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Driving forces and global trends

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Prospects for later-life migration in urban Europe

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Contents

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Abstract

Objectives/Aims:

Later life migration among the baby boomer generation will have far-reaching implications of economic development and for planning strategies to ensure adequate health, housing and welfare in the right place at the right time. However, much of the current debate about the future trajectory of this type of human mobility has been based on speculation. The goal of this research is to gain a better understanding of later life migration and the likely future trajectory of the retired baby boomers in Europe.

Methodology

The objective of this report is to focus on the effects of an ageing population in terms of urban development and retirement migration. The report discusses the regional population projections and its social impacts. An analysis on the impacts of urbanization and differential ageing across regions will be given.

Moving beyond the simple assumption of a continuation of current trends, a number of alternative scenarios are explored to simulate the likely future trajectories of the baby boomers. Potential impacts on retirement migration caused by changes in average retirement age, altered lifestyle preferences and the large size of the baby boomer generation are considered.

Results / findings / conclusion

Contrary to the view of Keyfitz (1982: 729), empirical knowledge about past demographic trends can improve the accuracy of predictions (see also Sanderson, 1998). However, the importance of uncertainty in projecting future retirement migration behaviour has to be acknowledged. Factors such as the size of the cohort can be predicted beforehand, whereas the boomers' decision making and preferences in retirement are inherently unpredictable. Using scenarios that take into account potential shifts in intensity and spatial structure caused by the distinctive behaviour of the baby boomer generation helps to bound the uncertainty, but it does not help to incorporate into the projections factors such as the high cultural diversity and income inequality among the boomers, the impact of the global financial crisis on pension funds, and the increasing diversity of transitions from work to retirement.

Popular science description of main results

The need for more accurate forecasts of future migration flows has increased with the relative importance of migration vis-à-vis other components of population dynamics. Although forced international migration has been given considerable research attention in recent years, also other migration types, in particular later-life migration, become increasingly important. In the coming decade, the large baby boom generation will reach retirement age.

Classification of results/outputs:
For the purpose of integrating the results of this deliverable into the PLUREL Explorer dissemination platform as fact sheets and associated documentation please classify the results in relation to spatial scale; DPSIR framework; land use issues; output indicators and knowledge type.

Spatial scale for results: Regional, national, European	Regional trends in Europe
DPSIR framework: Driver, Pressure, State, Impact, Response	Driver
Land use issues covered: Housing, Traffic, Agriculture, Natural area, Water, Tourism/recreation	Housing, Natural area
Scenario sensitivity: Are the products/outputs sensitive to Module 1 scenarios?	No
Output indicators: Socio-economic & environmental external constraints; Land Use structure; RUR Metabolism; ECO-system integrity; Ecosystem Services; Socio-economic assessment Criteria; Decisions	Socio-economic assessment Criteria
Knowledge type: Narrative storylines; Response functions; GIS-based maps; Tables or charts; Handbooks	Theory, Charts and tables

How many fact sheets will be derived from this deliverable:	**1**

1. Introduction

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The proportion of people who migrate around the age of retirement is small and the dominant source of elderly population growth at the regional level is ageing-in-place (Rogers and Woodward, 1988). Nevertheless, it is important to assess the extent to which retirement migration among the baby boomer generation might alter the spatial distribution of the elderly. Knowing where the boomers decide to live in retirement is important for economic development and for planning strategies to ensure adequate health, housing and welfare.

Objectives of the deliverable

In the context of population ageing and the impending retirement of the baby boomer generation, this report aims to provide insights into potential future changes in the migration behaviour of Europe's elderly. Moving beyond the simple assumption of a continuation of current trends, alternative future trajectories are considered that take into account the unique behaviour of the baby boomers.

Structure of the deliverable

This deliverable is structured as follows. The next section (Section 2) introduces the main challenges in predicting the future migration intensities and spatial patterns of a growing elderly population. The factors that may alter migration behaviour in the future are also discussed. Section 3 evaluates the relevant literature on later-life migration and reviews the key facets of this type of human mobility. The review pays particular attestation to migration around the time of retirement, which is the most prominent topic in the literature on migration in later-life. Section 3.1 considers the theoretical definitions and empirical measures, or lack thereof, of retirement migration, followed by a discussion of the conceptual models used in the study of this type of human mobility (Section 3.2). The review of empirical findings is presented in Sections 3.3 to 3.5 and is divided into four parts: results of analyses concerning the spatial patterns of later-life migration are reviewed in Section 3.3, the state of knowledge of the determinants of migration is summarised in Section 3.4, and the consequences of later-life migration are addressed in Section 3.5. Section 3.6 provides a synthesis of the literature on later-life migration. The data sources used in this paper are introduced in Section 4. The method to produce probabilistic population projections is outlined briefly. The data and methods section is followed by a descriptive analysis of later-life migration in Sweden, 2000-2009. The intensity and patterns of age-specific migration rates for Sweden's NUTS 3 regions are presented in Section 5. Section 6 is concerned with the determinants of the future

intensity, spatial patterns and timing of later-life migration. We discuss how these determinants may facilitate the development of assumptions about future migration behaviour and speculate on the likely future trajectory once the baby boomer generation reaches retirement age. The paper proceeds with a discussion of demographic change and how this may alter the future migration behaviour of the elderly with regards to timing and intensity (Section 7). The paper closes with a discussion of findings in Section 8.

2. Potential future outcomes of later-life migration, with a focus on urban Europe

The need for more accurate projections of future migration intensities and spatial patterns has increased, given the high relative importance of migration vis-à-vis other components of population change. Although forced international migration has been given considerable research attention in recent years, other types of human mobility, in particular later-life migration, have become increasingly important in determining regional population structures. Over the coming decades, the large baby boomer generation will reach retirement age. Institutions and other government agencies seek to develop strategies for ensuring adequate health, housing, welfare and aged care services provision to the growing elderly population. Later-life migration thus becomes also central to transportation needs, resource use, and service provision in the right place at the right time. National strategies to adapt to population ageing and shifts in regional population age structure are commonly based upon regional population projections, which are produced by the national statistics offices. However, uncertainty exists in population projections, particularly in those on regional-level, which is mainly due to shifts in internal migration patterns. This uncertainty further impedes a country's adaptive capacity in terms of ageing and climate change.

In this article, we identify and discuss some of the main socioeconomic and demographic trends that could affect later-life migration in Europe in the context of population aging, which will greatly accelerate with the upcoming retirement of the baby boom cohort. While we do not expect that such a discussion will eliminate uncertainty surrounding the migration component in population projections, we do expect to provide a reasonable framework on which to argument potential bounds and likely scenarios of migration to today's developed societies for the future.

Some of the factors that may impact on the intensity and spatial structure of migration in the future are the size of the baby boomer generation and their distinctive sets of beliefs and values, the decline in average household size, the increasingly later age at onset of disability, and the drop in age-specific mortality rates. Furthermore,

international retirement migration is strongly influenced by policy changes, fluctuations in economic growth and the age at retirement.

3. Literature review of later-life migration

To explore potential futures, it is essential to establish the state of contemporary understanding of the dynamics, processes and patterns of retirement migration (Keyfitz, 1982). The review focuses on significant developments in understanding of the patterns and processes of later-life migration, the forces that shape it and the factors that trigger this type of mobility. The body of research can be organized around three lines of enquiry: the determinants of migration, its spatial patterns and the consequences of migration. These lines of research are by no means exclusive or exhaustive, but they do encompass major research emphases and the current state of knowledge on later-life migration, particularly of moves around the time of retirement.

3.1 Defining later-life migration

Later-life migration is not a distinct area of study in the literature. Most prominent is the overlap with work on retirement and elderly migration, where retirement migration is commonly identified as the first migration event in a sequence of moves undertaken by the elderly. Later-life migration focuses on the mobility behaviour of those of retirement age and older. Hence, the review presented here seeks to summarise the key findings in a fragmented literature, but also aims to bring together and integrate the different strands of theory and conceptual perspectives in the field. Particular attention is paid to retirement migration, which is the most important type of elderly mobility in the context of the retiring baby boomers. Moreover, the intensity of retirement migration, and hence its impact on regional population age structures tends to be higher than that of other types of mobility in later life (see, for example, Longino, 1995). While the national migration age profiles of most developed countries show a steady decline in migration levels from age 30 onwards (Rogers et al. 1978), age profiles of particular types of migration streams have a retirement peak in the 60-64 or 65-69 year age groups, indicating increased migration propensities around retirement.

Progress in the empirical analysis of retirement migration and in the development of concepts and theories has been hampered by the lack of an operational definition of the retirement migrant. Partly because a precise definition of the concept is missing, there is no single, coherent theory of retirement migration (Warnes, 1983). Instead, research has been based on a fragmented set of concepts and theories that were developed using a

variety of perspectives and disciplinary approaches. Defining later-life and retirement migration is not straightforward. Retirement migration is commonly defined as movements of retired persons. Although analytically convenient, this definition is vague as it includes both moves undertaken at retirement as well as in retirement. This means that, due to a lack of conceptual clarity, both the event of withdrawal from the labour force and the status of being retired are seen as predictors of migration. Adding to this complexity, several studies refer to retirement migrants as persons who move at the traditional retirement age, which means that a distinction is made between moves around the event of retirement and moves around the age of retirement. Moreover, in the absence of a universally agreed-upon operational definition of retirement migration, the terms 'elderly migration', 'later-life migration' and 'retirement migration' are often used almost interchangeably in the literature. Retirement migration, being couched in the literature on elderly migration, is thus also referred to as elderly migration (Walters, 2002), and the latter term is often replaced with 'later life migration' (Litwak and Longino, 1987). Since the determinants and spatial patterns of migration around the time of retirement and in response to the need for assistance differ, the interchangeable use of the terms 'elderly migration', 'retirement migration' and 'later life migration' frequently results in uncertainty about which type of mobility is the focus of empirical study.

In addition to the apparent inconsistencies in defining retirement migrants, problems are also encountered in defining the transition to retirement (Ekerdt and DeViney, 1990), which becomes particularly relevant if moves around the event of retirement are analysed. Two operational definitions have been used in the literature: a retirement-based definition and an age-based definition. Ekerdt and DeViney (1990) argue that criteria such as pension receipt, reduced work hours and self-defined retirement can be used to assign retirement status. However, most census data do not provide information on the receipt of age pensions or a self-defined retirement status, and panel surveys that do collect such information rarely include the required spatial information and have become more widely available only over the last decade. This means that, mainly due to data limitations, retirement-based definitions have hardly ever been used in migration studies. Instead, the vast majority of work on elderly migration has used age-based definitions of retirement.

While analytically convenient, age-based measures have four key limitations. These are, first, the use of a range of different age-based measures in the literature; second, the assumption of withdrawal from the labour force at age 65; third, the notion that retirement occurs instantaneously; and, fourth, the variability in women's employment patterns. Each of these limitations is now discussed in turn.

Studies have used a wide range of age-based proxy measures, thus hindering comparison of findings. The simplest and most common approach has been to use age 55, 60 or 65 as a cut-off, above which movements were classified as retirement moves (Flynn

et al., 1985; Golant, 1990; McLeod et al., 1984; Law and Warnes, 1976; Lin, 1999; Longino, 1980; Serow, 1987a; Speare and McNally, 1992; Yeatts et al., 1987). Several studies have cast doubt on this use of open-ended age bands to represent migration among retirees, since movements at later stages in the life-course are also captured. This is problematic because moves at older ages are fundamentally different to retirement moves with respect to both spatial patterns and underlying determinants (Litwak and Longino, 1987; Meyer and Speare, 1985; Plane and Heins, 2003; Wiseman and Roseman, 1979). Alternatively, migration among the elderly has been analysed for discrete age groups. For example, Meyer (1987) distinguished between the 'young elderly' aged 65 to 74 years, which included retirement moves, and the 'old elderly' aged 75 and over. Rives and Serow (1981) analysed interstate migration in the United States (US) for four age groups (55-64, 65-74, 75-84 and 85+), while Duncombe et al. (2003) identified retirees as those aged 65-74 years. Moves undertaken at ages 55 to 64 are assumed to be made by the 'pre-elderly' for retirement-related reasons while still in the labour force (Bures, 1997; Stockdale, 2006).

All of the studies mentioned in the last paragraph implicitly assume an abrupt withdrawal from the labour force at age 65. However, in the US, where most of these studies were conducted, the median age at retirement has declined from age 65 for men in 1970 to around 60 in the 1990s (Quinn, 1999). Evidence from the United Kingdom (UK) suggests that labour force participation rates at the traditional retirement age of 65 years are around 30 per cent for males and below 20 per cent for females, indicating that most people retire before the age of 65 (Mayhew, 2009). This drop in age at withdrawal from the labour force raises concerns about the appropriateness of age 65 as a proxy for retirement. McCracken (1985: 218) notes that analysing all elderly age groups simultaneously may bury important demographic, social and economic determinants of migration that differ between the younger and the older elderly.

A major limitation of age-based measures is that most studies, irrespective of whether they refer to retirement migration as those moves that occur at or in retirement, assume that the withdrawal from the labour force occurs instantaneously. By defining retirement migration solely based on the traditional age at retirement, it is assumed that retirement moves are triggered by this life-course event and thus occur within a few years following retirement (Litwak and Longino, 1987; Wiseman, 1980). This means that the propensity to migrate is assumed to vary by age and not by the occurrence of life-course transitions. However, it has been well established in the literature that life-course patterns have become increasingly diverse (Han and Moen, 1999), and that the transition to retirement is not always clear cut (Settersten and Mayer, 1997). While the time spent in retirement is expanding, changes over time in gender roles, work history, family linkages and intergenerational relationships have led to variations in the sequencing and timing of life-course events, including retirement. This means that for some, retirement is an

extended process involving one or more intervening statuses outside the labour force before they retire fully. Others remain employed part time after retirement to subsidise their income, while a large proportion of older women do not have a work history from which to retire. The diversity in the temporal patterning of retirement makes it problematic to restrict research on retirement migration to a certain age group. People still in the workforce who tend to move for job-related reasons may be included in the estimates of migrants in the 60+ age group (Haas et al., 2006), whereas early retirees and wives migrating with their husbands may be excluded if age 65 is used as a cut off (Bartiaux, 1988; Haas et al., 2006; Rogers, 1989). Hence, it appears that there is no ideal cut-off or age range that can be used to effectively distinguish moves triggered by retirement from those triggered by employment- and assistance-related factors.

Studies of retirement and later life migration need to take into account the increasing participation of women in the workforce and their variable employment careers. The age-based definition of retirement migration assumes that households are characterized by a traditional domestic division of labour. However, the gendered nature of various aspects of retirement behaviour has changed significantly over the last 30 years. The proportion of females aged 55 to 64 who are employed full time has risen, and each successive cohort of women has shown increased labour force participation at these ages (McDonald and Kippen, 1999; Keese, 2006). Moreover, the proportion of dual-earner families has risen and the retirement of wives has become more important as an influence on the timing of migration and related life-course events (see, for example, Clark and Withers, 2002). Consequently, it has become more difficult to clarify the link between migration and the employment career.

3.2 Conceptual models in the study of later-life migration

The need for a conceptual framework specifically adapted to later-life migration arises since the determinants and spatial patterns differ from those for people at working age (Longino, 1995). This means that conceptual models based on employment-related reasons for moving cannot be applied to later-life migration, including moves around the time of retirement. However, the research community has largely neglected the issue of how to conceptualise later-life migration, which means that there is no single theory of later-life or retirement migration (Warnes, 1983). Instead, the literature is characterised by a range of conceptual approaches that have rarely been tested empirically, resulting in a lack of conceptual clarity and limited theoretical development. Moreover, several theories that have been applied to retirement migration were originally developed for elderly or later life migration, including assistance-motivated moves of the older elderly aged 75 and over. For the purpose of this review, the relevant literature is most usefully

considered under four headings: taxonomies of migration (Biggar, 1980; Cribier, 1980), the life-course perspective embedded in a developmental model (Litwak and Longino, 1987), elderly mobility transition models (Law and Warnes, 1982; Rogers, 1989), and models of the migration decision making process (Haas and Serow, 1993; Wiseman, 1980; Wiseman and Roseman, 1979).

Taxonomies of elderly migration

The earliest theoretical development was based on taxonomies of elderly migration, which were derived from empirical analyses of quantitative data. The focus was on the personal characteristics of individuals that were hypothesised to predict a move around the age of retirement. The most prominent taxonomy is perhaps that by Biggar (1980), who argued that individual and household characteristics are important in explaining the migration decision among retirees and that those characteristics vary depending on distance moved. According to Biggar's taxonomy, long-distance migrants tend to be younger, better educated, and are more likely to be married and retired than short-distance migrants (Biggar, 1980).

Typologies of elderly migration

While taxonomies are derived from empirical findings, typologies of elderly migration are based on conceptual thinking (Miller, 1996). The conceptual framework of the life-course has been especially helpful in understanding the patterns and processes pertaining to mobility of retirees (Courgeau and Lelièvre, 1992). The relationship between life-course transitions and migration was first conceptualised by Rossi (1955), while Litwak and Longino (1987) offer the most widely cited example of a life-course model of elderly migration. Although the life-course perspective was used earlier by Yee and Van Arsdol (1977) and by Wiseman and Roseman (1979), Litwak and Longino were the first to refine this approach in a developmental view. The crux of Litwak and Longino's (1987) classification is that the elderly are put under institutional pressures by modern society and family structure to make three types of moves. These three categories of migration are associated with a typical succession of life-course stages, which in turn are related to declining health and the loss of the ability to live independently. During the first life-course stage – when people retire – migration is seen as a means of maximising environmental and lifestyle amenities. During the second stage – when people experience moderate disability or the loss of a spouse – moves are motivated by the desire to be closer to family members. During the last stage, people are assumed to suffer from major disabilities, which trigger moves into institutional care. Although the Litwak-Longino model forms the theoretical basis of most cross-sectional studies on elderly migration that were undertaken in the last two decades (see, for example, Bradley et al., 2008; Longino et al., 2008), this developmental model has yet to be clearly calibrated. The lack of

empirical testing has mainly been due to data and methodological constraints. Hence there is a clear need for further research to identify the link between life-course transitions (i.e. retirement) and the timing and likelihood of migration. However, such analysis calls for retirement migration to be defined as moves undertaken by people around the event of retirement, rather than around the traditional age at retirement, which generally requires the use of longitudinal data and event history methods.

Elderly mobility transition models

Evidence presented in the literature suggests that the destination preferences of retirement migrants in North America and Western Europe (i.e. the UK and France) have changed over the last 30 years. Although most of the literature is somewhat dated, changes are described from concentrated movements towards traditional retirement destinations to more dispersed movements to rural inland areas (Cribier, 1980; Flynn et al., 1985; Fuguitt and Beale, 1993; Golant, 1990; Graff and Wiseman, 1990; Lin, 1999; Rogers, Watkins and Woodward, 1990). In the 1980s, the size of retirement migration flows to traditional coastal destinations, such as Florida in the US and East Anglia in the UK declined. It was assumed that the shift towards inland destinations was in response to increasing crowdedness, rising costs of living and high house price levels in the coastal destinations (Law and Warnes, 1982). In the 1980s, when shifts in destination preferences became apparent in the UK and the US, one theoretical (Rogers, 1989) and one empirically-based model (Law and Warnes, 1982) were developed to explain the changes in retiree destination choice. Based on Zelinsky's (1971) mobility transition model, which links the volume and type of mobility to a country's state of economic development, the theoretical model developed by Rogers (1989) proposed that rising affluence of populations in developed countries causes an increase in elderly migration levels and more dispersed patterns. Rogers' (1989) elderly mobility transition model has rarely been tested empirically outside the US and the UK.

The empirical model proposed by Law and Warnes (1982) was based on the empirical analysis of migration patterns of persons aged 60 and over in the UK. The Law-Warnes model postulates that, over time, Western societies go through a sequence of three phases, each characterised by a distinct spatial pattern of retirement migration. The first phase (or period) parallels the rapid urbanisation process, and migration around the time of retirement is dominated by the return of former rural-urban migrants to rural areas. In the second phase, lifestyle-motivated and consumption-oriented moves become increasingly important so that retirement migration is characterised by concentrated movements from urban centres to selected high-amenity coastal destinations. In the third phase, retirement flows become more dispersed and favour inland rural areas, mainly since traditional retirement destinations have become increasingly crowded and expensive to live in. The literature has demonstrated that the UK was already in the third

phase in the 1980s (Warnes and Law, 1984), whereas no consensus has yet been reached regarding shifts in destination choice among US retirees and whether the US is still in the second stage or has progressed into the third stage (Flynn et al., 1985; Golant, 1990; Rogers et al., 1990). In Australia, the literature is much patchier and analysis of spatial patterns of retirement migration has been mostly confined to single points in time, so that little attention has been given to the way in which spatial patterns have shifted over time. The existing literature, which has focused mainly on migration to the NSW coast and South-east Queensland, suggests that Australia was in the second stage of the Law-Warnes model at the begin of the century. Burnley and Murphy (2004), Stimson and Minnery (1998) and Walmsley et al. (1998) argue that retirement migration patterns are characterised by focused streams from the capital cities to high-amenity coastal destinations. However, further research is needed to establish whether a decentralisation trend similar to that observed in the UK has occurred in Australia.

Models of the migration decision making process

Research in the field of retirement migration has been strongly influenced by Wiseman's (1980) migration decision model, which is an adaptation of the behavioural model of the residential location decision process developed by Brown and Moore (1970). In cognitive models of the migration decision process, migration is seen as a process rather than as an event, and the migration decision making process is a two-stage sequential process that involves the decision to move, followed by the selection of a destination (Brown and Moore, 1970; Wiseman, 1980). The decision to move is assumed to be triggered by 'push' factors, such as cold climate, high costs of living, an expensive housing market and high crime rates. The selection of a destination is influenced by 'pull' factors, including warm climate, low costs of living, environmental amenity and proximity to family and friends. Wiseman (1980) accounts for the possibility of changes over time in personal and locational characteristics, which generate new 'push' and 'pull' factors that may trigger an onward move. Although the model is well adapted to framing survey research questions (Longino et al., 2008), its main limitation is the empirical link between the decision to move and the subsequent movement behaviour. Bradley et al. (2008) emphasise the difficulties related to following individuals from the first thought about moving, through planning and decision making, to the actuation of the move. Mainly due to the very limited number of longitudinal dataset that allow such analysis, the decision making process among retirement migrations has undergone little empirical confirmation.

Haas and Serow (1993) fitted the Wiseman model specifically to the decision making of nearly or recently retired amenity migrants. Wiseman's (1980) behavioural model was extended to include the daydreams about moving which precede the actual decision making, and to emphasise the importance of personal and locational

characteristics in the decision to move (Haas and Serow, 1993). Factors shown to be of particular relevance to the decision making of retirees include climate and other amenities, friendship and family, and personal resources that enable them to make a move (Longino, 1995). However, ties within the community, earlier holiday experience and economic incentives due to housing assets may also be important predictors of the decision to move and the selected destination (Haas and Serow, 1993). The model was subsequently tested by Carlson et al. (1998) using retrospective survey data for the US state of Idaho, showing that place characteristics were the most important 'pull' factors, and that destination selection was guided by the extensive holiday experiences that preceded migration.

3.3 Spatial patterns of later-life migration

Turning now to a review of empirical studies of later-life migration, there appears to be a rich body of literature addressing the two key questions of 'How mobile is the elderly population?' and 'Where do the elderly move to and from?'. The majority of studies have been conducted in the US and their focus has been mostly on aggregate intensities, interregional/interstate patterns and net gains in specific retirement destination counties/states. Hence, progress in identifying changes over time in the spatial patterns and in the understanding of the mechanisms that drive these changes has been rather slow. The spatial patterns of migration in later life have generally been analysed from a macro-level perspective using aggregate data derived from the census or, to a lesser degree, population registers (Walters, 2002). The use of census data implies that retirement migration must be defined as moves undertaken by people around the age of retirement, rather than around the event of retirement, since the census commonly provides no information on the timing of withdrawal from the labour force.

In the US, a shift has been apparent from using census flow tabulations, which was the dominant data source used in the 1980s and early 1990s (Flynn et al., 1985; Golant, 1990), to using the integrated public use micro data series (IPUMS) (Lin, 1999; Longino and Bradley, 2003). While the IPUMS provides a consistent geography and additional information on personal and household characteristics, the samples taken from the census are relatively small. Conway and Rork (2010) recently argued that using 1-in-20 and 1-in-100 sample files to analyse the rare event of long distance migration among the elderly may result in exaggerations of change in intensities over time. This notion may at least partly explain why Longino and Bradley (2003) found a nine per cent increase in US interstate mobility for persons aged 60 and over between 1990 and 2000, whereas analyses of census data revealed a strong consistency or even a slight decline in the intensity of long distance migration over the 10-year period (Conway and Rork, 2010).

Leaving these issues aside, the literature consistently shows that the redistribution of retirees from urban centres to high-amenity non-metropolitan regions is a long-established aspect of later-life migration in the US and Western Europe (Golant, 1990; Law and Warnes, 1982; Rogers et al., 1990). Furthermore, it has been well established that retirement migrants tend to move (a) to warmer climates (Biggar, 1980), (b) down the urban hierarchy to smaller towns (Longino 1995), and (c) from areas with higher to areas with lower living costs (Fournier, Rasmussen and Serow 1988). The older elderly aged 75 and over, on the other hand, primarily move in response to declining health and the corresponding need for assistance and care by either family members or institutions (Litwak and Longino 1987). In the US, the tendency among retirees to move to areas with warmer climates is reflected in a strong north-south drift of the retirement-age population (Longino, 1995). Retirees move from diffuse metropolitan origins in the north of the US to concentrated non-metropolitan destinations in the south and west. The ongoing concentration of retirement migrants in the Sunbelt States of Florida, California and Arizona since the 1970s has been a persistent finding in the literature (Flynn, 1980; Flynn et al., 1985; Golant, 1990; Lee, 1980; Lin, 1999; Rives and Serow, 1981). The concentration of US interstate retirement migration streams on the Sunbelt States has been explained by reference to location-specific amenities in these destination regions that act as strong 'pull' factors (Lin, 1999; Serow, 2001). Several studies established that the US reached the second phase of the Law-Warnes (1982) model as in the 1980s. As described earlier, the second phase is characterised by concentrated movement to non-metropolitan coastal destinations (see, for example, Flynn et al., 1985; Golant, 1990; Lee, 1980). Progression into the third stage of the Law-Warnes model is indicated by movement among retirees to less-densely settled and less expensive rural inland areas. Bohland and Rowles (1988) suggested that there has been a tendency toward decentralisation of flows, with Nevada, South Carolina and New Mexico recording net gains of retirees. In contrast, Lin (1999) concluded that the shift in US retirement migration patterns appears to have occurred from concentrated movement to Arizona, California and Florida towards concentrated movement to North Carolina and Nevada as the 'new' retirement states. Although the findings are somewhat contradictory, the evidence suggests that the geographic expansion of retirement migration destination areas in the US appears to be not as strong as in the UK (Golant, 1990; Rogers et al., 1990). Nevertheless, the reasons for the decline in net gains in Arizona, California and Florida (for example, crowdedness, high price levels, high crime rates) appear to be similar to those identified in the UK by Law and Warnes (1982).

In Western Europe, retirees tend to move out of urban areas, particularly the capital cities and other large urban centres, to peri-urban or rural regions with lower population density (Rees et al., 1996). Within the UK, for example, retirees predominantly move from the Greater London area to the south coast (Rees, 1992; Rogers, 1992), and in the

Netherlands, urban centres lost population to peri-urban areas (Rees et al., 1998). However, international immigration more than compensated for population losses due to internal migration in the larger cities of Rotterdam and Amsterdam. In the transition countries of Eastern European, however, mobility rates among the elderly are much lower and flows are much more diverse in direction and distance compared to non-transition countries.

In the Mediterranean, retirees from northern European countries move to a small number of coastal municipalities along the Spanish and French coast (for example, Costa Blanca, Costa del Sol, Algarve) (King et al., 1998). Decreases in costs of travel and communication coupled with increasing mobility of today's elderly has resulted in a rise of international migrants to the Southern Mediterranean region - making International Retirement Migration (IRM) an important part of the research agenda (Truly, 2002). Scientific enquiry into IRM has concentrated mainly on the European experience, since migrants from the UK or Germany inevitably have to cross national borders if they want to live in a warmer climate. Motivated by environmental amenity and climate, fully transferable pension payments and lower living costs compared to Northern Europe, there is extensive north-to-south movement of retirees from the UK, Scandinavia and Germany to Italy, Spain and Portugal (Williams et al., (1997). Mainly due to a lack of accurate estimates of migrant flows between European countries, understanding of the patterns, characteristics and impacts of IRM is limited (Raymer, 2007). The number of northern European nationals owning a second home in the Mediterranean has increased over recent decades (Truly, 2002) and allows these seasonal migrants to retreat to a milder climate during winter. Tourism and second home ownership often act as a precursor to migration and thus are closely linked to IRM. Retirees often decide to move permanently to tourist resorts in the Mediterranean that they had visited frequently during their holidays (Hall and Mueller, 2004). The impacts of international retirement migration in Europe tend to be profound and localised due to the clustering of in-migrants in coastal communities (Casado-Diaz et al. 2004). The linguistic and cultural adaptation process of Northern Europeans in Spain, Italy or Portugal is often slow and contact is made with other immigrants rather than with locals (Oliver, 2009). Such retirees opt to pursue a transnational lifestyle and maintain strong ties with their nation of origin. The adaptation process is also hindered by religious differences, as it is the case with the Protestant immigrants from England and Germany to Spain (Skirbekk et al., 2008).

3.4 Determinants of later-life migration

A large body of literature has addressed the determinants of later-life migration at the personal, household and regional level (Longino, 1995). The results from both macro-

and micro-level studies show (a) that personal and locational characteristics are important factors influencing migration, (b) that strong differences in characteristics exist by age at migration and by distance moved, and (c) that consumption-related factors have become more important over time. While the determinants of retirement migration have been extensively studied in the US since the 1970s, much less work has been done in other developed countries.

Personal characteristics

Personal characteristics that predispose individuals to migrate after retirement differ strongly by distance moved (Biggar, 1980; Longino, 1995). The most widely cited characteristics that have been used to explain these disparities in movement behaviour are age, labour force status, income, education, marital status and health status (Biggar, 1980; Carter, 1988; Rogers and Watkins, 1987; Sommers and Rowell, 1992; Speare and Meyer, 1988; Wiseman, 1980). Long-distance migrants tend to be younger, have higher levels of education and income, and are less likely to be widowed or suffering from health problems than short-distance migrants. Moreover, long distance moves are more likely to be amenity- or lifestyle-motivated, while short-distance moves are mostly housing-related (Biggar, 1980; Speare and Meyer, 1988; Wiseman, 1980). The analysis of personal characteristics has focused almost exclusively on the characteristics of longer distance retirement migrants, particularly with respect to age and socioeconomic status.

It has been well established in the international literature that migration is selective with respect to age, and that age-specific migration rates show strong regularities across countries and over time (Rogers and Castro, 1981). These regularities have been conceptualised by Rogers et al. (1978) in the model migration schedule. Four transitions from one life-course stage to another shape the form of the migration schedule, namely early childhood, entry into the labour force, retirement, and late old age. Rogers and Watkins (1987) focused on migration among the elderly and suggested that age profiles of particular types of migration streams have a retirement peak in the 60-64 or 65-69 age groups. This interval coincides with the compulsory retirement age at which people exit the labour force. It is commonly assumed in studies of elderly and retirement migration that retirement occurs at a predictable age around 65 and that migration occurs soon after retirement. However, the narrow age banding of migration around age 65 has rarely been confirmed empirically (Warnes, 1983).

Several studies have shown that individuals who undertake a move after retirement tend to be characterised by higher levels of income than non-movers at the same age (see, for example, Biggar, 1980; Speare and Meyer, 1988). However, income may not be a reliable indicator of financial status, unless assets such as housing, inheritance and savings are taken into account. Moreover, migration around the time of retirement is not limited to high-income groups. In Australia, Hugo and Bell (1998) argued that low-

income earners exhibit a high propensity to move. The majority of such moves is forced and undertaken by those with limited financial resources who often face further income reduction upon retirement and adjust to this situation by downsizing their housing and moving to less-expensive peri-urban or rural areas.

Household characteristics

It has been demonstrated in the literature that retirement migration is undertaken primarily by married couples in the empty nest stage (Bures, 2009; Longino et al., 2008). While couples with no children at home tend to move longer distances for lifestyle-related reasons, singles are more likely to undertake short distance moves in response to altered housing requirements or the need for assistance (Bradsher et al. 1992; Bures, 2009).

While Litwak and Longino's (1987) life-course approach to migration includes retirement moves of married couples and assistance-related moves of recently widowed persons, most of the literature has been silent regarding changes in the propensity to move by spouse characteristics. The literature on family migration has shown that characteristics such as labour force status, income and social ties of the female spouse influence the couple's migration decision (Boyle et al., 2001; Mincer, 1978; Nivalainen, 2004). For example, dual-earner couples tend to have a lower likelihood of migration during their working years, mainly due to the strong job-ties of both partners. Moreover, long-term local ties are frequently associated with a decreased risk of mobility (Wiseman and Roseman, 1979). It is unclear to what extent these findings hold true for retirement migrants whose reasons for moving are much less driven by labour market considerations.

Locational characteristics

Turning now to the influence of locational characteristics on migration, a large body of literature has dealt with explanations for observed differences among regions in terms of their attractiveness to potential migrants. Most studies used either aggregate data for states as the unit of analysis (see, for example, Newbold, 1996), or individual level survey data to determine why a particular place is a popular destination (see, for example, Carlson et al., 1998; Haas and Serow, 1993). Macro-level approaches were used in Canada, France, the US, West Germany and Spain (Chevan and Fischer, 1979; Coll and Stillwell, 1999; Cribier, 1980; Friedrich, 1986), whereas micro-level analyses of particular destinations (for example, Cape Cod, Florida and Idaho) were limited to Australia and the US (Haas and Serow, 1997; Longino et al., 2002; Murphy and Zehner, 1988; Pampel et al., 1984; Stimson and Minnery, 1998). The destination decision of retirees has been shown to be driven by consumption-related factors rather than by employment-related reasons (Clark and Hunter, 1992; Duncombe et al., 2001; Serow, 1987a).

The results of both micro and macro level analyses, which are dominated by US studies, have shown that retirees move to non-metropolitan regions with a warm climate, high natural amenity, abundant recreational facilities, low income tax, low proximity to the coast, low house prices, low crime rates and a good level of service provision (Clark and Hunter, 1992; Clark et al., 1996; Conway and Houtenville, 2003; Cribier, 1980; Frey et al., 1999; Serow, 1987a, 2001; Walters, 2002). Of course, fiscal variables such as income tax only influence the destination decision if they vary between regions, as is the case in the US (Duncombe et al., 2003). The preferences of migrants for specific destination types differ by personal and household characteristics (Frey et al., 1999). While high-income couples may afford a move to traditional destinations, low-income groups tend to favour regions with low housing prices and affordable rental housing (Speare and Meyer, 1988). Retirees who are widowed or divorced may be more inclined to move closer to family and friends or to the area of origin, irrespective of distance and destination characteristics.

The literature has focussed on the impact of locational characteristics on the lifestyle-motivated retirement move and found that climate is one of the most important determinants of retirement migration, followed by lower living and housing costs (Clark and Hunter, 1992; Clark et al., 1996; Conway and Houtenville, 2003; Cribier, 1980; Frey et al., 1999; Serow, 1987a, 2001; Walters, 2002). Over time, the living and housing costs in many popular retirement destinations with a warm climate have risen, so that the destination preferences of many retirees have changed. Lin (1999) reported for the US that the declining attractiveness of Florida was mainly due to these reasons, while destinations in the "New West", such as Arizona and Nevada became more popular.

An important aspect of this shift in destination preferences is the way in which retirees acquire information about potential destinations. Cuba (1991) argued that much of the information stems from previous holiday experience. In a similar vein, Carlson et al. (1998) observed that most of the retirement migrants to Idaho had visited the destination at least five times during holidays and had formed strong social ties prior to moving. Golant (1990) argued that the decision about where to migrate is influenced by the general reputation of a destination. For example, net gains in Florida may have declined in response to the general reputation of the Sunbelt retirement areas as being increasingly congested, overpriced and vulnerable to crime (Golant, 1990).

Life-course stages and transitions

The study of migration in a life-course context has gained significance over the last decade, in particular the migration-triggering effects of life-course events. Facilitated in part by the increasing availability of longitudinal data, several studies have addressed the links between migration and life-course careers, such as occupational, family or housing

careers (Willekens, 1991). For example, Mulder and Wagner (1993) modelled the synchronised events of migration and marriage to demonstrate that migration is a product of the transition into marriage rather than of the status of being married. In Litwak and Longino's (1987) life-course model of elderly migration, this event dependence is also hypothesised to exist between migration and retirement. However, few insights into event dependence and the triggering effect of retirement have yet been gained. This is despite two recent North American studies of retirement-related movements that used the life-course framework to seek empirical confirmation of the behavioural models (Bradley et al., 2008; Longino et al., 2008).

3.5 Consequences of later-life migration

In the literature, later-life migration is generally regarded as a source of population ageing and economic well-being (Bennett, 1996; Biggar et al., 1980; Deller, 1995; Fagan and Longino, 1993; Serow, 2003). The implications of elderly mobility are primarily associated with the transfer of resources. In the US, net gains of retirees are seen as a regional development strategy (Bennett, 1993). The potential benefits of the in-movement of wealthy retirees, however, may be outweighed by the costs of providing health and care services if former retirement migrants decide to age-in-place (Stallmann et al., 1999). A considerable number of studies aimed at measuring the magnitude of the effects of retirement in-migration on the local economy and residential development have been undertaken since the 1990s (Bennett, 1996; Deller, 1995; Rowles and Watkins, 1993; Stallmann et al., 1999). However, no consensus has yet been reached on whether the economic impact of retirement migrants is predominantly positive or negative (Serow, 2003). While the short-term consequences of retirement migration are often perceived as very beneficial by the local community, not much is yet known about the long term impacts resulting from in-migration of retirees. Negative impacts could result from increased need for services such as health and institutionalised care. The literature has shown that later-life migration impacts on the age structure of the population in the sending and receiving regions (Biggar et al., 1980; Bohland and Rowles, 1988; Fuguitt and Heaton, 1995). These changes have widespread implications for regional economies, housing demand, as well as the provision of health facilities and services (Bryant and El-Attar, 1984; Rogers and Woodward, 1988). The planning and policy implications of migration will become even more important once the oldest members of the large baby boomer cohort reach retirement age in the near future (Haas and Serow, 2002).

3.6 Synthesis

It can be concluded from this review that the current state of research on later-life migration is characterised by a fragmented set of concepts and theories, much like the pieces of a partially completed mosaic. The weakness in conceptual development can partly be explained by the lack of suitable data to test theoretical ideas, and by the fact that such theory is grounded in models used to explain employment-related movement, such as the human capital model (Sjaastad, 1962) or the push-pull model (Bogue, 1969). Since migration in later life is motivated by lifestyle- and family-related factors rather than by employment opportunities, adaptation of these models has contributed little to theoretical development (Warnes, 1983). Moreover, as noted by Golant (1990), the theoretical models used to analyse this type of human mobility may have to be revisited upon retirement of the baby boomers and adapted to the distinctive behaviour of this large cohort.

Offsetting these foundations, three serious deficiencies can be identified in the literature on later-life migration. Perhaps the most serious of these is the lack of a precise definition of the retirement migrant, which means that both the event of withdrawal from the labour force and the status of being retired are seen as predictors of migration. This in turn has led to an almost interchangeable use of the terms 'elderly migration', 'later-life migration' and 'retirement migration'. A second important limitation arises from the fact that the literature is dominated by US studies, particularly with respect to migration among the baby boomers. Partly because the timing and size of the US baby boom are markedly different from those in European countries, caution should be used in extending the findings to the developed world. The third limitation concerns the availability of data on migration. Until the turn of the century, when data availability began to improve, studies were severely limited by the data at hand. Specifically, micro-level studies have been hindered by the dearth of individual-level data on migration, while macro-level approaches to analysing the dynamics of later-life migration at the aggregate level have been confined to data collected over a longer period of time but for a changing geography.

4. Data and methods

The data used in the descriptive analysis of later-life migration in Sweden are drawn from the population register. Sweden was selected as a case-study since the national statistical office provides high-quality migration data and the patterns are similar to those observed in other countries such as the UK. Migration was measured as moves between NUTS 3 regions. Moves within the same region are not considered here. Annual migrant

counts for the years 2000 and 2009 were disaggregated by 10 year age groups, marital status and distance moved.

For the descriptive analysis of Swedish migration in later life, the crude migration rate (CMR) was calculated. The CMR is the simplest of all measures and hence constitutes a good starting point for the exploration of the spatial dynamics of later-life migration. The CMR is calculated by expressing the migrant count in a given year as a percentage of the resident population (the population at risk of migrating). CMR calculated for individual age groups provide a good snapshot of the complexity of age-specific movement intensities at the Nuts 3 level.

This paper makes reference to selected results of the probabilistic population projections for EU-27 that were carried out for the deliverables 1.2.2 (Scherbov and Mamolo, 2009) and 1.2.3 (K.C. et al., 2009). To summarise briefly, population projections for EU-27 countries were carried out to shed light on population change by age, sex and location as a key driver of environmental and land use change for peri-urban regions in Europe at the national and the Nuts 2 level.

5. Later-life migration in Sweden

As a first step towards a fuller understanding of later-life migration, this section focuses on aggregate measures of later-life migration in Sweden. The propensity to move is compared across three broad age groups: 0-54 years (working-age population and families), 55-74 years (retirees) and 75 years and over (the older elderly). The migration propensity for those aged 0-54 years are calculated to put the results of the analysis of later life in perspective. Changes in migration intensities and patterns over time are evaluated by comparing annual migration rates for the years 2000 and 2009.

Table 1 sets out the migrant counts and rates for movements between Nuts 3 regions by age group for the years 2000 and 2009. The results reveal that retirement migration intensities are lower than those for the population aged 54 years and younger, but higher than those for the older elderly aged 75 and over. While the intensity of migration for 0-54 year olds declined somewhat between 2000 and 2009, the intensity of migration in retirement and at old ages increased slightly. The average propensity to move around retirement age (55–74 years) was 0.67 per cent in 2009. Almost three 14,000 retirement moves were recorded over this annual period, while almost 3,000 people moved aged 75 and over.

Aggregate measures can illuminate the overall intensity and age-selectivity of migration, but they disguise significant shifts in spatial patterns. The next section examines how later-life migration intensities varied across space and time, and identifies the key origins and destinations in Sweden.

Table 1. Migrant counts and rates by age group and year

	2000		2009	
Age	count	rate	count	rate
0-54	178,430	2.82	174,113	2.70
55-74	11,472	0.65	13,979	0.67
75+	2,609	0.33	2,914	0.36

The analysis of net-migration rates begins with those aged 55-74 years in 2000 and 2009 (see Figure 1). It is apparent from the map that the capital city Stockholm and regions in northern Sweden (including the mining town Kiruna) experienced net-migration losses over the annual periods, while several rural inland areas had net-migration rates close to zero. Conversely, non-metropolitan coastal regions in southern Sweden, the Archipelago of Stockholm as the most popular second home destination, and the summer recreation and ski resort areas recorded net-migration gains. Over time, northern Sweden and some inland regions lost more retirees through migration, while net-losses in Stockholm decreased. The popular destinations in southern and south-eastern Sweden retained their migrant gains over time.

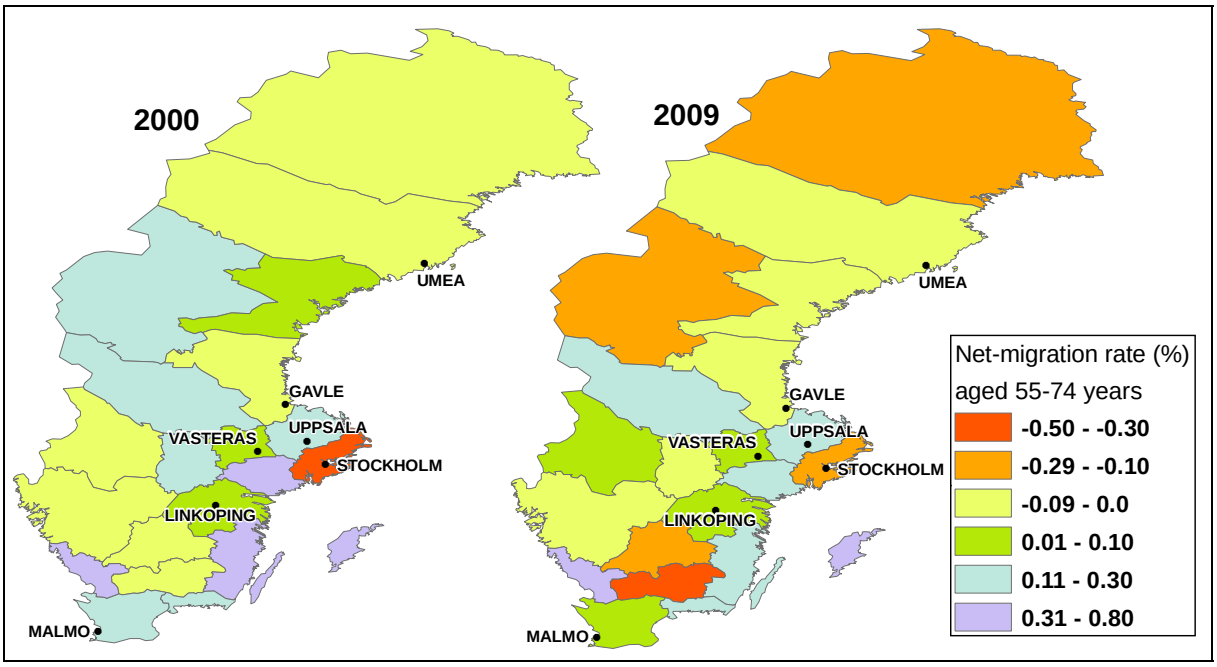

Figure 1. Net-migration rates for 55–74 year olds by NUTS 3 region, 2000 and 2009

The map of net-migration rates for the 75+ age group reveals significant differences in patterns compared to the retirement-aged population. In Stockholm, net-losses though migration decreased over time and were close to zero in 2009, indicating that the capital city became increasingly attractive for the elderly. The net gain in southern Sweden is less pronounced for this age group compared to the retirement-aged population.

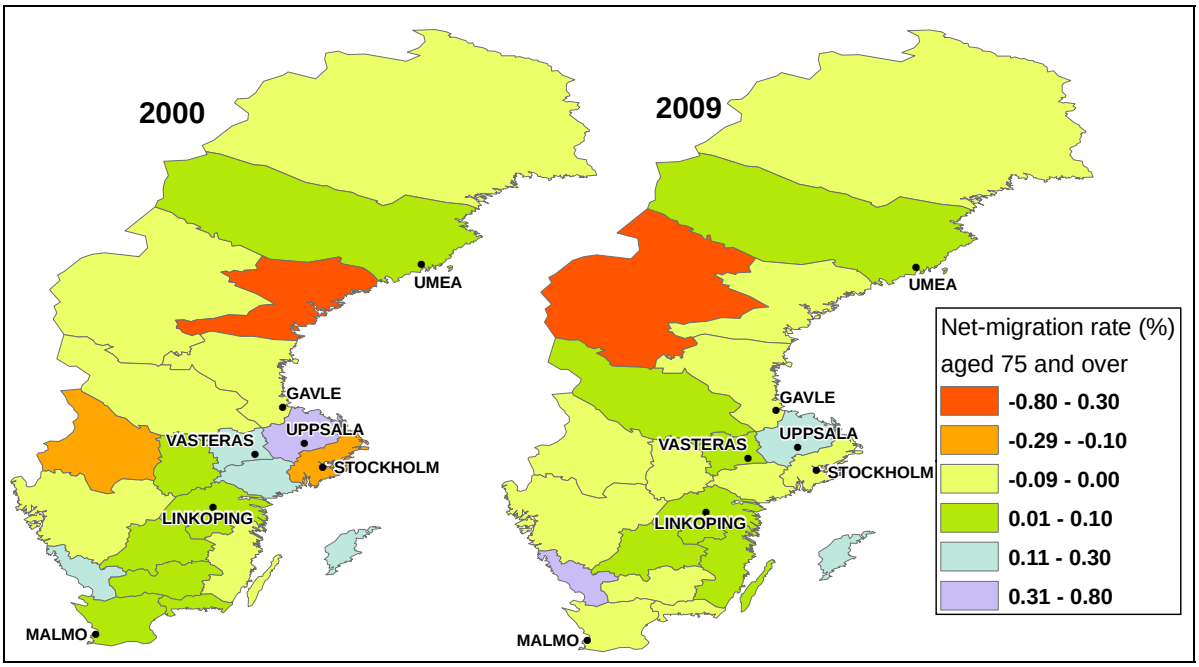

Figure 2 Net-migration rates for those aged 75 years and over by NUTS 3 region, 2000 and 2009

The migration patterns of the working-age population and families are substantially different from those of the elderly. The overall picture shown in Figure 3 is one of strong net-migration losses in most non-metropolitan regions, with the exception of the Archipelago and the high-amenity tourism areas in southern Sweden. Stockholm is the key destination, most likely due to it's large job market. The tourism areas in southern Sweden also attract families, since jobs are available in the recreational sector. The net-migration pattern has been rather stable over time, with the only noticeable change being the increase in net-gains in the island province of Gotland in the Baltic Sea.

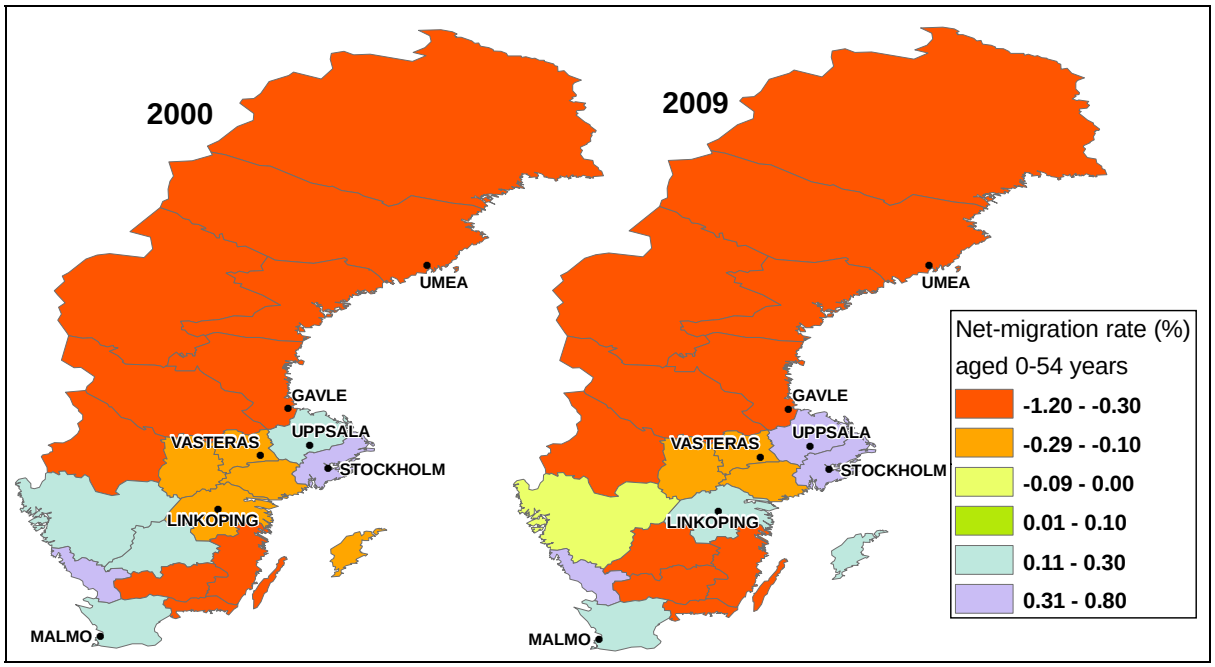

Figure 3 Net-migration rates for 0–54 year olds by NUTS 3 region, 2000 and 2009

Since there is "no such thing as a net-migrant" (Rogers, 1990), an analysis of net-migration rates should be combined with an analysis of in- and/or out-migration rates. A comparison of in-migration rates for the age groups 55-74 and 75+ years reveals differences in destination preferences among migrants (see Figure 4). The retirement-aged population moves to the Archipelago and the County of Halland on the west coast at high rates. Both destinations are popular tourism destinations and are high in natural and recreational amenity. These regions attract migrants who relocate for lifestyle-related rather than for work- or family-related reasons. The in-migration rates for the population aged 75 and over are much lower and the pattern of destinations is less pronounced, suggesting that the impact of retirement migration on regional population structures is higher than for the older elderly. The next section provides a closer look at the relationship between regional characteristics and net-migration patterns.

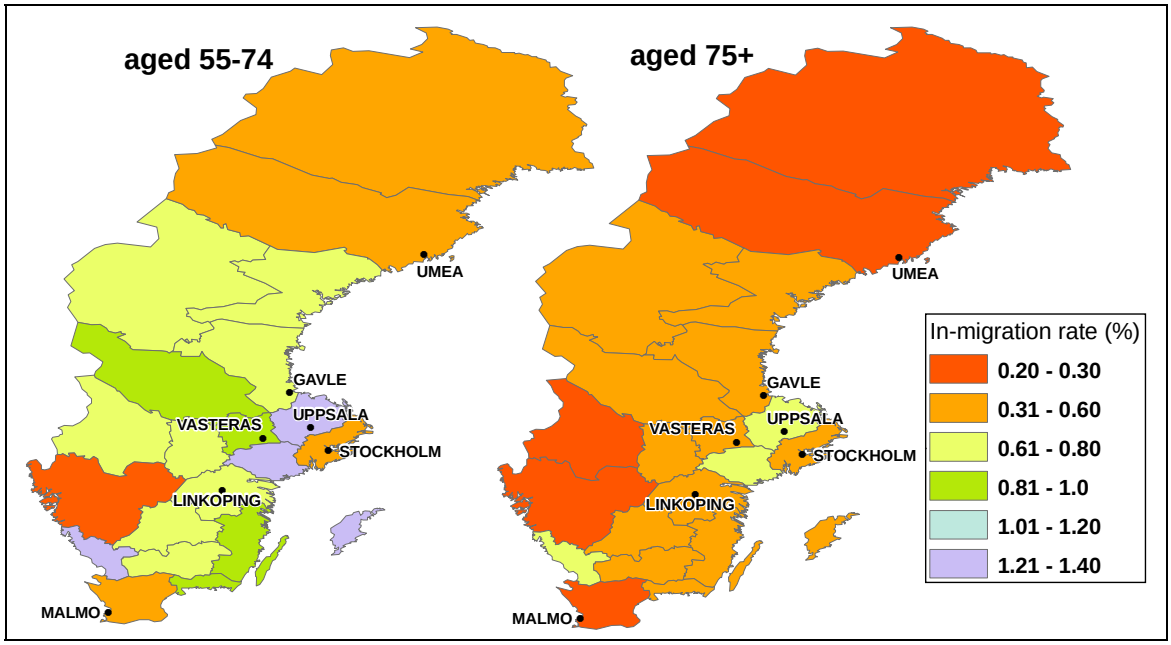

Figure 4 In-migration rates for 55–74 year olds (left) and those aged 75+ (right) by NUTS 3 region, 2000 and 2009

The population density of NUTS 3 regions in Sweden varies strongly and shows a north-south gradient (see Figure 5). This regional characteristic has been stable over time. The regions of Stockholm and Malmo have the highest density, followed by the counties on the south and south-west coast. Northern Sweden is characterised by very low population density.

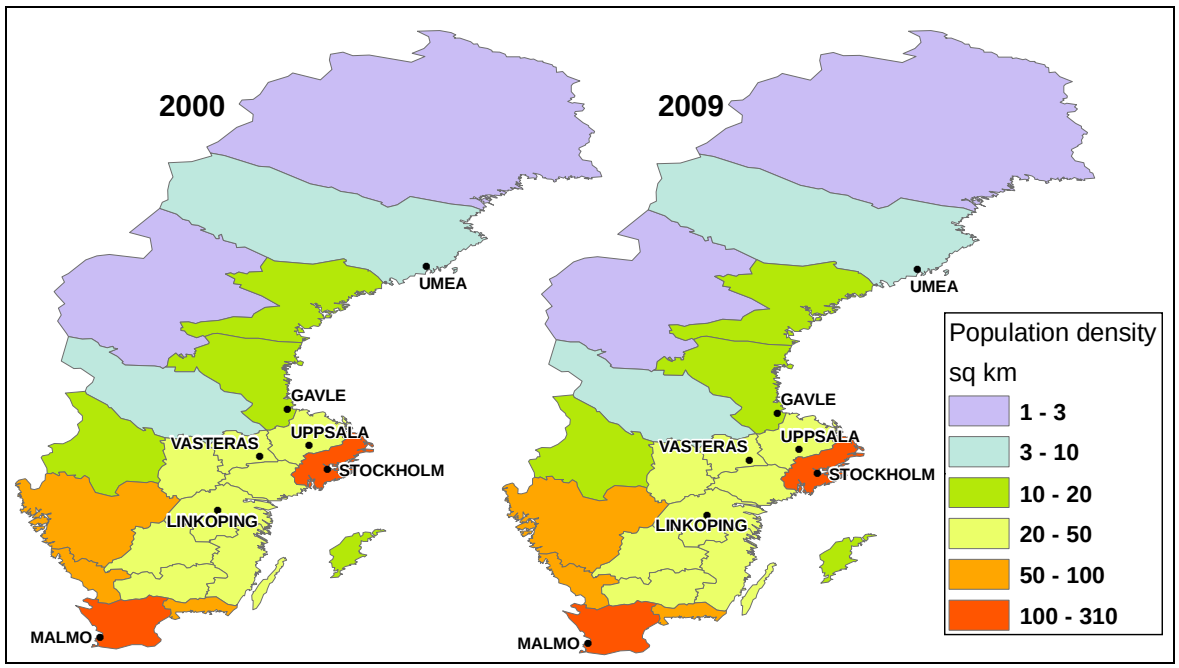

Figure 5 Population density (in square km) for NUTS 3 regions, 2000 and 2009

Plotting net-migration rates for a particular age group against population density and mean age of the population by NUTS 3 region in 2009 allows the identification of the correlation between the two indices. Figure 6 shows some correlation between net-migration rates for 0-54 year olds and the population density. The higher the population density, the larger the net-migration gain (R2 = 0.34). The correlation is much weaker for retirees and the older elderly, suggesting that the attractiveness of regions for later-life migration is not strongly related to population density.

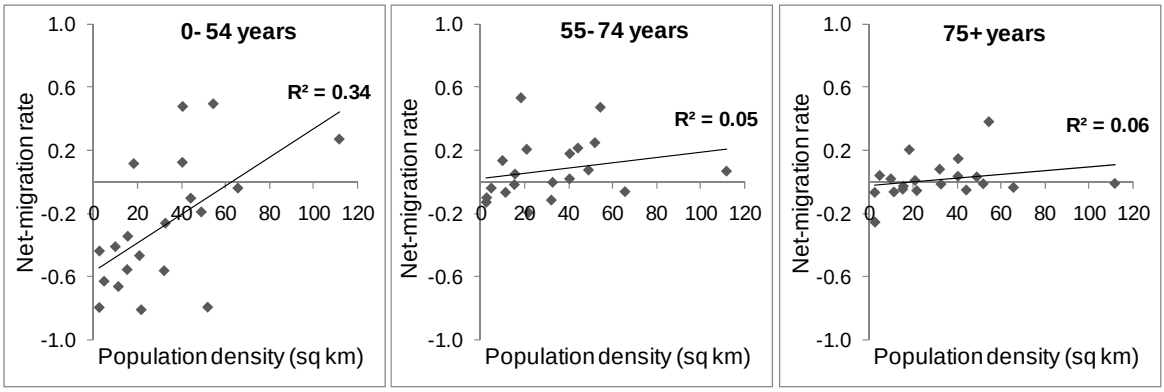

Figure 6 Net-migration rates by age group (0-54, 55-74, 75+) and population density per square kilometre (Stockholm was omitted, N: 20)

Figure 7 shows the regional variation in the mean age of the population for 2000 and 2009. The picture that emerges is one of strong population ageing, which is most pronounced in north- and mid-Sweden as well as in Småland and the islands.

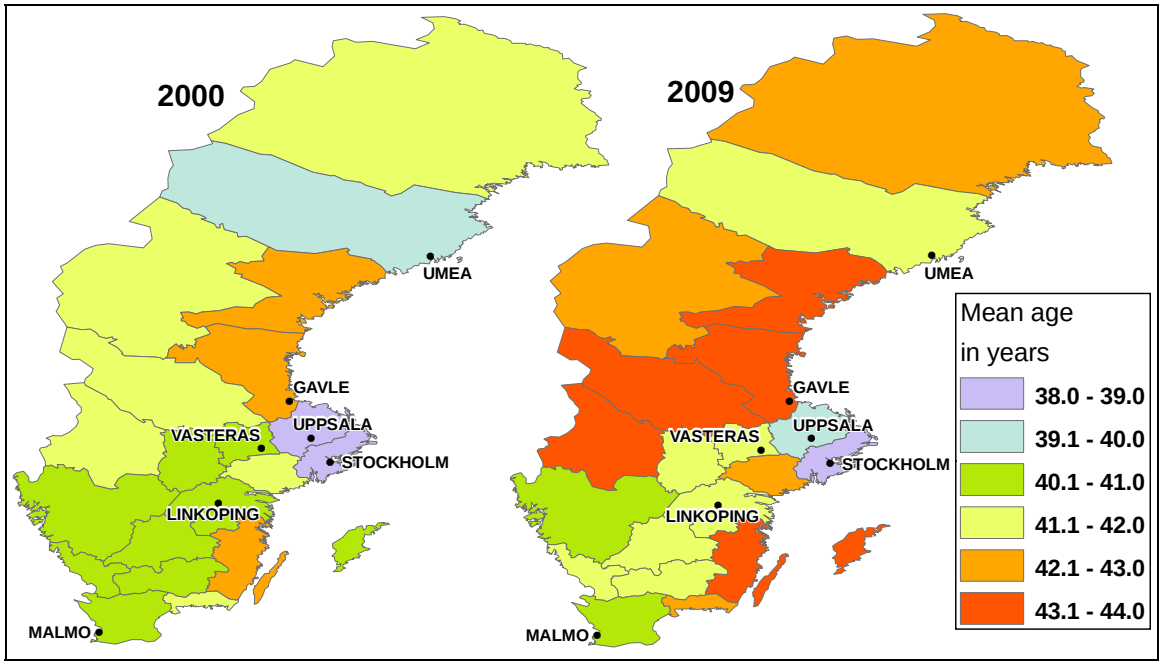

Figure 7 Mean age of the population (in years) in NUTS 3 regions, 2000 and 2009

Figure 8 shows plots of net-migration rates against the mean age of the population in NUTS 3 regions in 2009. There is a good correlation between these two indices for the population aged 0-54 years, suggesting that the migration behaviour of this age group has an impact on regional population age structure. The higher the net-gain through migration, the lower the mean age of the population in that region. The correlation also suggests that regions with a younger population are more attractive for migrants in this age group. The relationship between migration and mean age is much weaker for the elderly, suggesting that the impact of migration on regional population age structure is less pronounced.

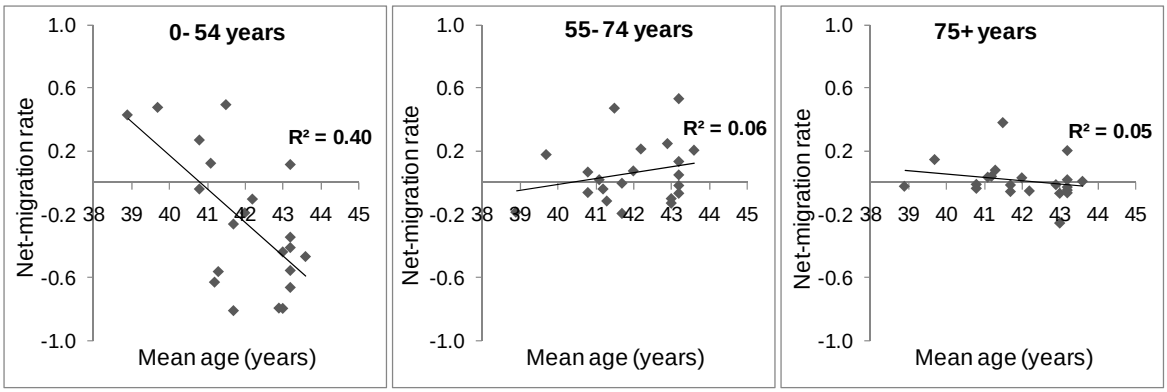

Figure 8 Net-migration rates by age group (0-54, 55-74, 75+) and mean age of the population (N: 21)

The literature suggests that the deterring effect of distance on migration might be less for retirees than for younger age groups, since retirees tend to move over longer distances to high amenity areas (Longino, 1995). However, while lifestyle-related moves may be less deterred by distance, the opposite could be the case for forced moves among the older elderly, which are motivated by housing issues or the need for assistance. Data from Statistics Sweden were used to shed some light on the extent to which migration is deterred by distance.

Figure 9 shows the proportion of all migrants aged 60, 65 and 70 years who did not move, moved short distance (less than 10 km), moved medium distance (10 t0 50 km) and those who moved long distance (more than 50 km). It is apparent that migration among the elderly in Sweden in 2005 was strongly deterred by distance, with more than 80 per cent of all moves being over short distances. Moves among persons aged 70 years are slightly more deterred by distance, although differences are very small. It is a little surprising that 60 year olds do not move over long-distances more frequently than 70 year olds. Hence, the elderly in Sweden, irrespective of their age, either age-in-place (do not move) or move over short distances, presumably in response to altered housing needs, the death or a spouse, or the need for assistance.

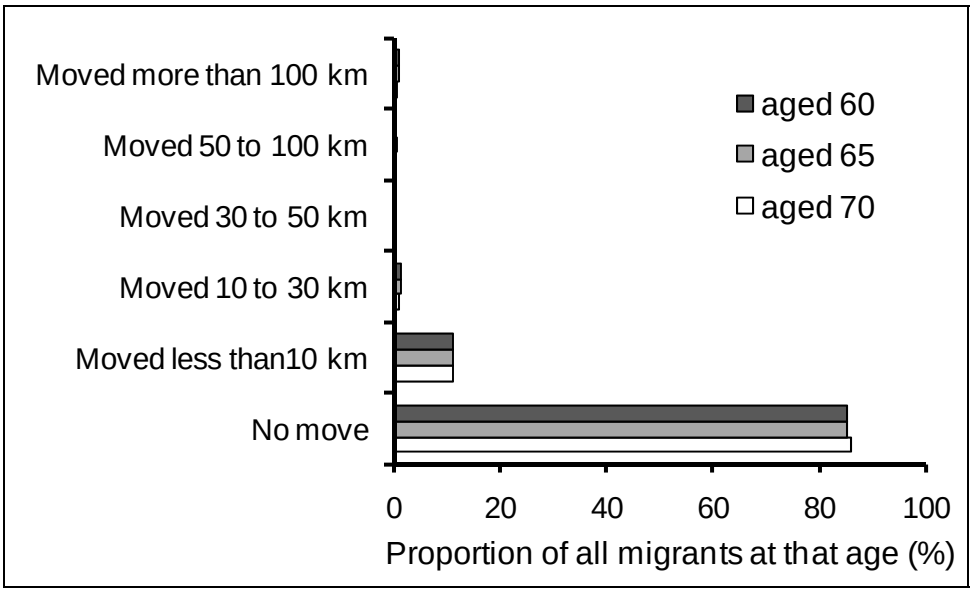

Figure 9 Migration in Sweden in 2005 by distance moved for selected ages

The descriptive analysis of later-life migration in Sweden demonstrated that the key origins and destinations of elderly migrants are similar to those observed in other Western European countries such as the UK with respect to the dominance of flows down the urban hierarchy, although migration intensities in Sweden are lower. In the UK, the elderly predominantly move from the Greater London area to the south coast, while the Swedish elderly move from Stockholm and northern Sweden to the Archipelago and the south-west coast. Similar to retirement migration patterns in the UK and the US, there appears to be a strong prevalence of lifestyle- and amenity-related moves in Sweden.

6. Determinants of the future intensity, spatial pattern and timing of later-life migration

The trajectory of later life migration in developed countries will be shaped by the impending retirement of the large baby boomer generation. This cohort is distinctive, not only because of its sheer size, but also with respect to past migration and holiday experiences, altered household structures, increased affluence and higher levels of education. Throughout their life-course, the baby boom cohorts in the UK and the US have exhibited migration behaviour that differed from their predecessors (see, for example, Frey, 1986; Haas and Serow, 2002; Pandit, 1997a; Plane and Rogerson, 1991). The migration behaviour of the baby boom cohort once it reaches retirement age in the near future has fundamental consequences for the tax base, health service provision and social service requirements. Thus, it is a current concern for industry, government and

society. Despite increasing public awareness of these imminent changes, much of the current debate about the future migration behaviour of this large cohort is driven by speculation. Mainly due to the boomers' distinctive behaviour, decision-makers face a great deal of uncertainty about the spatial distribution of future service needs among the elderly. An important, but unanswered question about the past, present and future of the baby boomer generation must be resolved to ensure adequate service provision at the right place and time: Does the propensity to move between a country's regions vary between cohorts? In other words, will the baby boomer generation move a higher or lower rates than today's elderly?

Given the distinctive behaviour that the baby boomers have displayed as they have moved through the life course thus far, one may speculate that the boomers' migration behaviour in retirement may also be distinctive from earlier cohorts. However, mainly because the determinants of migration in later life and its spatial structure remain poorly understood, decision-makers face a great deal of uncertainty about the spatial distribution of future service needs among the elderly.

One may speculate that the baby boomers will be more mobile after retirement than earlier cohorts, mainly due to factors such as high levels of wealth, inheritance, higher levels of education, greater lifetime mobility and more widespread distribution of children and other kin across the country, itself a product of rising mobility, may increase future migration intensities in later life. Other facilitators that are likely to increase later-life migration intensities are foreign language knowledge, an increased share of dual-earner households, more travel experience, a higher number of second home owners, increased mental ability in old age, increasing longevity and longer periods of disability-free live (Lutz et al. 2007, Romeu Gordo forthcoming). Conversely, disrupted work histories, an increasingly blurred retirement transition, insufficient age pensions and less stable marriages could exert a counteracting effect on the boomers' migration behaviour.

Several factors that are expected to impact on the future intensity and timing of migration in later life are discussed below.

Demographic ageing

Demographic change is likely to affect the timing of moves. Leaving the parental home takes place at increasingly older ages in South European countries (Aassve et al. 2002). Entering formal union and parenthood takes place at increasingly older ages in Europe, which leads to a delay of migration decisions as these demographic events are often associated with migrations. While the average age at first birth has risen from the early to the late 20s to the late 20s or to above 30 in European countries, period fertility dropped from levels above replacement levels in the majority of European countries in the 1970s to current levels of around 1.4 in 2005 (Sobotka 2008).

The forces of fertility postponement and fertility depression - increasing material aspirations and changing norms for the timing and outcome of fertility - can be self-reinforcing, leading to later migration also in the future (Lutz et al. 2006). This can in turn lead to further postponement of fertility in the coming decades. The postponement also implies that parents become "empty-nested" later in the life course – where housing requirements for parents change and residential mobility often follows as a means of housing adjustment.

Fertility induced changes to migration schedules is also relevant for the elderly – who often provide care to the spouse or require care themselves. They also have preferences to live close to grandchildren. A postponement and depression of childbearing that has been going on for many decades affect when and whether today's seniors experience grandparenthood. Lower and later fertility will be reflected by that many will enter grandparenthood at increasingly older ages and many will end up being "grandchildless" (Engstler and Menning 2005).

Co-residence between older parents and children is declining in Europe (E.g., Grundy 2000), but contacts and care-giving arrangements between elderly parents and their children remains high (Tomassini et al. 2004). As caring for grandchildren is one reason why the elderly prefer to stay close to cities (as grandchildren and their economically active parents tend to live in peri-urban or urban areas), this can imply that the old-old and oldest-old will prefer to live in urban areas.

Increasing number of individuals, particularly in their 50s and 60s, will have parents alive as longevity increases. At older ages, the parents tend to live in inner-city apartments with services or close to health centres. Serviced apartments are particularly attractive to parents following widowhood, when living alone becomes a risk in the case of ill health or disability (Bloem et al 2008). The concentration of the oldest-old in the urban areas will thus allow the children to provide care to their parents. The incidence of informal care through children will become more relevant as longevity increases while the ages of childbearing approach the biological maximum. Growth in the number of individuals aged 50+ who still have elderly parents is likely to occur.

Health and death

Life expectancy has increased by roughly 1.5 years per decade for more than the last 100 years (Johansen 2002, Oeppen and Vaupel 2002), although effects on disabled life expectancy are less clear. Most evidence find that the decrease in mortality rates coincides with longer healthy lives, and possibly even a shortening of the morbid life expectancy (Crimmins et al. 1997; Lee 2003; Manton et al. 1997; Schoeni et al. 2001, New Zealand Ministry of Health 2004). Romeu Gordo (forthcoming) finds, analyzing data from from the Health and Retirement Survey, that morbidity has been compressed. She finds that for those born 1924-1947, the number of age-specific disabilities for younger cohorts'

decreased, and were on average roughly halved during this period. This implies that longer lives per se do not necessarily increase labor demand, as the number of years where one is dependent on help may be roughly constant. The need for health care services in the destination communities is dependent on whether the seasonal migrant, who spends the winters in the Meditarenean, move back to their home country permanently upon onset of disability. Permanent migrants, however, are more likely to stay in the destination region even if they suffer substantial health problems.

Retirement age

A major issue that will shape later life migration in the future concerns the nature of the transition into retirement, which has undergone fundamental change since the 1990s. Part-time employment, telecommuting and dual-career households have all contributed to a longer and increasingly blurred transition to retirement, which is no longer constrained to the 'normal' retirement age of 65 years.

Retirement is a trigger of migration as many plan and choose to move as they exit employment (see for example Mulder and Hooimeijer 1999). The retirement age has decreased for many years in most European countries since the 1960s to the 1990s, when it gradually started to increase again (OECD 2006). Following gradual implementation of slowly maturing retirement reforms and increasing age-specific senior health, retirement is expected to increase in the coming decades in Europe, which can lead to a delay of migration upon retirement (Carone 2005). The steady increase in dual-earner families and single-person households that has occurred across successive cohorts is particularly important, since movement propensities vary widely by household structure (Bradsher et al., 1992). Moreover, the average age at retirement has changed over time, the variability in the timing of retirement has increased, and the transition has become less clear-cut (Han and Moen, 1999).

Increasing female labour force participation and the preference for many couples to retire simultaneously implies that more couples will have the financial resources to realize an amenity-motivated retirement move. Given that most couples retire jointly, the timing of retirement migration will not be altered due to increased female participation rates.

House ownership

Home-owner are less likely to migrate than renters, although the elderly are often forced to move to apartments or institutions in the need for assistance. In this case, widowhood and health problems are more important predictors of migration than tenure.

Tatsiramos (2006) finds that house-owners above 50 in Europe are less likely to move compared to renters. An increase in mobility rates is according to his analysis of ECHP data also observed for older age homeowners, generally towards smaller dwellings.

Moreover, having an outstanding home loan, retirement, the death of a spouse, and excessive housing costs, are significantly associated with a move in central and northern European countries, but not in the south.

Education, wealth and earnings

Being more educated, having a higher wealth and high income is related to a higher likelihood of retirement migration (Longino, 1995). As future cohorts of seniors are both richer and better educated, these forces are likely to increase later life migration. Education levels of elderly increase steadily. As shown in Figure 10) in the coming decades, secondary education becomes the most important type of education. The data are based on a new dataset by KC et al. (2008) which provides estimates on education by age and sex at the country level.

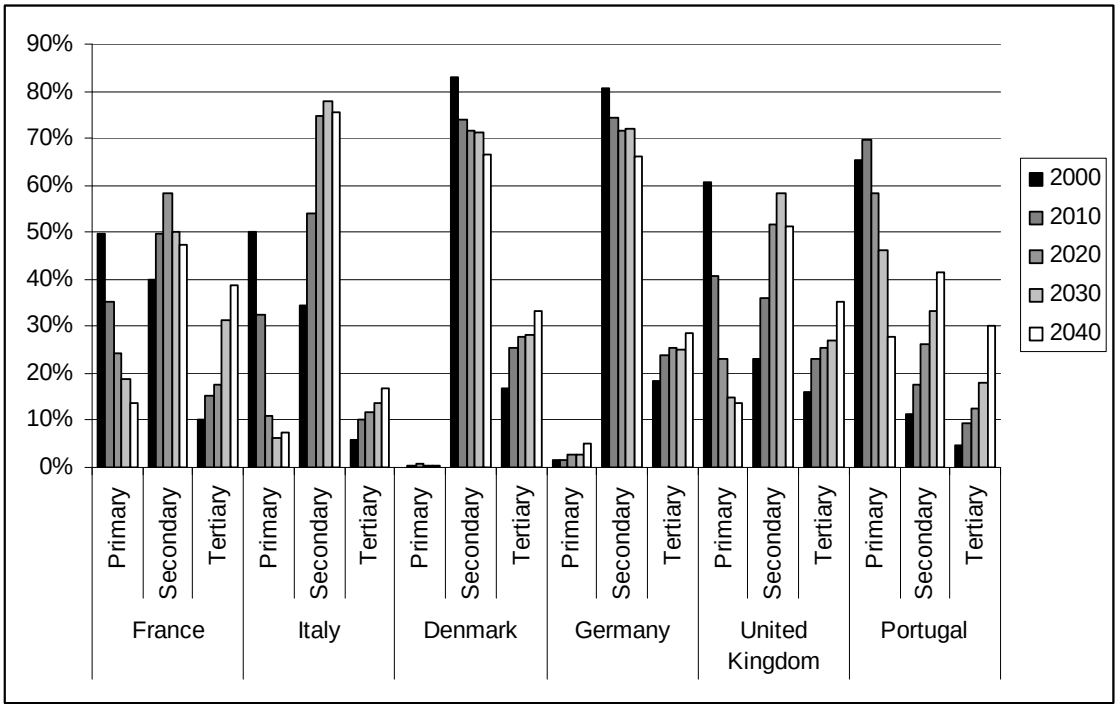

Figure 10 Share of the population with some or completed primary, secondary or tertiary education. 60-64 year olds. 2000-2040. Both sexes.

Wealth is higher among older age groups. A wealth peak above 50 is increasingly found for Europeans as well, as shown in data from Germany, Italy and Finland (Börsch-Supan 2002, Juntto and Säylä 2006, Jappelli and Pistaferri 2005). Similar results for earnings are found in a comparison of European countries (see Skirbekk, Stonaw and Sanderson 2008). The increased wealth of today's retirees may lead to less urban refugees who have to sell their urban residence and move to rural areas seeking cheaper housing and lower living costs. With urban sprawl, the preference for green areas, safe surroundings and low-stress environment may increasingly lead the elderly to migrate

away from central areas, towards city outskirts or towards rural regions. Migration back to urban areas may follow upon unset of disability or widowhood.

Social and national ties, Environmental aspects

Migration can benefit or harm the environment, where migration towards smaller dwellings and apartments rather than single houses is likely to be considerably more energy efficient (Arbury 2005, Næss 2002). Awareness of pollution follows cohort lines. Buttner and Gruebler (1995) present data on cohort variation in environmental awareness and willingness to change behaviour, showing that later born cohorts are more "green" in their mindset. Future cohorts of elderly are likely to be more European oriented and less only nationally oriented, as more nationally oriented birth cohorts eventually die out (Lutz et al. 2006). Less nationalistic views, increased skilled labour migration and more tourism experience are likely to result in an increase in international (retirement) migration.

Diversity and elderly migration

The PLUREL storyline for B2 scenario, social fragmentation, describes one plausible future story-line that, if realized, could affect elderly migration.

"... Europe experiences growing social friction due to increasingly fragmented societies in terms of age, ethnicity and lack of international cooperation. "..."Cities are more dispersed as younger migrant populations dominate city centers and older natives populate outskirts and green enclaves outside the cities. The ethnic division of cities is driven by the increased in-migration of the working-age population from outside and within the EU. The elderly in ethnically diverse cities are more likely to migrate to rural areas and form relatively closed communities. "..."High growth in the social sector demand for the care of the elderly is being paid by the working-age population, diminishing their ability to care for their dependants. Self-reliance and preservation of local identities is the rule of conduct. Relatively large migrant populations with different sets of values, cultures and religious beliefs have limited social contact with native populations. This leads to increased social fragmentation, mutual distrust and limited willingness to support individuals outside of one's own group. Political voting shifts, due to a decreased willingness to pay for other residents in one's own country, result in a shrinking welfare state. The situation is worsened by increasing problems of tax evasion. Cities are particularly challenged as they are characterized by older native populations and younger migrant populations – which reduce the ability for joint political action."

Ethnic groups often end up in separate locations, choosing to live in neighbourhoods with others with similar culture, language and ethnic diversity. Although economic factors plays a role, particularly for poorer migrants, also areas with individuals

of similar economic status end up living together (e.g., Blom 1999, Katz 2002, Musterd and Deurloo 2008). This can influence migration decision of elderly in particular, and increase inner city gentrification and urbanisation of tourism resorts, as some areas become increasingly dominated by certain groups.

Facilitators of later life migration

Several key costs of migration are likely to continue to decreases over time, with generally lower car travelling times, cheaper and more frequent flights and other means of transportation, less administrative hurdles, better information (and less uncertainty) about housing in other countries. The cost of maintaining family relations, business activities and friendships across regions are increasingly lower, through cheaper telephone, internet and video call facilities (such as MSN and skype).

Regarding cultural adaptation requirements, the barriers to migrating are likely to be decreasing over time, particular within Schengen-area of Europe, with visa/passport-free migration. In many common elderly migrant destination countries there are large existing groups of elderly from the same source country (such as Norwegians in Spain, see Helset 2004). "Chain-migration", where migrants from a given nationality or ethno-linguistic group follow others to a particular region or neighbourhood (Boyd 1989). As these groups can easily send information back about issues relating to migration, this decreases uncertainty and can lower costs of migration, increasing the number of migrants.

In addition, with increasing education levels and international experience, new cohorts of elderly are increasingly likely to be internationally oriented. They increasingly speak at least one foreign language and are more likely to have experienced tourist and business trips than earlier cohorts (Eurobarometer 2005, Lutz et al. 2006). Simultaneously, migrant destinations have also become more culturally adaptable with more experience with other Europeans living there, increasing language proficiencies and a stronger focus on the benefits of having elderly from elsewhere consuming local services. This is likely to facilitate international retirement migration.

Climate change

Increasing temperatures in Europe have followed climatic change, and there is an increasing consensus among researchers that this development will continue in the coming decades (IPCC 2007). How would this affect migrations among the elderly?

Shorter and warmer winters could affect the quantum and timing of seasonal migrations in Europe. It could, ceteris paribus, lead to less migration from north to south in Europe, as winters will be shorter and milder. However, seasonal migrations may change in the advent of warmer temperatures, and lead to a contraction of the period elderly spends in the south. E.g., If a North European pensioner would normally spend 6

months of the winter season in warmer temperatures in Southern Europe, heat may lead to fewer months spent outside ones own countries as the north European winters become more bearable and the South European summers too hot.

However, some factors suggest that the quantum of elderly migrations to and from Southern Europe may change in intensity due to climatic change. Continental and southern Europeans, as their wealth increases and regional cost differences narrow, may increasingly move to the northern regions to escape the hot summers in the South. Moreover, climate change could also lead to a gradual slowdown of the Gulf Stream which is the basis for warm temperatures in Northern Europe – and this would lead to increasingly cool winters and therefore movement to southern European regions.

The ability to cope with high temperatures worsens as one gets older. Higher temperatures appear to be an important factor in increasing the frequency of hospitalization for acute myocardial infarction and congestive heart failure and are associated with a decrease in the frequency of visits for coronary atherosclerosis and pulmonary heart disease. Mortality has also been observed to increase during periods of 3 or more days of unusual temperatures during summer or winter, in particular for elderly, showing that temperature variability is an important determinant of human health effects (Braga et al. 2002; Koken et al. 2003, Saez et al. 1995). As longevity increases, the population share that suffers from high temperatures will increase and the attractiveness of southern Mediterranean destinations will decrease.

European variation

Caruso (2001) emphasise local geographic, regional economic differences, historic settlements as well as spatial policies affect the growth and migration to urban and peri-urban areas in Europe. Rees et al. (1998) find that for the Netherlands in the 1980s and 1990s, urban centres lost population, while peri-urban areas grew thanks to emigration from city centres, while in larger cities including Rotterdam and Amsterdam, international immigration more than compensates for population losses due to internal migrations. Rees et al. (1996) find that for England, age is important for migration decisions, where young go to the urban centers, while families with children move to peri-urban areas. The relative economic growth of a region is also important in terms of attracting migrants (Stilwell et al.1992).

In a comparative study of migration for all age groups, Kreukels and Pollé (1997) find that a general migration from city centers towards surrounding areas is common in many countries, but particularly strong in Germany. The population dispersion relates to differences in land rent and housing costs, increased motorisation rates and better transportation. Gans (1991) shows that peri-urban areas have more immigrant gains than rural zones beyond the commuting range.

7. The future of later life migration in Europe

The paper now proceeds to discuss demographic change and how it may alter the future migration behaviour of the elderly with regards to timing, spatial patterns and intensity.

In the context of rapid population ageing and the impending retirement of the baby boomer generation, more emphasis has been given to migration scenarios. While migration overall seems likely to play a secondary role compared with other demographic processes, particularly ageing in place, population projections informed by a clear understanding of future migration patterns and intensities among the growing older population will become of increasing importance for planners and policy makers over the next two decades. The growing importance of migration in population projections is reflected in the literature. In developing migration scenarios for Europe, Bijak et al. (2004) grouped countries according to migration regimes and used net migration target rates for both internal and international migration for 27 European countries.

George and Perreault (1992) found that among 30 industrialized countries, migration assumptions tended to be either zero net migration or a continuation of current trends. Zero net migration scenarios are often included in order to highlight the differences to other migration scenarios in affecting the overall population size and the age and sex structure. De Beer (1997) and Keilman and Pham (2000) are examples of studies that predict migration by using autoregressive models where the parameters are estimated using time series data. De Beer also incorporates expert judgment to determine migration-level targets for the projections.

One of the major demographic determinants of future volumes of migration is population ageing. Table 2 shows the projected proportion of the World population and the population in Western Europe aged 60 years and above for 2010 to 2050. It is apparent the projected pace of population in Western Europe is much faster than for the world as a whole. In 2030, 31 percent of the western European population is projected to be aged 60 or older, increasing from 21 per cent in 2010.

Table 2 Projected proportion of the World and Western European population above age 60, median estimate (Source: 2007 IIASA Probabilistic World Population Projections)

Year	World	Western Europe
2010	0.11	0.21
2020	0.13	0.25
2030	0.17	0.31
2040	0.19	0.34
2050	0.22	0.37

While there is no doubt that the population in Western Europe will age in the future, there is a large degree of uncertainty about the exact pace of ageing. Probabilistic population projections give a valuable indication of the uncertainty bounds around the median projection estimate. Figure 11 shows the projected proportion of the population in Western Europe above age 60. The median estimate for 2030 is 31 percent aged 60 and over, while there is an 80 percent chance that the elderly share will be between 28 (10% lower limit) and 33 percent (90% upper limit). The degree of uncertainty increases with the projection period.

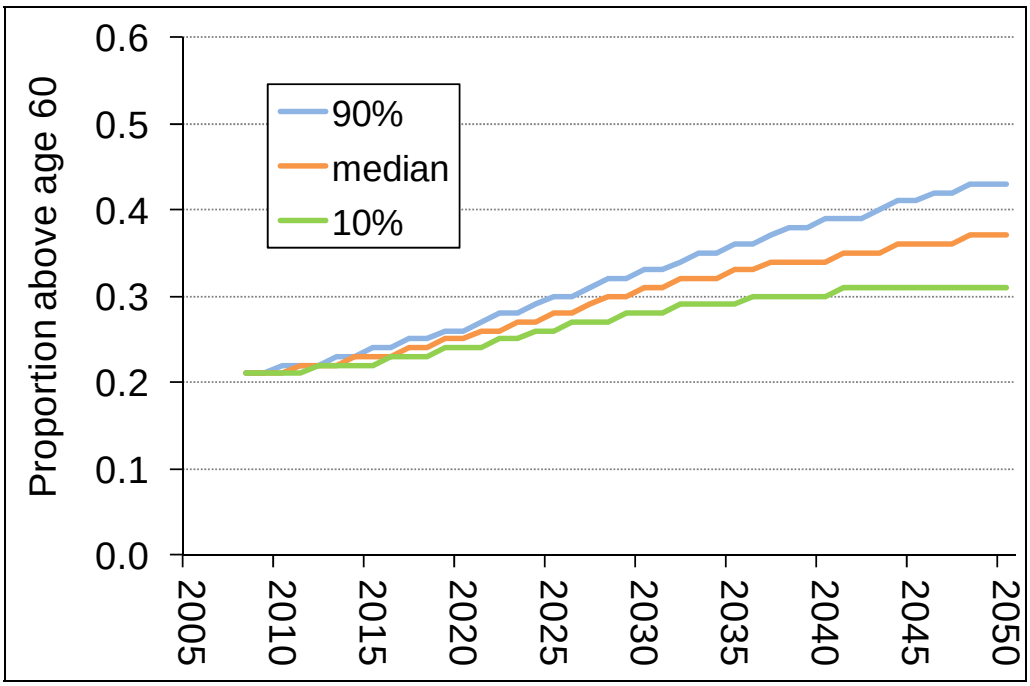

Figure 11. Projected proportion of the population in Western Europe above age 60, median estimate and uncertainty bounds (Source: 2007 IIASA Probabilistic World Population Projections)

The four PLUREL scenarios each assume a different fertility and mortality development, which together with variation in international migration levels imply that

B1 results in low population growth, A2 and B2 medium population growth and A1 high population growth (see Table 3). The scenarios also take of takes different assumptions in the degree of urbanization (A1 and B2 low, while A2 and B2 have high). For a detailed description of the scenarios, see KC et al. (2008) and Ravetz (2007).

Table 3. Future Demographic National Level Scenario for Four PLUREL Scenarios

PLUREL scenario	Fertility	Life expectancy	International migration	Population scenario	Percentile PPP*
A1-hyper-tech	Medium	High	Medium	Medium-high	70th
A2-extreme water	Medium	Medium	Medium	Medium	50th
B1-peak oil	Low	Low	Low	Low	30th
B2-fragmentation	Medium	Medium	Medium	Medium	50th

*Percentile of probabilistic population projection in terms of overall population size

Figure 12 shows the projection estimates on population ageing for European NUTS 2 regions. The estimates are for urban and rural regions, using a cut-off point for rural and urban of 150 individuals per km2 (which gives 139 rural and 115 urban regions).

There is a strong general increase in the median age over the coming decades from just above 40 percent in 2005 to above 45 percent in 2030. While there was a clear difference between the age structures of urban and rural regions in 2005, the projection results show a convergence of the degree of ageing over time. The B1 scenario results in the fastest population ageing in urban regions, while the A1 scenario in rural regions leads to the slowest population growth of all scenarios. The results imply that future migration in later life is rather unlikely to result in strong urban/rural differentials in population age structures, although regional variations between rural regions seems likely. The key destinations of retirement migration are assumed to age at a faster pace than the origins of these elderly.

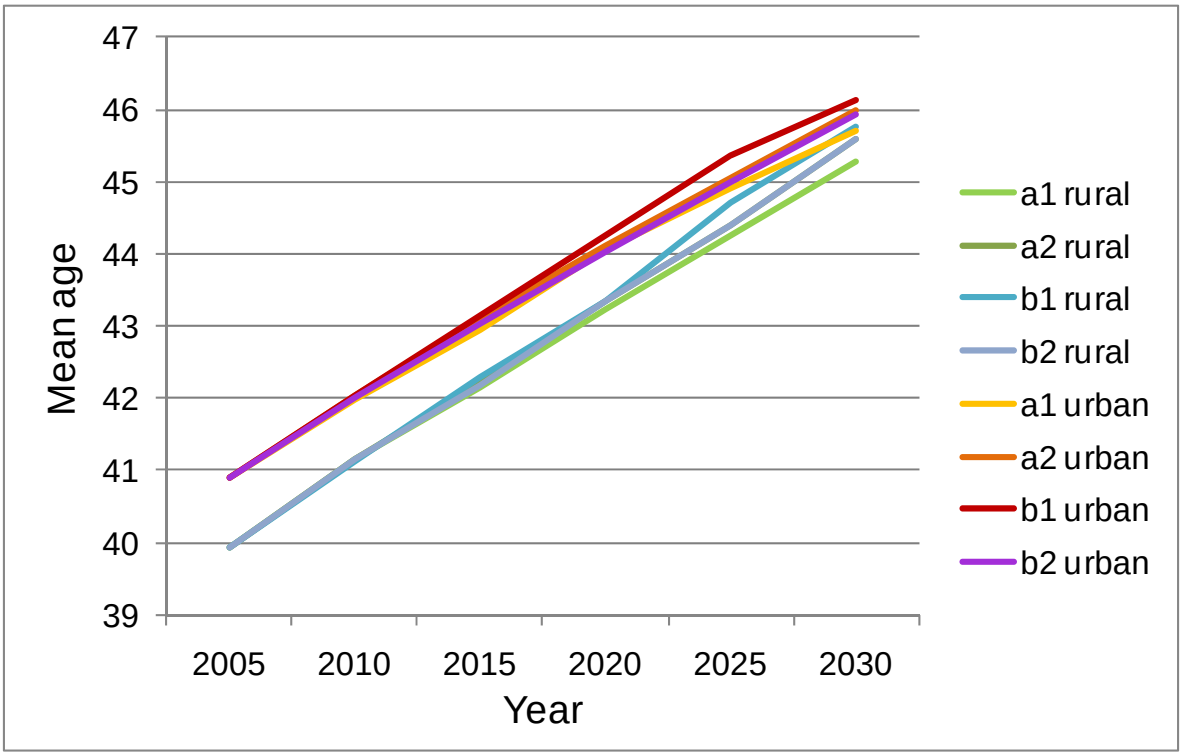

Figure 11. Projected proportion of the population in NUTS 2 regions above age 60, urban and rural regions (Source: KC et al. 2008)

The future timing of later-life migration

It has been well established in the international literature that migration is selective with respect to age, and that age-specific migration rates show strong regularities across countries and over time (Rogers and Castro, 1981) (see Figure 12).

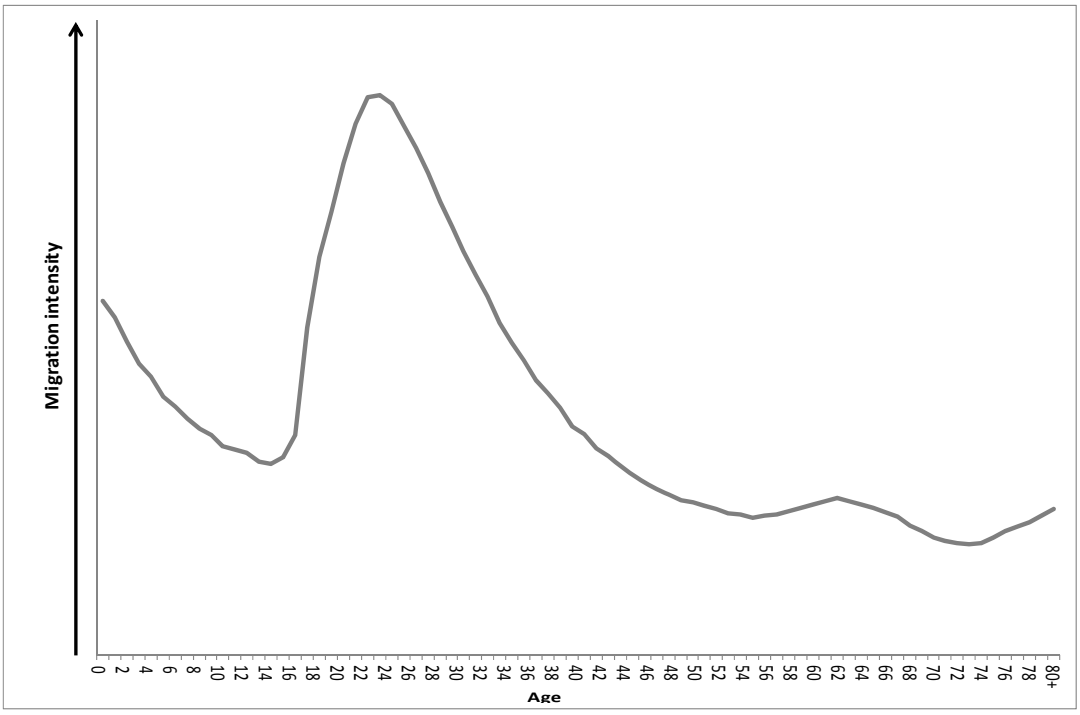

Figure 12. Age-specific migration intensities, adapted from Rogers et al. (1978), profile with a retirement peak

The expected increase in the elderly population will generate a substantially increased pool of potential retirement migrants (see Figure 13). One may speculate that the age-specific migration rates will remain stable over the next 30 years, which would imply that the number of retirement migration will increase substantially (see Figure 14).

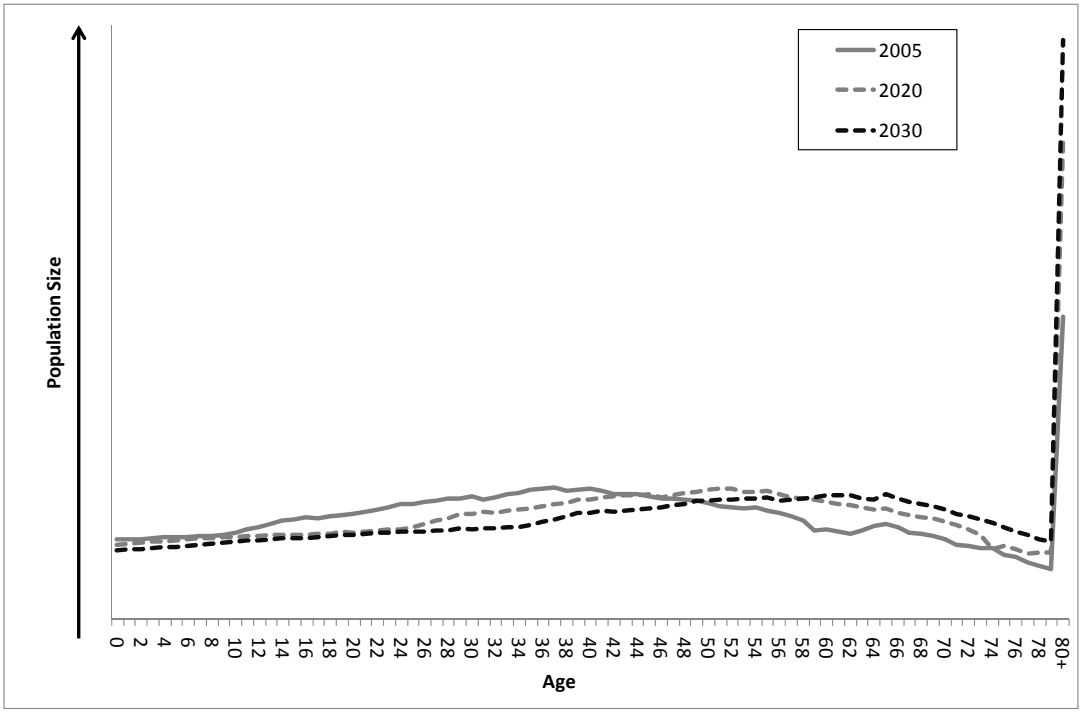

Figure 13. Shifts in European population age structure until 2030

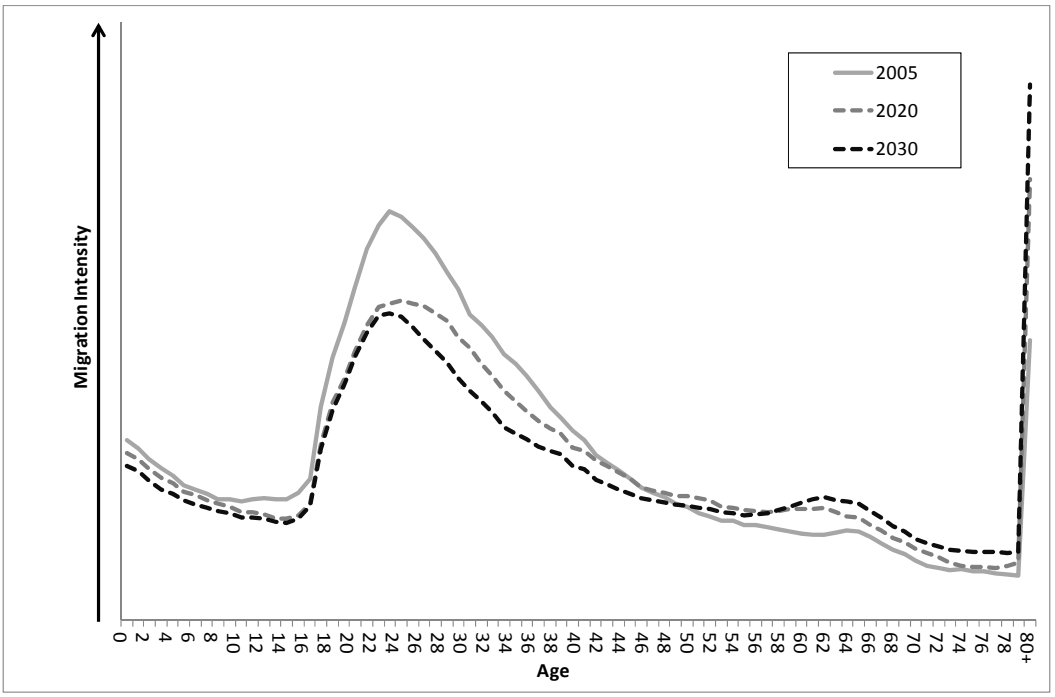

Figure 14. Projected migration intensities in Europe for 2020 and 2030, assuming no change in age-specific migration rates

However, the timing of life course events has changed significantly over the last decades (Shanahan 2000). Thus we see a delay in marriage, childbearing, the 'empty-nest' stage and, consequently, retirement. Figure 15 shows the effect that a delay in life course events will have on future age-specific migration intensities.

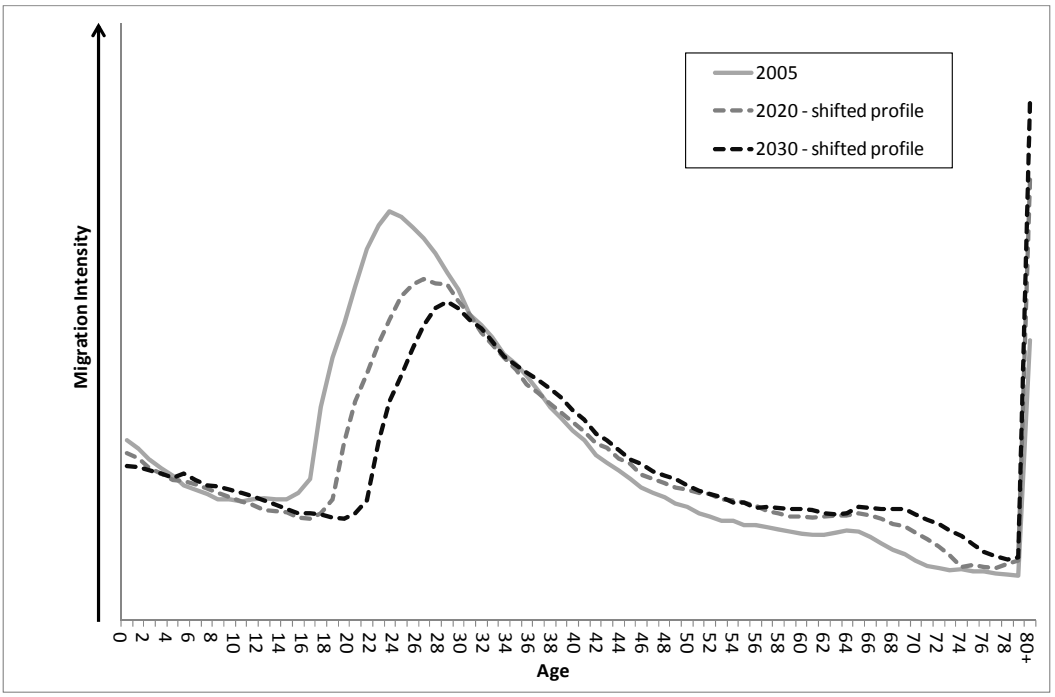

Figure 15. Projected migration intensities in Europe for 2020 and 2030 assuming a shift towards older ages (4-year shift until 2020 and another 3-year shift until 2030)

Figure 17 highlights the effect of delayed life course events and transitions on migration intensities in 2030. The size of baby boom cohort, however, varies between countries and between regions, resulting in an unequal degree of numerical ageing. For example, in western German regions this cohort is larger than in the eastern parts, suggesting a future increase of in-migration of retirees who are in pursuit of more affordable housing from the west to the east of Germany.

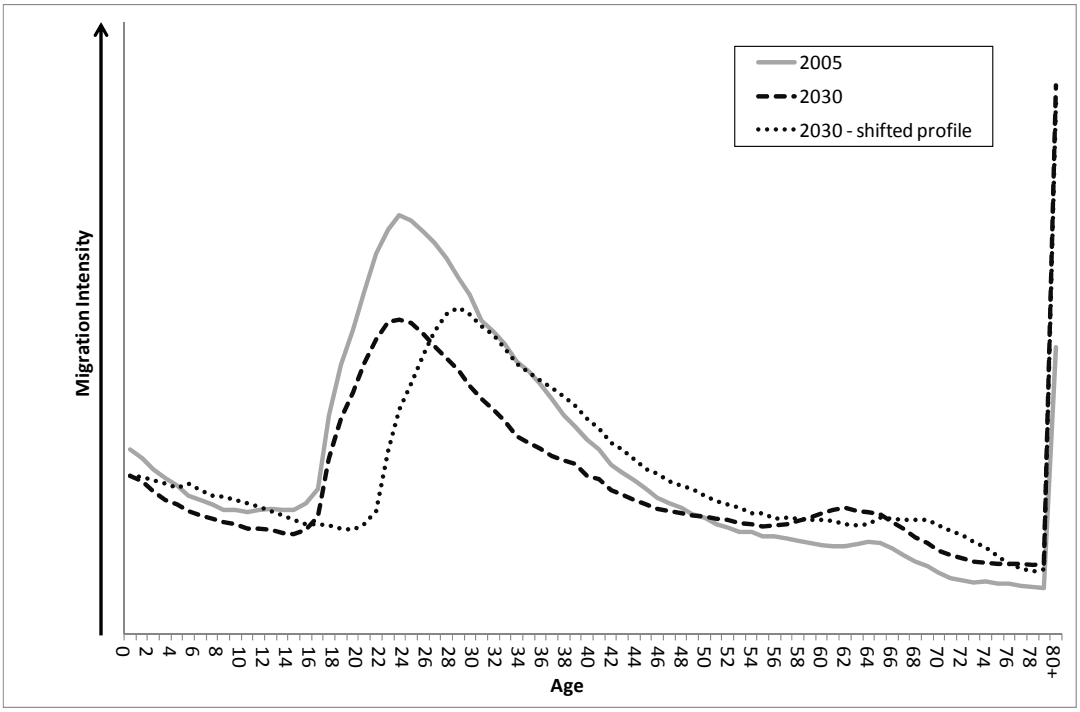

Figure 16. Projected migration intensities in Europe for 2030 assuming no change / a shift in age-specific propensities towards older ages (7-year shift until 2030)

An increase in retirement migration, as we speculate, would potentially lead to more movement from suburban areas to selected amenity-rich peri-urban areas and also to rural areas outside the commuting range. An upsurge in housing-related moves due to declining affordability of lower financial resources is likely to lead to out-migration from inner urban areas to peri-urban areas or beyond, while assistance-motivated moves of those suffering from ill health are likely to be focussed on urban centres. The latter pattern of movement is particularly evident in highly urbanised countries such as Australia, where the oldest old move to urban areas to be closer to kin who tend to reside in urban centres due to job-ties. In addition, the sparseness of health services in remote rural areas also induces mobility: If service facilities are concentrated in the large cities, the elderly are often forced to leave non-metropolitan areas once their health declines to seek adequate care in the metropolitan centres.

The uncertainty over future later-life migration

The uncertainty over future vital indices, including mobility levels, can be taken into account if the likely future is presented so that confidence intervals are included. In this way, the perceived uncertainty can be incorporated in the demographic determinants. An example of this type of projection is Scherbov and Mamolo's (2006) stochastic projections for the EU-25 (see Figures 17 (2020) and 18 (2030)). Confidence intervals are highest for those who are not yet born, or are already elderly at the time of the projection. This is due to high uncertainty on future childbearing, or for the older individuals, due to uncertainty regarding mortality. Uncertainty is greatest for those who are not yet born (hence widening confidence intervals). Moreover, uncertainty is also higher for older age groups relative to mid-age groups, as these have higher mortality risks. Moreover, migration is more important for the young adults, and hence these groups also have somewhat higher uncertainty.

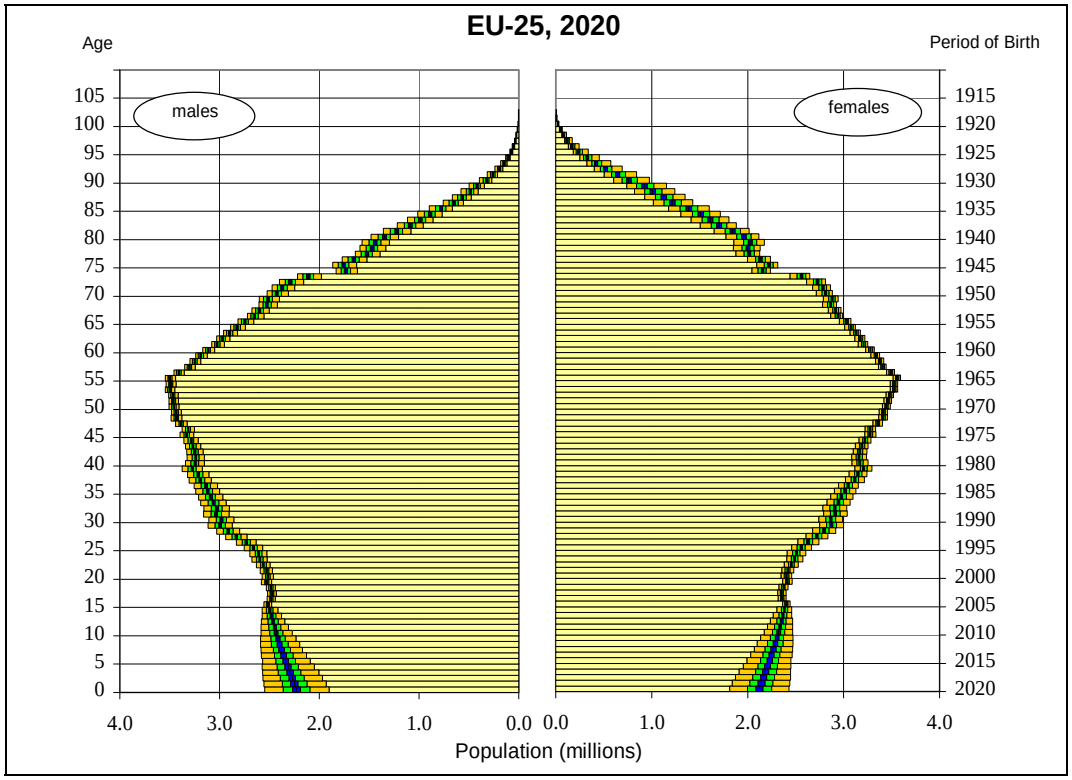

Figure 17. Stochastic population projection for EU-25, 2020, by age and sex. Source: Scherbov and Mamolo (2006).

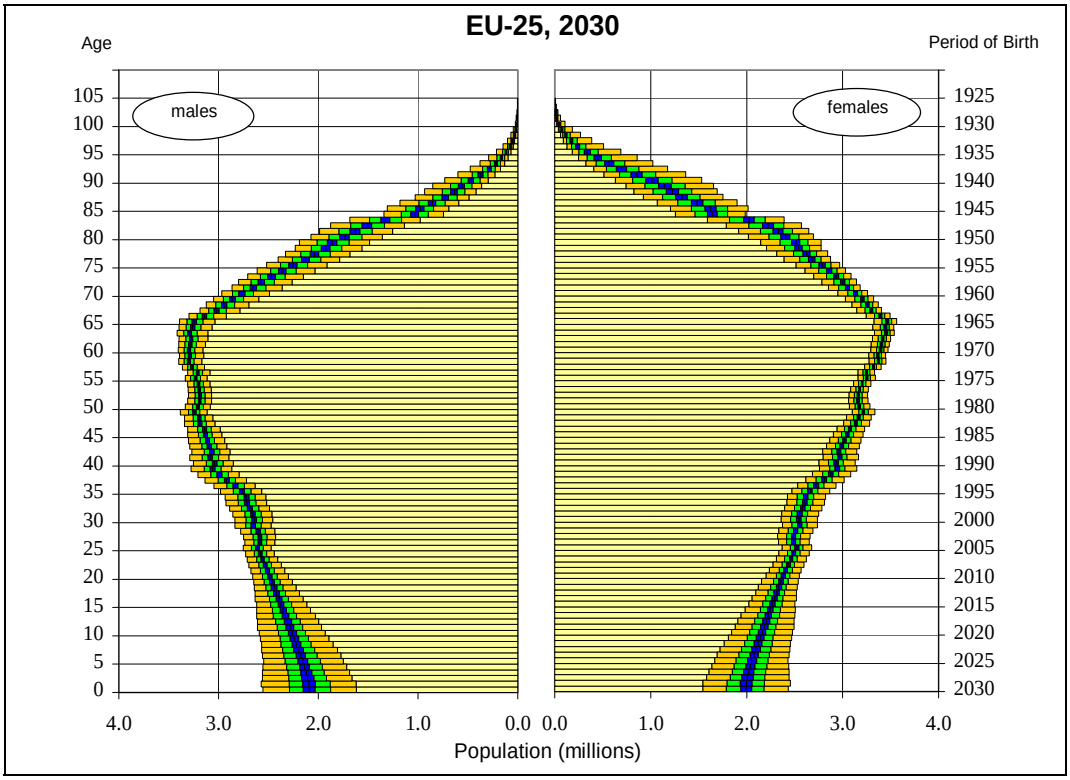

Figure 18. Stochastic population projection for EU-25, 2030 by age and sex. Source: Scherbov and Mamolo (2006).

Current projection models, including the model presented above by Scherbov and Mamolo (2006) use a simple net migration model, rather than modelling migration in terms of flows between origins and destinations. However, multi-regional population projections, which account for inter-regional migration flows, are an effective tool for understanding how alternative forms of migration behaviour will affect future population dynamics at the regional level. The growing interest by scientists, policy-makers and government planners in sub-national population projections is largely driven by concerns about the implications of population change for urban and regional planning. Projections of regional population growth and characteristics can assist planners and policy-makers to anticipate future changes in the demand for goods and services by the elderly. However, because population projections commonly extend contemporary birth, death and migration rates, they often fail to anticipate subsequent demographic trends. One of the main future challenges is thus to improve the modelling of the migration component in population projections so that alternative scenarios about future migration behaviour among the baby boomer generation can be empirically tested.

8. Conclusion

In summary, it should be emphasized that, contrary to the view of Keyfitz (1982: 729), empirical knowledge about past demographic trends can improve the accuracy of predictions (see also Sanderson, 1998). However, the importance of uncertainty in projecting future retirement migration behaviour has to be acknowledged. Factors such as the size of the cohort can be predicted beforehand, whereas the boomers' decision making and preferences in retirement are inherently unpredictable. Using scenarios that take into account potential shifts in intensity and spatial structure caused by the distinctive behaviour of the baby boomer generation helps to bound the uncertainty, but it does not help to incorporate into the projections factors such as the high cultural diversity and income inequality among the boomers, the impact of the global financial crisis on pension funds, and the increasing diversity of transitions from work to retirement.

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