible option.

The familiaristic system in which Spanish society is rooted makes that the decision-making process about the institutionalisation of the older members of the family is often collectively carried out. Younger members of the family, in particular children, but also grandchildren, daughters-in-law, sons-in-law, brothers or sisters if they are alive, participate actively in selecting the moment, type, location and the facilities of the nursing home. Often, this collective decision leads to an implicit submission of the older person to family choices. In a survey carried out by the *Instituto de Mayores y Servicios Sociales* (Institute of Older people and Social Services; IMSERSO) in 2004[57], the institutionalised population aged 65 and over was interviewed about who was the person that took the final decision to move to the collective setting. Despite the fact that the majority of the respondents declared that the decision was taken only for themselves (60%, of which 8% also declared not to have any relatives), it is noticeable that 16% of the respondents admitted that the election was taken exclusively by their family, 11% declared that it was a mutual agreement and 6% affirmed that the choice was decided by social services. This means that 33% of the institutionalised older population that were interviewed admitted that someone else took part in the final decision about their relocation to a collective home.

Culpability about do not continue being self-reliant is a shared feeling of those that state to be in a care institution on their own will. The data of the aforementioned survey, *Encuesta de Condiciones de Vida de las Personas Mayores 2004,* reveals that 8% of the elderly respondents declare that the reason for moving was that they do not want to be a hindrance for their families given the impairments they present. This percentage is higher in women (11%) and people aged 80 and over (14%)[58]. In the case of those elderly still living at home, Lázaro-Ruiz and Gil-López (2005) found out that not to suppose a burden to their relatives would be the prevailing reason to consider institutionalisation for 35%. Other reasons to accept institutionalisation among those living in a collective setting was "not to be alone" (35%), a percentage that is fairly similarly distributed across gender, age-groups and regardless of the presence of relatives. The lack of relatives was the only reason for 3% of the entrances and in 6% of the cases, the family could not assume the care of the elderly members despite that they would have liked them to do so.

The low desirability of institutions as housing solution lies on the negative image that Spanish elderly maintain about these settings that has been shaped through history and only recently has begun to relieve among the new generations of older adults. Despite the facilities of collective homes have improved rapidly; socio-cultural recollections about the nature of shelter houses and asylums persist in the memories of Spanish elderly. Until mid-20th Century, the Catholic Church managed almost exclusively those charity institutions that were addressed to individuals who lacked supportive family structures, including orphans, homeless, people suffering from mental

[57] Encuesta de Condiciones de Vida de las Personas Mayores 2004. Own calculations.

[58] Tables containing the complete descriptive results exposed in Annex Table A.62 and Table A.63

disorders and older people. In these religious establishments, different vulnerable collectives coexisted under deprived conditions that barely covered their basic needs. In the beginning of the 20th century, the process of urbanization drove the creation of primary institutions specifically destined to older people, most of them still under Catholic Church control. Located in the peripheral area of the cities, the location of these settings kept the frail old population segregated, hiding them from the rest of society. The association that care institutions maintained with sickness, death and social exclusion continued the cultivation of rejection and suspicion that older population felt about collective homes (Fenández-Fernández and Sánchez-García 2006; Giménez-Muñoz 2006). During the second part of the 20th century, and especially in the last years of the Franco dictatorship, the Spanish government underwent the first steps towards the implementation of public residential care when in 1969 the *Plan Gerontológico Nacional* (National Gerontological Plan)[59] was developed (Egozcue 1996). In the same year, there were a total of 608 institutions with 45.754 beds, which was still an estimated deficit of 130.000 beds to cover the elderly demand on care institutions (MutualidadesLaborales 1969).

Despite the rapid quantitative and qualitative changes in care settings since then, the stigma of institutionalisation remains, as it is reflected by the research of Bazo (1991). The negative visions that older Spanish residing in institutions maintain could be summarised in (1) *Institutionalisation as an alien experience*: they never thought in younger ages about the possibility of living in an institution when they grow older (2*) Institutionalisation as a social exclusion process*: people that live in collectives homes are unprotected or abandoned, individuals that do not have family or, even worse, family who do not want to take care of them (3) *Collective home are viewed as depressing places* that does not contribute to the enhancement of later life well-being.

Furthermore, although institutionalised elderly recognised that their opinion about collectives homes had ameliorated since they started living there, many of them expressed their conviction that ageing at home is the best option by recurrently using the phrase: "There is no place like (the own) home".

VIII.3. Analysis

In the study of housing preferences in later life, researchers have used two main operational strategies. Firstly, to explore the housing choices by analysing the observed residential behaviour of individuals and households, i.e. to opt for a change in dwelling or to remain in the same accommodation, to choose between ownership or tenancy, etc.; as an expression of the preferred

[59] The plan recognises the social needs of Spanish elderly population beyond the economic support offered by the recently created pension system, and establishes as priority action the promotion and construction diverse modalities of collective homes and domiciliary assistance, supposing the ground for the posterior development of the current system of public services focused in old age

option in terms of utility-maximising and functionality. These approaches are based on the *revealed preferences* of individuals, which are the final outcome of the decision-making process and, therefore, are heavily influenced by structural constraints as market conditions and availability or resources (DeJong et al. 2012). The use of this perspective has been profuse, above all in economics, treating to identify the factors that condition the housing consumption and its consequences over global dynamics (Mulder 1996; Sabia 2008; Tatsiramos 2006; VanderHart 1998).

The second strategy of researching housing choices in later life is by means of the *stated preferences.* Under this perspective, the focus is put on the ideal choices that individuals or households declare when they are asked about their intentions when face a hypothetical situations; the place where they would like to grow old, with whom they would like to live in five years, etc. The stated preferences are not observational and they do not imply an authentic decision-making process, but they are informative opinions about the expectations, aspirations or goals that people have that not necessarily are manifested any time. Compared with the revealed preferences, the construction of stated preferences is essentially linked with psychological factors as it is a speculative exercise, where the real conditions that individuals are experiencing have lesser weight than in the case of revealed preferences. Evidently, stated preferences are not exempt of external influences given that the decisions made about imaginary situations are assessed by the consideration of real conditions and previous experiences of individuals.

The aim of this chapter is to explore the factors that shape the election for different living options in old age (independent living, co-residence or institutionalisation), regardless of the place where they live and the living arrangement they have in the moment of the survey. This analysis about the determinants of the older Spanish preferences has been carried out using discrete choice models, developing different specifications of Logit techniques (Logit regression and Multinomial Logit Regression). The last section of the analysis aims to outline future trends on housing and living arrangements preferences in later life considering, this time, the Spanish population aged 18 and over.

VIII.3.1. Data and Methods

The data for the analysis of the stated preferences of older Spanish population come from two sources. The first one, *Encuesta sobre Mayores 2010* (Older Population Survey), provides data to carry out the former objective of the chapter that it is identify the determinants of residential ideal choices in old age. The second survey is the *Barómetro de Mayo 2009* (May Barometer 2009) and it provides data to deal with the second objective of this chapter, that it is to assess the cross-age validity of 'ageing at home' as an ideal setting to grow older.

The Encuesta de Personas Mayores 2010, implemented by the Instituto de Mayores y Servicios Sociales de España (Insitute of Older People and Social Services of Spain; IMSERSO), is a cross-sectional survey applied to a sample of 2.535 individuals aged 65 and over that in the moment of the survey were living in private accommodations. The aim of this survey, which has been held biannually since 2004, is to recode information about the living situation (living arrangements, marital status, social participation, etcetera.) and opinions of Spanish elderly.

The second source is the Barómetro Mayo 2009 (study nº 2801) developed by the Centro de Investigaciones Sociológicas (CIS). This organism used to implement periodical questionnaires that cover a wide range of topics regarding the social and political reality of Spain; opinions on new laws, elections, and attitudes towards social processes as immigration or ageing, etcetera. The Barómetro Mayo 2009 is focused on collecting data about the subjective aspects related with old-age and older people as the visions that people have about ageing process, together with other socio-demographic characteristics. The reason to complement the former source is that the Barómento Mayo 2009 sample ranges from younger to older cohorts, containing a total sample of 2.500 individuals aged 18 and over. The sample composition allows contrasting the opinions about ageing at home among different age groups in the Spanish population, permitting to assess if it is possible to identify generational changes in the perception about what is the most desired way of growing older.

The empirical analysis on the determinants that shape Spanish elderly preferences utilises the discrete choice model approach by means of different specifications of Logit techniques, namely a Logit Regression Model and a Multinomial Logit Regression Model. The usefulness of this techniques for the research of stated preferences was extensively shown by Louvier, Hensher and Swait (2000), although they principally applied their premises to economics and business research.

VIII.3.1.1. Logit regression model

Discrete choice methods are statistical tools that permit to modelise qualitative variables with the aim to predict the probability that an individual opt for one of the alternatives presented by a binary dependent variable. Together with Logit models, Probit Models has been the other big group of discrete choice techniques. Both of them are non-linear models that bring similar outcomes and have similar interpretations. The main difference lies in that while logit models assume a cumulative standard logistic distribution (F), probit models assume a cumulative standard normal distribution (Φ). Logit regressions used to predict the outcome of a binary dependent variable that assume a cumulative standard logistic distribution (F) , which is expressed as:

$$logit\ (p) = \ln\left(\frac{p}{(1-p)}\right)$$ Equation VIII.1

Logit theory applied to individual's choices is marked by two main theoretical developments. On the first place, the *Curve Fitting* developed by Berkson (1944, 1951), who coined the term logit as a competitor of Probit. Benkson's contribution initiated an intense debate about the advantages of logit vs. probit models, which were based on a cumulative standard normal distribution (Φ), and, during this time, were more extensively applied (Cramer 2003, 2004; Hunt and Frankenberge 1981). The arguments in favour of the logit model present it as a tool with a higher flexibility of interpretation, as it depends on the definition of the explanatory variables. However, its critics have argued that logit models lack a solid theoretical basis for its application as, unlike probit models, it is not based on an observable probability distribution (Aitchison and Brown 1957).

Berkson stated that the choices of individuals could be comprised in a binary variable Y_i that offers two alternative response options that range[0,1]; $Y_i = 1$ if the choice took place and $Y_i = 0$ if the choice did not take place. The probability distribution depends on a vector of covariates X_i given by:

$$Pr(Y_i = 1|\ X_i) = \frac{\exp(X_i\beta)}{1 + \exp(X_i\beta)}$$ Equation VIII.2

,where is the vector of the parameters, that using cross-sectional data is estimated by means of Maximum Likelihood Estimator (MLE). Under the assumption that the model is true, the MLE estimator is consistent, asymptotical normal and efficient (Amemiya 1985).

A second strand of logit models has been denominated as *Random Utility Models* (RUM) since Marschak (1960) introduced them to economics and has transformed logit models[60] in a more sophisticated but flexible tool. However, it was the work of McFadden (2001) which operated as a catalyst to the implementation of logit models for the research of individual choices. He stated that the decisions of individuals tend to be dichotomous, i.e. they present two possible options which generally represents opposite choices. Based on this, each individual's choice represents a utility function U_i associated to each one of the alternative of the binary response ($y = 1\ ; y = 0$).

[60] For more greater detail about the recent developments of logit models see : Gouriéroux, C., A. Monfort, and A. Trognon. 1985. "Moindres carrés asymptotiques." *Annales de l.INSEE* 58(91-121). ; McFadden, D. 2001. "Economic Choices." *American Economic Review* 91:351-378..

This utility function depends on a systemic component V_i that captures the effect of the explanatory variables (observable attributes) X_i and the random error ε_i:

$$u = X_i\beta_i + \varepsilon_i$$ Equation VIII.3.

The utility function for each possible alternative choice is formulated as:

$$Y = 0 \rightarrow U_0 = \alpha_0 + \beta_0 X + \varepsilon_0$$
$$Y = 1 \rightarrow U_1 = \alpha_1 + \beta_1 X + \varepsilon_1$$

Where α and β are the parameters and ε_0 and $\mathcal{E}_1$ are independent and identically distributed. If the choice of the individual follows the economic principle of maximisation it is expected that they opt for the alternative which generates maximum utility.

VIII.3.1.2. Multinomial Logit Regression Model

Multinomial logit regression models are an extension of logit models; the difference being that the nominal dependent variables has more than two categories. Two different types exist: ordered and non-ordered, depending on if the response categories follow a logical pattern or not. In the case of this section the second type is used. The profound use of multinomial logit in Social Sciences lies on the fact that results are easy to interpret, albeit that there are a large number of parameters (Cheng and Long 2007). These types of models assume that the dependent variable cannot be perfectly predicted, i.e. that the explanatory variables do no need to be completely independent. Despite that a certain level of collinearity is permitted, it should be relatively low to facilitate the interpretation of the model.

An underlying assumption to Multinomial logit is the so-called Independence of Irrelevant Alternatives (IIA), that state that, all else being equal, the choice of a person between the alternatives is unaffected by the existence of the other possible choices. The problem is that actually in reality this does not work like that. This is therefore considered an intrinsic problem of the model.

According to Discrete Choice Theory, what multinomial logit technique modelises is the utility function resulting when the individual i choose of the alternative$j$; i.e., the probability that the individual i chose the alternative j is conditioned by the value of β_i. This utility function follows the same equation exposed in previous section, that adapted to multinomial logit model is expressed as:

$$Pr(Y_i = J_i) = \frac{\exp(X_i\beta)}{\sum_{k=x}^{K}\exp(X_i\beta)}$$ Equation VIII.4

The result is a group of probabilities for the $J + 1$ alternatives. As the sum of the probabilities is equal to 1, only the J vectors of the parameters are needed. For that reason, the usual procedure is to normalise $\beta_0 = 0$. After that, the final equation results as:

$$Pr(Y_i = 1|\, J_i) = \frac{\exp(X_i\beta)}{1 + \sum_{k=x}^{K} \exp(X_i\beta)}$$

Equation VIII.5

VIII.3.2. Where and whom do Spanish elderly reside?

In Spain, the option to remain at home as alternative to institutionalisation has been a ubiquitous practice long before that 'Ageing in Place' became the mainstream concept that it is nowadays. As shown by the 2011 census data, around 96.5% of Spanish elderly aged 65 and over reside in a private setting. In contrast, those that live in collective homes barely reach 3.5%. Institutionalisation thus represents an option for a small minority. Even in the older-old age cohorts, when impairments and support needs are intensified, 88.9% of Spanish population aged 85 and over remained living in a private setting in 2011[61].

The rate of the older population residing in private homes during the period 1981-2011 exceeds in all census year 96% and has remain relatively stable during this period, following a slight overall decreasing tendency between 1981 (97,1%) and 2011, when the rate reached the lowest percentage (96.5%). Evidently, the picture of the institutionalised population follows the reverse trend. As it is observed, the percentages of older population residing in collective homes are particularly low, but reached its maximum in the studied period in the year 2011.

Table VIII.45 contains the trend in settlement rates of the Spanish population aged 65 and over by type of setting (private vs. collective), using census data of the period 1981-2011. These rates has been standardised using the direct method, in which the nominator is composed by the summation of the specific rates (r_x) of five-years age groups from ages 65 to 100+ years, multiplied by the total size of the Spanish population aged 65 and over up to 100 years old, as registered by the 2011 census (P_x). The denominator is the sum of the standard population in the 2011 census.

[61] Own calculations shown in Chapter 4.

$$Standarised\ rate = \frac{\sum_{x=65}^{\omega} r_x * P_x^{2011}}{\sum_{x=65}^{\omega} P_x^{2011}}$$ Equation VIII.6

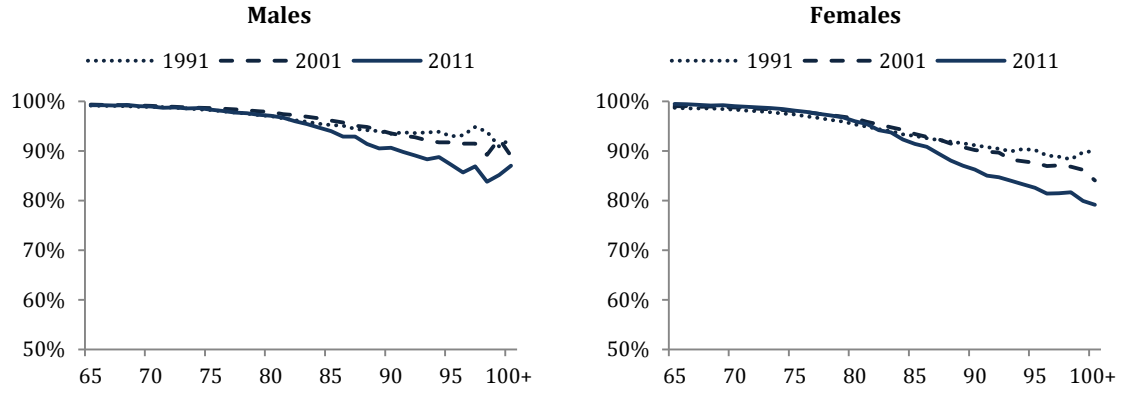
The rate of the older population residing in private homes during the period 1981-2011 exceeds in all census year 96% and has remain relatively stable during this period, following a slight overall decreasing tendency between 1981 (97,1%) and 2011, when the rate reached the lowest percentage (96.5%). Evidently, the picture of the institutionalised population follows the reverse trend. As it is observed, the percentages of older population residing in collective homes are particularly low, but reached its maximum in the studied period in the year 2011.

Table VIII.45. Standardised rates of population aged 65 and over by type of setting, Spain, 1981-2011 censuses (%).

	1981	1991	2001	2011
Private homes				
Male	97.8	97.6	98.0	97.2
Female	96.8	96.4	96.8	96.2
Total	97.1	96.8	97.2	96.5
Collective homes				
Male	2.2	2.4	2.0	2.8
Female	3.2	3.6	3.2	3.8
Total	2.9	3.2	2.8	3.5

Source: Spanish Censuses 1981, 1991, 2001 and 2011, Instituto Nacional de Estadística (INE)

Figure VIII.48. Distribution of Spanish population aged 65 and over living in private homes by simple ages and gender.



Source: Spanish National Censuses, 1981, 2001, 2011

Figure VIII.49. Distribution of Spanish population aged 65 and over living in collective homes by simple ages and gender

Source: Spanish National Censuses, 1981, 2001, 2011

Figure VIII.48 and Figure VIII.49 show that the distribution of older population by simple ages, type of setting and gender comparing the data of the three census rounds[62]. The results are in accordance with previous data revealing very high rates of elderly living in private homes and fairly low proportions of older residing in institutions. The proportion of Spanish older population residing in private and collective homes has maintained practically in the same level in the three years analysed until de age 80. Over this threshold, the percentages of permanence in private setting are reduced in favour of the institutional settings, achieving the maximum rates of elderly living in collective homes in the year 2011. The increase in the oldest-old population, who present a higher probability to experience institutionalisation due to the displacement of chronic diseases to these stages of later life and, at the same time, a reduction in the social network who provides informal care, particularly in case the partner has died, explains this trend.

The fact that Spanish older females present higher life expectancy, explains part of the larger proportion of women residing in collectives homes in the advanced old age. In 2011, the 3.8% of Spanish females aged 65 and over were residing in collective homes, meanwhile for males this percentage represent the 2.8%. The difference increases among the oldest-old: at age 90 13.7% of women aged 90 were living in institutional settings, while the percentage of males in the same living situation was 9.4%.

VIII.3.3. Where and with whom do Spanish elderly prefer to reside?

The main objective of this analysis is to identify the factors that shape the willingness of Spanish elderly to chose as preference an independent living or, nonetheless, opt by a residential mode

[62] The year 1981 is not included because the censuses data disaggregated by simple ages are not available.

that implies some kind of support. To introduce the statistical analysis, a descriptive overview of the living preferences in later life is exposed.

VIII.3.3.1. The starting point: frailty as conditioning factor of stated preferences

One of the questions introduced in the survey Encuesta de Personas Mayores 2010 (Survey of Older People 2010) interrogated to older Spanish about the preferred place to live during old age, regardless where they are residing in the moment of the survey. This question is repeated two times presenting them two hypothetical situations: what would be this setting in case of do not need any kind of support/care and what would be the setting in case of suffer any disability that impede the normal development of daily routines. The categories of the variable contained by the questionnaire have been sorted in three types of habitational solutions:

- INDEPENDENT LIVING (Ageing in Place)

Category in the questionnaire: To reside in the own home, even alone (1 category).

This corresponds to the archetypical model of ageing in place. It is experienced in a private setting where the older person manages and organise the main activities of everyday life.

- PRIVATE SUPPORTIVE SETTING (co-residence).

Categories in the questionnaire: To reside in relative's home (mainly children) + to reside in a home shared with other people (not relatives) (2 categories).

This option is difficult to situate in the typical scheme of "ageing in place" that opposes private to collective domain due to co-residence acts as a substitute of institutionalisation in Southern region of Europe. The older person remains in the private domain but playing a secondary role in the everyday decision-making processes of the new household.

- COLLECTIVE SUPPORTIVE SETTING (Institutions).

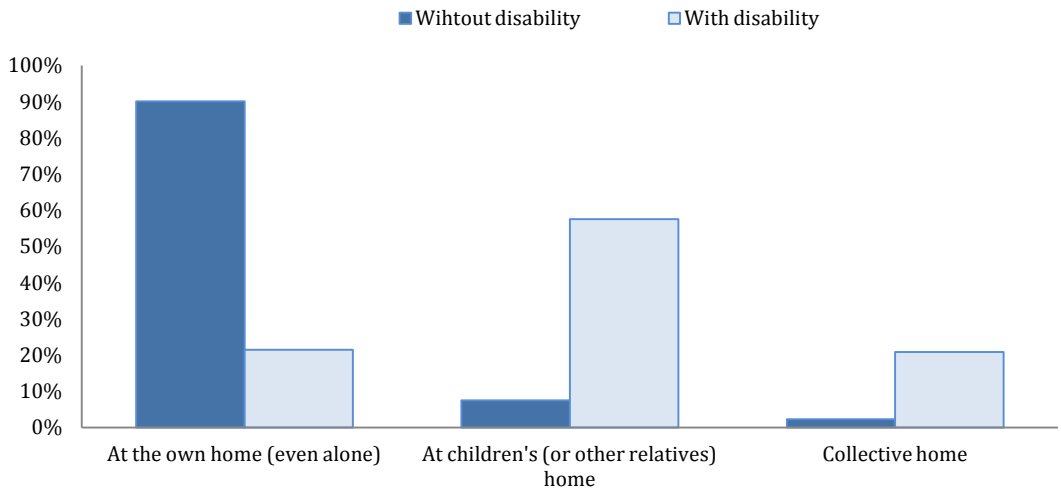
Category in the questionnaire: To reside in an institution or housing complex specially designed for elderly (1 category).

As it happens in the preceding category, to classify this option in or outside of the ageing in place limits it is not straightforward. Normally, to reside in an institution and to reside in a housing complex with a specific design for elderly people are conceived as antagonistic residential solutions. Collective homes are exactly the opposite residential mode to "ageing in place" and special housing is a recent development that aims to offer an alternative to institutionalisation, facilitating to preserve the intimacy of a private dwelling but with the benefits of an adapted accommodation. The fact that this survey interrogates about these residential solutions merged in the same category evidences that (1) Spain has a scant public investment in alternatives to

institutionalisation and (2) this poor development derives on a lack of distinction among settings, equalling the images of housing solutions with care facilities to the traditional vision of collectives homes. Despite of that, it is considered that this category basically refers to the institutional setting due to the scant development of housing complex special for older people in Spain.

As Figure VIII.50 shows, the ideal residential setting in case of do not need support is by large the representative mode of independent living. The 90% of older Spanish declare to prefer to reside in the own home during old age years while their physical and cognitive functions are sufficient, even if during this time they would be living alone. The option to live in the children's (or other relative) home solely represent the main choice for the 7.5% of the sample and the relocation in some kind of collective home is selected by a rather reduce proportion of older people (2.3%). However, the order of preference changes significantly once they are asked by their preference in case of frailty. Then, the sharing of preferences becomes more equally distributed. In the first place, more than the half of the elderly respondents (55.9%) would prefer to move into the home of their children or other relative in case of support need. These results respond to a mixture of cultural values and social practices that seek to avoid the stigma of institutionalisation for both; the older person and their social networks.

Figure VIII.50. Preferred setting where to live in old age in case of presence/absence of need of support, 65+ population, Spain, 2010.

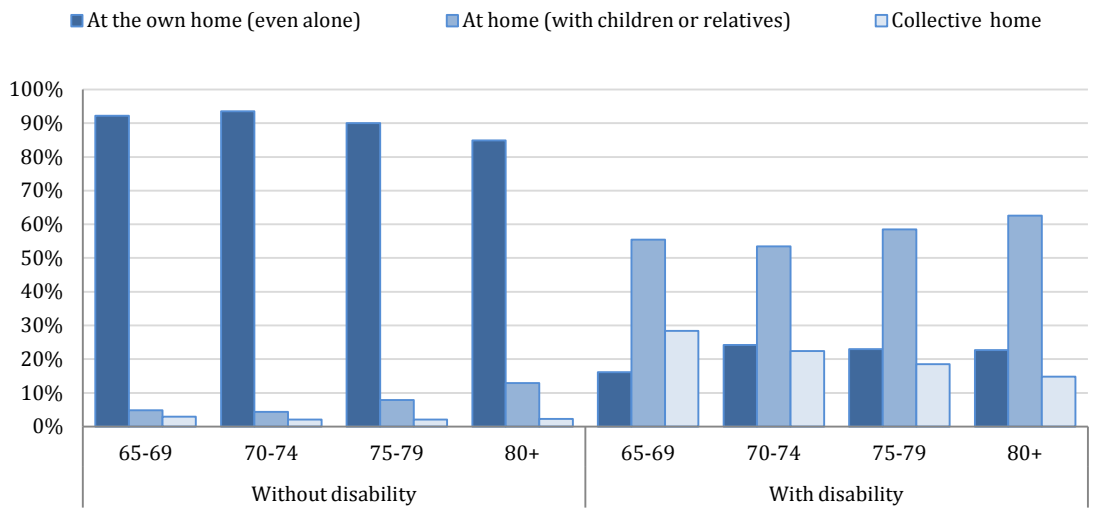


Source: Encuesta de Mayores 2010, IMSERSO.

The other two alternatives, to live in the own home and to live in some institution, equal their percentages around the 20% of responses. In second place, it is noticeable the increase of institutionalisation as desired option, which in a healthy situation merely represented a residual percentage. The results reveal that the older Spanish that would choose for a supportive environment reach almost the 80% in a hypothetical situation in which they suffer some kind of

disability. Despite the formal aspects of each setting obviously differ in terms of intimacy, autonomy and *locus* control, the underlying reason that conduce elderly to opt ideally for a supportive environment lies on they view them as the most suitable solution to receive care and support. Then, if the older person would have to deal with the appearance of some impairment, the choice for any kind of supportive environment is preferred to ageing in place.

Figure VIII.51. Preferred setting to grow older in case of presence/absence of disability by age group, Spain 2010.



Source: Encuesta de Mayores2010, IMSERSO.

Analysing these results by age group, it can be observed some differences among older and younger cohorts of elderly. Facing a situation in which individuals are self-reliant, the dominance of ageing at home as preference is evident in all age groups. Even so, it is detected a higher percentage of older-old (80+) that prefer co-reside with relatives if compare with the rest of age groups. Looking at the preferences in case of frailty, to live with relatives, mainly children, is the most chosen option. In this case, it is appreciable a change of tendency in the younger cohorts of elderly. Those aged between 65 and 69 declared as second preferred option to live in a collective home, rather to live in the own home. This shift of tendency in residential care as ideal setting in case of support needs is observed as age decreases in detriment of living in the own home.

These results point out that when older Spanish evaluate the possibility of suffer some kind of disability, the preferences radically change and becomes more relevant those supportive settings, either private or collective. In light of this, the following sections are dedicated to deepen on the factors that condition each one of the stated preferences considering the absence/presence of impairments.

VIII.3.3.2. Determinants of stated preferences in case of healthy old age

When the Spanish elderly are asked about what would be the desired place to live in old age if they count on good physical and cognitive conditions, the survey considers four possible responses: in the own home (even if this situation implies to live alone), in children's (or other relative) home, in a home shared by other people (not relatives) and in a institution or housing complex[63].

Table VIII.46. Home preferences of Spanish older population in absence of support needs by age group (%)

	65-69	70-74	75-79	80+	Total
Males					
In own home (even alone)	94.7	93.6	92.9	86.6	92.3
In children's or other relatives home	1.7	2.1	3.2	10.3	4.0
In a home shared with other people (not relatives)	0.6	1.5	1.0	1.5	1.1
Institution or housing complex	3.0	2.7	2.9	1.5	2.6
Females					
In own home (even alone)	88.6	93.4	87.2	83.7	87.9
In children's or other relatives home	6.3	3.5	9.3	10.6	7.7
In a home shared with other people (not relatives)	2.4	1.7	2.2	3.0	2.4
Institution or housing complex	2.7	1.4	1.3	2.7	2.0
Total					
In own home (even alone)	92.2	93.5	90.0	84.9	90.1
In children's or other relatives home	3.6	2.8	6.3	10.5	5.8
In a home shared with other people (not relatives)	1.3	1.6	1.6	2.4	1.7
Institution or housing complex	2.9	2.1	2.1	2.2	2.3

Question: "*Regardless your current setting, where you prefer to reside in old age if you do not need any kind of support*?"

Source: Encuesta de Mayores 2010, IMSERSO.

As Table VIII.46 and the descriptive analysis presented previously show, the vast majority of elderly in Spain would prefer to remain in their own home while their circumstances are adequate (90%). This means that "ageing in place" is by far the ideal living situation, not only de facto, but also by choice. The population aged 80 years and over who do not need any kind of support are those who mostly declare to prefer "live with children (or relatives)" (10.5%) , to the detriment of the category "living in own home". The option to live in an institution appears as an infrequent choice in all old-age groups, ranging between 2% and 3%.

[63] The poor development of housing complexes addressed to elderly in the Spanish context makes that this survey treats both types of accommodation as synonymous of institutions when, as previous chapters also showed, the aim of many of these types of elderly housing complexes is precisely to avoid institutionalisation.

VIII.3.3.2.1. Specification of the model

Using the response options provided in Table VIII.46, two dependent binary variables have been constructed (Table VIII.47) that separate those individuals that prefer to age in their own home (model 1) and those elderly that would opt for a supported environment; to reside in relative's home, to reside with non-relatives, or in an institution (model 2). The decision to construct a logit model instead of utilising a multinomial logit regression to compare the willingness to choose among these three options (as it is done in the next section) responds to the insufficient percentage of elderly that declare to opt for an institutional setting when the hypothetical situation involves a high degree of independence in later life.

Table VIII.47. Explanation of dependent binary variables of Model 1 and Model 2

MODEL 1	**PREFERENCE TO LIVE IN THE OWN HOME (even alone)**
$y_i = \mathbf{1}$ if $y_i > 0$	Older person prefer to grow older in the own home as ideal type
$y_i = \mathbf{0}$ if $y_i \leq 0$	Older person does not prefer to grow older in the own home as ideal type
MODEL 2	**PREFERENCE TO LIVE IN A SUPPPORTED ENVIRONMENT**
$y_i = \mathbf{1}$ if $y_i > 0$	Older person prefer to grow older in a supported environment as ideal type
$y_i = \mathbf{0}$ if $y_i \leq 0$	Older person does not prefer to grow older in a supported environment as ideal type

Note: **1** relative's home or institution

The construction of ideal preferences is more related with individual features than with structural factors. As imagination exercise, the stated preferences depends on greater extent from subjective evaluations and aspirations of the individuals than on the real opportunities and limitations displayed by the surrounding environment as in the case of revealed choices. For that reason, this analysis considers as explanatory factors variables pertaining to four individual domains, which are introduced in the logit models by means of categorical and dummy explanatory variables. The first cluster gathers socio-demographic features (gender, age group and marital status) in the moment of the survey. The second group of variables adds information about the health status of the respondent (self-reported health status and limitations in ADL activities). In the third place are introduced variables regarding to the residential domain as current living situation and tenure status (be owner). The last set of variables introduces the psychological dimension by means of the satisfaction with family relationships, loneliness feeling,

and the agreement with several stereotypes and visions often linked with old age and older people in the Spanish context (Table VIII.48).

Table VIII.48. Description of explanatory variables included in the Logit Regression Model 1 and Model 2.

Variable	Type of variable	N	Min	Max	Std. Dev.
Sex	Categorical	2535	1	2	0.500
Age (grouped)	Categorical	2535	1	4	1.119
Marital status	Categorical	2521	1	4	0.961
Self-perceived health status	Dummy	2535	0	1	0.498
Limitation in ADL	Dummy	2534	0	1	0.497
Type of current setting	Categorical	2076	1	3	0.601
Tenure	Dummy	2535	0	1	0.357
Satisfaction with family relationship	Dummy	2522	0	1	0.293
Loneliness	Dummy	2522	0	1	0.491
Elderly cannot take care about themselves	Dummy	2535	0	1	0.460
Elderly are a burden	Dummy	2535	0	1	0.221
They do not have obligations	Dummy	2535	0	1	0.290
Elderly are actives and enjoy life	Dummy	2535	0	1	0.370
Elderly support their families and others	Dummy	2535	0	1	0.303
Elderly do not have social/family support	Dummy	2535	0	1	0.293

According with Theory of Discrete Choice, the ith attributes of individuals in old age determine the u individual utility function, which is expressed as:

$$u_i(p_i) = u(p_i, y_i)$$

This function contains a vector of the different alternatives of preferences (p_i) and a measure of individual features on individual, residential and psychological domains (y_i). This set of individual, residential and psychological factors, denominated as budget constraint, determine the potential preference of living setting during old age. Each preference option can be represented as a set of characteristics x_i represent the different characteristics of the older person:

$$p_i = p(x_i) = \frac{\partial p}{\partial x_i} x_i$$

To do so, the utility function of each type of preference parameter is estimated as:

MODEL 1

$$u_i(\text{preference Ageing in Place} = 1) = (\beta_0 + \beta_1 age + \beta_2 gender + \beta_3 marital\ status + \beta_4 marital\ status + \beta_5 health\ status + \beta_6 ADL\ limitations_{change} + \beta_7 current\ setting + \beta_8 tenure + \beta_9 satisfactionSN + \beta_{10} loneliness + \beta_{11} vision + \beta_{12} vision + \beta_{13} vision + \beta_{14} vision + \beta_{15} vision + \beta_{16} vision) + \varepsilon_i$$

MODEL 2

$$u_i(\text{preference suportive setting} = 1) = (\beta_0 + \beta_1 age + \beta_2 gender + \beta_3 marital\ status + \beta_4 marital\ status + \beta_5 health\ status + \beta_6 ADL\ limitations_{change} + \beta_7 current\ setting + \beta_8 tenure + \beta_9 satisfactionSN + \beta_{10} loneliness + \beta_{11} vision + \beta_{12} vision + \beta_{13} vision + \beta_{14} vision + \beta_{15} vision + \beta_{16} vision) + \varepsilon_i$$

The coefficients offered by logit models show the relative risk (also referred as odds ratio) of make a choice, that is the ratio of the probability of choose one option over the probability to opt by the reference alternative. Relative risk can be obtained by exponentiating the linear equations, yielding regression coefficients that are relative risk ratios for a unit change in the predictor variable. Other way to understand the outcomes of logit model is using the predicted probabilities. This analysis uses this strategy, calculating the predicted probabilities by means of the marginal effects.

VIII.3.3.2.2. Results

When Spanish elderly declare to prefer stay at the own home during old age, socio-demographic features does not present a significant association, while they do in the case of choose a supported environment. Be female and belong to the group of age 80 and over it is positively associated with opt by a supportive environment; despite the imaginary situation specify that there is no need of care. Also to be widow is a factor that positively increases the likelihood to willingness by a supportive environment comparing with those that are married. These results indicates that an elderly profile linked to vulnerability (be older-old, be female and do not count on the supportive effect of a partner in household) is correlated with the election of a supportive setting, even not needing care.

Table VIII.49. Logit Regression Model of Spanish elderly residential preferences without disability (marginal effects)

	MODEL 1		MODEL 2	
	Own home		*Supportive home*	
	Coeff.	S.E.	Coeff.	S.E.
Socio-demographic factors				
Gender (ref. Male)	-0.019	0.015	0.012 **	0.020
Age (ref. 65-69)	Ref.		Ref.	
70-74	0.032	0.020	0.016	-0.670
75-79	-0.010	0.022	0.018	1.530
80+	0.000	0.021	0.018 **	2.030
Marital status (ref. Married)	Ref.		Ref.	
Never married	0.004	0.039	0.039	0.940
Widowed	-0.032	0.021	0.018 **	2.990
Divorced	0.000	0.048	0.046	0.830
Health factors				
Self reported health status (ref. Bad)	-0.008	0.015	0.012	0.620
Limitations ADL (ref. yes)	0.105 ***	0.015	0.012 ***	-4.570
Residential factors				
Type of setting (ref. Own home)	Ref.		Ref.	
Relative's home	-0.076 **	0.030	0.027 **	2.750
Others	-0.091 **	0.033	0.025 **	2.160
Tenure (ref. Not be owner)	0.097 ***	0.028	0.022 **	-2.490
Psychological factors				
Satisfaction with family relationship (ref. Low satisfaction)	0.102 **	0.032	0.022	-1.120
Loneliness (ref. Yes)	-0.021	0.015	0.012	0.920
Visions of ageing and older people				
Older people cannot take care about themselves (ref. agreed)	0.004	0.021	0.019 *	1.770
Older people is a burden (ref. agreed)	0.042	0.030	0.027	-1.250
Older people do not have obligations (ref. agreed)	0.072 **	0.021	0.023	-1.030
Older people are active people and enjoy life (ref. agreed)	0.012	0.023	0.021	-0.300
Older people support their families and others (ref. agreed)	-0.068 **	0.033	0.030	1.630
Older people do not have social/family support (ref. agreed)	0.000	0.028	0.027	0.510
N	2040		2040	
Pseudo-R^2	0.166		0.207	

***p < 0.000 ; ** p < 0.05 ; *p < 0.1

Note: Other variables included in the analysis but not statistically significant: Education, income, type or area,

Source: Encuesta de Mayores 2010, IMSERSO

When observing the health factors, a foreseeable decline of health status influence the elderly preference, suggesting that the fact that be experiencing a frailty situation in the moment of the survey conditions the ideal preferences. Not presenting limitations on daily living activities is positively associated with both settings: living in unsupported and supportive homes. However,

when individuals does not present limitations on ADL activities, they are a 10% more prone to choose to live in the own dwelling, a proportion that, moreover, is statistically very significant. This means that to present a sufficient degree of independence to carry out daily task is one of the most relevant factors on explaining Ageing in Place choice. In this case, as it was observed in the demographic variables, the current situation influences the preferences of Spanish elderly; they are in good conditions and extrapolate it to the imaginary decision. At the same time, this variable is also positively correlated with the fact to choose a supportive environment, but in a rather lesser extent (1.2%).

The type of current living setting also influences the responses about ideal types. The results show that certain level of congruence exists among the living environment that elderly has in the moment of the survey and the desired place to stay. Older people that reside in their own home are less prone to wish to live in a different place. Meanwhile, the reverse association occurs in the case of those living in a supported environment. Those Spanish elderly that are living in home of some relative are more likely to identify this living arrangement as being the ideal type.

Tenure is another feature that influences the stated preferences of elderly population. The particularities of Spanish residential system, especially the widespread homeownership as being one of the main distinctive attributes (Allen et al. 2004), derived those outcomes showed by the model. Being the owner of the home increases the probability to choose both independent living in a 9.7% and supported living preference comparing with those who have another type of tenure, although the association is stronger for those elderly without disability who prefer to age in place.

Psychological factors and visions of ageing have more influence among those who prefer to reside in the own home. Surprisingly, the degree of satisfaction with family relationship does not present a statistical association with the choice of a supportive environment, which also includes co-residence, as one might have expected. The model shows that presenting high levels of satisfaction augment, however, the likelihood of preferring to age in place. A plausible explanation is that those individuals who do not view relocating to a relative's home as necessary, their already good relationship with family members guarantees them sufficient support to remain in their own dwelling.

Observing the variables that introduce the attitudinal dimension, those that are inclined by an unsupported setting has a more positive vision of ageing. Those that consider older people as a collective that have their own obligations are more prone to elect ageing in place. Also those that are not in agreement with the statement that elderly people also provide help to their families, are less prone to would opt for independent living in case of healthy later life.

VIII.3.3.3. Determinants of stated preferences in case of frailty in old age

The second analysis shares a similar perspective with the previous models, aiming to assess the residential preferences of Spanish elderly, but this time considering the appearance of impairments or sickness that require assistance. If we recall, once it the frailty factor is considered, the ideal type of setting declared by Spanish elderly changes from to independent living to residing in a relative's home (55.9%). The percentage sharing in this case is more regularly distributed among the different response categories. Another of the changes caused by the introduction of the frailty factor is the considerable increase of elderly people that consider institutions as suitable settings to grow older. This trend it is especially visible in the younger age-groups of elderly: 28.3% of individuals aged 65-69 in contrast to 14.8% as showed by those aged 80 and over. This association among age and the preference by institutions is observable for both older males and females, but it is especially high for younger old males with the 34%. Older males and females also display the same age-pattern in the percentage sharing in the preference by ageing in place, which percentage increases in parallel as age.

Table VIII.50. Home preferences of Spanish older population in case of dependence by age group (%)

	65-69	70-74	75-79	80+	Total
Males					
In own home (even if alone)	14.6	22.6	18.4	24.6	19.7
In children's or other relatives home	51.0	49.2	60.4	59.2	54.6
In a home shared with other people (not relatives)	0.6	1.1	0.4	1.3	0.9
Institution or housing complex	33.8	27.1	20.8	14.9	24.9
Females					
In own home (even if alone)	18.6	26.3	27.4	21.2	23.5
In children's or other relatives home	59.6	53.9	55.1	62.1	57.9
In a home shared with other people (not relatives)	2.1	3.2	1.1	2.0	2.1
Institution or housing complex	19.7	16.6	16.3	14.7	16.5
Total					
In own home (even if alone)	16.1	24.1	22.9	22.6	21.4
In children's or other relatives home	54.0	51.1	57.5	60.7	55.9
In a home shared with other people (not relatives)	1.2	2.1	0.8	1.7	1.4
Institution or housing complex	28.3	22.3	18.4	14.8	20.8

Question: *"Regardless your current setting, where do you prefer to reside in case of support needs in old age?"*

Source: Encuesta de Mayores 2010, IMSERSO.

Observing this data by age group, it is observed that the preferences for family networks decreases in younger groups in favour of paid care. In these ages, the preference for paid professional care becomes more relevant and also non-professional services that exceed the 12%

in the groups of 65-69 and 70-74. The nationality of the formal caregiver seems to be a conditioning factor that shapes the preferences of older-old elderly. While the differences in younger elderly are fairly reduced (1%), in the case of older-old they are larger. Furthermore, the percentage of older population that would opt by a mixed form of support, informal and paid, remain constant among age groups. This pattern is fairly similar by both genders, but women show more likelihood to prefer informal care than males, above all in younger ages.

Table VIII.51. Care-provider preferences of Spanish older population in case of disability by age group (%)

	65-69	70-74	75-79	80+	Total
Males					
Relatives	56.8	69.0	69.4	75.3	67.1
Relatives and paid care	14.9	14.1	16.9	10.4	14.2
Paid care (professional)	9.5	7.1	3.0	5.8	6.5
Paid care (non professional. Spanish)	9.2	6.1	4.0	3.1	5.8
Paid care (non professional. immigrant)	8.0	2.5	3.3	2.7	4.3
Other	0.6	0.6	1.7	0.8	0.9
No one	0.9	0.6	1.7	1.9	1.2
Females					
Relatives	67.8	73.6	74.9	73.6	72.7
Relatives and paid care	13.7	13.0	11.3	15.4	13.4
Paid care (professional)	9.0	7.0	5.6	6.3	6.9
Paid care (non professional. Spanish)	3.9	4.6	2.8	2.8	3.4
Paid care (non professional. immigrant)	3.1	1.4	3.4	0.8	2.1
Other	0.8	0.0	0.0	0.0	0.2
No one	1.6	0.4	1.9	1.1	1.2
Total					
Relatives	61.6	71.1	72.3	74.3	69.9
Relatives and paid care	14.4	13.6	14.0	13.3	13.8
Paid care (professional)	9.3	7.0	4.4	6.1	6.7
Paid care (non professional. Spanish)	6.5	6.9	5.4	3.4	2.9
Paid care (non professional. immigrant)	5.5	5.9	2.0	3.4	1.6
Other	0.7	0.3	0.8	0.3	0.5
No one	1.2	0.5	1.8	1.4	1.2

Question: *"Who would you like to take care of you in home if it would be necessary?"*

Source: Encuesta de Mayores 2010, IMSERSO

VIII.3.3.3.1. Specification of the model

To analyse the factors that determine the ideal types of living preferences in old age considering a high level of dependence it has been implemented a Multinomial Logit regression model. As Costa-Font, Elvira and Miró (2009) showed in their study of housing preferences of Spanish elderly, this statistical method successfully suit to approach the subjective evaluations that older

people make their preferences on living arrangements. Unlike in the model presented in previous section, where the dependent variable reduced to two the four response categories included in the original questionnaire due to the lack of cases, this time the analysis turn back to the typology exposed in section 3.3.1, than considers three options:

1) Independent living.
2) Private supportive setting.
3) Collective supportive setting.

Keeping in mind these specifications, the probability to prefer each one of the ith residential alternatives (y_i), that are mutually exclusive, takes the value of 0 for the preference of live in the own home, 1 for the preference of live in a relative's home and 2 for live in an institutional setting. In the multinomial logit model X_i represents a vector of the explanatory variables and β is a vector of the parameters of the preference j. Due to the dependent variable contemplate three categories ($j = 0,1,2,$) the probability to choose a given residential mode is expressed as:

$$\Pr(y = j) = \frac{\exp\left(\beta_j x_k\right)}{\sum_{j=0}^{2} \exp\left(\beta_j x_k\right)}$$

This analysis adopts the conventional normalization in which $\beta_0 = 0$, which signify that to opt for a "ageing in place" mode is established as the reference category of the dependent variable. In order of this, considering the two categories that are compared with the reference category $(j = 1,2)$, the equation remains as:

$$\Pr(y = j) = \frac{\exp\left(\beta_j x_k\right)}{1 + \sum_{j=1}^{2} \exp\left(\beta_j x_k\right)}$$

The explanatory variables are sorted in the same way as the previous logit regression models (Table VIII.52), grouping them in four clusters of individual features; socio-demographic, health, residential and attitudinal variables. In this case, the income and education variables are maintained in the multinomial logit models.

Table VIII.52. Description of the variables included in Multinomial Logit Regression Model.

	Variable	N	Type of variable	Min	Max	Mean	Std. Dev.
Dependent variable	*Preferred place where live in older age if disability*	2013	Categorical	0	2	1.994	0.651
Explanatory variables	*Gender*	2535	Categorical	1	2	1.495	0.500
	Age group	2535	Categorical	1	4	2.505	1.119
	Marital status	2521	Categorical	1	4	1.688	0.961
	Education	2535	Categorical	1	5	2.707	0.759
	Source of income	2531	Categorical	1	3	1.858	0.370
	Type of current setting	2076	Categorical	1	3	1.268	0.601
	Tenure	2535	Dummy	0	1	0.850	0.357
	Limitation ADL	2534	Dummy	0	1	0.553	0.497
	Health status	2535	Dummy	0	1	0.459	0.498
	Satisfaction with family relationship	2522	Dummy	0	1	0.905	0.293
	Loneliness	2522	Dummy	0	1	0.596	0.491
	Elderly cannot take care about themselves	2535	Dummy	0	1	0.305	0.460
	Elderly are a burden	2535	Dummy	0	1	0.051	0.221
	They do not have obligations	2535	Dummy	0	1	0.093	0.290
	Elderly are actives and enjoy life	2535	Dummy	0	1	0.164	0.370
	Elderly support their families and others	2535	Dummy	0	1	0.103	0.303
	Elderly are very lonely	2535	Dummy	0	1	0.095	0.293

Note: ADL (Activities of Daily Living)

VIII.3.3.3.2. Results

The results of Table VIII.53 show that demographic features of elderly uniquely have a significant association with the willingness to prefer an institutional setting in case of disability, but not with the desire to live a supported private environment compared with the ageing at home alternative. The gender, concretely to be a female, decreases the probability to prefer relocate in a collective home if some impairment would occur, as well as the age increases. For those Spanish aged 80 and over, the probability to declare that stay in a nursing home is their ideal place of residence in case of frailty is 12.1% less than to prefer an independent living than the younger group (65-69). This means that even with the manifested appearance of illness or impairments, the older Spanish prefer to stay at the own home than move to a residential institutions. The suspicions toward residences, above all in older-old cohorts, make older people to try to avoid the stigma of institutionalisation. Cultural images about residential care and the higher plausibility to experience relocation in this kind of settings make population 80+ reject collective settings as preferred compared with ageing in place.

The multinomial model outcomes reveal that to have had lost the partner differently affects the likelihood of prefers each one of the supported environment comparing with an ageing in place mode. The probability to choose live in a relative's home increases when individual becomes widowed (12.7%) compared with those are still married, whereas when the desired option is an

institution the fact of loose a partner act in the reverse sense, decreasing this probability in a 9.8%. Thus, when older Spanish does not count on the protective effect of a partner as probable source of informal support, they tend to prefer another environment that could replace the informal assistance as co-residence with children or other relatives.

The educational profile only shows a significant association with the willingness to choose the institutional setting as ideal setting. As the level of education increases, also increases the probability to prefer in a nursing home in view of care needs. This results point out in the same direction as those associated to age group; an incipient shift in the traditional vision of institutional care in the new generations of elderly. In the more educated younger cohorts of elderly it has relaxed, not eliminated, the influence of familiaristic conceptualisation about care responsibilities, being more exposed to the social individualisation process in which individuals decisions take precedence over the collective. The willingness towards institutionalisation is especially visible for those older people that attained to universitary level. Compared with illiterates, they are a 19.6% more prone to choose an institutional setting as ideal type of residence when care needs emerge.

The source of income is also related with the probability of declare an ideal type of setting for old age. When an older person receives their income from pensions, occupational or public64, or a salary the probability of be inclined by cohabitation with other relatives is reduced if compare with those that obtain their incomes from saving or other private assets. The reverse effect is observed in the case of institutional setting, which probability increases if the incomes come from a pension compared with living at the own home. These results reveals that to have a sufficient income as those provided by pensions schemes constraint the election of co-residence as residential solution in case of dependence for older Spanish. To count on a relative well-coverage of financial needs influence their preferences.

Regarding to health status, presenting limitations in the activities of daily living (ADL) benefits the election of prefer the co-habitation with relatives rather than display an independent living. In turn, facing functional limitations reduces the probability to prefer a collective supported environment with regard to ageing in place mode. The adjust between current and ideal living situation shows, as well as in preceding logit models, a congruent direction but solely when referring to those living in their relative's home. The results show how those who currently are living in a supported private environment are more likely to identify it also as the preferred residential setting to spend old age years in case of dependence.

[64] In Spain, both occupational and public pensions are managed by the State. Moreover, private pension schemes are still a rare source of income in older cohorts.

Table VIII.53. Multinomial Logit Regression Model of Spanish elderly home-preferences in case of disability (marginal effects)

	Private supported setting			*Collective supported setting*		
	Coeff.		S.E.	Coeff.		S.E.
SOCIO-DEMOGRAPHIC FACTORS						
Gender (ref. Female)	0.033		0.025	-0.055	**	0.021
Age group (ref. 65-69)	Ref.			Ref.		
70-74	0.005		0.032	-0.083	**	0.029
75-79	0.036		0.033	-0.087	**	0.030
80+	0.050		0.035	-0.128	***	0.030
Marital status (ref. Married)	Ref.			Ref.		
Never married	0.052		0.087	-0.054		0.066
Widowed	0.127	***	0.034	-0.098	***	0.027
Divorced	0.006		0.093	0.020		0.083
Educational level (ref. Illiterate)	Ref.			Ref.		
Read and Write	-0.128		0.087	0.111	*	0.060
Primary	-0.117		0.087	0.115	*	0.060
Secondary	0.005		0.096	0.084		0.068
Universitary	-0.101		0.106	0.196	**	0.082
Source of income (ref. Private savings)	Ref.			Ref.		
Pension (occupational or public)	-0.266	***	0.028	0.095	***	0.025
Salary	-0.235	*	0.142	-0.029		0.079
HEALTH FACTORS						
Self reported health status (ref. Very good/good)	0.015		0.024	0.002		0.021
Limitations ADL (ref. yes)	0.109	***	0.025	-0.088	***	0.022
RESIDENTIAL FACTORS						
Type of current setting (ref. Own home)	Ref.			Ref.		
Relative's home	0.101	**	0.047	0.006		0.042
Others	-0.022		0.053	0.050		0.048
Tenure (ref. To be owner)	-0.012		0.041	-0.038		0.037
PSYCHOLOGICAL FACTORS						
Satisfaction with family (ref. Low satisfaction)	0.093	**	0.046	-0.128	**	0.044
Loneliness (ref. Yes)	-0.025		0.024	0.079	***	0.021
VISIONS OF AGEING AND OLDER PEOPLE						
Elderly cannot take care about themselves (ref. agreed)	-0.225	***	0.036	-0.013		0.031
Elderly are a burden (ref. agreed)	-0.032		0.069	0.076		0.062
They do not have obligations (ref. agreed)	-0.252	***	0.043	-0.047		0.036
Elderly are actives and enjoy life (ref. agreed)	-0.291	***	0.041	-0.032		0.035
Elderly support their families and others (ref. agreed)	-0.250	***	0.047	-0.015		0.040
Elderly are very lonely (ref. agreed)	-0.194	***	0.049	0.032		0.040
N	1632					
Pseudo-R^2	0.121					

***p < 0.000 ; ** p < 0.05 ; *p < 0.1

Note: Reference category of dependent variable "Own home (even alone) as preferred setting in case of disability"

Source: Encuesta de Mayores 2010, IMSERSO

As was explained in the ideal preferences without disability, current situation interfere the stated preferences liken the ideal desires to the factual behaviour. To some extent, stated preferences are conditioned by revealed choices.

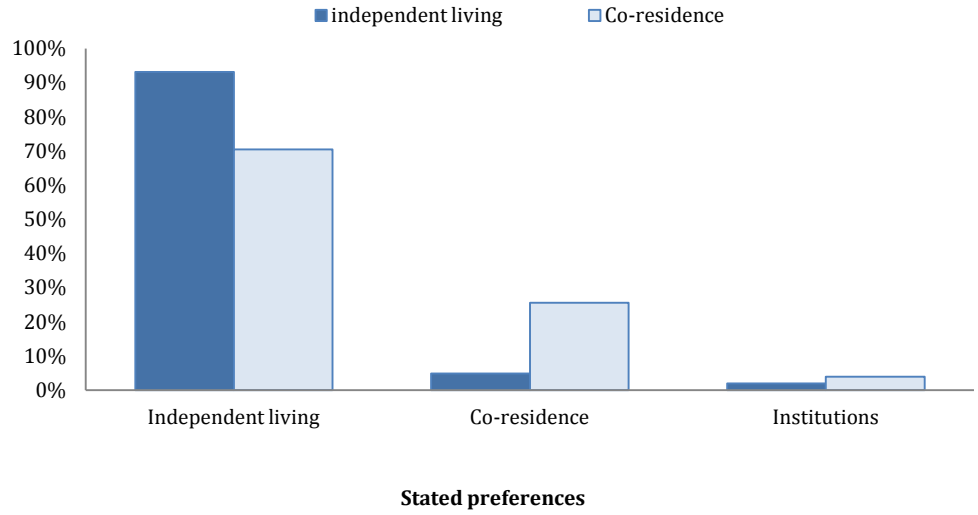
Also the results regarding to family satisfaction go in consonance with the expected outcomes. Those with high satisfaction of family relationships declare more willingness to move with their children if conditions become worse rather than stay in the own home, surely because they consider family as a suitable and easy-accessible source of support. On the other hand, those with a high satisfaction degree with family ties are less likely to opt for a nursing home compared with the ageing in place mode. The other psychological indicator introduced in the model is the loneliness feeling. Those older people that feel loneliness are less prone to choose a private supportive environment. Probably, this responds to a reduced size of social networks as explanation for the loneliness and that also restrict the real options to choose a private supportive environment. To feel lonely increases a 7.9% the probability to chose collective home. This coefficient is congruent with the results of the other category; loneliness act as favouring factor of institutionalisation probably due to the lack of a viable informal provider of care.

The variables that introduce the different visions of ageing only present significant association with the option of a private supported environment. The individuals not agree with negative views of older people and ageing as they cannot take care about themselves are less prone to choose a supportive environment. This confirms that a positive view about old age favours to choose ageing in place as ideal mode to live. In the same line, those not agree with positive statements about old age as older people are active and support to their families show high probabilities to does not chose ageing in place as preferred setting. The view that the older people maintain about old age in terms of independence and activity also influences the willingness for one of another type of residential environment. Those older Spanish that show an optimistic attitude towards the life stage they are experiencing are more inclined to choose an autonomous living situation in which they organise and manage the daily activities.

VIII.3.3.4. Congruence between stated and revealed preferences

At this point, one wonders to what extent the housing situation of the Spanish elderly is consistent with the preferences expressed. As previous analysis have showed, the ideal situation for older people in Spain when capacities would permit independent living is to remain in the own home, i.e. ageing in place. Also, it has confirmed that the current living environment conditions the preferred situation in the sense that individuals tend to be willing to choose as ideal places similar settings to those where they are currently living.

Figure VIII.52. Adjustment between current and preferred living setting in absence of frailty, 65+ population, Spain 2010.



Source: Encuesta de Mayores 2010, IMSERSO.

Figure VIII.53. Adjustment between current and preferred living setting in case of frailty, 65+ population, Spain 2010.

Source: Encuesta de Mayores 2010, IMSERSO.

Figure VIII.52 expose the preferences of Spanish elderly in relation with the current setting. The 93% of elderly people in Spain that are living independently with any substantial impediment also indicate this habitational choice as ideal. This result reinforce the idea that, having a fair health status, ageing in place is the wide spread desire. In this case, the degree of congruence between revealed and stated choices is high. In the case of those that are co-residing in their children's, or other relatives, homes the ideal situation would be also to live by their own

reaching the 70%. Here, it is observed a dissonance between the revealed and the stated preferences. This analysis cannot go in depth about the causes that provoke this mismatch due to the data does not permit it. Even so, it will be a good point to consider in further research. The option of living in relative's home is rarely chosen by those who live alone (2.3%) and more common amid those already do (25%). These results show that, in the absence of disability, independent living residential mode is ideal and that the concordance between desire and reality is greater in those who live alone.

When elderly are asked about their residential preferences considering needs related to care, the distribution of preferences is reversed, being co-residence the ideal residential under these circumstances. The search social networks that provide informal care the reason that motivates this change in the preferences which assume that would be the enabling environment where receive the necessary help. In that case, the fit between stated and revealed preferences is more congruent among those who were residing with their children. The 70% of those who were already living in the home of relatives said that they preferred this type of residential arrangement. The hypothesis of having a disability also has affected the desires of those who resided in the own home. The 58% of elderly living by their own claimed to prefer switching to a relative's home.

VIII.3.4. What will the future bring?

The analysis carried out in previous sections points out that the stage of later life individuals are experiencing is correlated with the preferred living situation in old age. Descriptive analyses have revealed that younger elderly cohorts tend to be inclined by ageing in place when they do not have functional impairments and by supportive settings when they capacities weaken. In the case of supportive settings, it is observed an initial change of tendency which indicates that younger cohorts of Spanish elderly present higher percentages of preference by institutions than the older, in detriment of co-residence. In this line, the multinomial logit model (Table VIII.53) showed that people aged 70 and older were less prone to opt by institutions than those aged 65-69 as ideal type as alternative to ageing in place. The given explanation to these changes integrates a mixture of age and cohorts effects. On the one hand, seems that age individuals grow older, they tend to valuate less the institutionalisation option, most likely due to the impairments they are start to suffer al advanced ages becomes this option more probable. On the other hand, it has occurred a change in the vision that the generations arriving to old has about the support in later life, which is prompted by a relaxation of the collective conceptualisation of care responsibilities present in strong family systems of Southern Europe.

According to these findings, this section aims to approach the relationship between age and stated preferences about the most desirable living situation in later life, considering not only the

stated choices of older cohorts, but also the preferences of the whole population over 18 years old. Its objective is to shed light on to what extent the pattern of preferred setting outlined in previous sections, widespread extension of ageing in place as preferred option and the relevance of co-residence, persist across generations or, by the contrary, there are insights to advert a pattern's shift as result of the individualisation process that have relaxed the family-oriented vision of care. In these terms, it can be hypothesised that younger population express more willingness to spend old age years in their own home or in institutions instead of cohabitation to cover their support needs.

As it has been occurred in other western countries, Spain has undergone a series of societal changes have supposed the reduction of the control that family have over the individual behaviour and the modification of the relationship established among family members. This transformation, described by Beck (1992) as individualisation process, consists in a gain of personal autonomy and possibility of choice, conceding pre-eminence to personal achievements and introducing negotiation in personal relationships that implies a softening of the social reprobation towards those that decide to do not follow the standardised biographical path or established norms. Regarding to support, the individualisation process have not only attained to the way younger cohorts understand care obligations to their older parents, but it has permeated to the decisions that older people take about how and where prefer live old age. Nowadays, the decisions of Spanish elderly are frequently based more on their own preferences than in what the others would expect.

In his extensive research about the individualisation process and familiar solidarity in Spain, Meil (2011) conclude that despite there are evidences of a relaxation of social norms, the weight of intergenerational responsibilities in terms of care still remain fairly present. Socioeconomic and cultural changes occurred in a recent past have transformed, but not eliminated, the role of family in care provision. For instance, it is observed an increase of the support provided by older people to their adult children as in the case of grandchildren caregiving or financial help to access to ownerships. Meil (ibid.) stated that is more and more frequent that non co-habitant families act as "reserved capital" to which individuals eventually recur when other alternatives are not available, or affordable, both in the private market or the State.

Table VIII.54 presents the preferred settings where live in old ages of Spanish population65 considering four response categories; to live in the own home, to live in relatives home, sharing the home with others (non-relatives), to live in a collective home or in other place (no-specified) To facilitate the reading of the results the data has been divided among three ample age-groups:

[65] This descriptive analysis is carried out with a source, Barómetro de Mayo 2009, that does not distinguishes between healthy and frail situations in later life, what means the frailty conditioning factor analysed in previous sections cannot be incorporated this time.

younger population (25-44), middle-age population (45-64) and older population (65 and over), excluding the group aged between 18-24 due to most of them are still living with their parents.

Table VIII.54. Preferred residential setting in old age by age group from 18 to 80+, Spain, 2009.

	25-44	45-64	65+	Total
Males				
In own home	66.9	68.2	69.9	67.8
In relative's home	16.1	14.5	18.7	16.0
Sharing the own home with others	6.2	2.6	1.4	4.3
Collective home	10.2	13.3	9.6	11.0
In other place	0.6	1.4	0.5	0.8
Female				
In own home	60.5	67.1	71.8	65.1
In relative's home	17.9	10.9	18.8	16.1
Sharing the own home with others	5.9	2.8	0.7	3.8
Collective home	15.5	18.4	8.4	14.7
In other place	0.2	0.8	0.3	0.4
Total				
In own home	63.8	67.7	71.0	66.4
In relative's home	17.0	12.6	18.8	16.1
Sharing the own home with others	6.1	2.7	1.0	4.0
Collective home	12.7	15.9	8.9	12.9
In other place	0.4	1.1	0.4	0.6

Source: Barómetro Mayo 2009, CIS.

When Spanish population is asked about what would be the preferred setting to live old age, older people is more willingness to choose ageing in place as desired situation across all age groups and without gender distinctions, but with different intensity depending on these features.

The percentage of population choosing “ageing in home” increases in parallel to age. The 71% of older Spanish would opt by independent living as ideal living mode in later life, followed by the 68% of those in their mature ages and the 64% of younger cohorts. Moreover, these age differences are slightly more visible in women than in males, ranging from the 61% of younger females to 72% in older females.

Despite that the individualisation process has blurred to some extent the family-oriented values about care responsibility in Spain, co-residence still supposes the second most desired living arrangement for all age groups and both males and females (16%). Notwithstanding that this percentage is far from the values that the ageing in place option shows, it supposes a widely desired situation, above all for older people. The pattern of co-residence preferences is fairly steady across the age groups of males, whereas a decrease in the preference for co-residence among mature women is observed that goes from 16% in the 25-44 year age group to 11% in the group of 45-64 year olds, but then increases to 19% in older ages. The stated preferences of the

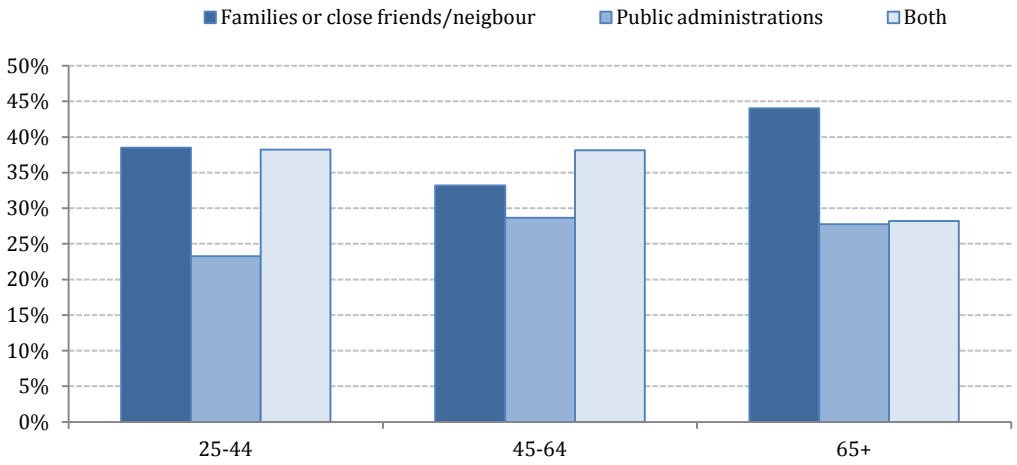
women aged 45-64 are probably affected by the current experience of care to be part of the so-called 'sandwich generation'. As it is a gendered activity, the typical profile of the carer in Spanish society is precisely women with a mean age of 55 years (Tobío et al. 2010). This means that these women, who are often, though not exclusively of middle age are pressed between having to support both younger and older members of the family. Given that the age of leaving the parental home in Spain is one of the most elevated in the EU15 (around 30 years old)[66] combined with rises in life expectancy at older ages that augments the chance that older parents require some form of care, has made middle-aged women assume the bulk of informal support that is provided to their families. This situation converts Spanish middle-aged women in a sector of population especially aware of the implications and the cost of this informal care provision. The intention not to do so supposes a hindrance for their adult children and the weight of personal aspirations fashion this lower percentage of women that view co-residing with relatives as the ideal living arrangement in old age

Another effect of the individualisation process is the diversification of social networks beyond the limits of the family, which goes in detriment of the closeness of these ties. Friends, above all, are the most important persons in the social network outside of the family. In the younger age group the proportion of the population that identifies "sharing the home with other non-relatives" as preferred setting is quite substantial, around 6% (compared to 1% among the 65+). Apart from the generational effect, the percentages are also influenced by the phase of life in which young individuals are immersed. This could be because during younger stages of life friendship causes this collective to identify co-residence with non-relatives as the desired option in future old-age years.

As it was shown, the construction of stated preferences in the living situation are strongly linked with social norms and cultural values that condition the vision about who must be the one responsible to provide an adequate environment that enhances elderly well-being. As Figure VIII.54 reveals, in the case of Spain, the responsibility of elderly care remains associated with family, but is being substituted in younger cohorts by a mixture of both family and public institutions. This results goes in line with the work of Meil (2011), who showed that social norms have softened family obligations in terms of support and that they are now viewed as a secondary or temporary resource, above all utilised when individuals cannot access to formal providers that cover their assistance needs.

[66] According to 2012 [WHAT SOURCE] data, 47% of those aged between 25 and 29 years still reside in the home of their parents Ballesteros-Guerra, J.C., I. Megías-Quirós, and E. Rodríguez-SanJulián. 2012. "Jóvenes y Emancipación en España." Madrid: Fundación de Ayuda contra la Drogadicción (FAD).,

Figure VIII.54 . Main actors responsible for providing support to the older population, individuals aged 25 and over, Spain 2009.



Question: "Who should be the one responsible to cover the older population's needs?"

Source: Barómetro Mayo 2009, CIS

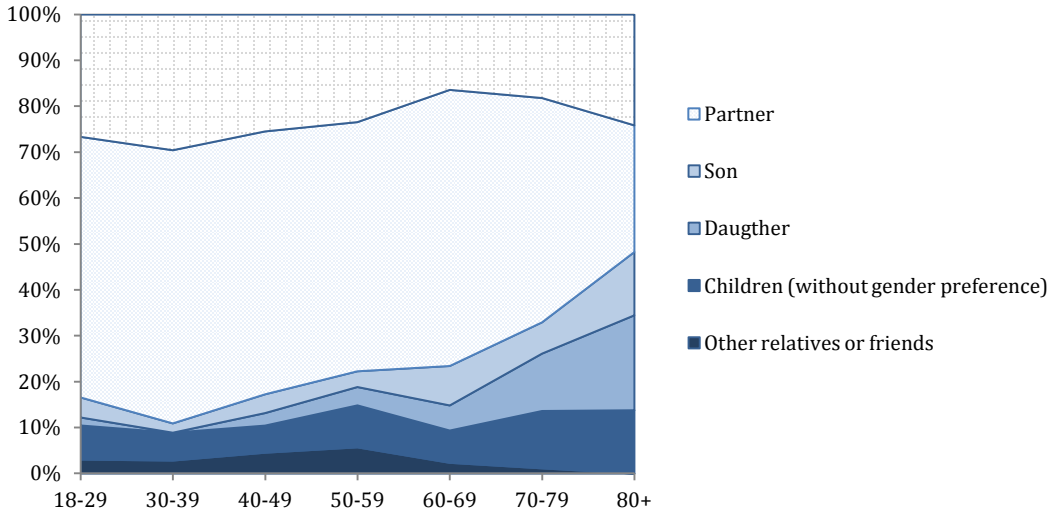
Despite this emerging attitudinal change, almost a half of the Spanish that were interviewed expressed that only family or social networks should guarantee the well-being of the elderly. This opinion is especially extended among the group aged 65 and over, where 40% conceived informal caregivers as the only source responsible for elderly care. In the younger groups, this image is less so due to the increase of the proportion of the population that also considers that supporting older people is an institutional duty, attributing a main role that is to be provided by public policy. In the age groups 25-44 and 45-65 the percentage of the Spanish population that believe that a combination of informal and formal care must assure the elderly well-being increases to almost reach the 40%. The proportion of the population who think that the assistance in old age solely lies at the responsibility of the state is lower in younger ages, 23%, and rather similar in middle and older ages (around 27%).

Regarding the Spanish population's preferences for home care, whether the desired caregivers are informal or formal has also been analysed. Firstly, the analysis reveals that informal support is the preferred choice at all ages compared with formal care. As Figure VIII.55 and Figure VIII.56 show, the percentage of Spanish that would opt by some kind of informal support exceeds 70% in all ages. It is noticeable that even in younger ages, the proportion of Spanish that would chose informal care is also considerably high in both sexes.

The preferred source of informal care is by far the partner and the children, although at different levels depending on the life stage and the gender of the individuals. For males, Figure VIII.55 shows that intra-household support is the most desired across all ages, but from age 60 loses ground in favour of wanting to be assisted by their children. This data also reveals that care is a gendered activity not only in relation with who actually gives support, but also in the ideal of

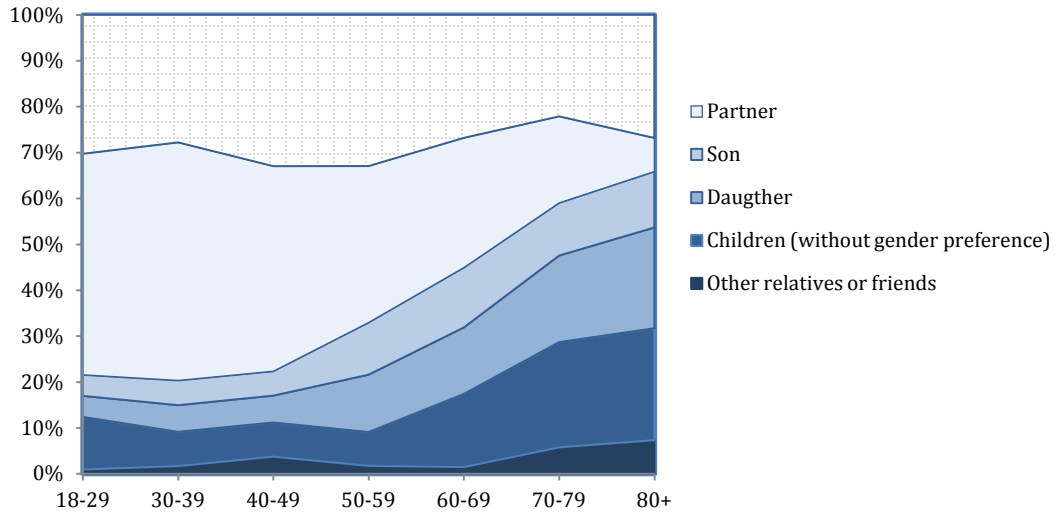
from who you prefer to receive it. Over age 70, the proportion of men that prefer their caregiver to be their daughter(s) increases rapidly and is almost double the preference for a son over the age of 80. The preference for other relatives only has little relevance among middle-aged men (50-59) and disappears in later life.

Figure VIII.55. Preferred source of informal support in old age, MALES aged over 18, Spain 2009.



Source: Barómetro Mayo 2009, CIS

Figure VIII.56. Preferred source of informal support in old age, FEMALES aged over 18, Spain 2009

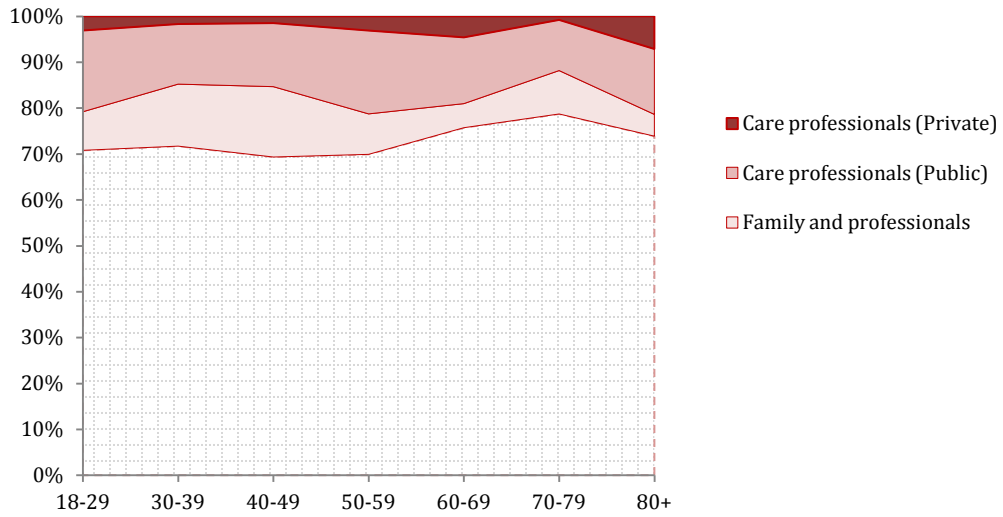


Source: Barometro Mayo 2009, CIS

The picture of Spanish women differs to some extent. Until the age of 40, partners are viewed as the preferred caregiver in old age, but over this age a shift in the pattern in which children become most the desired assistance provider is observed, with higher percentages than in case of

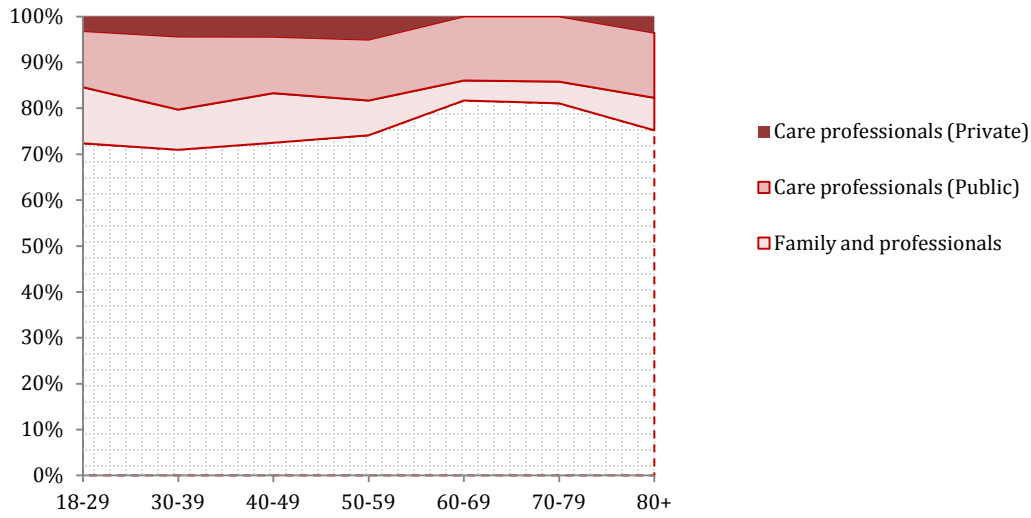
males. Older Spanish females are more willing to point out to their children as suitable care providers comparing with the partner[67]. It is not a trivial outcome; it reflects the protective figure that females occupy inside the households and which is principally for males. Meanwhile, the reverse protection effect is not stated to the same extent when women think of old age. Furthermore, the feminised concept of care is also present in the preferences of older Spanish women about intergenerational support.

Figure VIII.57. Preferred source of formal support in old age, males aged over 18, Spain 2009



Source: Barometro Mayo 2009, CIS

Figure VIII.58. Preferred source of formal support in old age, females aged over 18, Spain 2009



Source: Barometro Mayo 2009, CIS

[67] When the text is referring to older cohorts is assumed that the vast majority of the elderly couples are heterosexual and, therefore, the partner is of the opposite sex.

As in case of males, older women identify their daughters as ideal caregivers more than their sons. Given the longer survival of older women, these percentages are influenced by the actual lack of partner at the moment of the survey. This fact conditions female responses, as is shown by the higher proportion of other categories that are distinct to 'partner'. For oldest-old women, to seek informal support from other sources like relatives it is a valuated option in the age group 40-49 and, above all, in the advanced later life.

Regarding to formal support, the distribution is fairly similar in both genders. On the first place, it supposes a type of support that is not often preferred in any age, as it was reported by less than 30%. The mixed type of professional care and family support is mostly chosen by the younger population and women. Observing the pure professional sources of support it is observed that public assistance is by far the preferred option among the Spanish population of all ages. Probably the cost of care professional services makes people tend to opt for public professionals, anticipating that as it is (still) subsidised they suppose a lower expense for the household.

To summarise, it can be said that despite some generational differences, institutions have become a more important housing solution for old age, although the family still has a main role in older people's living arrangements, not only for them but also for the entire population.

VIII.4. Synthesis of the chapter

This analysis confirmed that to live independently in the own home is the most common choice among Spanish elderly. However, the picture changes when a hypothetical situation is asked that implies some kind of disability or impairment that prevents them to manage their daily activities. In Spain, when older people imagine requiring some assistance during old age they tend to identify co-residence, especially with own children but also with other relatives, as the best choice to cover their care needs. In light of this, disability acts as conditioning factor of the Spanish elderly living stated preferences, favouring the emergence of co-residence as solution to obtain support in later life with rather weight. It seems that the housing dilemma that puts a barrier for ageing in place vs. institutionalisation, Southern Europe does not reflect the real options that older people appraise as a probable settings to live their old age. In Spain, the desire to remain in the domestic sphere instead of relocating to a collective home is not a guarantee of independent living as higher probabilities exist that this desire is related to an informal supportive environment. In addition, this analysis confirms that the election of independent living is highly correlated with a positive attitude about old age. Optimistic views about later life increase the propensity to select ageing in place as a way to maintain a higher level of organizational autonomy.

The stated preferences about living options in old age are importantly conditioned by the current situation that older Spanish are experiencing. This means that certain connections exist among

observed and stated preferences, not being clear what the direction of this association is. Could it be that the choice that was made was the result of a previous desired situation or could it be that the restrictions imposed by actual options have shaped the opinions of the older people? In any case, this analysis cannot respond totally to this question, and it would need other studies with a qualitative approach to examine the processes that underlie the manifested outcome.

To conclude, the results presented in this chapter have shown that family living arrangements are still an important alternative to informal care, at least in an ideal form. Also, it is important to notice that this pattern could be changed in the future due to, in case of frailty, new generations of older people are seriously considering institutionalisation as the best option. To discern if the outlined pattern is due to a cohort or an age effect, we will need, though, to wait until younger generations arrive at old age.

Chapter IX. CONCLUSIONS AND DISCUSSION

As stated in the introduction, the ultimate objective of this work has been to approach the experience of independent living in later life by means of the study of some of its underlying specificities. This means that the purpose of this work has not been to analyse the characteristics of those individuals that are ageing in place compared to institutionalised elderly; on the contrary, the goal has been to study the distinctive factors which cause that the independent living experience is different among older people in terms of living strategies adopted and support mechanisms used. The thesis has adopted a multidimensional perspective which assumes ageing in place is displayed by a set of simultaneous and interrelated processes, which are shaped by the needs emerged from social and biological ageing and the conditions presented by the living environment. All in all, this work has posed the study of intra-group diversity of the people who is ageing in place.

The principal questions that this thesis aims to answer emanate from the theoretical and empirical objectives of the study. Firstly, the question *"What is ageing in place?"* intends to clarify as much as possible the meaning of the term that has spread so extensively throughout the western world in the last decades. The second question was *what are the particularities that make that the form in which ageing in place is carried out differs between older people and contexts?*, and intends to identify the factors that shape the way independent living is attained.

- ***What we are talking about when we talk about Ageing in place?***

The first question that is posed: *"What are we talking about when we talk about Ageing in place?"* approaches the objective of unravelling the meaning of ageing in place to make it applicable to empirical research. It is one important challenge due to the intrinsic complexity of the term. This is because of (1) the multiplicity of simultaneous processes taking place during independent living experience, (2) the theoretical background derived from several disciplines involved in ageing in place research, and (3) the double theoretical-practical/scientific/policy use of the ageing in place concept.

The starting point was that Ageing in place is built through the relationship old people have with their living environment, considering the latter as a context beyond the domestic boundaries. As the literature review has demonstrated, ageing in place cannot be considered in another way than as a multidimensional experience in which the micro and macro levels interact in terms of opportunities and resources, and all elements involved (individuals, dwellings, social networks and structure) are dynamic and evolve in time with different pace.

In sketching the conceptual framework, this thesis concludes that ageing in place is constructed through other simultaneous experiences in later life, such as *care* or *home*, which generate their meaning through the interaction of two axes, the objective-subjective and the physical-social. This implies that the way in which independent living is experienced differs from one person to another, not only in reference to material conditions, but also in the self-assessment of those conditions and the extent to which needs are satisfied.

Taking the natural complexity of 'Ageing in Place' as starting point, this research has established the premises underlying the concept based on the definitions proposed by other researchers up to the moment. These definitions point to the fact that ageing in place, in its more basic nature, is a situation in which older people remain living in their own homes as an alternative to institutionalisation, maintaining certain degree of autonomy that allow them managing the organisation of their daily routines. Therefore, the two essential premises of Ageing in Place are:

i. It can only be experienced in a private domain (dwelling).

ii. It entails a sufficient degree of functional and social autonomy that permits to the older persona remain living at home.

If only the first premise was considered, it could be deduced that every old person living in a private accommodation is automatically ageing in place. However, the second premise narrows the population being referred to, complicating the operationalisation of the object of study. Not all the older people that remain at the private domain are experiencing independent living. Co-residence, for instance, is an alternative to institutionalisation that seeks to obtain some kind of assistance within the domestic boundaries. Then, the degree of functional autonomy is also an

essential milestone of the ageing in place conceptualisation. Given the fact that the changes inherent to old age, especially those related with health decline, lead to the deterioration of elderly capabilities, the definition of ageing in place would include a third premise:

iii. *Independent living assumes the existence of some kind of supportive mechanisms that enhance ageing in place.*

This means that the idea of autonomy associated to independent living is organisational rather than functional. This implies that to remain at home, older people may count on some kind of support from informal or formal providers, or in form of housing adaptations. This intends to enhance the quality and the duration of the permanence at home, despite any substantial modifications derived from the inevitable ageing or biographical changes at old age, such as widowhood or income reduction after retirement.

With respect to the debate on the different uses of ageing in place caused by the scientific-practical duality of its implementation, this thesis proposes a synthesis of both meanings. Even though ageing in place helps to design those measures to promote reaching old age at home, in fact the popularisation of the term follows that direction; it is also true that the scientific study of staying at home at an old age far exceeds that definition. The institutions have a key role in the care and services provision for older people, but it is not the only enabling mechanism of independent living neither the most relevant one.

- ***What are the 'specificities' of Ageing in Place experience?***

- *Exploring the demographic component of Ageing in Place*

As basis for the study on which the specificities of independent living are grounded, an estimate on the size of population experiencing ageing in place was carried out, aiming to quantify the magnitude of the phenomenon of independent living in Europe.

The results from Chapter IV confirm that ageing in place is by far the most common living pattern among elderly Europeans, with 96% of people older than 65 years old living at home within the EU15. Analysing the percentages by country, it is observed that this profile of high proportions of older people living at home is rather similar among European regions up to the age of 80 . The spatial differences start to be more marked in the beginning of the so-called "Fourth Age", influenced by the type of supportive setting used in each region to cover the elderly people; in Northern and some Western countries this means institutionalisation and in Southern Europe, above all, this means also co-residence.

The distribution of the 'ageing in place' population by age and country indicates that there are important spatial differences in Europe that follow the traditional North-South gradient. There is

a homogenous group of countries that correspond to older people living in Southern Europe (Spain, Greece and Italy) characterised by stable percentages of remaining throughout all the age ranges. This means that in these countries ageing in place is a generalised practice even in advanced later life. The interpretation of these results has to be done carefully since ageing in place is actually not the only and not even the most common alternative to institutionalisation in Southern Europe. In this context, collective homes are seen as the last choice even at an advanced old age when illnesses and impairment are more serious due to biological ageing. In Spain, Portugal, Italy and Greece, co-residence at the children or relatives' home is a widespread substitutive of residential care as solution for those older people with functional impairments who need constant assistance. Therefore, although the percentages of people living at private domains in Southern Europe are exceptionally high up to advanced old ages, it cannot be inferred that their degree of autonomy is sufficient to assure they are living independently.

In the rest of the EU15 countries where a change is observed in the pattern of percentages of people living at private domains from the age of 80, the level of people living at the private dwellings abruptly decreases as the age increases. For example, Northern countries such as The Netherlands in which only 46% of people aged 90 live at private domains, or Belgium where the percentage reaches 52%. In these countries the correlation between living at a private domain and ageing in place is quite direct.

Results on the relation between independent living and age allows us to assure that this is an experience that fundamentally occurs during the first years of old age, and that as time passes and physical impairments appear, the need for assistance constraints its continuity. This is when the weight of adaptation mechanisms, especially by way of formal or informal support, has greater importance.

- *Exploring the residential component of Ageing in Place*

One of the core elements studied that distinguishes ageing in place was the residential component. The first objective was to understand the material conditions of the main scenario of ageing in place, that is, the dwellings where older people live in. In this sense, the most relevant conclusions are (1) in general, European older people live in high quality houses; (2) the differences in the quality of houses are clearer among socio-economic groups rather than between countries; (3) those differences among socio-economic groups are more visible in Southern Europe.

In general, European elderly are ageing in houses that are in optimum conditions, especially when compared to other world regions. An example of this is the small difference found between housing quality indicators of elderly households above and below the poverty threshold. There is

a minimum percentage of housing accommodation that lack basic facilities such as running water, toilet or shower, even among older people of a lower socio-economic level. Besides, regarding the space availability, the average of room per person is around 2, with little variation among socio-economic groups. The main differences have been found in the perception of problems related with housing. Older people from a high socio-economic status are more likely to report problems related to their environment, opposite to others who declare more indoor deficiencies.

Another conclusion derived from analysing the context in which independent living occurs is the adaptation to the housing as a basic strategy in succeeding ageing in place. Although it could be expected that the proportion of older people living in adapted dwellings increases parallel to age, data show that only in Northern Europe (Denmark, Sweden and The Netherlands) with more than 40% of people aged 85 living in adapted houses, and some Western countries such as Germany and Austria follow this pattern. In the meantime, the rest of the countries analysed present a relatively stable trend under 10% in all ages.

In addition, the analysis carried out in Chapter V confirmed that European elderly are highly satisfied with the physical environment they live in during old age, even in the case of those who belong to the most disadvantaged socio-economic groups. Moreover, although the overall improvements of the housing sector in Europe has minimised the structural conditions as an explanatory factor of living satisfaction, the empirical analysis shows that there is still certain relation to how old people assess their living environment in relation with the facilities they count on.

Especially in Southern Europe countries, and mostly within the most disadvantaged older people sector, the problems related to housing maintenance are the most influential in the living satisfaction of old people. Logically, these results refer to a housing stock in the South that is more deficient than in the rest of the continent, as well as to the worst quality housing where old people with low purchasing power live in. Also, the fact that during old age, individuals become weaker and their routines tend to be reduced to the domestic sphere, older people become more aware of the housing deficiencies or certain characteristics that did not presented any problem before, start to do so in old age; such as too much space, difficult access, lack of lift, etc.

Regarding the residential component of ageing in place, this work has analysed the living strategies used by old people to extend the quality and duration of independent living, reducing them to two basic alternatives: to remain at the same home or to move to another private setting. The duration of residential trajectories plays a key role in achieving ageing in place since it affects the level of adjustment between the needs generated at old age and the conditions that the living environment present. The analysis has revealed that, in general, older Europeans present long-term residential trajectories, which supposes that many of them started living at their current home a long time ago, often already in their young adulthood. In spatial terms, two basic

patterns in Europe have been identified, labelled as *One-bump countries* and *Double-bump countries*, and also a third pattern in between has been spotted, called *intermediate one-bump countries*. These labels refer to the curve drawn by the distributions of ages in which old people settled in the homes they are currently living in. In countries such as Spain, Italy or Greece with high levels of residential stability, the distribution of ages at which older population accessed to current home shows a sole curve at ages 25-30. On the other hand, the profile of *double-bump countries* outlines two peaks at the distribution trend, one at young ages (same as previous case), and a more pronounced one at ages around retirement age. This pattern is observed in countries such as Sweden and The Netherlands, where the dynamic nature of their housing systems benefits the mobile profile of their older population.

Even with those spatial differences, most of European older people were settled in their current housing long before reaching old age; the average of lifetime that older Europeans have remained in the same accommodation reaches 40%. This indicates the importance of long-term trajectories, and converts to *stability* in the major residential dynamic liked to ageing in place.

The analysis on the factors that condition permanence as a strategy for ageing in place permits to conclude that sudden changes to individuals' biography, such as chronic illness or death of a spouse, are main constraint factors of residential stability. In most cases, stability persists unless some transformations, especially within the family sphere as increase/decrease of household size, make reconsider the living situation. This balance between needs and opportunities is the trigger that makes us reconsider the best strategy to face the new scenario, which favours the extension of the independent living.

- *Exploring the social component of ageing in place*

Another major objective in this thesis has been to further analyse the mechanisms enabling independent living, that is, its social component. What we label as "social component" in this thesis is whether ageing in place to the resources available for older people to adapt their *modus vivendi* to the conditions derived from the ageing process. In this sense, the support given by formal and informal sources is a key factor, as stated by one of the basic premises of the conceptual development of the term.

The descriptive analysis has shown that the ageing in place policies in Europe address a wide range of implementations. From *benefits in kind*, which refer to coverage of home care for older people provided by the State through the creation of home care services; to *cash transfers* based on monetary subsidies given by the state to the individuals and families who are carers. The degree of implementation of these measures basically depends on the organisation of the welfare state in each country; therefore, the home care expenditure by the European states varies visibly,

with Sweden and Denmark as the countries which destine a higher percentage of GDP to this effect.

Given the fact that the EU promotes the creation of public policies that encourage older people to growing older at home, it would be expected that the expenditure in home care increases at the same pace to older cohorts' size. However, this has not been the case in all the territories. The two countries with higher investment in home care, Sweden and Denmark, have reduced their expenditure since 1990. In turn, the rest of the EU15 countries have increased their GDP percentage destined to housing and home services, although it is clear that they counted with a higher margin of improvement due to the fact that at the beginning of the 90's the budget allocation destined to cover old age needs in these countries was fairly reduced. The major increases between 1990 and 2008 are found in Austria and the United Kingdom, which increased the percentage of GDP in home care to older people by 0.5%.

The auxiliary participation of European states as provider of care for older people has implied that the main source of assistance at home has basically had an informal nature. This means that the social networks of older people are usually the ones responsible to provide care when older people are in need. Thanks to the information on social networks included in SHARE, it has been possible to assess the weight of social environment by means of proxy variables, such as marital status, to approximate the co-residence with partners or the existence of children, to infer the existence of adult children that participate in providing care. This gives a unique opportunity to analyse the intergenerational relationships since it allows us to know not only the structure of elderly kinship, which does not assure any kind of care exchange, but also the type of relationship that older people establish with them.

The results of the empirical analysis confirm that in all of the analysed countries **there is a hierarchical model of informal support** through which the spouse is the first to assume the care provision in later life. If there are no spouses, the children are often playing the role of carers when support comes from outside the household; and, in case there are no children, other relatives are those responsible for older people assistance. This hierarchical model on which the informal support from relatives is based highlights the major kinship component of the support at home in later life, although there are cases such as Northern countries in which also friends and neighbours may assist the old person in the daily routine.

Another conclusion drawn from the analysis is that the **informal care provided at home does not derive from a sole source**. Analysis reveals that if the old person needs some kind of support, usually the strategy would be to combine informal carers of different type such as inside-outside home, often adding the hiring of formal services. This finding is connected to another conclusion of this thesis, that is, that the formal support within the private domain complements the informal care. That is to say, those older people that are being assisted at home

by formal carers are more likely to also receive the support from some member of their social network, whether a relative or friend. This circumstance especially affects older individuals with high level of ADL impairments, which suggest that the increase in functional needs act as trigger to the assistance of formal help. Frequently, formal care provided to older people at home is complementary when informal providers are not able to assume the total amount of responsibility on their own.

The analysis regarding the support mechanism that enhance independent living was carried out introducing two clusters of variables; a first one that adds the health status of elderly Europeans as indicator of the needs presented by older people, and a second one that adds the composition of their social network as indicator of the resources available to cover these needs. Regarding spatial patterns it is important to notice that while **the health profile of older population was quite similar among European regions**, that is; the needs for those who were receiving care at home barely varies among countries, the major **differences were found in the mechanisms they use to manage them**. In Northern countries, the presence of relatives is less determinant as caregiver than in the South of Europe.

As we know, caring is a highly gendered activity. Despite the changes occurred in the last decades, especially in terms of women participation in the labour market, the empirical analysis suggests that gender still plays a key role in the provision of care in general and, in particular, in the support given to older people at their home. The results indicate that when an older person has a daughter the probability of receiving care at home increases, especially in Southern Europe. Not only that, to have a daughter also increase the likelihood of receiving formal support in all countries analysed. This is explained through the combined effect of formal and informal care previously pointed out, in which women are mostly the caregivers and also the person that helps managing the provision of assistance.

Another question regarding the social component of ageing in place is whether the support received at home avoids or delays institutionalisation. This question is extremely important since ageing in place is considered the substituting solution for nursing care. The SHARE data source presents some limitations to carry out specific analyses since it only registers as institutionalised population those who previously participated in the panel at a private domain. The coverage lasting few years and the fact that institutionalisation used to occur in the stage previous to death restricts the number of cases included in the empirical analysis. Nevertheless, it has been enough to confirm the protective effect of informal support at home as mechanism to delay institutionalisation. To this respect the conclusions have been that (1) **Informal support at home,** mainly provided by the partner**, acts as a facilitating factor of independent living extension**. The analysis pointed out that those that were receiving informal care from inside of the household, increase the probability to remain at home between waves. Other insights related

to informal support, such as having a daughter or having any of the children living within a one-kilometre radius, work as factors that prevent institutionalisation. However, (2) **formal support can be understood as an announcing indicator of a near nursing home relocation**. Regarding to the independent living, to be receiving formal care at home in the previous wave, especially for domestic tasks, presented higher probabilities to be institutionalised in the second wave.

- Exploring the individual component of ageing in place

The individual component of ageing in place experience has been approached through the analysis of the preferences of older people about the best setting to growing older. This was done by carrying out a case study of the Spanish context. Ageing in place is commonly referred to as an almost-universal aspiration of the elderly, which justifies the policies undertaken in this sense, based on the revealed preferences; the inference of a choice through a disclosed fact. That is, it is assumed that older people live at their homes because most of them do so. The objective was to test to what extent ageing in place was the most desired living option the older Spanish population.

The results of this research confirm that **older Spanish prefer to ageing at home**, **but only when the hypothetical situation implies good health conditions**. When old people are asked about the ideal place to live their old age years in case of no impairments, 90% answered that the place would be their own home; a somehow expected answer. However, the same analysis also suggests that **the desirability of independent living is conditioned by** what in this research has been labelled as ***disability factor***. When Spanish older people were asked about their ideal situation for ageing if having some kind of physical or cognitive limitation, a majority of 59% answered at their children's home or some relative's, which contradicts the statement of ageing in place is the widespread preferred option.

In Spain it happens that older people who are living at their home *de facto*, choose co-residence as preferred solution when frailty is foreseen. This effect is especially observable in widowers or to those suffering some kind of limitation in their daily activities at the moment of the survey. This suggests that those who are more likely to need help would opt for this type of housing solution, meaning that the preferences are not disconnected from the reality of the person: the more it gets closer to this reality, the more likely the person to prefer this option. For example, people who were already living at some relative's home had 10% more probability of choosing the said alternative in case of impairment in comparison with those living at their own home.

For those who would prefer institutionalisation in a situation of frailty, demographic features such as gender (men were more likeable) or age (cohorts of people between 65-69 years old were more likely to choose the option) or others like education level were significant factors that

shape living preferences. Besides, the psychological aspects such as loneliness highly increased the willingness towards choosing nursing homes as the ideal place to age. Probably, that choice was also influenced by the current circumstances and the intention with that housing solution was to solve the lack of care and company.

Another major question posed in this chapter refers to the future of ageing in place preferences in Spain: *was co-residence a generational preference or, on the contrary, are its cultural roots inherited from the new generations?* The conclusion reached is that the cultural patterns about the best place to grow older persist in time in the Spanish society. Co-residence is still a preferred solution for receiving care at all ages. Only at middle-ages (45-64) there is certain tendency towards the election of another type of supportive setting, such as collective homes. The preferences of this age group are shaped by the fact that these people are in the previous state to old age and, consequently, they evaluate the hypothetical situation in more real terms that younger age-group (25-44).

At the same time, Spanish mature population belongs to the so-called "sandwich generation", corresponding to people who assume the dual role as supporters of their adult children and carers of their parents. This led to a major awareness about the personal investment implied in taking care of others, which may affect their ideal choices, making them more willing to other options that will not pose a burden for their descendants. The individualisation process described by Becker (1996) in which people concede more relevance to their personal projects above the collective paths established by social norms, in order to avoid the compromising of their children' expectations and aspirations that co-residence many times implies. Parents may aim to disassociate their children from the implicit "obligation" of taking care of older people in the family-oriented societies of southern Europe, such as Spain.

IX.4. Discussion

The emergence of a positive perspective to approach the behaviours and dynamics of later life (as a stage) and older people (as a social group) implies a more real starting point to understand the ageing process. Firstly, it recognises the diversity of profiles among older people and tends to counteract the homogenous image of a group with equal characteristics and needs. Secondly, this change of lens supposes an opportunity to enable older population to participate in social life.

The search of formulas to base the drafting of public policies that allow the management of the demographic change in Europe has adopted and promoted this perspective enthusiastically. Active Ageing is the mantra to which authorities turn to as a solution to assure the endurance of the welfare systems implemented in Europe after World War II. However, up until now, the intention of putting in practice the idea of positive ageing has been almost exclusively visible in the macro-economic field, serving as theoretical justification for the reforms in the pension

system and the proposals for delay in the retirement age. Thus, the question that emerges is to which extent these guidelines really prioritise older people's well-being or rather pursue the maintenance and perpetuation of the current economic and social status quo. The practical implementation of the ageing in place premises seems to be an excuse for supporting the welfare systems reforms rather than a real raising of awareness about older people changing needs. In this sense, positive ideas and actions, for instance for older people to extend their autonomy and activity as much as possible, may not be effective if they are not properly applied. It is obviously positive to highlight the active role of older people, which has been neglected during a long time, but it is also necessary to consider what they think about these new roles and how they want to perform them in order not to underestimate or confound their real expectations and aspirations.

In the concrete case of Ageing in Place, it is presented as the most suitable living situation to attain a healthy and safe later life. It is true that when individuals become older they wish to keep their autonomy and independence, and if this is accomplishing in the desirable conditions the effect of the permanence at home over their life quality is positive. However, it is important not to lose the sight of the fact that not every old person experiences later life in the same way; many lack social networks that may provide them support, live in inappropriate environments that do not satisfy their residential needs or live in countries where the Welfare state is highly retrenched. Demographic factors such as fertility decline, increase in divorce rates, or widowhood that have led to the increase of single-person older households, have in turn minimised their opportunities to satisfy their support needs by means of informal care, the most common mechanism to compensate the loss of functionality in later life. In addition, there are other factors involved, such as the individualisation process that broadens the social relationships outside the family, whereas it creates less tight bonds among relatives and other members of the same social network. Besides, as stated throughout the thesis, there is a sector of older people lacking of the proper housing conditions, not in terms of residence quality but in terms of adaptation to functional impairments. There are older people who do not actually make a choice when they remain at home, but this is the only possible alternative, given the lack of resources.

In sum, the variety of ways that ageing is experienced, and specifically the wide range of forms in which ageing in place can be materialised cannot be overlooked by the creation of policy guidelines if it is to be effective and beneficial for older people. This means that Ageing in Place cannot be assumed as a universally positive experience for older people. Although in general lines, to remain at home in later life could be considered as a healthy experience, it is also true that there are older people for whom ageing in place is a source of insecurity, isolation and dissatisfaction. That is why this thesis states the importance of visualising the specificities with which independent living is materialised in each context, not only in spatial, but also in social, economic, political and cultural terms. The ultimate objective is to highlight those specificities so

as not to turn them into inequality, thus increasing the exclusion risk of those older people who remain at their home.

One of the core components in this study was the spatial aspect of ageing in place. The differences within Europe invite us to reflect on the importance of this component in the materialisation of independent living. The fact that the European Union guidelines intend to be cross-national makes it seem that this process is carried out with certain homogeneity within the continent. As previously observed, the variety of living conditions, living arrangements, development of the Welfare State or types of home care compel the differentiation of the specificities of each context. Above all in Southern Europe, the role of family and the relatively high relevance that co-residence still has as supportive function in later life, should not be forgotten in the conceptualisation of Ageing in Place. As shown in the results, the housing dilemma for those older people in need stated by the usual formulation of independent living, ageing in place vs. institutionalisation, is not so straightforward in the Mediterranean region. In Spain, Italy, Portugal or Greece, the families assume the role of caregivers not only in the home of the older person, but in their own home as well, a position that in other contexts is assumed by institutions. The model which contrasts ageing in place against institutions overlooks that third important option for older people living in this European region, that is, co-residence.

Although in general terms, the number of intergenerational households have been reduced proportionally throughout Europe; living with the children is assumed as a strategy in the search for long-term care in southern countries. What is more, it is also the most preferred option when older people foresee their health deterioration. Once again, this finding refutes the universality of the "ageing in place vs. institutions" model as the housing solution for care provision in later life.

It is advisable to take this aspect into account when establishing the premises related to ageing in place, not only in terms of the importance of the families in the provision of care at the older person's home, but also their relevance to the social networks of older people when they turn their own place into a nursing home. This implies an economic cost for women who are the ones to carry out their role as carers, which suggests a challenge for the future generations.

IX.5. Future lines of research

The study of the specific nature of independent living in later life is an extremely broad and relatively new field of study and, therefore, a line of research filled with challenges. This research is only a first step, leaving the approaching of others for future developments.

Perhaps one of the major aspects of ageing in place not included in this thesis is the effects that at both, the individual (welfare, satisfaction, life quality of older people) and structural (demand for social-health and housing resources) level ageing in place do trigger. To assess the benefits of ageing in place as a living solution will contribute to clarify up to which extent independent living

is beneficial, analysing in which occasions remaining at home enhance elderly well-being or not. The reason for not approaching this dimension of ageing in place in this research is due to the scarcity of data. To make it possible it would have been necessary to count upon longitudinal data with time series that were longer than the ones provided by SHARE (which is only a matter of time since its implementation is expected to continue up to 2024). Also, it would be desirable to count on sources that incorporate more information about the formal support received at home, especially those coming from public providers. This means that apart from having information on the nature of the source of care, objective that has already been widely accomplished by SHARE, it would be desirable to incorporate information on public policies provided, whether cash transfer or benefits in kind, the period of help provision, the reason for requesting it, etc. With respect to the improvement of data sources, it will also be advisable to discontinue the statistical segregation of the institutionalised population, which has been already noticed by some authors (Clemenceau and Museux 2007). This means implementing surveys to gather data on the population in collective homes and private settings simultaneously, so as to compare the characteristics and evolution of both populations. Although it is true that the profile of institutionalised older people, characterised by serious physical and cognitive impediments, hinders the completion of questionnaires, there have been few attempts at including them as part of the sampling universes. The path set by the SHARE panel when interviewing older people who have been transferred to nursing homes is a pioneer in this sense, and will provide a wide range of empirical opportunities in the future.

Another main approach not covered herein given its qualitative perspective is the analysis of the statements underlying the decision-making process of older people about where, how and with whom to live. It will be an important step to shed light on these aspects to carry out some qualitative study that supply more information about the expectations and aspirations of older people as well as the factors influencing their final behaviours in relation to the choice of remaining at home. Recently, authors such as Mellander, Florida and Stolarick (2011) or Hjälm (2013) have emphasised the fact that the decision to stay at home responds to a reflection process which, the same as mobility, implies an assessment of the available opportunities according to the changes experienced by individuals. Given the fact that during old age individuals tend to remain stable and the living environment becomes especially relevant, the importance of exploring stability of older population as an option rather than as a result of "no mobility" is essential to contribute to the progress of this new research field. The qualitative dimension will also help to further understand how the intergenerational relationships of older people are built. This thesis has confirmed once again that the role of the informal support is the major source of care during old age. In time, it has been proved that co-residence still supposes a widely appreciated option for older people, at least in countries such a Spain. In consequence, another of the future lines of research should test the role of co-residence and near co-residence

as mechanisms substituting institutionalisation at very old ages, despite the generalised decrease of multigenerational households in Europe.

As stated by Isengard and Szydlik (2012), the housing behaviours in terms of co-residence are not only related to personal expectations, but also to the structural contingencies. Given the juncture of economic crisis which is supposing the contraction of the Welfare State, the circumstances encourage to investigate how the new economic and political panorama affect the intergenerational relationships inside and outside the home, and especially whether it is transforming the exchange of support among generations, a matter that becomes specifically relevant in European southern countries. News such as the piece published by "El País" on July 17, 2013 indicate that the pensioners' spending on help for their family members in Spain has increased by 33%, many of them representing the only fixed monthly income in most homes. Them, it seems highly pertinent to wonder how these new structural conditions will affect the family organisation when the scope for public policies is reduced? What is the new role of older people within families? Who are the dependent older people now and in which sense? How are the help exchange flows generated within an economic shortage and social reductions scenario? Other important issues arise in reference to the statement of the positive ageing paradigm regarding the role of older people not only in terms of economic power, which has been the most significant aspect for institutions, but also as social actors. The individuation process has led to changes in the approaches to how old age is experienced, prioritising personal projects outside the family constraints which makes them a more dynamic collective. The consequences of these changes at the individual and structural level pose one the main challenges of social gerontology.

Another significant dimension of this research has been the spatial dimension of ageing in place by means of a comparison among European countries. The different implementations of public policies and variations in the family relationships organisation have established the grounds for this comparison. However, this observation is just one of the many possibilities since the geographic dimension of socio-demographic phenomena allows other distinctions such as within countries or the differences between the urban and the rural context. Also, it will be interesting to leave the spatial dimension behind and focus on other distinctive aspects of independent living such as gender or socio-economic status of older people. Although these two aspects have been incorporated as explanatory variables in several empirical analysis carried out by this research, they should be taken into account as analytical axes by themselves to verify how social constructions and available resources condition the ageing experience.

To sum up, this study of ageing in place is just one piece of the ageing puzzle that presents many other sides and questions prompted by the demographic change. The advance in the knowledge about the consequences of elderly population increase and the transformation of the

characteristics of the ageing process represents a major challenge for those researchers interested in unravelling the intrinsic complexity that later life involves.

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Annexes

Table A.55. Standardised rates 65+ EU15 population in private/collective homes, 2001 (%).

	Total				Male				Female			
	Private		Collective		Private		Collective		Private		Collective	
	S.	Non-S.	S	Non-S	S	Non-S	S	Non-S	S	Non-S	S	Non-S
Belgium	93.7	93.9	6.3	6.1	95.4	96.8	4.5	3.2	91.6	91.8	8.3	8.1
Denmark	97.0	96.7	3.0	3.3	97.2	97.8	2.8	2.2	96.3	96.0	3.7	4.0
Germany	96.1	96.3	3.9	3.7	97.3	98.2	2.6	1.8	94.8	95.0	5.2	5.0
Ireland	92.5	92.8	7.5	7.2	93.5	94.8	6.5	5.2	90.9	91.3	9.1	8.7
Greece	97.4	97.5	2.6	2.5	97.7	97.9	2.3	2.1	97.0	97.2	3.0	2.8
Spain	97.6	97.7	2.4	2.3	98.1	98.4	1.9	1.6	97.1	97.1	2.9	2.9
France	94.6	94.3	5.4	5.7	95.4	96.3	4.6	3.7	93.3	92.9	6.7	7.1
Italy	97.9	97.9	2.1	2.1	98.7	98.9	1.3	1.1	97.2	97.2	2.8	2.8
Luxembourg	93.3	93.7	6.7	6.3	95.7	97.2	4.3	2.8	90.8	91.4	9.2	8.6
Netherlands	93.4	93.5	6.6	6.5	94.5	96.4	5.5	3.6	91.5	91.5	8.5	8.5
Austria	95.8	95.8	4.2	4.2	97.1	97.8	2.9	2.2	94.6	94.5	5.4	5.5
Portugal	92.8	96.4	3.9	3.6	96.5	97.4	3.5	2.6	95.1	95.6	4.9	4.4
Finland	94.8	95.1	3.2	3.1	95.5	96.9	2.6	1.8	93.7	94.0	4.1	3.9
United kingdom	95.7	95.4	4.3	4.6	96.5	97.3	3.5	2.7	94.5	94.1	5.5	5.9

Note: S.= Standardised rates, Non-S.= Non standardised rates

Source: Eurostat database, National censuses 2001.

Figure A.59.Standardised rates of 65+ population by type of residential domain, age and country.

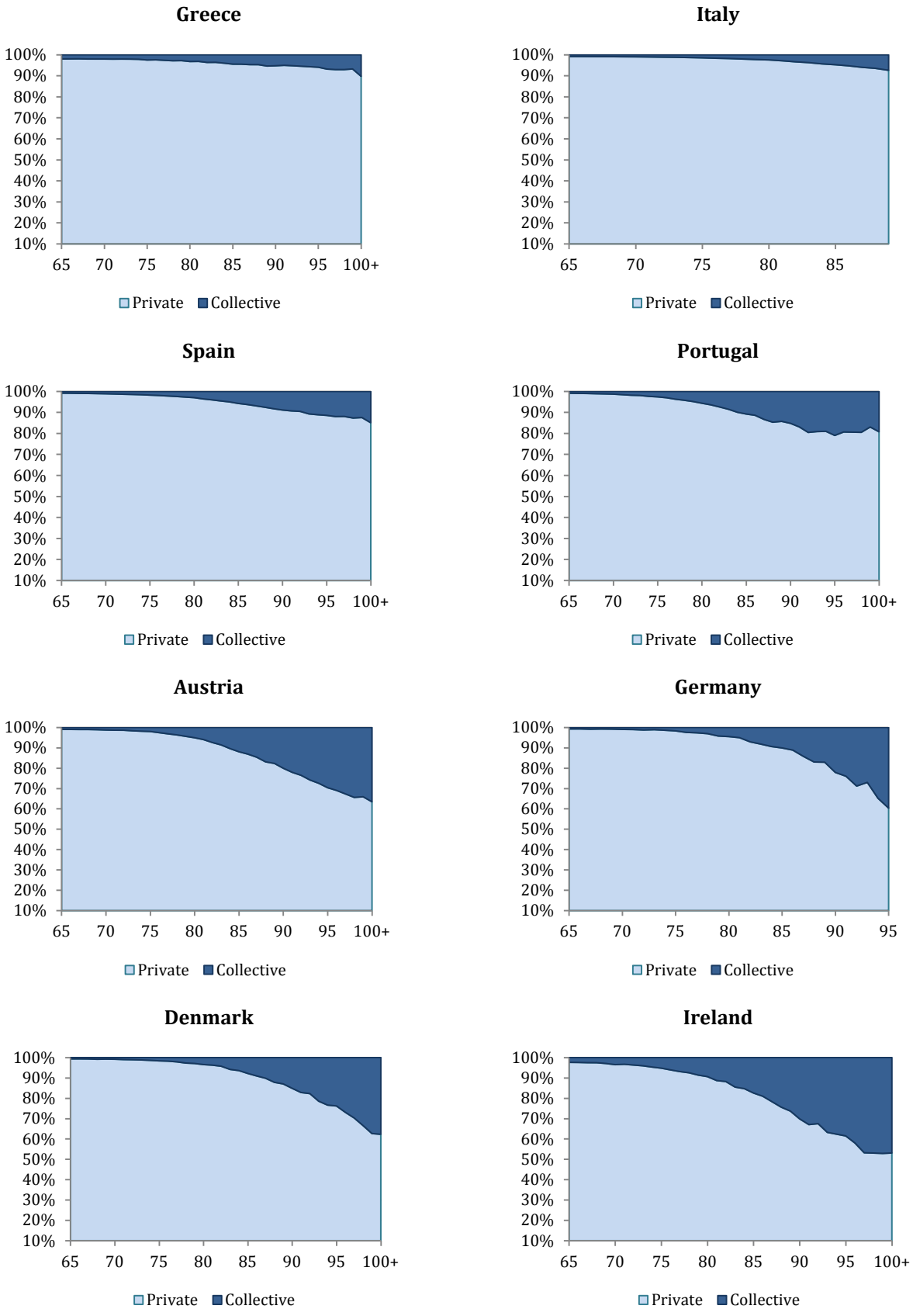

Figure A.11. Continuation.

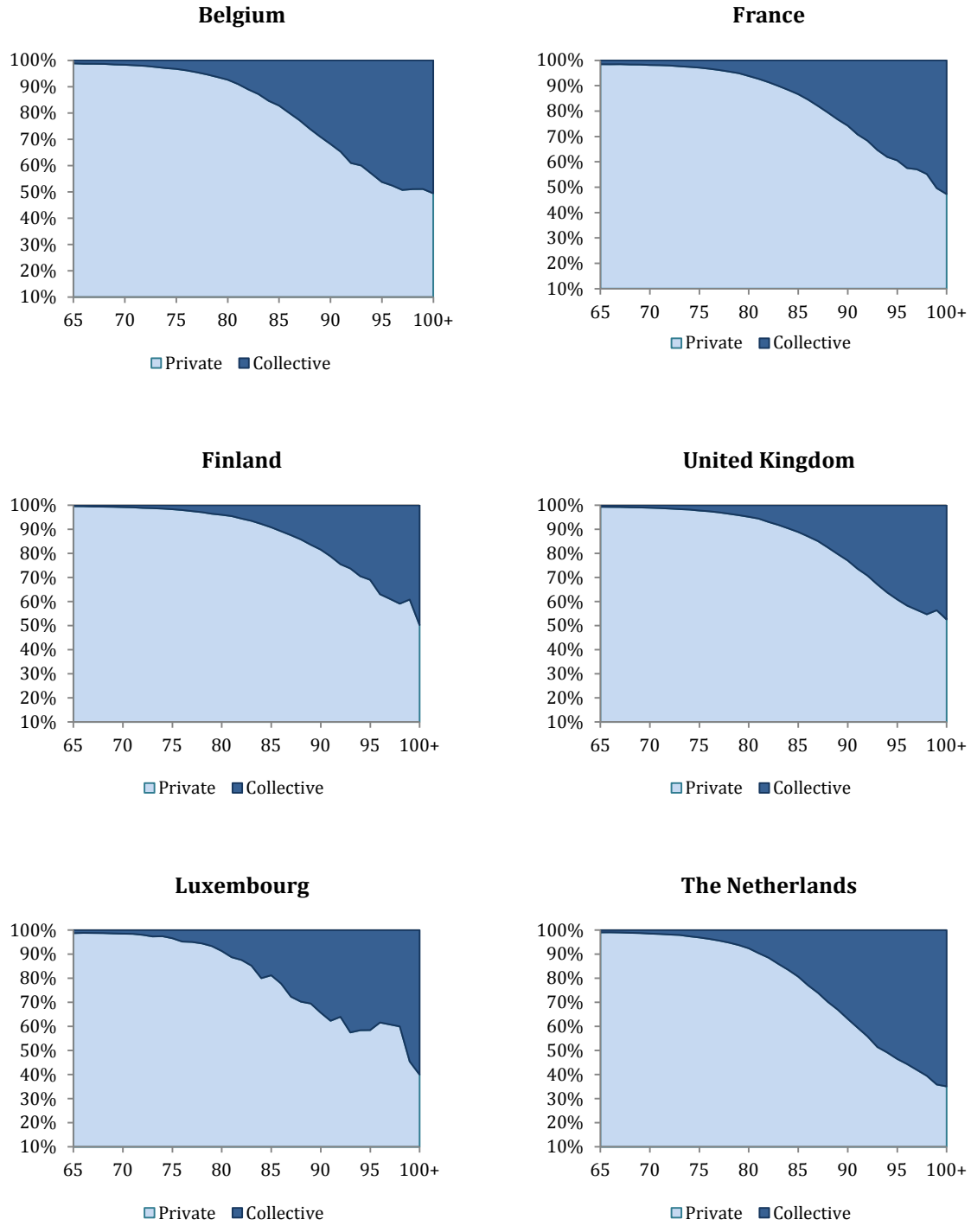

Figure A.60. Rates of elderly people living at home by simple ages and country, 2001 (%).

	BE	DK	DE	IR	GR	ES	FR	IT	LU	NL	AT	PT	FI	UK
65	98.8	99.3	99.3	97.6	98.0	99.2	98.4	99.2	98.7	99.1	99.0	99.2	99.0	99.3
66	98.6	99.3	99.3	97.6	98.1	99.2	98.4	99.2	98.8	99.1	99.0	99.1	98.9	99.3
67	98.6	99.3	99.1	97.5	98.1	99.1	98.5	99.2	98.8	99.0	99.0	99.1	98.8	99.3
68	98.6	99.1	99.2	97.4	98.0	99.1	98.3	99.2	98.8	98.9	99.0	98.9	98.8	99.1
69	98.4	99.2	99.2	97.1	98.0	99.0	98.3	99.1	98.6	98.8	98.9	98.8	98.7	99.1
70	98.3	99.2	99.0	96.5	98.0	98.9	98.1	99.1	98.5	98.5	98.7	98.7	98.4	98.9
71	98.0	99.0	99.0	96.7	98.0	98.8	98.1	99.0	98.4	98.4	98.6	98.5	98.4	98.8
72	97.8	98.9	98.7	96.3	98.0	98.7	97.9	98.9	98.0	98.2	98.6	98.2	98.1	98.6
73	97.4	98.8	98.9	95.9	98.0	98.6	97.6	98.9	97.4	98.0	98.3	98.1	97.9	98.4
74	97.0	98.6	98.6	95.3	97.9	98.5	97.4	98.7	97.5	97.4	98.1	97.7	97.7	98.2
75	96.7	98.4	98.3	94.8	97.6	98.3	97.1	98.6	96.6	96.9	98.0	97.4	97.2	97.8
76	96.1	98.2	97.6	93.9	97.6	98.1	96.7	98.4	95.2	96.4	97.4	97.0	96.6	97.5
77	95.4	97.9	97.3	93.1	97.4	97.9	96.2	98.3	95.1	95.6	96.8	96.3	96.0	97.0
78	94.6	97.3	96.9	92.5	97.2	97.6	95.6	98.0	94.5	94.8	96.3	95.8	95.3	96.4
79	93.6	97.1	95.8	91.4	97.3	97.3	94.9	97.8	93.4	93.8	95.6	95.2	94.7	95.8
80	92.6	96.5	95.5	90.6	96.8	97.1	93.8	97.6	91.3	92.4	94.9	94.4	93.8	95.2
81	90.9	96.2	95.0	88.7	96.9	96.5	92.7	97.2	88.7	90.4	94.0	93.6	93.1	94.4
82	88.9	95.7	92.9	88.2	96.4	96.0	91.4	96.7	87.6	88.5	92.6	92.6	91.7	93.0
83	87.1	94.1	91.8	85.5	96.4	95.5	89.9	96.3	85.2	85.9	91.4	91.5	90.1	91.8
84	84.5	93.6	90.6	84.7	96.0	95.0	88.3	95.7	80.0	83.5	89.6	90.1	88.1	90.4
85	82.7	92.2	89.9	82.5	95.6	94.3	86.6	95.3	81.3	80.7	88.0	89.3	86.7	88.9
86	79.9	90.9	88.9	81.0	95.6	93.8	84.5	94.8	77.8	77.1	86.9	88.6	84.1	87.0
87	77.2	89.8	85.8	78.3	95.4	93.2	82.0	94.1	72.4	74.0	85.4	86.7	82.5	85.1
88	73.9	87.8	83.0	75.6	95.3	92.5	79.4	93.6	70.3	70.2	83.1	85.3	80.3	82.4
89	71.0	87.0	82.9	73.7	94.7	91.8	76.7	92.7	69.5	67.0	82.3	85.8	77.5	79.7
90	68.1	84.9	77.9	69.8	94.8	91.2	74.2	-	65.7	63.2	79.9	84.8	75.3	77.0
91	65.2	82.8	76.0	67.0	95.0	90.8	70.8	-	62.4	59.5	77.9	83.1	71.9	73.6
92	60.9	82.3	71.2	67.5	94.8	90.5	68.3	-	64.0	55.9	76.5	80.5	68.6	70.8
93	60.0	78.5	73.0	63.2	94.6	89.3	64.6	-	57.5	51.5	74.2	80.9	66.1	67.1
94	56.8	76.6	65.2	62.3	94.4	88.9	61.9	-	58.4	49.2	72.5	81.0	62.7	63.7
95	53.7	76.2	60.4	61.5	94.1	88.6	60.6	-	58.5	46.5	70.4	79.1	61.5	60.9
96	52.3	73.1	-	58.0	93.2	88.1	57.5	-	61.6	44.4	69.1	80.7	55.6	58.3
97	50.7	70.3	-	53.2	93.0	88.1	57.0	-	60.8	42.0	67.3	80.6	53.0	56.5
98	50.8	66.6	-	53.1	93.0	87.4	55.2	-	60.0	39.5	65.6	80.6	50.4	54.7
99	51.0	62.7	-	52.9	93.3	87.6	49.6	-	45.5	35.9	65.9	83.1	53.2	56.4
100+	49.3	62.3	-	53.1	89.8	85.1	47.3	-	40.0	35.1	63.4	80.8	43.7	52.6

Source: EU SILC 2007

Table A.56. Standardised rates 65+ EU15 population in private/collective homes by gender, 2001 (%).

	Males		Females	
	Private	**Collective**	**Private**	**Collective**
Belgium	95.4	4.5	91.6	8.3
Denmark	97.2	2.8	96.3	3.7
Germany	97.3	2.6	94.8	5.2
Ireland	93.5	6.5	90.9	9.1
Greece	97.7	2.3	97.0	3.0
Spain	98.1	1.9	97.1	2.9
France	95.4	4.6	93.3	6.7
Italy	98.7	1.3	97.2	2.8
Luxembourg	95.7	4.3	90.8	9.2
Netherlands	94.5	5.5	91.5	8.5
Austria	97.1	2.9	94.6	5.4
Portugal	96.5	3.5	95.1	4.9
Finland	95.5	2.6	93.7	4.1
United Kingdom	96.5	3.5	94.5	5.5

Note: Own calculations
Source: Eurostat database, National censuses 2001

Table A.57. Tenure structure of 65 and over population, EU15 countries (%).

	Owner	Tenant or subtenant paying rent at prevailing or market rate	Accommodation is rented at a reduced rate (lower price that the market price)	accommodation is provided free
AT	60	18	5	16
BE	79	12	7	2
DE	57	35	4	4
DK	70	30	0	0
ES	88	3	3	5
FI	87	3	8	2
FR	80	10	8	2
GR	89	4	0	6
IE	91	1	6	2
IT	83	8	4	5
LU	89	7	2	2
NL	57	42	0	0
PT	78	7	9	6
SE	74	24	2	0
UK	79	2	17	2
EU15	78	13	5	4

Source: EU SILC 2007

Table A.58. Distribution of elderly population with housing adaptations by age group (%). 2010.

	AT	DE	SE	NL	ES	IT	FR	DK	EL	BE	PT	All countries
65-69	5	8	7	15	9	2	5	13	1	5	4	7
70-74	4	6	10	19	8	2	4	14	0	6	4	7
75-79	9	11	14	31	6	4	7	16	3	8	5	10
80-84	8	14	19	36	9	1	10	27	5	12	3	13
85+	20	30	43	46	8	2	10	51	4	9	5	21

Source: SHARE wave 2

Table A.59. Braunbach and Powell's classification of home adaptation

HOME MODIFICATION MEASURES BY ROOM	Auxiliary devices	Structural measures	Modification of layout and design
ENTRANCE			
double – sided handrail from the first stair	X		
illumination with motion detector	X		
remove of tripping hazards			X
electrical door opener	X		
place to put something near the entrance			X
changing floor and floor materials to get orientation		X	
Ramps	X		
glass panel rich in contrast		X	
STAIRCASE			
double – sided handrails from the first stair	X		
stair lift	X		
tactile facilities at the beginning and end of the staircase	X		
adequate illumination	X		
automatic illumination with long intervallic	X		
stairs rich in contrast		X	
DOORS			
minimum width: 80 centimetre		X	
glass surfaces have to be rich in contrast			X
movement areas around the doors			X
glass panel rich in contrast		X	
LIVING SPACES:			
sufficient movement areas			X
door broadening		X	
no sharp- edged elements			X
handholds	X		
low windows		X	
adequate illumination			X
basement rich in contrast		X	
glass panel rich in contrast		X	

Table A.59. (Continuation)

KITCHEN:			
sufficient movement areas		X	
no sharp- edged elements			X
fire detector with louder signal	X		
fittings with extended hand gear	X		
accessible work spaces			X
sufficient work spaces			X
possibilities to take a seat			X
legroom under the work spaces			X
basement rich in contrast		X	
glass panel rich in contrast		X	
BATHROOM			
walkable shower		X	
hand shower	X		
Handholds	X		
new toilet		X	
accessible wall closets			X
anti skid floor materials		X	
adequate illumination	X		
mechanical ventilation system	X		
great mirror	X		
glass panel rich in contrast		X	
BEDROOM			
semi - electrical home care bed	X		
fire detector with louder signal	X		
electrical shutter	X		
Commode			X
OUTDOOR SITTING AREA			
sufficient movement areas			X
protection against sun, rain, wind, noise and access	X		
anti skid boarding		X	
OUTDOOR FACILITIES			
parking close to the entrance		X	
central way good accessible also at dirty weather		X	
CONTROL ELEMENTS AND ORIENTATION:			
control elements in about 85 cm high			X
easy to access control elements			X
no sharp- edged elements			X
changing bordings to get orientation	X		

Source: (Braubach and Power 2011)

Table A.60. Average number of years in current accommodation by country, gender and age group.

	AT	BE	DE	DK	ES	FI[1]	FR	EL	IE	IT	LU	NL	PT	SE	UK	All countries
Male																
65-79	33	30	29	23	31	-	27	28	34	31	31	22	32	23	22	28
80+	34	37	39	20	38	-	36	40	46	43	39	23	40	26	27	35
Total	33	33	34	21	34	-	32	34	40	37	35	22	36	24	25	32
Female																
65-69	34	30	28	19	31	-	29	30	31	32	30	21	35	21	23	28
80+	38	36	30	22	38	-	34	37	47	42	35	19	41	21	24	33
Total	36	33	29	21	35	-	31	34	39	37	32	20	38	21	24	31
Total																
65-79	33	30	28	21	31	-	28	29	33	32	31	21	34	22	23	28
80+	36	36	34	21	38	-	35	39	47	42	37	21	41	24	25	34
Total	35	33	31	21	34	-	31	34	40	37	34	21	37	23	24	31

Source: SHARE w1, w2 (Ireland), w4 (Portugal), EU SILC 2007 (Luxembourg and United Kingdom)

[1]No data available for Finland

Table A.61. Public expenditure on care allowance, accommodation, and assistance in carrying out daily tasks, EU15 countries 1990-2008. (% of GPD)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Belgium	-	-	-	-	-	-	-	-	0.03	0.04	0.03	0.04	0.04	0.04	0.05	0.05	0.06	0.05	0.05
Denmark	2.14	2.10	2.06	1.83	1.59	1.20	1.06	0.98	1.79	1.70	1.64	1.67	1.72	1.75	1.77	1.74	1.73	1.57	1.68
Germany	-	0.07	0.06	0.07	0.07	0.17	0.21	0.21	0.20	0.19	0.18	0.18	0.18	0.17	0.17	0.16	0.16	0.15	0.15
Ireland	-	-	-	-	-	0.17	0.16	0.16	0.15	0.16	0.18	0.22	0.22	0.22	0.23	0.22	0.22	0.22	0.25
Greece	-	-	-	-	-	0.05	0.08	0.10	0.11	0.08	0.09	0.08	0.08	0.09	0.09	0.10	0.10	0.09	0.09
Spain	0.16	0.16	0.17	0.17	0.17	0.16	0.14	0.13	0.12	0.16	0.21	0.20	0.24	0.31	0.32	0.33	0.36	0.38	0.45
France	0.18	0.18	0.19	0.21	0.21	0.21	0.21	0.21	0.18	0.17	0.17	0.16	0.26	0.31	0.32	0.32	0.33	0.34	0.35
Italy	0.12	0.12	0.12	0.13	0.12	0.09	0.10	0.09	0.09	0.10	0.10	0.11	0.12	0.12	0.12	0.11	0.12	0.13	0.14
Luxembourg	0.25	0.23	0.26	0.21	0.19	0.18	0.15	0.13	0.21	0.03	0.02	-	-	-	-	-	-	-	-
Netherlands	0.53	0.52	0.52	0.52	0.53	0.50	0.47	0.63	0.71	0.61	0.66	0.60	0.66	0.67	0.87	0.87	0.82	0.85	0.72
Austria	0.48	0.47	0.47	0.64	0.82	0.83	0.85	0.88	0.87	0.90	1.01	0.98	0.96	0.97	0.97	0.96	0.98	0.95	1.00
Portugal	-	-	-	-	-	0.12	0.12	0.14	0.14	0.15	0.17	0.20	0.21	0.23	0.25	0.25	0.25	0.25	0.25
Finland	0.70	0.78	0.78	0.80	0.76	0.77	0.79	0.67	0.64	0.63	0.62	0.63	0.64	0.67	0.71	0.68	0.68	0.67	0.69
Sweden	-	-	-	2.62	2.53	2.29	2.47	2.44	2.39	2.35	2.32	2.41	2.52	2.55	2.44	2.37	2.35	2.25	2.33
United Kingdom	0.06	0.08	0.24	0.30	0.32	0.35	0.38	0.39	0.39	0.78	0.81	0.84	0.90	0.95	1.01	0.99	0.87	0.55	0.56

Source: Eurostat database, 2013

Table A.62. Self-reported reasons to institutionalisation of Spanish elderly by age group, population aged 65 and over, 2004 (%).

	65 - 69	70 - 74	75 - 79	80 - 84	85 - 89	90+	Total
Older person did not want to be alone	30.4	33.3	25.8	35.4	37.5	40.0	34.9
Older person could not make the domestic tasks	0.0	1.9	3.4	6.2	4.8	5.0	4.4
Older person seek better assistance	8.7	13.0	9.0	15.4	6.5	14.0	11.0
Older person is accompanying to their partner	0.0	1.9	7.9	6.2	4.2	3.0	4.6
Older person does not want to be a burden to the family	8.7	5.6	3.4	6.2	12.5	14.0	9.0
Older person want to be more free	0.0	0.0	1.1	0.0	0.6	1.0	0.5
Older person want to be safer in the future	0.0	0.0	2.2	0.0	2.4	0.0	1.1
Older person is not self-reliant	13.0	11.1	16.9	9.2	8.9	5.0	9.9
Older person did not have another choice	13.0	0.0	3.4	1.5	3.6	2.0	2.8
Older person does not have family	0.0	11.1	1.1	0.8	3.6	1.0	2.7
Health status decline	21.7	13.0	19.1	8.5	8.9	10.0	11.5
Family could not provide care	0.0	5.6	6.7	10.0	6.0	4.0	6.4
Economic problems	4.3	0.0	0.0	0.0	0.0	1.0	0.4
Someone recommend me	0.0	3.7	0.0	0.8	0.6	0.0	0.7

Source: Encuesta de Condiciones de Vida de las Personas Mayores, IMSERSO, 2004.

Table A.63. Self-reported reasons to institutionalisation of Spanish elderly by gender, population aged 65 and over, 2004 (%).

	Males	Females	Total
Older person did not want to be alone	37.8	33.9	35.1
Older person could not make the domestic tasks	2.9	5.0	4.4
Older person seek better assistance	14.0	9.5	10.8
Older person is accompanying to their partner	8.7	2.7	4.5
Older person does not want to be a burden to the family	5.2	10.7	9.1
Older person want to be more free	0.6	0.5	0.5
Older person want to be safer in the future	1.2	1.0	1.0
Older person is not self-reliant	8.7	11.0	10.3
Older person did not have another choice	2.3	3.0	2.8
Older person does not have family	2.3	2.7	2.6
Health status decline	8.1	13.0	11.5
Family could not provide care	6.4	6.2	6.3
Economic problems	0.6	0.2	0.3
Someone recommend me	1.2	0.5	0.7

Source: Encuesta de Condiciones de Vida de las Personas Mayores, IMSERSO, 2004.