

Population studies, No. 41

Active ageing in Europe

Volume 1

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Council of Europe Publishing

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Council of Europe Publishing
F-67075 Strasbourg Cedex

ISBN 92-871-5240-3
© Council of Europe, September 2003
Printed at the Council of Europe

Foreword

The Council of Europe has a long tradition of producing population studies, and the work of the European Population Committee contributes to the understanding of the relationship between social policy and demographic issues in Europe. The findings of this work are published in the series *Population studies*, where topics covered include migration flows, national minorities, demographic changes and the labour market, the ageing of European populations and the demographic consequences of economic transition. These publications provide essential background information for implementing the Council of Europe's strategy for social cohesion: an integrated policy approach aimed at combating poverty and social exclusion through promoting access to social rights in areas such as employment and training, health, social protection, housing, education and social services.

This volume takes as its starting point the changing age structure in European countries. This is characterised by the increase in the number of elderly persons and the decrease in the young and working populations. It reviews the demographic differences between European countries. The authors note that improved living conditions and effective health and social policies mean that the majority of younger elderly Europeans reach the third age in relatively good health and under conditions of some income security. They point out that whilst the effective age at retirement has been declining, it is only a minority of elderly people who use their free time in an active manner. The authors examine the different public policy approaches and individual strategies developed in response to these societal changes and they make wide-ranging policy proposals for the development of active ageing strategies which address issues of employment, health, leisure and social cohesion.

I should like to take this opportunity to thank the authors, Dragana Avramov and Miroslava Maskova, for their work, which has resulted in the comprehensive and thorough study contained in this volume. My sincere thanks go also to the European Population Committee whose careful discussion of successive drafts has guaranteed the high quality of the final result.

Gabriella Battaini-Dragoni
Director General of Social Cohesion

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Executive summary

Dragana Avramov

I. Origin of the study

The study *Active ageing in Europe* was undertaken for the 2002 programme of work of the European Population Committee (CAHP) of the Council of Europe. The origin of the study lies in the CAHP decision to address ageing as the process that will continue to shape Europe's future.

In drafting this report the consultants have considered the Terms of Reference and recommendations of the members of the Working Group on Active Ageing chaired by Mr. Richard Gisser.

II. The research baseline

The increasing share of the elderly in Europe's population may be viewed as a successful outcome of improved health and living conditions and effective health and social policies. It may also be viewed as the obvious outcome of ongoing demographic changes that are taking place, such as low fertility and increased life expectancy.

The main focus of this report is the study of the interweaving between population ageing as a demographic process that requires policy and institutional adaptations with ageing of individuals as a chronological development that ought to be associated with an active way of life of people as they grow old.

III. The structure of the report

The authors first set the stage by addressing the key features of the demographic and social processes underpinning population ageing and activity status of elderly people in Europe and by reviewing standard-setting principles of the current mainstream discourse on active ageing. They go on to identify the demographic communalities and differences among European countries as they relate to changes in the age structure and old age dependency. In the third section answers are pursued to the question how do public policies and individual strategies impact on elderly people regarding paid labour, retirement, domestic activities, self-care, care for others and active and passive leisure. Conclusions and policy implications are identified at two levels: consequences for society and consequences for elderly people themselves of the present (low) level of activation of older people.

IV. The key findings and policy implications

Our analysis leads to the conclusion that active ageing stands for a set of values and norms generally acknowledged in standard-setting documents at international and national level but is yet to be translated into integrated knowledge-based public policies and accepted as a way of life by the bulk of elderly people. Lack of policies, measures and services to effectively activate the elderly populations is in sharp contrast with the demographic ageing that has already occurred and which is expected to accelerate in the next 50 years or so.

- Life expectancy has been increasing throughout the 20th century and the causes of death have largely shifted from infectious disease to senescent deterioration. As a consequence, younger elderly people aged between 65 and 75 years today reach the third age in relatively good health and the bulk of elderly live under conditions of income security. The health and socio-economic profile of the oldest old is less favourable as a consequence of the individual ageing process and disparities in life chances of the oldest generations.
- Statutory age at retirement has, meanwhile, remained unchanged in most European countries while *de facto* age at retirement has even been declining for men throughout the 1970s, 1980s and 1990s. Effective age at retirement has been increasing for women although it is still considerably below statutory retirement age and economic inactivity is still very high among elderly women in many European countries.

Research shows that only a small minority of people spend their retirement years as years of active engagement in continuous labour market participation, active contribution to domestic tasks and provision of care for others or active participation in community life through voluntary activities and active leisure.

- Gradual retirement is not yet very common. On the whole, the proportion of people working beyond the standard retirement age is very low in all European countries.
- Time-use studies show that home-centred leisure activities predominate among the elderly and that the additionally freed time after retirement is not used actively. Data illustrate that self-care that includes personal care, sleep or rest and (passive) leisure, mainly TV watching, takes the bulk of people's life at higher age.
- There is not yet a clear shift to greater gender equality among elderly, more particularly regarding housework.

In the next fifteen years the European population will enter into a new phase of population ageing characterized not only by the increase in proportions and numbers of elderly people but also by the decrease in size of both the youth and the working age populations. Ageing will also be reflected in changes in the relative weights of broad age groups.

- At the turn of the 21st century population ageing is the dominant demographic process in Europe. However, current and expected pace of ageing in individual European countries varies considerably. It reflects very diverse demographic settings determined by the different onset of the demographic transition and changes in the weight of ageing determinants in the 20th century.
- Neither the advanced market economies in Europe nor countries in transition are homogeneous groups. Remarkable between-country differences exist, both regarding social protection and demography.
- Prevalence of women among elderly is expected to persist in all countries as a result of excess male mortality. However, differences in the extent of female prevalence between countries exist and reflect the magnitude of the excess male mortality.

Main policy implications may be summarised as follows:

- All European countries, be it advanced market economies or countries in transition, share the main features of the demographic future. Namely, population ageing will continue with accelerating pace in the next decades and a growing number of people will spend an increasing number of years living alone. Both trends will require some considerable societal adaptations regarding work, family life and social protection. If active ageing is to be pursued as a coherent public policy with a view to enhancing the social role and the capacity for autonomy in old age, as well as the quality of life of all citizens in ageing societies, the reinforcement of the mediating role of the state, rather than the disengagement of public authorities, may be a desirable way forward towards more population-friendly policies and practices.
- High standards of welfare provisions have so far been needed to lift large numbers of elderly people out of income poverty and also help reduce generational disparities in life chances. The invisible hand of the labour market has, to date, proved an insufficient provider of a “minimum acceptable way of life”¹ for the entirety of elderly people.

1. In 1984 the Council of Ministers of the European Union defined the poor as “persons, families and groups of persons whose resources (material, cultural and social) are so limited as to exclude them from the minimum acceptable way of life in the member State in which they live”.

- The trend towards early retirement well below the statutory limit has coincided with such factors as the disenchantment of older people with work, the self-interest of employers in removing from the labour market the elderly who are less skilled or more expensive than younger workers, and the needs of families to use the pool of early retired relatives to provide informal care both to (grand) children and elderly parents.
- Old age is a phase in the life course of individuals. The living circumstances depend largely on the individual's history which is a mix of chances and choices regarding health, education, work, family life, personality features and socio-cultural environment in which opportunities have been enhanced or limited. Thus, more effective ways are needed of spreading the risks associated with competition in the labour market, the low-income/high needs nexus, stress at work, and high demands on time in the workplace and family over the entire life-course.

Chapter 1

Active ageing: setting the stage

Dragana Avramov

1. 1. Introduction

Issues and problems addressed in this study relate to the interweaving between population ageing as a demographic process that requires policy and institutional adaptations with ageing of individuals as a chronological development that ought to be associated with an active way of life of people as they grow old.

In this report we first set the stage for a better understanding of processes associated with population ageing and social policy building by addressing topical issues such as longevity, retirement and the policy discourse on active ageing. Then we highlight the main features of between-country similarities and differences in the dynamics of population ageing as well as its underlying causes and expected consequences. Particular attention is given to the analysis of classical demographic dependency ratios and effective dependency ratios that take into account proportions of people in work and those inactive at all ages. In the third chapter we deal with activity profiling of the elderly along the broad range of activities from paid work, domestic activity and care to active and passive leisure. We analyse what elderly people actually do, how they live and how satisfied they are with their life chances and what they would like to do if they really had a free choice regarding the labour market/retirement nexus. In the fourth chapter the conclusions are drawn and implications identified as they relate to public policies and needs for future research.

1.2. Longevity, retirement and active ageing

The last decades of the 20th century were marked by the mismatch between gains in longevity; improvement to health, especially of the younger old; generational shifts towards higher educational attainment acquired in youth by the older workers and pensioners and a trend towards early retirement. During the same period the policy discourse has focused on the notion of activating the elderly in view of the ongoing population ageing process and expected acceleration in the growth of the number and proportions of elderly people in Europe in the first decades of the 21st century. The pursuit of effective active ageing policies is associated with societal dimensions that relate to working longer, activating the inactive elderly and providing an environment

for healthy life, income security and general social protection. They also are expected to build on the rights-based approach that acknowledges capacities, needs and preferences of older people.

1.2.1. Challenges and controversies

The rise in the numbers of elderly as a consequence of increased life expectancy, the so called 'top-down' ageing of the population (also known as population 'greying'), is generally perceived by academics and policy makers alike as a social advancement and it is recognised that the gains in longevity will require many institutional and social adaptations that will affect the lives of citizens of all ages.

Modern societies are, no doubt, gradually adapting their economic and social policies to changes in the age structure of the population. However, adaptation to the consequences of ageing may not be sufficient, especially in the long-term and the cluster of determinants of population ageing associated with low fertility may also need to be addressed in comprehensive population-friendly policies.

Fertility decline, the so-called 'bottom-up' cause of population ageing (known also as 'dejuvenisation'), provokes considerable controversy both in research and policy circles. Ever since the strong fertility declines that occurred in advanced market economies in the 1960s and 1970s (and as early as 1950s in some planned economies), demographers have systematically been documenting its impact on changes in the age composition of the population. Fertility decline may be perceived as a product of female emancipation or a result of the incompatibility between female labour market participation and family life; it may be interpreted as a consequence of self-actualisation of both women and men or the consequence of 'shrinking fatherhood' as a form of abdication of fathers from active parenting (NIEPS, 2000). While explanatory paradigms are not in short supply (see for example Pinelli *et al.* 2001; Palomba, 2002), there is still no consistent perspective in the research community on the relationship between social achievement and the number of children women are willing to bear and men help raise. There is even less consensus about what, if anything, can or ought to be done to influence fertility levels by means of public policies.

Research points to the conclusion that well-defined and integrated social policies appear to alleviate the partial incompatibility between labour force participation and family life. Improvement of the position of women in the labour market and strong family-friendly policies and measures facilitate childrearing and enable women to have the number of children they wish. Changes in value orientations regarding family formation both at individual and societal level impact gender relations. However, the latter are not only a question of value shifts, but also of reinforcement of the social security and state support via income transfers and provision of social services. Family-

friendly policies take time to produce effects and require the investment of considerable public resources.

In some policy circles immigration was evoked, especially in the 1990s, as a possible quick-fix to Europe's population ageing. At first sight it may seem that the invitation extended to immigrants is the simple solution to avoid declines in the size of population, declines in the population of working age, as well as to offset the overall ageing of a population in countries and regions with a fertility pattern below the replacement level. However, the much publicised UN report on replacement migration (2000) confirmed the results of earlier population scenario exercises which all showed that immigration is not a solution to demographic ageing because the average age of immigrants is only a little lower than that of natives and the initially higher fertility of immigrants soon decreases to lower levels. Immigrants themselves age and both natives and immigrants need ever more immigrants to compensate for the population ageing and to replace them. Only huge numbers of migrants would succeed in slowing down or neutralizing the ageing process, but would result in a phenomenal increase in population size. While immigration is not a tool for fixing population ageing it is a social process bringing both beneficial effects and problems and it requires social adaptation for the socio-economic integration of foreign workers and their families and cultural emancipation of both immigrants and natives.

While much research was undertaken in the second half of the 20th century on causes and consequences of population ageing, it was only in the last decades of the 20th century, when the ageing process was well advanced and had already started to produce significant changes in public income redistribution patterns that the ageing issue became an important 'social construction' at European level.

1.2.2. Life expectancy

Life expectancy at birth increased considerably in the course of the 20th century in the most advanced welfare countries of Europe. By way of example, in Sweden, it increased from 50 years of age in 1900 to 75 among men and 80 among women in 2000. The increase of life expectancy at age 60 is noticeably lower, especially for men, but nevertheless significant: it increased by three years (from 12 years to 15) among males and by seven years (from 13 years to 20) among females.

It can be expected that life expectancy will further increase until the species-specific life span has been reached. This is currently estimated at an average of 91 years of age (Duchêne and Wunsch, 1986). While there is a general consensus in the literature that the future holds further gains in longevity for the human species, it is less clear at what pace the trend will evolve. On the one hand it may be argued that due to unfavourable behavioural practices (smoking, environmental pollution, inactivity, risk-taking behaviour

and bad nutrition) these 'natural' boundaries will probably not be reached in the near future. There is, nevertheless still room for a substantial raise in life expectancy by promoting healthier living and working environment and healthier life-styles. On the other hand, it may be assumed that if new scientific discoveries occur, either via direct genetic manipulation or indirect (physiological) interventions that could slow down the senescence process, life expectancy could be considerably boosted.

Modernisation is characterised by a revolutionary extension of life expectancy, whereby the causes of death have largely shifted from external (i.e. infectious diseases) to internal factors (i.e. senescent deterioration²). More and more people are protected or successfully treated for infectious diseases also at high ages and thus are exposed to ageing as a gradual and generalised regression that results in death. This development encompasses the risk that the gains in years might not be disability free years but may be years of increased frailty and impairments. Expert opinion and research findings on this issue are controversial.

The question of whether until now the increase in life expectancy has been accompanied by a similar increase in years of good health or on the contrary is associated with an increase in health impairments and disease is a matter on which the scientific community has different views: some are of the opinion that the increase in life expectancy has been accompanied by an increasing frailty of people at higher ages, others are of the opposite view. Indeed, some propose convincing arguments that the gains in years have been reached at the expense of the quality of life (e.g. Kramer, 1980; Olshansky *et al.*, 1991), others maintain that the senescent morbidity has been compressed in the last years of life (e.g. Dupâquier, 1997; Fries, 1989; Robine *et al.*, 2002). Recent research provides arguments for both views but the social reality appears to be less dichotomous and reflects a combination of processes that are affecting, in a variety of ways, the heterogeneous population of elderly people. Indeed, the increase in life expectancy in the course of the 20th century was accompanied by a compression of morbidity to higher ages, resulting in a double trend: better health and increasing capabilities of the younger aged and an increasing frailty of the oldest old who are no longer suffering or dying from infectious diseases but are confronted with the degenerative processes of senescence at very high age. At the same time large proportions of the new generations of elderly people have benefited from higher levels of education acquired in youth, enjoyed the advantages of the modern affluence culture and experienced less demanding or debilitating living conditions during their life course.

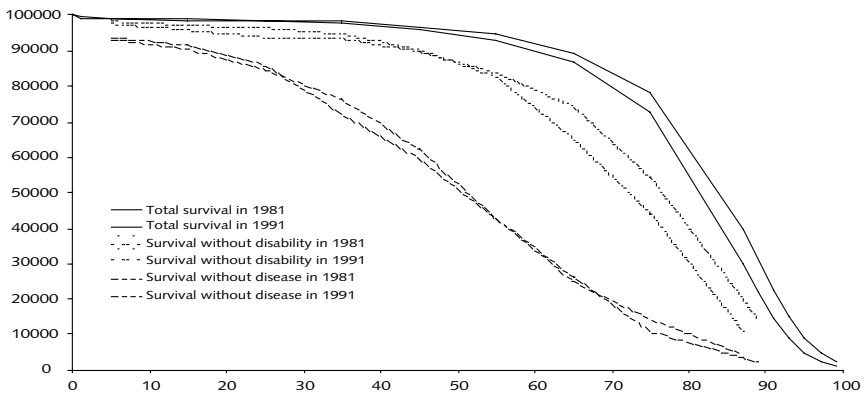
2. Senescence is the gradual and generalised regression of the bodily functions resulting in death.

Evidence appears to point to the conclusion that in the advanced welfare states the health condition of the large majority of the younger elderly is satisfactory or has even been improved; the major problem lies with the oldest old where degenerative conditions related to senescence strike substantial proportions of the population (Dooghe, 1998; REVES, 1993).

The communalities and differences among European countries across several dimensions of markers of healthy life expectancy are given in Appendix Table 1.1. and are characterised by the country specific historical development.

A French study showed that the recent increase in life expectancy (LE) was accompanied by a parallel increase in disease free life expectancy (DFLE), while LE without chronic diseases remained constant (Robine *et al.*, 1996), showing that the decline in mortality was associated with an increase of the prevalence of chronic diseases, but these diseases were, on average, less severe and less often disabling (Figure 1.1).

Figure 1.1. – Survival without disease and survival without disability (WHO model, 1984) France, 1981-1991, females



Source: Robine, Morniche, Cambois (1996).

Whereas the protective effects of modern culture produced a selective relaxation, allowing people with weaker genetic resistance to environmental hazards to survive, they also allowed them to experience a healthy life and to be active in society. All in all, the majority of younger elderly aged between 65 and 75 reached the third age in relatively good health and wealth.

In countries in transition to market economy, the socio-political changes of the last decades of the 20th century were associated with the deterioration of living circumstances for a large part of the population. It is generally known that the transition from planned to market economy has been associated

inter alia with the polarisation of society. The emergence of the new economy coincides with an increase in the income disparities between the richest 20 % and the poorest 20 % of the population. Poverty is pervasive in many transition countries due to lack of work, low wages, poor pensions and low expenditure on public services, including health and education. The latter particularly creates a risk situation for the perpetuation of poverty in the future. Research in general regarding transition countries, and in particular within the framework of the World Bank and the Council of Europe, may be summarised as follows: restricted entitlements, low real value of benefits and lack of allocation of public resources for the implementation of social policy schemes and programmes. Rigorous means-testing resembles traditional poverty-relief rather than a social right. Furthermore, targeting of social assistance is inadequate and income transfers reach only a small fraction of the poor. The elderly are clearly identified as a group at risk of generalised deprivation.

The cumulative effect of negative trends associated with the transition to market economy was reflected, *inter alia*, in the decline of life expectancy and the increase of mortality among the working age population, particularly among men. Whereas in the early 1960s male life expectancy at birth was only two to three years lower than in most advanced market economies, in the early 1990s life expectancy at birth was 10 years lower in eastern and central European countries than in northern European countries (Council of Europe, 2000). By way of example, in the Russian Federation life expectancy at birth for males peaked in 1960 at 64 years of age; for women it reached the highest level of 73 years in 1970. By 1995 life expectancy dropped to 58 years for men and 72 for women. A modest recovery appears to be occurring at the turn of the century and is possibly marking the reversal of the negative trend.

Transition countries exhibit clear differences in longevity and considerably higher expectations of life at birth are found in some countries, notably in Slovenia and the Czech Republic. However, since the transition there is almost everywhere an acceleration in the fall of fertility to very low levels.

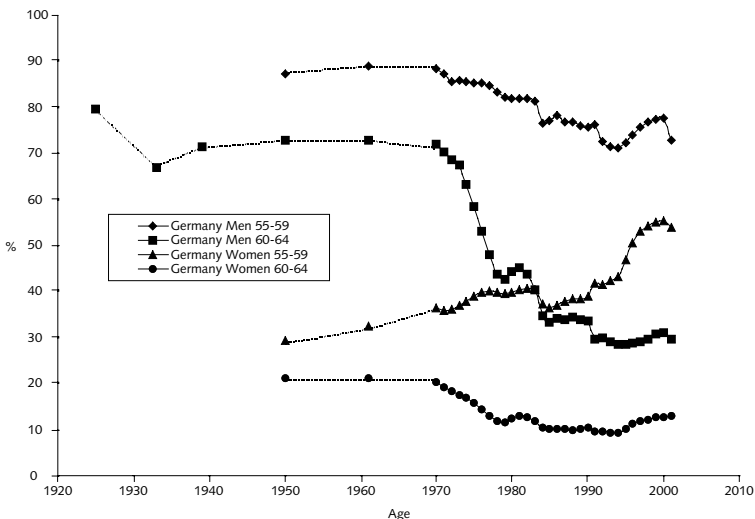
Neither the most advanced market economies nor the transition countries are homogeneous groups with respect to social protection and demographic features. We continue to observe considerable variation in the forms of state involvement in social protection, choice of priority areas and preferential rating of target groups, as well as in the amounts of public resources invested in older people. There are between-country differences in gains in life expectancy, and in some countries even a temporary reversal of tendencies towards increased longevity occurred at times of societal turbulences. However, gains in longevity in general remain one of the most remarkable accomplishments of the 20th century.

1.2.3. Age at retirement

In pre-modern society retirement as a social condition that entails transfers of public resources did not exist. People worked until they were incapacitated or died. Intergenerational solidarity was limited to the family environment. The first statutory retirement age was established in Germany with the Bismarckian old-age and disability pension scheme in 1891 with the age limit for receiving an old-age pension set at 70 years - a threshold to which most people did not survive in those days. In 1913 this was decreased to 65 years of age, a limit which was later adopted by most other industrialised nations as well (Jacobs *et al.*, 1991). It is only in most recent years, in some northern European countries (e.g. Denmark, Iceland, and Norway), that the statutory age at retirement has been increased to 67 years for both sexes.

From the beginning of the 20th century until about 1970, age at retirement among men has been clustering around age 65 in most European countries. Since the 1970s the average age at retirement has been decreasing continuously. For women, the picture is more heterogeneous due to their increasing labour force participation from considerably lower levels than those for men (Figure 1.2.). Labour force participation histories among elderly women also exhibit considerable between-country differences. By way of example, in 2001 at ages 60 to 64 in Germany and in France only 13% of women were still working while in Sweden as many as 52% of elderly women were in gainful employment (for data see OECD, 2002).

Figure 1.2. – Labour force participation of German men and women in age groups 55-59 and 60-64



Source: own calculations based on the OECD database (Avramov, 2002).

Trends in the statutory and *de facto* age at retirement reflect some considerable social ambiguities. In recent decades many European countries developed policies allowing, encouraging or even forcing people into pre-retirement schemes. Not only the labour force participation of men over 65 further decreased, but between the ages of 55 and 64 proportions in paid labour also dropped considerably.

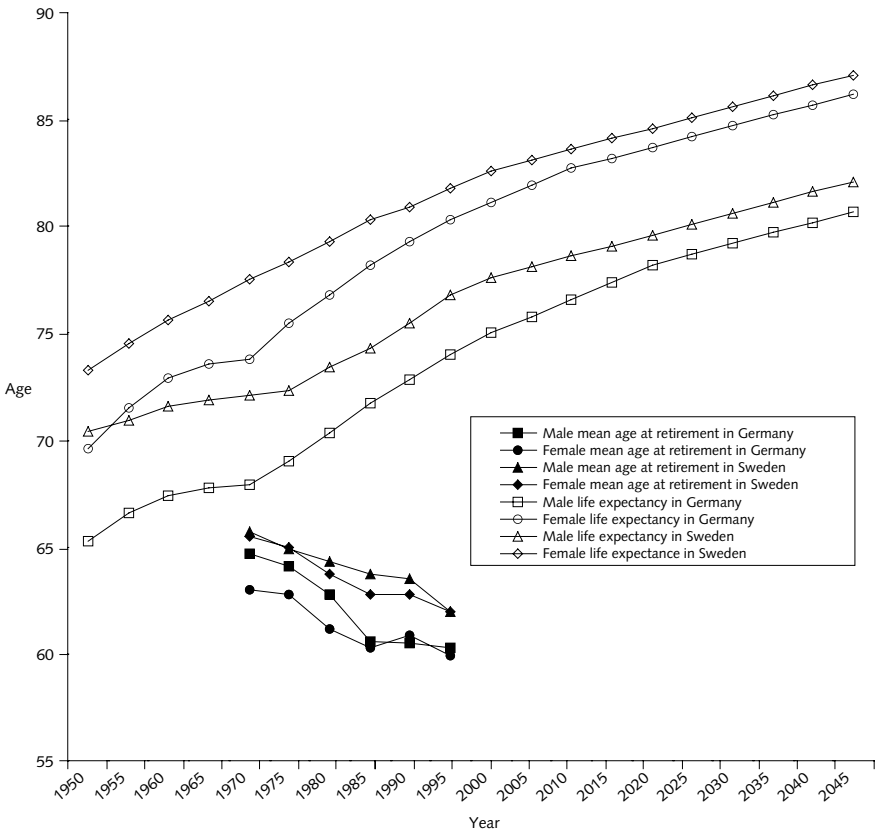
The early retirement schemes were often introduced as a measure that was meant to foster youth employment. In practice it not only missed the political target, combating exclusion of young people from the labour market, but produced an ever decreasing labour force participation and occupational exclusion of older adults. This notwithstanding the fact that the health conditions, educational levels, and technological support mechanisms are continuously improving and allow most older people to work up to a much higher age than in the past (Laczko and Phillipson, 1991; Schultz *et al.*, 1991; Worsley, 1996). Today there is a general consensus that the early retirement schemes originally justified by the need to create employment for the arriving generations and to replace expensive older workers (due to the seniority pay system) by young unemployed people proved ineffective and highly costly for society. The push out of the workforce of older workers was done at the expense of long-term public financing. Early retirement policies largely failed because the private sector took advantage of them to restructure and cut back its work force, rather than to replace older workers by younger workers. The outcome of reforms was that very few new jobs were created for young adults by means of pre-pension schemes offered to older workers and that the cost of economic restructuring was partly shifted from the private to the public sector.

In addition to excessively high economic inactivity of people aged between 55 and 59, in many countries we also observe higher than average unemployment among older workers. Indeed, the 'ageism' of the labour market may also be illustrated by data on unemployment. Whereas the unemployment rate³ for males in the 15-EU is 10% and for females 13%, among people aged 55 to 59 it increases to 14% for men and 16% for women (own calculations based on the ECHP database).

Biological and societal perception of ageing evolved in opposite directions. Figures for Germany and Sweden illustrate clearly the trend observed for industrialized countries in general, namely a marked increase in life expectancy and a marked decrease of age at retirement (Figure 1.3.).

3. The unemployment rate is calculated here as percent of unemployed among people in work and those looking for work, i.e. unemployed. The inactive are not included.

Figure 1.3. – Development of life expectancy at birth and mean age at retirement in Germany and Sweden



Source: based on data from: Gendell, 1998 and United Nations, 2001.

The proportion of people aged 60 or more who are still in the work force is extremely low. Data for the European Union countries show that in the northern countries 15% of men and 4% of women are working; in the southern countries the proportions are 12% and 3% respectively. In the western European countries the share of economically active people fell to as low as 7% among men and 2% among women. Almost all people are retired by age 65 and those who are close to the statutory age of retirement, aged between 60 and 65 who are still in the work force account for the minority of that age group. Between 60 and 65 only 26% of men and 9% of women are still working (Table 1.1.).

Table 1.1. – Percent of working men and women in the European Union countries, by regions, and by age group

Age group	Northern countries		Southern countries		Western countries		EU	
	Men	Women	Men	Women	Men	Women	Men	Women
60-64	39.8	14.2	33.2	9.5	17.4	6.9	26.4	9.0
60+	15.4	4.3	12.1	3.4	6.7	1.9	10.1	2.8
65+	6.3	1.6	4.2	1.5	2.4	0.5	3.7	1.0

Source: own calculation based on the ECHP database (Avramov 2002).

Modern societies appear to be under-using their younger old people, either by maintaining mandatory retirement ages, which were perhaps justified in earlier stages of the industrial revolution but which have largely become obsolete in the present-day post-modern stage of technological development, or by introducing voluntary or forced early retirement schemes which make healthy and productive adult people work-wise redundant. Virtually all studies or population policy conferences dealing with population ageing advise governments to raise the age at retirement (e.g. Cliquet and Nizamuddin, 1999; Cliquet and Vanden Boer, 1989; Legaré and Desjardins, 1988; Lesthaeghe *et al.*, 1998; Schultz *et al.*, 1991).

The need to increase, via appropriate stimulating measures, the formal and *de facto* age at retirement, albeit taking into account intra- and inter-individual variability with respect to needs and abilities was also a major conclusion of the recent Network for Integrated European Population Policy (NIEPS) workshops on Ageing, Intergenerational Solidarity, and Age-specific Vulnerabilities, organized by 11 governmental population institutes in Europe (NIEPS, 2001; 2002). Simulation studies also show that such an increase in retirement age has a positive effect on public spending (Bogaert and Festjens, 1993) and allows maintaining the labour supply in the coming decades (Blanchet and Marchand, 1991). In this context it needs to be mentioned that the UN Second World Assembly on Ageing (Madrid, 8-12 April 2002), agreed that “older persons must have the opportunity to work for as long as they wish and are able, in satisfying and productive work...”.

Of course, it may be argued that raising the statutory age at retirement, if introduced as a partial, segmented measure, may offset efforts to reduce unemployment among the younger age groups. The policy discourse is strong on reiterating the need to provide work for the unemployed youth, for inactive women of all ages, and for older persons; it remains weak on integrated standard-setting and strategies to effectively reach a broad population base. There is a clear necessity to address the work/unemployment/inactivity

matrix by redesigning the work pattern for all age groups in an integrated work/family-friendly/social and retirement policy context.

Another dimension of the controversy between the new demographic regime and policy towards elderly people is the uniform mandatory age at retirement. This policy is at odds with the present scientific knowledge about individual variability in the physical and psychological ageing process (Schmähl, 1989). Consequently, not only the improving health conditions and educational levels observed at the population level, but also the inter-individual variation in biological potentiality at higher age need to be taken into consideration for developing flexible and diversified policies with respect to retirement and labour participation at higher ages.

For several reasons this is not an easy task. First there is the dominant political discourse in modern democracies which is strongly averse to accepting individual variability in some spheres of social life and some stages in individuals' life course. Differences in contributions and benefits levels during active working years appear to be more acceptable than the income disparities in retirement benefits among people 65 years of age and over. In some countries (e.g. Belgium), the pension system incorporates both a pension ceiling regardless of the level of income-based contributions paid during the working life, and a *de facto* prohibition to earn but a small amount of money in the labour market after retirement. Earning an income to supplement a pension implies loss of one part or all pension rights for as long as additional income is generated. Another reason for the complexity of factors to be taken into consideration regarding age at retirement may be found at the individual level. Many people, especially at high age may lack self-perception with respect to the ability to perform in the regular gainful employment. The decision to transcend the average age at retirement cannot be left to the individual alone. Society may need to develop reasonable selection procedures which can accommodate individual aspirations and societal interests in this domain.

The mismatch between demographic processes and public policies is apparent in the trend towards early retirement and the maintaining of the uniform statutory age at retirement that turns a blind eye to the individual variation in ageing.

1.2.4. Societal values underpinning active ageing

The concept of active ageing is a response to some of the controversies inherent to increases in longevity and changes in the perception and expectations towards elderly people and their role in society. The concept of active ageing emerges from the value that people should experience and enjoy an active life, also at older ages, be it through working longer if they are able and

willing or being productive after retirement in various, not necessarily income generating activities. The concept builds also on the assumption that active life is positively associated with other ethically highly appreciated values such as personal autonomy, enhanced health, life satisfaction and quality of life in general.

1.3. Policy discourse on active ageing

The concept of active ageing refers to the realisation of an active life of older people in the different domains of their personal, family, social and professional life. It relates to what people do in later phases of their life course.

Active ageing is understood to encompass a socially and individually designed mix of:

- Continuous labour market participation;
- Active contribution to domestic tasks, including housework and provision of care for others;
- Active participation in community life, also by means of voluntary or unpaid activities;
- Active leisure through hobbies, sports, travel and creative activities.

Some policy actors mainly focus on the active way of spending the increased free time after retirement (e.g. World Health Organisation) others are mainly interested in economic activity as labour force participation (e.g. OECD; European Commission). In recent years a shift can be perceived from the first towards the latter preoccupation. Reconciliation of diverging trends in longevity and age at retirement and ways of dealing with the mismatch between societal needs and individual aspirations is often presented by experts and policy makers alike through a set of technical solutions. Choices to be made are, however, inherently political and reforms may still require some considerable informed knowledge-based polity building.

Values such as health, participation and security reflect fundamental human aspirations. All people want to have a healthy life for as long as possible, be able to participate in activities that they chose freely and have income security at higher age. However, the realisation of these aspirations is costly for society – health care is expensive, sheltered employment is expensive, even voluntary work provided for free by elderly persons is not free of charge for the society and income security of the elderly has a considerable cost for the public. Policies aimed at promoting labour force participation of the elderly by encouraging or forcing people to work longer and retiring at higher age appears to be necessary from the perspective of public funding.

However, many surveys indicate that the proposed social security reforms that would require elderly people to renounce several work-free years and to postpone accessing retirement benefits to a higher age do not appeal to the majority of people. Work-free years at higher age and public transfers are defined as basic social rights and in the welfare states are incorporated in social institutions as acquired rights.

Furthermore, employers have not yet found sufficient incentive to invest in elderly workers to enhance their competitiveness in the regular labour market. On the contrary, in the global economy, it has made sense to make elderly workers redundant, give them casual jobs or push them into retirement. All these economic strategies that generated unemployment among elderly workers or resulted in casual employment and early retirement in the last decades of the 20th century required a strong mediating role of the state to lift large numbers of elderly people out of poverty. Work-based insurance schemes have so far proved to be insufficient to secure a decent standard of living for all elderly people. Indeed, the proportion of elderly households in income precarious conditions would stand at 30% in the European Union were it not for the benefits that supplement pensions and inadequate incomes from work and private assets. But once social benefits are transferred income precariousness among the elderly falls to 22% (Avramov, 2002).

The individual/society and private/public controversies associated with pushing upward the age at retirement may require a mix of incentives, pressures, public awareness campaigns and lobbying and much negotiating between employers, trade unions, all policy makers and citizens.

In the demographic circles, efforts to 'de-dramatise' population ageing debates focus frequently on redefining the category 'elderly' and lifting the age threshold at which people are to be considered aged. This exercise shows how the demographic old-age dependency ratios can change remarkably according to different simulation scenarios. However, while there is much scope for a demographic scenario approach that shows how old age dependency ratios change depending on the chronological age thresholds selected, they tell us little or nothing about the potential for change of effective dependency ratios. Indeed, the social implications of these scenarios would need to also address the question of whether jobs are really available for elderly people today, how they are to be made available in the global economy in the future and how strong the negotiating position of an elderly worker vis-à-vis an employer is today and how strong it ought to be in the future. It appears that many technical as well as ideological approaches to activating the elderly are based on the assumption that work is available and that each elderly worker has the competitive advantages and skills necessary to negotiate the working conditions of their choice.

1.3.1. Active ageing as a social construction

Active ageing as a social policy concept came to the fore in recent years but it is by no means new to the research community. Already in 1961 a book edited by Kleemeier drew attention to the significance of activity in the lives of older people. In the 1970s the concept of active ageing was commonly used in gerontological quarters (e.g. Balies, 1970; Mayence *et al.*, 1977). Although in early research and literature the concept largely referred to post-retirement activities, economic activities of older people were also considered relevant. By way of example, the authors of the book “Un 3e âge actif” (Mayence *et al.*, 1977) plead for a gradual reduction of working hours at higher ages instead of an abrupt termination of professional activity and argue that people should be given the freedom and opportunity to continue working beyond the current statutory age of retirement if they want and are able to do so.

In “Productive Ageing” (Butler and Gleason, eds., 1985) several authors advocated the continuous economic integration of older workers far beyond the then prevailing age at retirement. It is argued that significant numbers of people over 60 and 65 years of age can in fact continue to work and contribute to their communities. The majority of older people are, they argue, in good health and live independently. Cognitive abilities in older persons appear to decline less and later than reported in earlier studies and are largely sufficient for performing most jobs. The slightly lower abilities and the challenges induced by the introduction of new technologies are compensated by higher levels of experience, crystallized and social intelligence and in many cases even by higher levels of work motivation. The capabilities of the aged are not only determined by their genetic endowment (‘senescing’) but also by their social environment (‘eldering’) and by the individual choices related to activity or passivity as a force in shaping life at higher age (‘geronting’) (Birren, 1985). Health, education and motivation are more important determinants of physical and mental abilities over the life span than age as such.

The concept of active ageing was adopted by the World Health Organisation (WHO) in the late 1990s and was meant to convey a more inclusive message than ‘healthy ageing’ and to recognise others factors than health that affect the ageing process (Kalache and Kickbusch, 1997). The World Health Organisation (2002) has defined active ageing as “the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age”. The word ‘active’ refers to continuing participation in social, economic, cultural, spiritual and civic affairs, and not just to the ability to be physically active or to participate in the labour force. This implies that the concept of active ageing is also applicable to older people who retired from paid work or who are ill or live with disabilities. As is well-known, the WHO definition of health is also a comprehensive concept that includes physical, mental as well as social wellbeing.

At the European Union level the concept of active ageing is interpreted as prolonged economic activity to be achieved by working longer years, retiring later in life, and engaging in socially productive activities such as voluntary work or care giving after retirement, as well as practising healthy life styles. Activating the elderly approach, and in particular economically activating people at higher ages has gained a firm foothold in recent years (e.g. Commission of the European Communities, 1999; 2002). The EC wants to develop an active ageing policy by investing in retaining older workers in the labour force, reinforcing their position in the labour market and reintegrating those currently left out by enhancing their employability.

The International Plan of Action on Ageing 2002 of the United Nations Second World Assembly in Madrid strongly promotes the active participation in society and development of older people. As part of the UN international program for older persons, under the initiative of the Federal German government, a Ministerial Conference on Ageing was held in Berlin in September 2002 together with the Economic Commission for Europe (UNECE) with the aim of developing and implementing general guidelines on policies for older persons. The Berlin Ministerial Declaration "A Society for all Ages in the UNECE Region" gives particular priority to: "expanding participation of older persons in society and fostering social inclusion and independent living; promoting equitable and sustainable economic growth in addressing the implications of population ageing; strengthening and sustaining social protection for present and future generations; encouraging labour markets to respond to ageing and take advantage of the potential of older persons; promoting life-long learning; enhancing life-long physical and mental health and well-being; ensuring equal access to high quality health and social care; mainstreaming a gender perspective in all ageing policies; supporting older persons, their families and communities in their care-giving roles; and promoting intergenerational solidarity" (Paragraph 8). While the declaration of priorities is a comprehensive standard-setting instrument it does not dwell on the analytical implementation strategies which are left to national authorities. An important dimension of the Declaration, in our view, is that governments explicitly affirm their primary role in pursuing the objectives. They acknowledge that working with other stakeholders is important but do not appear to disengage or delegate to others the responsibility inherent to governments as the key social-policy actors.

The Social Cohesion Directorate of the Council of Europe is currently elaborating the analytical basis for a multi-disciplinary project on ageing. This study *Active Ageing in Europe* launched by the European Population Committee (CAHP) lays grounds for the further research and knowledge-based standard-setting and policy building in ageing society.

Chapter 2

Demography of ageing: similarities and differences between countries

Miroslava Maskova

2.1. Introduction

This part of the report concentrates on the demographic aspects of current population ageing and its future trends in Europe. It focuses on describing similarities and differences between countries with respect to the level of ageing, to changes in absolute numbers of older population age groups and their sex composition up to 2050. With respect to the concept of active ageing that *inter alia* deals with an activation of people in pre-retirement age, attention is not only paid to the elderly population (conventionally defined as people aged 65 and over) but also to the age group from 50 to 64 years. Thus the term “older population” is used here for those aged 50 and over. For the “elderly” two age subgroups are followed - “younger old” referring to the age group 65 to 79 years and “oldest old” referring to those aged 80 and over. The description is based on data of 43 member states as well as non-member states of the Council of Europe, excluding Andorra, Liechtenstein and San Marino. For these countries the U.N. projections used as a data source for the description of future trends are not available. Three time periods are considered – 2000-2015, 2015-2030 and 2030-2050 - so as to document the generational shifts that will affect the ageing process as well as the numbers and structure of the older population in the future. Because active ageing relates both to individual and to societal aspects of population ageing changes of dependency ratios are also presented. The aim of this chapter is to give a demographic background of trends of ageing in European countries, both in a short-term and a long-term perspective, for the formulation of active ageing policies.

2.2. Dynamics of population ageing

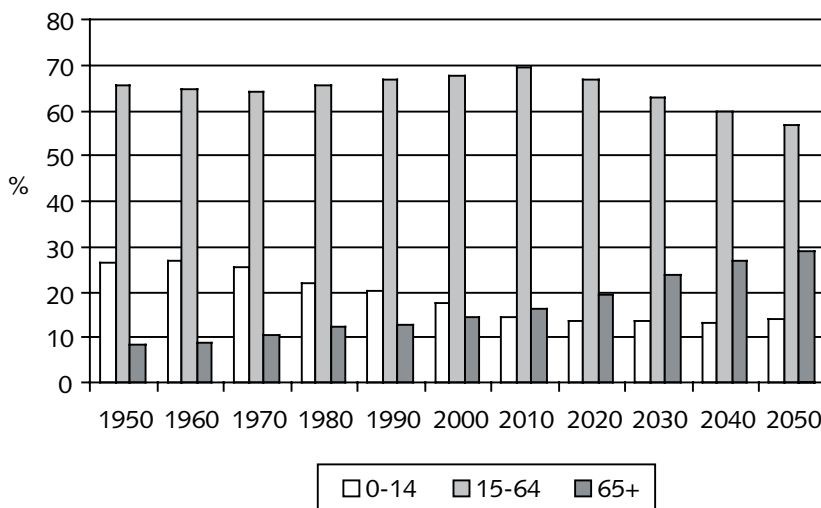
The age structure of population depends on the past and current trends of mortality and fertility and also migration, if it is significant. Population ageing indicated by the increases in the proportions of the elderly in the total population thus can be the consequence either of a slow-down in growth of

younger population or an acceleration of growth of the older one. Relative slow-down in the numerical growth of younger population is usually the result of decreases in fertility levels and birth rates; this form of ageing is known as “ageing at the bottom of the age pyramid”. An acceleration of growth of the elderly is generally a consequence of more rapid decline in mortality rates in older than younger ages; such ageing is called “ageing at the top of the age pyramid”. These forms do not usually appear in the historical evolution of individual populations at the same time and they carry also different social and economic implications.

The most important changes in population regime are connected with the process of demographic transition. This process of gradual changes of high levels of fertility and mortality to relatively low ones is at the root of substantial changes of the age structure in the direction of population ageing. During, and especially after, the completion of the demographic transition more and more people survive to higher ages due to decreasing mortality in the whole life span and their relative weight in the total population increases due to shrinking numbers of children. The age pyramid loses its regular pre-transitional pyramidal shape. The proportion of child category (0-14) in the total population decreases, while the relative weights of working age category (15-64) and of elderly (65+) rise. This type of ageing from the bottom dominated in Europe and other developed regions of the world in the 20th century.

After the completion of the demographic transition, life expectancy has been continuing to rise above the level of 70 years. This increase is conditioned mainly by mortality improvements in higher age groups because the possibilities of further mortality decreases in younger ages have been gradually almost exhausted. According to stable population models, when fertility remains around replacement level or below (2,1 born children per women) for a longer period of time and life expectancy continues to grow due to adult and old age mortality gains, the development of mortality becomes the driving force of the ageing process. The new phase of population ageing – ageing at the top of the age pyramid - develops creating exponential increase in the numbers and proportions of the elderly (Myers, 1983). The whole pyramid tends to gain the shape of a rectangle. In this phase, the proportion of elderly increases not only to the detriment of a fall in the proportion of children but also to that of the working age group. Recent trends in fertility – its stabilisation at below replacement level in almost all European countries and sharp continuing declines in mortality at older ages in many of the countries – indicate that future ageing in this region will develop predominantly at the top of the age pyramid.

Figure 2.1. – Proportion of the broad age groups in the total population, Europe, 1950-2050



Source: United Nations, 2001a.

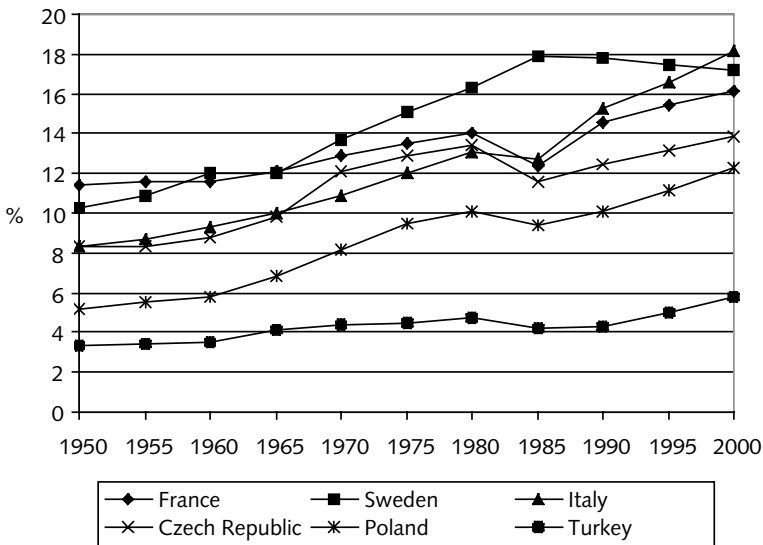
Note: here Europe as a region classified by the United Nations, i.e. without Turkey and Caucasian countries.

The above-mentioned course of ageing is an oversimplification to a certain extent. The ageing of a particular population or the whole region can in reality be influenced by temporal fluctuations of all main determinants of the age structure (fertility, mortality and migration). These fluctuations form irregularities in the age structure and these, by their transition over defined limits of younger and older age, influence the ageing process and its speed and the composition of the elderly. External factors that substantially affected the courses of fertility and mortality in Europe or its parts, and thus the ageing of their population in the past fifty years, include in particular both world wars (war losses, lower natality levels especially during World War I). The increase of fertility after the World War II – the baby boom – caused a temporary increase in the proportion of children in the population and thus a slow-down of ageing in many of European countries in the 1950s. The second slow-down was registered in the first half of the 1980s and concerned mainly the countries of western, central and eastern Europe (Figure 2.2). Numerically small cohorts born during World War I, further weakened by deaths during military service in the World War II, shifted over the age limit of 65 in these years. As a result, the share of elderly in many countries even temporary decreased.

Owing to the long-term character of population development, some of these phenomena will have an impact on the age structures also in the future. While the effect of small generations born during the World War I has been

gradually slipping out, post-war baby boomers will decisively affect the future course of the ageing process. Their shift from the working age category into the elderly will strongly influence the development of the total numbers and the relative weight of the elderly as well as the age composition of the elderly in future decades. War losses during the World War II will be still apparent in sex ratios of the elderly in some countries.

Figure 2.2. – Proportion of the population aged 65 and over in the total population, selected countries, 1950-2000



Source: United Nations, 2001a.

2.3. Population ageing in Europe

2.3.1. Present situation

The second half of the 20th century witnessed a substantial progress of population ageing in Europe. The absolute size of the elderly more than doubled during the last 50 years from 46 to 112 million people and their relative weight in the total population increased from 8% in 1950 to 14% in 2000. Europe has continued to be the oldest among the major world regions. In the other more developed regions the percentage of the elderly is lower. It reached 12,3% of the total population in Northern America and 12,2% in Australia and New Zealand in 2000 (United Nations, 2001a).

The situation among the European countries according to the level of ageing has been largely diversified at the turn of the century (Table 2.1 and Appendix 2.1). One of the underlying factors is the timing of the

demographic transition. On the one side, there are countries that completed their demographic transition several decades ago and where demographic ageing is at a relatively advanced stage – the proportion of the elderly in the population exceeded 10 % in 2000. Most of the countries in Europe belong to this group. On the other side, in six member states the transition to low mortality and fertility rates has come to an end only recently or has not yet been completed. As a result, their age structure still remains relatively young with the share of the elderly below 10% of the total population. “The former Yugoslav Republic of Macedonia” can also be included in this group. Turkey together with Albania and Azerbaijan are the countries where the proportion of those 65 and older is even below the level of 7 % by which the U.N. conventionally defines the “old population” (United Nations, 1956).

Table 2.1. – Distribution of the European countries according to the proportion of the elderly in the total population, 2000

Proportion of the population 65+ in the total population (%)					
Less than 10.0		10.0-14.9		15.0 and more	
Albania	5.6	Macedonia*	10.0	Finland	15.0
Turkey	5.6	Ireland	11.2	Norway	15.1
Azerbaijan	5.9	Cyprus	11.4	Estonia	15.2
Armenia	9.4	Slovak Republic	11.5	Latvia	15.2
Moldova	9.4	Iceland	11.6	Switzerland	15.4
Bosnia and Herzegovina ¹	9.9	Poland	12.3	Austria	15.5
		Malta	12.3	Portugal	15.6
		Croatia	12.5	United Kingdom	15.6
		Russian Federation	12.6	France	16.1
		Romania	13.5	Germany	16.2
		Belarus	13.5	Bulgaria	16.3
		Netherlands	13.6	Belgium	16.7
		Yugoslavia	13.6	Spain	16.9
		Lithuania	13.6	Sweden	17.2
		Georgia	13.6	Greece	17.3
		Czech Republic	13.9	Italy	18.2
		Ukraine ²	14.0		
		Slovenia	14.1		
		Luxembourg	14.3		
		Hungary	14.7		
		Denmark	14.8		

Source: Council of Europe, 2001.

¹ Data from: United Nations, 2001a; ² data from: Council of Europe, 2002.

* The use in the tables of the term “Macedonia” is for descriptive purposes and the convenience of the reader.

The situation within the group of 37 European countries with already completed transition is far from being homogeneous. The relative weight of the elderly in the population varies from country to country, but the greatest contrast is probably between eastern and south-eastern Europe (former socialist - transition countries) and the rest of Europe. In most of the former socialist countries the proportion of the elderly in the population lies in the interval from 10 % to 15 %, while in majority of the western, northern and southern European countries the share of the elderly varies between 15% and 18%. The lower shares of the elderly in the former group are mainly explicable by a later completion of demographic transition in most of the countries in this part of Europe and, more pronouncedly, by different fertility and mortality trends in the second half of the 20th century, especially during the last three decades. In the 1960s, a second demographic transition started in northern and western European countries and a remarkable drop in fertility occurred to below replacement levels. At the same time mortality at older ages started gradually to decline more rapidly. Both influences caused intensive population ageing (in some countries with the exception of the first half of the 1980s mentioned above).

However, in the former socialist countries total fertility rate fluctuated around replacement level (2,1 children per woman) during the 1970s and 1980s while middle and old age mortality stagnated or worsened. Both factors were keeping the proportion of the elderly at relatively low levels. Whilst a substantial sharp decline in fertility occurred in many of them in the 1990s, its influence has not markedly manifested itself yet in the relations of the age structure. Moreover, mortality rates in older ages have continued to be unfavourable in many of the transitional countries. Distinctions between the two specified groups however exist, for example in 2000 Bulgaria occupied the sixth position in Europe according to the level of ageing (elderly represented here more than 16% of the total population), while in Ireland, Iceland, Malta and Cyprus ageing is at a relatively very low level of 11-12% thanks to higher fertility rates.

Recently the countries in the south of Europe have started to age at the most intensive pace. This is a consequence of a deep and rapid decline of fertility levels to the lowest ones in Europe and increasing longevity since the 1970s. In Italy, Spain and Greece parallel ageing at the top and at the bottom is in progress. Italy with 18,2% of the elderly in the population was the European leader in 2000, followed by Greece (17,3%). They have changed position with the traditionally oldest country Sweden (17,2%).

2.3.2. Trends in 2000-2050

2.3.2.1. Assumptions and projections

The decisive factor that will determine future development of the elderly population in absolute terms is the future trajectory of mortality as those who will enter the 65+ categories in the period 2000-2050 have been

already born. Further increasing life expectancy will cause increases in the both absolute and relative size of the elderly and the oldest old. The relative weight of the elderly in the population depends also on the future course of fertility. Fertility levels determine the future numbers of birth and consequently the size of the 0-14 age group. Decreases or stabilisation at current levels would cause an increase in the proportion of elderly in the population; on the other hand an increase in fertility levels would broaden the bottom of the age pyramid and slow down the ageing process "at the bottom".

The third component of population change that is likely to influence the level and speed of ageing in the future is international migration. Positive net migration slows down the process of ageing as migrants are mostly younger people of working age. However, if immigration has a form of a migration wave limited to a certain period of time, it can speed up ageing after some time when the immigrants enter old age. Analyses of the role of the determinants of population ageing have showed that an important determinant of future changes in the age structure is the current (initial) age structure as a mirror of past demographic development (e.g. Valkovics, 1990). Its importance depends on the length of the projection period – the shorter the period the greater the importance. Even in 2050, about half of the total population of each country will consist of survivors of the generations having been present in the population in 2000.

It has been decided to use a set of medium variant of United Nations population projections, the 2000 revision, as a data source for the description of future ageing in Europe (United Nations, 2001a, United Nations, 2001b). The medium variant is considered by the U.N. experts to be the most plausible one. The projections cover the 50-year period from 2000 to 2050. The underlying fertility and mortality as well as migration assumptions, on which projections for individual countries under this study are based, are given in Appendix 2.2. In the long run up to the year 2050 the total fertility rate is presupposed to increase in all of the countries of the region with the exception of Turkey and Albania. The fertility levels, however, are not assumed to cross over the replacement level. Total fertility rate is assumed to reach the fertility of the cohort of women born in the early 1960s or, if that information is lacking, to reach 1,7 children per woman if current fertility is below 1,5 children per woman or 1,9 children per woman if current fertility is equal or higher than 1,5 children per woman. In Turkey, total fertility rate is projected to decrease and remain at the replacement level 2,1 children per woman; in Albania total fertility rate is assumed to remain at the replacement level reached at present. Concerning mortality, continual further growth of both male and female life expectancy at birth is assumed for the whole projected period in all countries. For the countries where sex differences in mortality levels are high at present, particularly the former Soviet republics and, to a lesser extent, the countries in central Europe, male mortality is assumed to decrease faster in comparison with female. This will result in narrowing the gap between male and female life expectancy during the next fifty years. The future path of international migration is also incorporated

into this medium projection variant. It is set on the basis of past international migration estimates and an assessment of the policy stance of countries with regard to future international migration flows.

United Nations population projections enable envisaging age structure changes over the following 50 years. It has to be borne in mind that in general the accuracy of population projections decreases with the length of the projection period, especially when the projection goes beyond one generation (about 25-30 years). Also, the course of all the determinants of age structure changes can develop in another way than that which is assumed in the medium projection variant. While the room for future upward trends of fertility seems to be limited to replacement level or slightly higher (as expressed in the high variant of the U.N. projections), a lively discussion exists among demographers about further mortality developments. Mortality improvements now depend entirely on a reduction in mortality among the elderly. Recent and on-going progress in medical science evokes questions for the future as to how far the increase in life expectancy can go, what the limits of human age are etc. (Vallin *et al.*, 2001 and see also comments given in chapter 1). Migration is the most difficult process to predict. Migration flows are rather instable; they can change very quickly as a consequence of economic or political factors in comparison with the processes of natural population reproduction. For example, expected enlargement of the European Union can influence migration flows both inside the Union and from the countries staying outside. All these considerations regarding the accuracy and limitations of the used projections should be kept in mind when reading the following paragraphs. It is clear that they illustrate better the trends of ageing than the concrete levels of indicators in individual countries at given time points.

2.3.2.2. European region

The European region is projected to remain in the position of the world's demographically oldest region up to the half of the 21st century. Especially after 2030 population ageing in Europe is likely to develop much faster than in the other more developed regions of the world (Table 2.2.).

Table 2.2. – Proportion of the population aged 65 and over in the total population, major more developed regions of the world, 2015, 2030, 2050

Region	Percentage of 65+		
	2015	2030	2050
Europe ¹	16.4	22.1	27.6
Northern America	14.6	20.4	21.4
Australia/New Zealand	15.1	20.2	22.5

Source: United Nations, 2001a.

¹ Including Turkey, Caucasus republics and Cyprus.

Table 2.3. clearly shows that population ageing of the European region will continue very progressively in the next 50 years.

Table 2.3. – Age distribution by the broad age groups, Europe, 2000-2050

Age group	2000	2015	2030	2050
	Relative numbers (%)			
0-14	18.6	15.0	14.5	14.7
15-64	67.5	68.6	63.4	57.7
65+	13.9	16.4	22.1	27.6
Total population	100.0	100.0	100.0	100.0
	Absolute numbers (thousands)			
0-14	150 000	120 231	112 527	105 710
15-64	546 302	549 321	493 236	414 194
65+	112 257	131 568	171 725	197 855
Total population	808 589	801 120	777 488	717 758
	Index of growth (2000=100)			
0-14	100	80	75	70
15-64	100	101	90	76
65+	100	117	153	176
Total population	100	99	96	89

Source: Council of Europe, 2001; United Nations, 2001b.

Within the background of slight total population decline, the elderly population will be the only broad age group that is projected to grow in absolute numbers (by 76 % in the period 2000-2050). The numbers of children under the age of 15 as well as the population of working age (15-64) are expected to decrease in this period (by 30 %, 24 % respectively) as a consequence of the long-term trend of fertility rates remaining below replacement levels. The numerical growth of the elderly will protect the total population from deeper population decrease due to low fertility levels. This development will be reflected in the relative weights of the broad age groups. During the next 50 years the proportion of elderly in the total population will double from the current 14 % to almost 28 %. The share of children will continue to decline by a further 4 percentage points. Important decreases of the weight in the total population at, especially, working age are expected (by 10 percentage points). For the European population as a whole the decrease is projected after 2015. Already during the next 15 years the number of elderly will equal the number of children in Europe and in 2050 there will probably be almost twice as many people aged 65 and over than children below the age of 15.

2.3.2.3. Country variations

A broad picture of the national differences in future ageing in Europe is provided by the distribution of the numbers of countries according to their proportions of elderly (Table 2.4). The progressive ageing of the population in European countries in the next 50 years is reflected in the shifts from the groups with the lower proportions of elderly to those with higher shares of this population segment. Between 2000 and 2015 the number of the countries in which the elderly population should represent more than 15% of the total population will increase from 16 to 28. In seven of them the proportion of elderly is expected to go beyond 20% in 2015. At the same time only three countries are likely to remain below the level of 10%. The important changes are expected to occur in the period 2015-2030. Whereas in 2015 no country is projected to have more than 25% of elderly in its population, by 2030 there should be ten countries where the proportions of elderly are likely to reach one quarter or more. In one country the elderly population might represent even 30% of the total. In 2030 half of the European countries could find themselves with between one fifth and one fourth of elderly in their populations and there will be no country in the European region below the 10% threshold. Between 2030 and 2050 continuation of progressive ageing can be expected. It might result in the situation that in a great majority of countries at least every fourth person will be 65 years or over. In some countries the ratio even approaches one third or more.

Table 2.4. – Distribution of the European countries according to the proportion of the population 65 and over in the total population, 2000-2050

Per cent 65 and over	Number of countries			
	2000	2015	2030	2050
Less than 10.0	6	3	-	-
10.0-14.9	21	12	2	-
15.0-19.9	16	21	9	3
20.0-24.9	-	7	22	6
25.0-29.9	-	-	9	24
30.0-34.9	-	-	1	8
35.0 and more	-	-	-	2

Source: based on data in Appendix 2.1.

A more detailed insight into the future paths of ageing at individual country level is given in Appendix 2.3. It presents a grouping of countries according to their percentages of elderly for selected years between 2000 and 2050. In general, data confirm that progressive ageing will affect virtually all countries

in the region. Nevertheless substantial spatial diversity according to the level of ageing will persist in the next five decades; it is even going to broaden. While the range of variation in the proportions of elderly in the population accounted for 12,6 percentage points in 2000, this will gradually increase to 17,9 percentage points in 2050 (excluding Turkey and Albania).

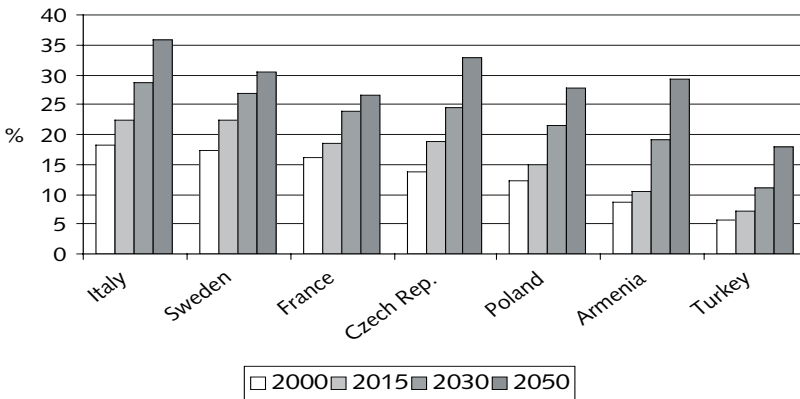
Turkey, Albania and Azerbaijan are projected to remain essentially young in the next 15 years (with a share of the elderly below 10%). They will start to age more significantly only after the year 2015, Turkey even later. Turkey and Albania will continue to be the youngest in the region in the whole projected period. In 2050 they are expected to have about 18 % of elderly in the population, i.e. about the same level as is found at present in Italy.

During the next 15 years significant between-country variations in the speed of ageing will be found among the remaining countries. Ageing will develop only very modestly in some of the countries. It mainly concerns the countries that belong to demographically younger ones within Europe. The Russian Federation, some other post-soviet republics, Romania, Yugoslavia and Ireland should not experience an increase of the share of the elderly higher than 2 percentage points. The limited changes of the share are projected also for Bulgaria and Luxembourg. However, the large increases in the proportion of elderly (above 4 percentage points in the given period) can be expected in the countries that are already on the top of the list of the oldest - Sweden, Italy and Germany as well as others (for detailed data by country see again Appendix 2.1). High increases in Switzerland, Finland or Austria will mean that these will join the group of the European leaders with respect to the level of ageing in 2015. The proportion of the 65 and over age groups is going to exceed 20% of the population in the leading countries. Substantial ageing is projected also for some of the countries where the current share of elderly is relatively low (the Czech Republic, Slovenia, Croatia and the Netherlands) where the increase of the share is also likely to exceed 4 percentage points.

Between 2015 and 2030 intensive ageing will be characteristic for all countries of Europe. In the majority of the European countries the absolute increase in the proportion of the elderly in their populations should be much higher than in the previous fifteen years. The largest rise in the share of those aged 65 and more in this period is projected for Bosnia and Herzegovina, Armenia, Switzerland and Austria – about 8-9 percentage points; the lowest for Romania, Luxembourg, Ireland, Turkey and Bulgaria – 3-4 percentage points. Continuing high speed of ageing in Switzerland, Austria and Slovenia will cause further changes in the rank of the oldest countries in 2030, e.g. Switzerland (30,2 %) should become the leader instead of Italy (28,6 %); Austria (27,9 %) should occupy the third position and Slovenia (26,9 %) should stand at sixth place. Besides these countries, Germany, Sweden, Finland, Spain, Greece and Belgium are also expected to remain in the top ten by 2030.

In the period from 2030 to 2050 the long-term effects of recent and projected fertility levels in each country will be apparent in the speed as well as in the level of ageing reached in the given country in 2050. In general, countries in northern and western Europe are likely to experience the smallest changes in the proportions of elderly between 2030 and 2050 due to the effect of the long-term persistence of relatively higher fertility levels. On the contrary, southern European countries will continue to age with high speed. The largest increase in the share of the elderly population is expected in Spain - 11,1 percentage points, a little smaller should be the increases in Greece and Italy - between 7 to 8 points. In 2050, Spain and Italy especially are projected to reach unprecedented levels of the proportion of elderly in the population, 37,6 % and 35,9 % respectively. Similar trends can be seen in Slovenia and the Czech Republic. High increases should also be found in most of the countries that are projected to be lagging behind in the level of population ageing within Europe up to 2030. This primarily concerns the eastern and south-eastern European countries including the Caucasus region. Thus in 2050 many of these countries are expected to reach the same or even higher shares of elderly than there should be in the western and northern countries of Europe: in the populations of the Slovak Republic, Bosnia and Herzegovina or Armenia the share of elderly should be around 29 % while in France, United Kingdom, Norway or the Netherlands it is expected to account for only about 26-27 %. The atypically low percentage of elderly in Luxembourg pertaining almost during the whole projection period might be a result of the juvenile effect of projected relatively high fertility and immigration rates. Between-country differences in the course of ageing in the following five decades are shown in Figure 2.3 using the example of several European countries.

Figure 2.3. – Proportion of the population aged 65 and over in the total population, selected countries, 2000-2050



Source: based on data from: Council of Europe, 2001; United Nations, 2001a.

2.4. Trends in the absolute size of older age groups in 2000-2050

2.4.1. European region

Continuing population ageing in Europe will be associated with substantial changes in the upper half of the age structure pyramid. Past demographic history built in the current age structure and expected increasing longevity will be the two major determinants of these changes. Table 2.5 presenting years of birth of the cohorts that will form the older age groups at defined time points in the future helps to explain the expected trends in numbers and growth rates of the older population. The generations of special interest will be those born within post war elevation of fertility – baby boomers - because they start to move to older ages.

Table 2.5. – Years of birth of the older age groups in 2000, 2015, 2030 and 2050

Age group	2000	2015	2030	2050
50-64	1936-1950	1951-1965	1966-1980	1986-2000
65-79	1921-1935	1936-1950	1951-1965	1971-1985
80+	(1900)-1920	(1915)-1935	(1930)-1950	(1950)-1970
65+	(1900)-1935	(1915)-1950	(1930)-1965	(1950)-1985

The older population above the age of 50 will increase by 40 % in Europe during the next 50 years and its relative weight in the total population will rise from the current 30 % to almost 48 %. Table 2.6, which distinguishes people in pre-retirement age (50-64), the group of young old (65-79) and the group of oldest old (80+) within the older population as well as the total elderly (65+), shows marked differences in the development of given population groups. The uneven trends are clearly documented also in Figure 2.4 where average annual growth rates for the specified age groups are shown.

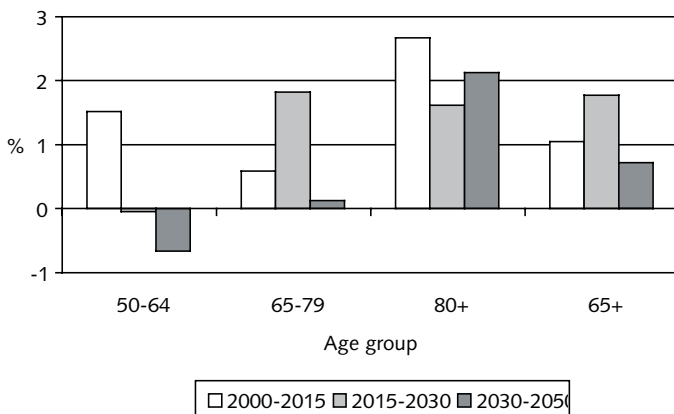
The number of the population in pre-retirement age is expected to rise by 25 % (1,5 % per year) between 2000 and 2015 as a result of the entry of numerous cohorts born in the years 1951-1965. After this, in the next fifteen years, almost no change in the absolute size of this age group is projected and between 2030 and 2050. A numerical decline (by –0,7 % annually) is already expected as small generations born in the last 15 years of the 20th century enter this age. In 2050, the number of those aged 50-64 should be only 9 % higher than in 2000.

Table 2.6. – Age structure of the population aged 50 and over, Europe, 2000-2050

Age group	2000	2015	2030	2050
Absolute numbers (thousands)				
50-64	131 789	165 366	164 073	143 409
65-79	89 993	98 287	129 250	132 927
80+	22 286	33 277	42 463	64 930
65+	112 279	131 564	171 713	197 857
50+	244 068	296 930	335 786	341 266
Index of growth (2000=100)				
50-64	100	125	124	109
65-79	100	109	144	148
80+	100	149	191	292
65+	100	117	153	176
50+	100	122	138	140

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

However, a much more substantial numerical increase is projected for the younger old – almost by one half between 2000 and 2050, in absolute terms from 90 to 133 million persons. The largest change will be concentrated in the period 2015-2030 when baby boom generations shift from the working age category to this age group. Average annual growth rate will reach 1,8 %. Periods 2000-2015 and 2030-2050 will be characterized by much lower growth rates, of only 0,6 % and 0,1 % annually.

Figure 2.4. – Average annual growth rate of the population aged 50 and over, by age groups, Europe, 2000-2015, 2015-2030 and 2030-2050

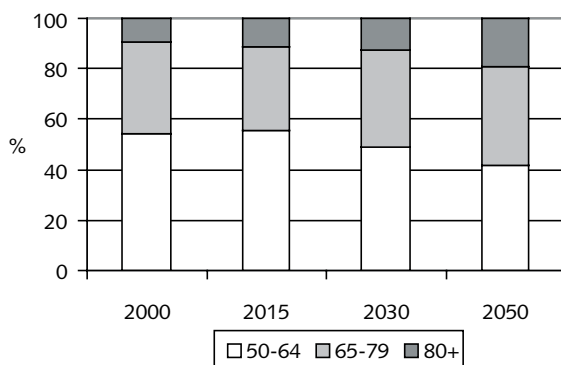
Source: own calculations based on data from Table 2.6.

The oldest old are expected to be the fastest growing population group. During the first half of the 21st century their number should almost triple from the current 22 to 65 million persons. The highest rate of growth is projected for 2000-2015 (2,7 % annually). The almost 50 % increase in absolute size of the oldest old in the next fifteen years will be conditioned by the shifts of numerically different cohorts over 80 years (substitution of smaller cohorts from World War I by larger ones born in the 1920s and the first half of the 1930s). Between 2015 and 2030 a little slowdown of growth can be expected (to 1,6 % annually), nevertheless the size of the oldest old is projected to rise by a further 9 million persons. After 2030 the growth will speed up again (to 2,1 % annually) resulting in an absolute increase of the oldest old by more than 22 million people up to 2050. Shifting of post-war generations over the age of 80 as well as projected steady old age mortality decreases are at the root of this trend.

The differentials in the growth rates of the age groups in question will be reflected in the changes of their relative weights within the older population and the total population. Figure 2.5 shows that in a short-term perspective of 15 years the share of the younger old will fall at the expense of increases in the shares of the 50-64 age group and oldest old. Then after, however, a significant ageing inside the upper half of age pyramid is expected to start. In 2050, out of all those over 50 years almost two fifths will be aged 65-79 years and one fifth aged 80 and over.

Focusing on the elderly population itself we see that between 2015 and 2030 the ageing process inside the group of elderly developing in 2000-2015 should be temporary stopped at the level of about 25 % share of the oldest old. A considerable ageing of the elderly population can be expected up to the end of the projection period; the oldest old should represent almost one third of all those aged 65 and over in 2050 (Table 2.7).

Figure 2.5. – Age structure of the population aged 50 and over, Europe, 2000-2050

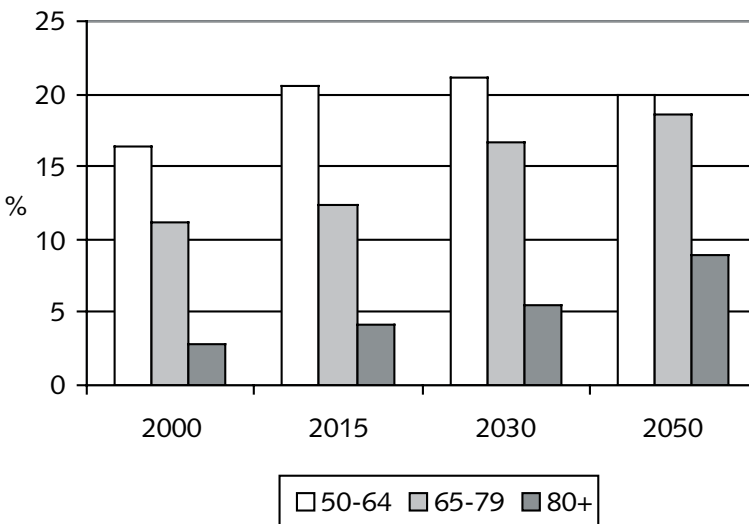


Source: own calculations based on data from Table 2.6.

Table 2.7. – Proportion of the population aged 65-79 and 80 and over in the total population aged 65 and over, Europe, 2000-2050

Ratio	2000	2015	2030	2050
	Percentage			
65-79/65+	80.2	74.7	75.3	67.2
80+/65+	19.8	25.3	24.7	32.8

Source: own calculations based on data from Table 2.6.

Figure 2.6. – Proportion of the population aged 50 and over in the total population, by age groups, Europe, 2000-2050

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

The proportions of each of the older age groups in the total European population are expected to rise significantly during the next fifty years as can be seen from Figure 2.6. The maximal increases of each age group are connected with the gradual shift of post-war cohorts from a younger age group to an older one. Thus, the largest one for the pre-retirement population will take place between 2000 and 2015, for the younger old between 2015 and 2030 and for the oldest old in 2030-2050. In the long-term perspective the levelling-off tendency in the relative weight of the 50-64 group and younger old can be seen.

2.4.2. Country variations

The presented trends in the absolute size of older age groups at European level naturally conceal great diversity at national levels. The differences in population ageing of individual countries described above (see subchapter 2.3.2.3.) will also be reflected in the developments of their older populations. The influence of very different demographic settings in European countries will be even more pronounced with respect to absolute numbers of older age groups than with respect to ageing.

2.4.2.1. Age group 50-64

The absolute number of the population aged 50-64 will increase within the next 15 years in all countries except Bulgaria (see data and indicators of absolute change for all countries in Appendix 2.4, for selected countries representing various situations within Europe see Table 2.8 and Figure 2.7 below). High growth rates (more than 2 % annually) can be found in most of the demographically younger European countries. The highest rates (above 3 % annually) will be seen in Caucasus countries, Turkey, Bosnia and Herzegovina and Moldova. For example, in Armenia the increase will reach more than 80 % of today's level, in Turkey 66 %. Lesser but still significant change (1,2-1,7 % annual increases) is also expected in western Europe due to the baby boom effect. France, with a growth rate of 1,6 % annually resulting in the relative increase of 27 % belongs to those countries where it will be most noticeable. On the other hand, the smallest growth rates (below 0,5 % annually) are expected in Estonia, Sweden, Hungary and the Czech Republic where the post war natality boom was not so pronounced.

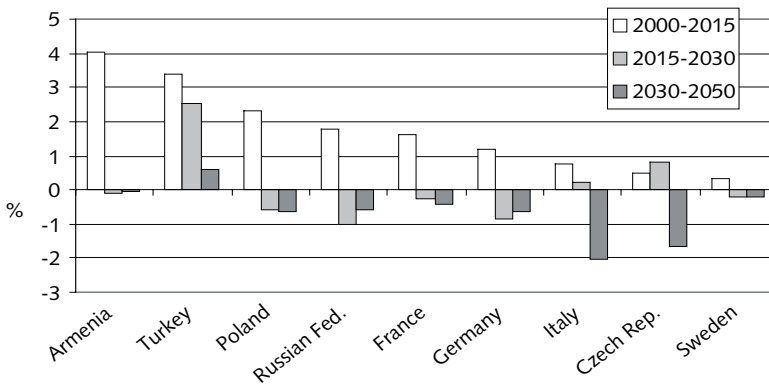
Table 2.8. – Index of growth of the population aged 50-64, selected countries, 2000-2050

Country	2000	2015	2030	2050
Armenia	100	182	180	179
Turkey	100	166	242	272
Poland	100	141	129	113
Russian Fed.	100	131	113	100
France	100	127	122	112
Germany	100	119	105	92
Italy	100	112	116	77
Czech Rep.	100	107	121	87
Sweden	100	105	102	98

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b

Between 2015 and 2030 the numerical increase in the 50-64 category will be much lower compared to previous 15 years in most of the countries and in more than half of them it will already become negative. Decreases can be expected mainly in western European countries because baby boomers will be replaced by much smaller generations born in 1966-1980. The most dramatic decrease will occur in Germany and Switzerland (-0,9%, -1,5 % annually). Absolute decreases are also projected for most of eastern Europe (Poland -0,6 %, Russia -1%). On the other hand, increases will be found in those countries where fertility remained relatively unchanged in the post war period or temporary rose due to pro-natalist measures in the 1960s and 1970s (e.g. southern Europe, Ireland and some post-communist states). Italy and the Czech Republic are examples of this. The most intensive increase in the number of those aged 50-64 years will occur in Turkey (2,5 % per year); in 2030, there will be 2,4 times more people in this age group compared to the year 2000.

Figure 2.7. – Average annual growth rate of the population aged 50-64, selected countries, 2000-2015, 2015-2030 and 2030-2050



Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

Decreases in numerical size of the age group 50-64 between 2030 and 2050 are already projected for almost all countries with the exception of the youngest countries. The most significant decreases (over -2 % annually) should be found in Spain and Italy followed by other countries with currently very low fertility levels. The decreases will be so large that in 2050 the absolute size of the 50-64 age group will be less numerous than today in these countries. In Italy, for example, the relative decrease would account for 23 %.

2.4.2.2. Age group 65-79

The group of younger old will develop with high between-country diversity over the next 15 years (see Appendix 2.5, Table 2.9 and Figure 2.8). The expected changes will reflect the drop in fertility during World War II in

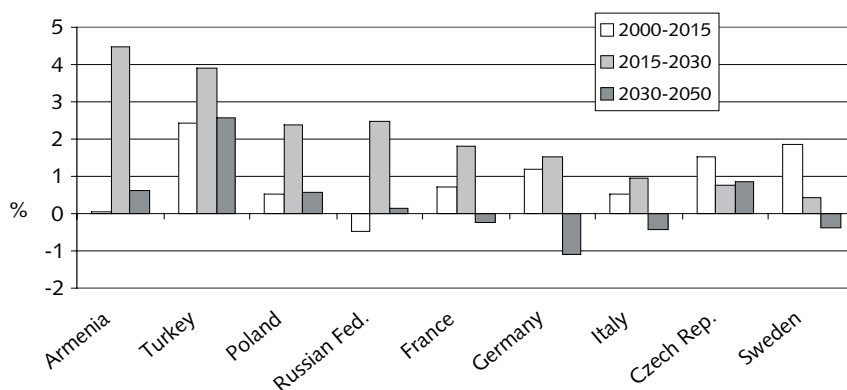
some countries of Europe and the recent worsening of mortality rates in eastern European countries. Due to combinations of both factors even slight decreases in the size of the younger old in most of the post soviet republics - Romania, Bulgaria and Yugoslavia can be expected (by 15 % in Bulgaria, by 7 % in Russia). On the other hand, some countries will experience a very significant increase. In Turkey, Cyprus and Malta growth rates of about 2,5 % are expected; that means a numerical increase of more than 40 %. High annual growth rates over 2 % can also be found in Denmark, Switzerland, Ireland, Finland and the Netherlands.

Table 2.9. – Index of growth of the population aged 65-79, selected countries, 2000-2050

Country	2000	2015	2030	2050
Armenia	100	100	196	222
Turkey	100	144	259	432
Poland	100	108	154	172
Russian Fed.	100	93	135	138
France	100	111	146	139
Germany	100	119	150	121
Italy	100	108	125	115
Czech Rep.	100	126	141	167
Sweden	100	132	141	131

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

Figure 2.8. – Average annual growth rate of the population aged 65-79, selected countries, 2000-2015, 2015-2030 and 2030-2050



Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

Between 2015 and 2030 the numbers of younger old are expected to increase in all countries. The largest numerical expansion (over 3 % annually) will concern Azerbaijan, Armenia, Turkey and Albania. In relation to current numbers those in 2030 will be more than twice as high. A little bit smaller but nonetheless a considerable increase (over 2 % per year) will be seen in most of eastern Europe – Russia and Poland being examples of this. Progressive increases, usually higher than in the previous 15 years in many countries, are also expected for western Europe, as baby boomers will enter this age category (between 1-2 % annually). The most modest change in the absolute size of the younger old group between 2015 and 2030 is projected for Bulgaria, Estonia and Sweden (the average annual growth rate will be only less than 0,5 %).

After 2030, in most of the countries smaller birth cohort start to enter the age group of younger old and the increase will become slower. In many countries the period 2030-2050 will even be characterized by decreases in numbers of the younger old population. This will be typical especially for most western and northern European countries conditioned by the withdrawal of baby boom generations out of this age group. Very intensive decreases are projected in Switzerland, Germany, Austria and Finland. Nevertheless, in 2050 one can expect higher numbers of younger old than today. Very high increases, albeit less than before, will continue to be found in Turkey, Ireland and Azerbaijan. Within the next 50 years the population of younger old in Turkey is going to grow four times in absolute terms.

2.4.2.3. Age group 80+

Looking at the data concerning the development of the numbers of those aged 80 and over we see that progressive increases are to be found in almost all countries between 2000 and 2015 (see Appendix 2.6, Table 2.10 and Figure 2.9). The highest growth rates in Europe will reach more than 4 % annually in some Caucasus and Balkan countries and in Turkey. In Azerbaijan the oldest old population is expected to expand more than three times its size in 2000; in Bosnia and Herzegovina, “the former Yugoslav Republic of Macedonia”, Yugoslavia, Georgia and Turkey more than twice. Slovenia with a 91 % increase is also close to this. Most European countries will find themselves in the range between 50 to 70 % increase. The lowest increase, only about 10 %, will be reached in Sweden, Norway and Denmark.

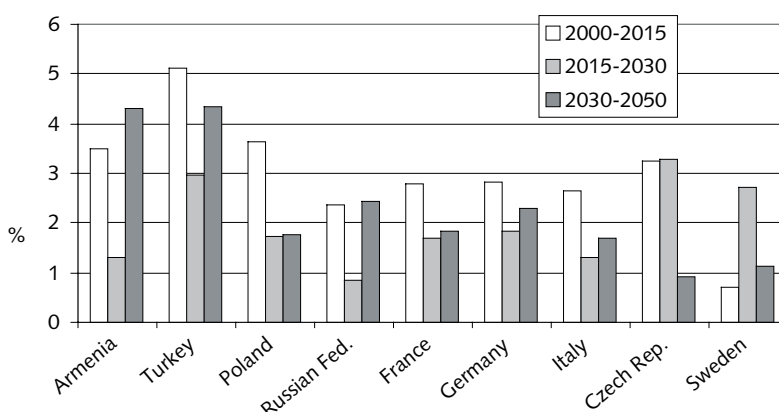
Changes in 2015-2030 will be influenced by less numerous war generations reaching this age group. The growth rates will slow down in most countries in Europe, more dramatically in the same countries that should have experienced a slower pace of increases in numbers of the younger old group in the previous 15 years. Scandinavian countries will experience the opposite trend. In the Czech Republic, Malta and Albania high increases of the oldest old are projected to continue.

Table 2.10 – Index of growth of the population aged 80 and over, selected countries, 2000-2050

Country	2000	2015	2030	2050
Armenia	100	169	205	485
Turkey	100	216	337	803
Poland	100	172	223	318
Russian Fed.	100	143	162	265
France	100	152	196	283
Germany	100	153	201	318
Italy	100	148	181	253
Czech Rep.	100	163	266	320
Sweden	100	111	167	210

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

The arrival of baby boomers will speed up the numerical growth of the oldest old again after 2030 in countries where this effect is pronounced - both in demographically older and younger ones. Up to 2050, in Scandinavia and the Czech Republic the numbers of those aged 80 and over will develop at a smaller pace than in the previous 15 years. During the whole projection period 2000-2050 the expansion of the oldest old populations will be enormous especially in today's younger countries for example it should be eight times higher in Turkey and almost five times higher in Armenia.

Figure 2.9. – Average annual growth rate of the population aged 80 and over, selected countries, 2000-2015, 2015-2030 and 2030-2050

Source: own calculations based on data from: Council of Europe, 2001; United Nations, 2001b.

2.5. Masculinity ratios in older age groups

A common measure used to characterize the gender composition of a total population or an age group is masculinity ratio being defined as the number of men per 100 of women. A ratio greater than 100 indicates more men than women in the given age group and vice versa. The gender composition of the elderly is significantly different than that of younger age groups (Table 2.11). While in child and youth age groups the relation between the numbers of males and females is very balanced, characterized by a slight preponderance of boys and young men, from middle ages upwards women start to outnumber men. The absolute female advantage is substantially higher among elderly and sharply increases with age. The primary reason for a changing sex balance within a population and an increasing prevalence of women in older ages is sex differential in mortality. Although more boys than girls are born, higher male mortality rates starting at birth and continuing throughout the whole life span gradually reduce the numerical advantage of the male population in favour of the female. The preponderance of women in the elderly population is not only a European but also a worldwide phenomenon, with the exception of some countries in Asia and Africa, as women have a higher probability to living longer than men in almost all countries in the world (Kinsella and Velkoff, 2001). Besides gender mortality differentials, the sex composition in older ages may be also influenced by important historical events like wars (as will be seen later) or sex disproportions of migrants.

The gender imbalance in older ages has many implications for social and individual ageing. Perhaps the most important are reflected in marital status and living arrangements of older men and women. A preponderance of women in the elderly population means that health and socio-economic problems connected with the increase in numbers and proportions of the elderly are to a great extent the problems of older women. The demographic imbalance in the numbers of elderly men and women has increased in Europe over the past decades from 1950 to about 1990. Some demographers call this tendency “feminisation of the ageing process” (United Nations, 1992; Dooghe and Appleton, 1995). During the 1990s, however, the improvements in mortality in the northern countries, United Kingdom and some other countries were more substantial for males than for females, thus the difference in life expectancy between the sexes has considerably narrowed (Vallin *et al.*, 2001). This was reflected in stopping the increase in older women’s preponderance, especially in the group of younger old in these countries.

Table 2.11. – Masculinity ratio, by age groups, selected countries, 2000

Country	Number of males per 100 females in the age group										
	0-14	15-29	30-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+
France	105	103	100	99	99	99	93	85	77	67	46
Sweden	105	105	105	103	102	103	98	91	83	75	54
Czech Republic	105	104	103	99	97	92	86	78	68	55	43
Turkey	104	105	103	103	101	96	95	92	89	79	72

Source: own calculations based on data from: Council of Europe, 2001.

2.5.1. Present situation

In 2000, there were 63 men per 100 women in all elderly in Europe. The younger old were a little more gender balanced (69/100) while for the oldest old the ratio was only 42/100. In the group of those aged 50-64 years the preponderance of women was still almost negligible; there were 91 men per 100 women. Currently there exist, however, great between-country disparities with respect to sex composition of people in pre-retirement age as well in both specified groups of elderly (Table 2.12 and Appendix 2.7). Generally, the main differentiating factor is the magnitude of excess male mortality; the lower the difference between male and female life expectancy at birth, the more balanced sex structure in older ages is registered. High losses of men in the World War II are the second major factor that influences male-female ratio in elderly population in certain countries. At present the factor of war losses is mainly apparent in the very low ratios in the oldest old category.

Masculinity ratio of the 50-64 age group varies from above 100 levels in Albania, Iceland, Luxembourg, Netherlands, Norway, Ireland, Sweden and Denmark to the levels of 77-79 in Lithuania, Russia, Estonia, Latvia and Ukraine. The high predominance of women even in pre-retirement ages in the latter countries clearly corresponds to the low level of male life expectancy - reaching only about 60-65 years - as well as the large magnitude of sex disparities in life expectancy exceeding 12 years in these countries.

For the younger old, aged from 65 to 79, female predominance is already apparent in all countries. The smallest one corresponds to the ratio of 80 or more men per 100 women. Such ratios can be found in some countries either in the north of Europe (Iceland, Ireland, Sweden, Denmark, United Kingdom, Norway and the Netherlands) or in the south (Turkey, Greece, "The former Yugoslav Republic of Macedonia", Albania and Cyprus). The major sex imbalance in favour of women in Europe is again apparent for Russia, Ukraine, Latvia and Estonia. Here, and also in Croatia, there are only 50-60 men per 100 women. A more substantial predominance of women in

younger old group can also be seen in central and eastern European countries (Czech Republic, Slovakia, Poland, Hungary, Slovenia and Moldova) where excess male mortality is rather high. The ratio for these varies between 60 and 70. Also for Austria and Germany the ratio is only 70/100 in spite of the fact that their mortality level and male excess mortality are comparable with other western countries for which the ratio is higher. To a great extent this is a result of an elevated mortality of men in World War II that currently affects the higher ages of this age group. This factor acts in former Soviet countries too.

Table 2.12. – Masculinity ratio for the population aged 50 and over, by age group, and sex difference in life expectancy at birth, selected countries, 2000

Country	Number of males per 100 females in the age group				Female – male difference in life expectancy at birth
	50-64	65-79	80+	65+	Years
Germany	99	70	36	61	6.0
Greece	95	83	70	80	5.1
Hungary	84	63	43	59	8.5
Italy	95	77	48	69	6.1
Russian Federation	78	50	26	46	13.2
Sweden	101	83	54	74	4.3
Turkey	98	88	72	86	4.6
United Kingdom	98	82	47	71	4.9

Source: Council of Europe, 2001.

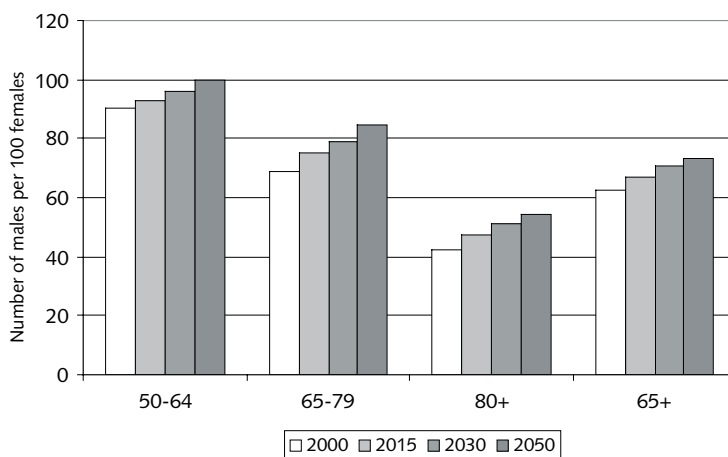
¹ UN estimate for 1995-2000 in: United Nations, 2001a.

In most countries the numerical female advantage sharply increases at age 80 and above. A large spatial diversity appears in the sex composition of the oldest old. In “the former Yugoslav Republic of Macedonia”, Yugoslavia, Turkey and Greece those aged 80 and more are the most gender balanced within Europe; there are more than 70 men per 100 women. Georgia, Cyprus, Bulgaria, Malta and Iceland follow having a masculinity ratio of between 60 and 69. On the other hand, women significantly prevail among the oldest old population in Germany (36/100), Austria (40/100) and in Finland (37/100). Thus women comprise more than 70 % of the oldest old in these countries. The war effect is again evident. However, the highest prevalence of females can be found in some former Soviet republics where the effect of male war losses is combined with very high excess male mortality. In Russia there are only 26 men aged 80 or more per 100 women of that age; this means that women represent about four fifths of all the oldest old.

2.5.2. Trends in 2000-2050

Towards 2050 the ratio between the numbers of men and women aged 50 and over in Europe is likely to increase gradually in all of the three older age groups because the gender gap in life expectancy is projected to narrow in a majority of countries (Figure 2.10). As a result, the numbers of males and females in the population aged 50-64 should become equal in 2050 and future European elderly should be more gender balanced. The so-called "feminisation of the ageing process" should be stopped. The preponderance of elderly women will, however, remain into the next decades and will be particularly the case for the oldest ages; there still may be about twice as many women than men in the age above 80 years. Due to assumed increases in life expectancy the gradual shift of the more significant preponderance of women in higher ages above 80 can be expected.

Figure 2.10. – Masculinity ratio for the population aged 50 and over, by age group, Europe, 2000-2050



Source: Calculations based on: Council of Europe, 2001; United Nations, 2001b.

Certain between-country differences will continue to persist (Table 2.13 and again Appendix 2.7). As far as the 50-64 years old are concerned, the more significant prevalence of women within Europe (ratio between 80 and 88) will be found by 2015 in all former Soviet republics and in Hungary and Bulgaria. In ten countries of northern and western Europe together with Malta, Albania and "the former Yugoslav Republic of Macedonia" male prevalence can be expected. Up to 2030 the levelling tendency in numbers of men and women in the 50-64 category will continue; in almost half of the countries men should prevail, in many others the masculinity ratio should be well above 90. The greater number of females (albeit lesser) will remain only in former Soviet republics, chiefly Ukraine, Russia and Belarus and also

Azerbaijan where female advantage is expected to grow after 2000. In 2050 prevalence of male population or at least gender balanced structure in ages 50-64 is likely to be typical for almost all countries of Europe.

The lowering of female predominance in the group of younger old between 2000 and 2015 should happen in the majority of countries. Only in Turkey, "The former Yugoslav Republic of Macedonia", Armenia, Azerbaijan, Romania and Bulgaria a slight reverse trend is expected due to a widening of mortality sex differential. The effect of war losses causing a high predominance of older women noticeable in some countries in 2000 will disappear in the next 15 years. Germany and Austria are likely to belong to the countries with the rather sex balanced younger old. In 2015 already in more than a half of the 43 countries analysed the masculinity ratio will go above the level of 80/100 for example in Iceland, Sweden, Denmark and Luxembourg and in Albania it will go above the level of 90. The considerably higher prevalence of women should be found in countries where life expectancy will remain lower and contemporary male excess mortality higher within Europe, i.e. some central, eastern and mainly former Soviet countries. The lowest ratio is projected for Russia and Belarus – only 55/100. In all these countries the more pronounced trend towards a more balanced sex structure of the younger olds is projected to start only after 2015. However, it should become more apparent only after 2030. Nevertheless, in the Baltic states, Ukraine, Belarus and Russia the significant prevalence of females in the age group 65-79 should pertain; the sex ratio is projected to reach 70-79/100 in 2050. In the remaining countries continuation of the levelling off tendency in sex ratio of very high levels can be expected up to 2050. The younger old group should thus become much more gender balanced than at present in all countries.

Generally, there will be two different tendencies seen in the development of the sex structure of the oldest old in the next fifty years. Those countries where currently the disproportions between the numbers of men and women are the lowest are expected to gradually increase the female predominance in the oldest old population (i.e. masculinity ratios will fall) while in the others the surplus of women is expected to decrease (i.e. masculinity ratios will grow). In spite of some moderate changes extremely high prevalence of women within the oldest old should persist in the former Soviet republics over the whole 50 years. Even in 2050 the masculinity ratio is not likely to go over 40 in Ukraine, Russian Federation, Belarus, Estonia and Latvia. Low ratios during the whole projection period (not exceeding 50/100) are assumed to be in Hungary, Poland and Bulgaria too; in these predominance of women should even increase in the next thirty years. The sex ratio of the oldest old in the other countries is projected to reach levels from 50 to 65 in 2050. The highest could be found in Malta, Austria, Sweden and Germany (65-64/100), the lowest in Romania, Portugal, Slovakia and Lithuania (50/100).

Table 2.13. – Masculinity ratio for the population aged 50 and over, by age groups, selected countries, 2000-2050

Country	2000	2015	2030	2050
	50-64			
Germany	99	102	104	106
Greece	95	96	99	102
Hungary	84	88	96	99
Italy	95	97	99	102
Russian Federation	78	80	86	92
Sweden	101	102	102	103
Turkey	98	99	100	100
United Kingdom	98	99	102	103
	65-79			
Germany	70	84	91	94
Greece	83	84	85	90
Hungary	63	64	69	81
Italy	77	81	85	88
Russian Federation	50	55	60	70
Sweden	83	92	93	94
Turkey	88	85	86	88
United Kingdom	82	87	90	93
	80+			
Germany	36	48	56	64
Greece	70	65	63	63
Hungary	43	37	36	43
Italy	48	50	54	58
Russian Federation	26	32	34	37
Sweden	54	56	63	64
Turkey	72	71	62	54
United Kingdom	47	55	60	63

Source: own calculations based on: Council of Europe, 2001; United Nations, 2001b.

2.6. Dependency ratios

The concept of active ageing is closely linked not only to the quality of life of the aged but also to well-being of the entire ageing society. Population ageing outlined above will have significant effects on socio-economic development of each of the countries. Shifts in population age structure generally result in new service demands and economic requirements. With an increasingly older age structure comes change in the relative numbers of those who can provide support and produce material resources to those who are dependent on them. Conventionally, projected age-dependency ratios serve as a point of departure for an assessment of future intergenerational support. They are widely used to judge the approximate burden the dependent population put on the economically active population. These ratios suggest the possible changes of societal expenditures due to demographic factors in the future both in total magnitude of the expenditures and in the structure according to sectors of public policy.

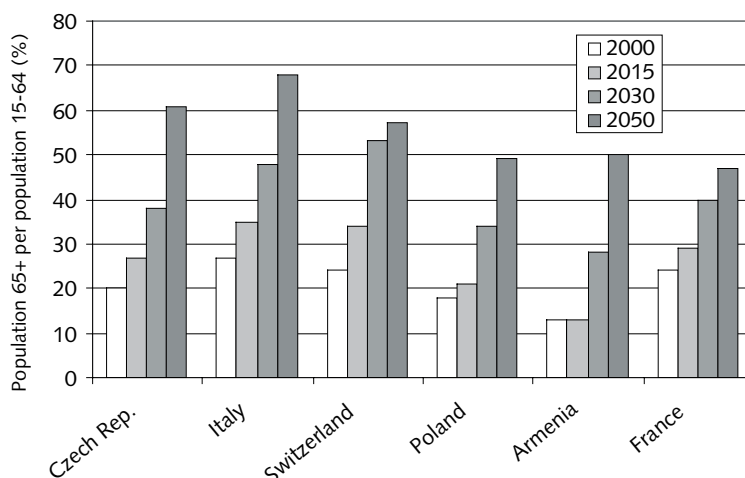
2.6.1. Age-dependency ratios

2.6.1.1. Old-age dependency

It is not surprising that the highest old age dependency ratios can be currently found in the countries that are the European leaders in the level of ageing (Appendix 2.8). In Italy, Sweden, Greece, Belgium, France and Spain, the ratio between the number of people aged 65 and over and the number of working age population (15-64 years) equals or exceeds 25/100 at present. Old age dependency is, on the other hand, much lower in Turkey, Albania and Azerbaijan as there are only 9 elderly people per 100 people aged 15-64. In the coming decades, old age dependency ratios in all European countries will rise as a result of increasing longevity and low or declining recent fertility rates. Up to 2015 the changes will be only modest in many of the countries because most post-war baby-boomers will still be of working age. In some countries, however, the old age dependency is projected to rise more substantially, by more than one third. Malta, Switzerland, Finland, Croatia and Czech Republic are such examples. After 2015 the large birth cohorts born after World War II will start to retire and this will be reflected by a rapid increase in the ratios of elderly population to working age population segment during 2015-2030. In most of the countries the increase will reach more than 40 % of 2015 level. The highest percent rise of old age dependency ratios in this period is projected for currently demographically younger countries like Armenia and Azerbaijan, where it will double, and some countries in eastern Europe where the ageing process will start to develop at a faster pace. Nevertheless, in 2030, the highest ratios are likely to be found in Switzerland (53) and Italy (47). Also in most of the countries of southern, western and northern Europe and Slovenia the ratios are expected to exceed 40. Turkey has the lowest projected ratio (17) among European countries in

2030. In the long-term perspective up to 2050, south European countries, together with Slovenia, Austria and the Czech Republic will become the leaders in old age dependency. It is projected that, as a result of current extremely low fertility levels accompanied by projected longevity increases, there will be more than 60 persons aged 65+ per 100 persons aged 15-64 in these countries (Figure 2.11).

Figure 2.11. – Old-age dependency ratio, selected countries, 2000-2050



Source: Council of Europe, 2001; own calculations based on: United Nations, 2001b

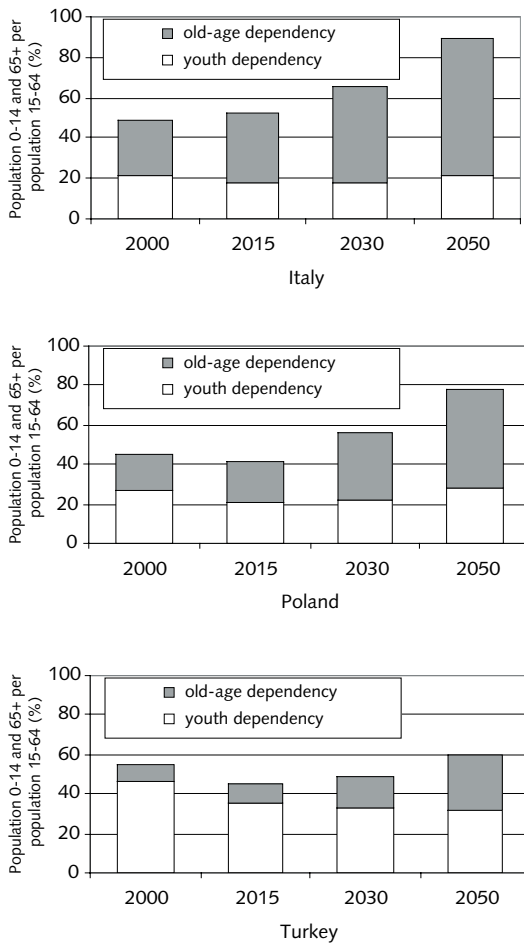
2.6.1.2. Youth dependency

Youth dependency ratios defined as the number of children in the age of 0-14 per 100 people aged 15-64 have been declining in the most countries since 1970s. In 2000 they ranged from only 21 in Spain and Italy to 52 in Albania. The decreasing trend will further continue in the next 15 years and will be more pronounced in countries where the present level is high (Caucasus republics, Albania, Turkey to a lesser extent). The only exception is Ireland where the ratio is projected to remain stable at a relatively high level of 34. In 2015 youth dependency among all European countries is likely to be the lowest in Slovenia, Austria and Bulgaria (17) and the highest in Turkey (35). Only a modest change can be expected in most of the countries in the period 2015-2030. The projected gradual recovering of fertility rates would become more pronounced in youth dependency ratios only in the decades after 2030. From 2030 to 2050 the ratio is likely to rise again a little, especially in countries with currently very low fertility levels. At the same time, in Turkey and Albania it will slightly decrease further. The variation of the ratios around Europe will be much smaller in 2050 compared with 2000. In all countries it should reach the levels between 21 and 32 children per 100 working age population.

2.6.1.3. Total dependency

The total dependency ratio (0-14 plus 65+ per 100 persons in the 15-64 year age group) provides a rough indication of overall burden on the potentially active population. It is not only the level of total dependency but also the age structure of dependency that is necessary for policymakers to take into account in their considerations. It has been proved that public cost of an older person is much higher - about 2-3 times - than that of a child (e.g. United Nations, 1992). Considerable shift from youth to old-age dependency implies a potentially substantial rise in public sector expenditures.

Figure 2.12. – Structure of total dependency ratio, selected countries, 2000-2050



Source: Council of Europe, 2001; United Nations, 2001a.

In 2000, the highest total dependency ratio was found in Albania (61) due to pertaining high fertility rate. Among those with the lowest ratios close to 40 are some countries that experienced a drop in fertility levels in the 1990s and where life expectancy stands behind western European levels – Slovenia, Czech Republic, Russian Federation or Bosnia and Herzegovina. In a prevalent number of European countries the numbers of young dependants still outnumbered the numbers of elderly dependants in 2000, albeit only slightly in most of them. The decisive prevalence of young dependency was registered only in the demographically youngest European countries. The reverse situation in the structure of dependants could be already found in Italy, Spain, Greece, Germany and Bulgaria.

From 2000 to 2015, the ratios should remain relatively unchanged in many western and central European countries. Declining numbers of children will be more or less offset by growing numbers of the aged. Substantial decreases in total dependency ratios is expected in the Caucasus republics, Albania and Turkey as a result of further fertility reductions and increases of working age population at the same time. Extremely low current fertility levels and stagnating numbers of elderly population are probably the main reasons of the decline in the total dependency level in the other former Soviet republics. In 2015, the ratio should range in Europe from 56 dependants per 100 working age people in France to only 32 in Armenia. Considerable shift in the dependence structure will occur in this period. The elderly population will start to prevail above children in more than half of the European countries. Young dependents should still dominate in European younger countries and in Ireland.

The above-mentioned expected substantial rise in old age dependency between 2015 and 2030 will be, of course, reflected in the sharp increases in the total dependency ratios. The highest proportional increase is projected for Switzerland (45 %). Thus, this country is expected to have the highest demographic dependency ratio in Europe (76) in 2030, followed by Finland and Sweden (71, 70 respectively). The lowest ratio levels (about 46-49) could be found in Armenia, Azerbaijan, Romania, Moldova and Turkey albeit the downward trend of the ratio is projected to reverse after 2015. The shift towards greater dominance of elderly in the dependent population will further continue, thus in 2030, more elderly than children will occur in dependent population probably in almost all European countries with the exception of the demographically youngest ones and Ireland. In Italy more than 70 % of dependants will be elderly people (Figure 2.12). According to the UN projections, further increase of total dependency can be expected throughout Europe after 2030. In 2050 some countries like Spain, Slovenia or the Czech Republic should have ratios twice as high as in 2000. Spain and Italy are projected to have the highest total dependency ratios among European countries (96, 90 respectively) in 2050. In the other six countries the ratio should exceed 80.

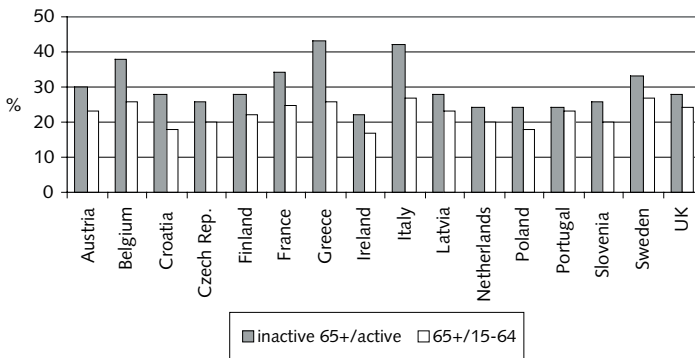
The ageing index that relates the number of those aged 65 and over to those under 15 is usually used as an indicator of the level of population ageing. But

the age structure of the dependent population can easily be seen from these indices, too. Data for particular countries given in Appendix 2.9 clearly shows a substantial shift of the ageing indices to higher levels in the next years. It indicates that the proportion of older people in the total dependent population is going to rise. Ageing index above 100 means a prevalence of elderly dependants above dependent children below the age of 15.

2.6.2. Effective dependency ratios

The method of measuring the consequences of population ageing for financial redistribution in society by the above defined age-dependency ratios is a simplification to a great extent and its usefulness is limited. It implicitly supposes that besides the child category below the age of 15 all people aged 65+ are economically inactive and financially dependent on the population in the working ages 15-64 and that all persons aged 15-64 provide the indirect support to children and the elderly through taxes and contributions to social welfare programs. Both are untrue; many elderly are not dependent in a financial sense and a substantial portion of the working age population is not employed for various reasons (such as inability to work due to bad health status, nonworking students, unemployment, unpaid household workers, voluntary decision to be out of work, etc.). A slightly more realistic picture is gained when the dependency ratios are based on the age categories 0-19, 20-64 and 65+ because the activity of those aged 15-19 is almost negligible in most European countries due to continuing education. These ratios have already been widely used in the developed countries but they still reflect only the age structure changes. More important for gaining a more relevant picture of the burden on the economically active population is to take into account employment characteristics for both working age and elderly populations (Kinsella and Velkoff, 2001, Commission of the European Communities, 2000, Thonstad, 1992: in Gierveld and Solinge, 1995).

Figure 2.13. – Economic dependency ratio of the elderly and old-age dependency ratio, selected countries, 1999 or 2000



Source: own calculations based on data from: Eurostat, 2000; ILO, 2000 and Council of Europe, 2001.

The effective dependency ratios (also called alternative, activity-corrected or economic dependency ratios) are significantly higher than those based only on the relations between broad age groups excluding labour force participation (Figure 2.13., Table 2.14.). Currently, economically inactive persons outnumber the economically active in many European countries. Also in the adult population of some countries (here defined as population aged 15 and over) the economic dependency ratio reaches the level of about 100. It means that there are about as many out of the labour force as active people.

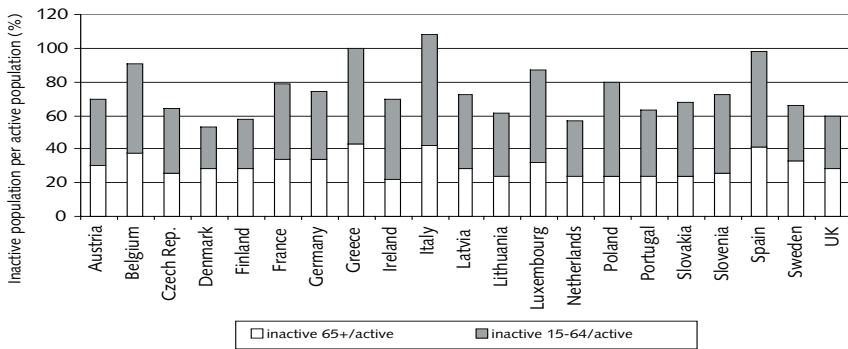
Table 2.14. – Demographic and economic dependency ratio, selected countries, 1999 or 2000

Country	Total dependency ratio in 2000	Total economic dependency ratio in 1999-2000	Economic dependency ratio in adult population in 1999 - 2000
	0-14 and 65+ per 15-64 (%)	Inactive per active (%)	inactive aged 15+ per active (%)
Austria	47	105	70
Belgium	53	132	91
Czech Republic	43	96	64
Denmark	50	86	53
Finland	49	93	58
France	54	122	79
Germany	47	106	74
Greece	48	132	100
Ireland	49	117	70
Italy	48	143	108
Latvia	48	111	72
Lithuania	49	99	61
Luxembourg	50	132	87
Netherlands	48	94	57
Poland	45	125	80
Portugal	47	96	63
Slovak Republic	44	111	68
Slovenia	43	106	72
Spain	46	132	98
Sweden	55	103	66
United Kingdom	53	99	60

Source: own calculations based on data from: Eurostat, 2000; ILO, 2000; Council of Europe, 2001.

Within the group of economically inactive adults more than half are aged below 65 in each country (Figure 2.14). The rising old age dependency ratio will negatively influence the economic ratio in the future; the current situation in southern Europe serves as an example. Reducing the numbers of the inactive population of working age by increasing the overall labour force participation rates seems to be one of the possibilities to moderate the financial burden of progressive ageing that will have to be borne by the economically active. The greatest potential for possible rising of labour force participation rates can be found among people in the ages 55-64 and also among younger elderly where the proportions of economically active have recently dropped to very low levels.

Figure 2.14. – Economic dependency ratios in adult population, selected countries 1999 or 2000



Source: based on data Eurostat, 2000; ILO, 2000; Council of Europe, 2001.

Chapter 3

The activity profile of elderly people

Dragana Avramov

3.1. Introduction

Chapter 2 has shown that the timing of transition to lower mortality rates at older ages, the intensity of fertility decline and the pace of population ageing differ between countries and sub-regions in Europe. However, the striking general features of the demographic dynamics of the 20th century - that will also mark the demography of the 21st century - is that Europe has the highest proportion of elderly people in the world and the intensity of the expected population ageing implies that the difference between the share of elderly in Europe compared with other developed parts of the world, and notably North America, will further increase.

Population ageing has implications for the economy, governance, good practice in public policy, social rights of all citizens and intergenerational solidarity. Indeed, public interest in ageing in welfare states relates to labour market policies, retirement policies, health care policies, social benefits policies, long-term care policies, housing and environment policies, gender policies, and policies for the empowerment and a more general social role for the elderly.

Some of the key consequences of changes in the population structure and family dynamics in the last decades of the 20th century, that are having profound implications for public policies and well-being of citizens of all ages, are associated with the fact that increasing number of people reach old age, that public institutions are held responsible for enhancing opportunities that people live at high age in relatively good health and prosperity and that an increasing number of people in their adulthood, but particularly women at old age, spend a considerable number of years living alone (Figure 3.1). Public transfer payments in the form of various benefits are an important source of household income at all ages but after age 60 they are the main (Figure 3.2.), and for the overwhelming majority of elderly people, the only source of income. In the European welfare states the social protection system

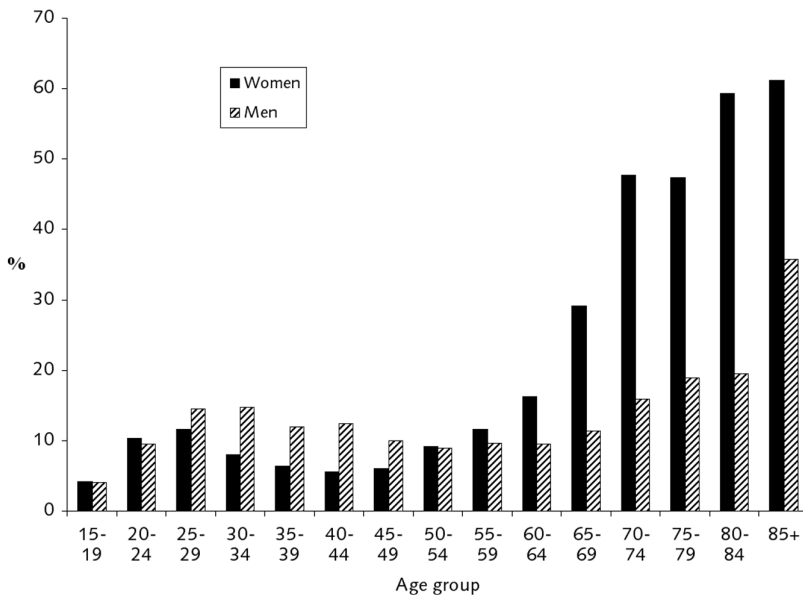
is the principal provider for the elderly who are no longer economically active and public transfer payments largely relieve the demands that would otherwise fall on families.

With the increasing number of people drawing heavily on public funds for their livelihood, prolonged personal autonomy, health care and social services, redefining redistribution of resources policies is seen as one of the priority concerns in Europe today. At the same time, elderly people are searching for gratifying activities and pursuing new roles in society. Reconciling needs for public policy adaptations and individual needs and aspirations of the elderly is one of the big challenges of the 21st century. In a nutshell, active ageing as a societal process of activating the elderly and active ageing as an individual's pursuit of a place in society and well-being are the key to integrated policy adaptation to the new demography and global economy.

3.2. Active ageing as a research domain

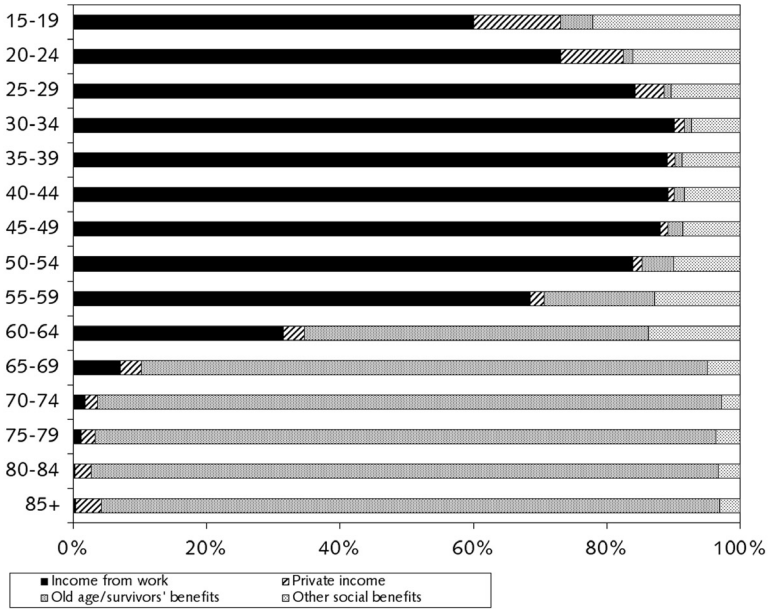
A difficulty in operationalising the concept of active ageing for research purposes relates to the identification of 'aged' and the definition of 'activities'.

Figure 3.1. – Percent of women and men living in one-person households by age group, 15-EU pooled data



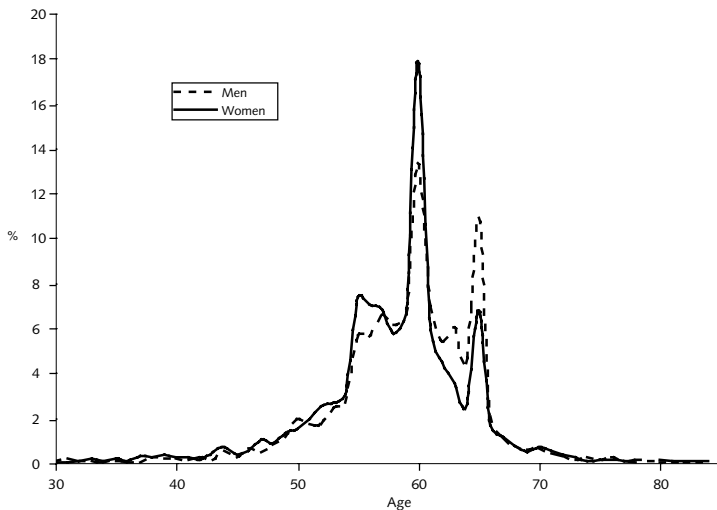
Source: own calculations based on the ECHP database (Avramov, 2002).

Figure 3.2. – Sources of household income by age group of main earner, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

Figure 3.3. – Breakdown of age at retirement of women and men, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

Often the distinction between the population of working age and elderly is made on the basis of the legal age at retirement. Many people, however, stop working before the 'normal' age of retirement, and some continue to work many years into old age. Early retirement has in recent decades been strongly favoured by the establishment of special retirement schemes. Thus, identification of elderly with those who reached the statutory age at retirement has ceased to be valid. Already between ages 50 and 55 the proportion of people taking up pensions starts increasing significantly (Figure 3.3.). There appear to be three retirement waves with peaks around ages 55, 60 and 65.

The cut off age that marks the beginning of social ageing of individuals - in as much as they are becoming increasingly dependent on public transfer payments - appears to be 50 in advanced welfare states⁴. Given the changes in the social reality as it relates to cessation of professional activity for those who were active in the labour market, we are broadening the age group under consideration from conventional identification of elderly (65+) to include the economically inactive middle-aged people. Our activity profiling includes persons from age 50 onward. In view of the heterogeneity of people who fall in this age group regarding their activity, socio-economic status, health and self perception, our analysis based on micro-level data gives information for five year age groups from age 50 to 85 and over. In a nutshell, the monitoring of the process of active ageing, for the purpose of activity profiling, does not relate to chronological age per se, life expectancy, health and impairment, but to age at which increasing numbers of people choose to leave or are forced out of the regular labour market.

The broad identification of activity applies to different domains of life: paid work; domestic activities; care (personal care, child care, care of other family members); and leisure (active leisure - creative activities, community activities, sportive activities, hobbies, social leisure, education, entertainment, travel; and passive leisure - TV-radio-internet, reading, passive or diversional pastimes).

4. Biological ageing starts at birth. The cut off ages for identifying transitions associated with adolescents, middle age and old age has traditionally reflected the combined effect of biology and social construction of maturity and ageing. In modern societies the age of transition has been moving upwards for all age categories regarding several domains of human activity such as work or parenthood, for example. Just as there is no general consensus about the 'right' age for transition to adulthood (biological maturity marked by menarche varies to a lesser degree through time and between regions than transition to adulthood marked by social and legal competence and economic independence), there is no consensus regarding the elderly category. A pragmatic approach in research appears to be best suited to accommodate different issues associated with the complex process of bio-social phenomena. For the activity profiling associated with ageing the cut off age 50+ enables us to gain insight into an age-related passage from economic activity to dependence on public transfer payments and gradual individual ageing as those processes are transposed at the population level.

3.3. Theories and strategies

The motivation to be active and use work-free time in various manners at higher ages has been dealt with in the literature from various viewpoints. Observation and analysis of strategies that different people or groups of people pursue within various socio-economic and cultural settings are frequently labelled as theories (see for example Teaff, 1985; Tinker, 1997). The most pertinent may be summarised as follows:

- Disengagement theory argues that people tend to seek voluntary withdrawal from many activities following retirement and consequently reduce the number and importance of their social roles (Cumming & Henry, 1961; Bond *et al.*, 1993);
- Activity theory assumes older people will either continue activities into old age or will compensate for the loss of traditional roles by taking on new activities in view of maintaining personal satisfaction and positive self-image (Havighurst *et al.*, 1968; Crandall, 1980; Tinker, 1997);
- Continuity theory states that activities in old age are a development of what people have done before (Atchley, 1971; 1989; Davis Smith, 1992);
- Subculture theory hypothesises that the aged have developed a distinctive aged subculture as a result of more interaction among themselves than with individuals of other ages (Rose, 1965);
- Personality theory views the ageing person within the context of lifelong development in which there has been an interaction between biological, personal and social changes that have resulted in the individual's own coping style (Birren, 1964; Havighurst, 1968);
- Exchange theory asserts that each person in an interaction is seeking to maximize the benefits of that interaction while minimizing the costs in terms of loss of prestige, self-esteem, or other rewards (Dowd, 1975);
- Age stratification theory builds on the assumption that all societies have role structures and populations differentiated by age; ageing is not only seen as an individual characteristic but also as a component of society that develops a hierarchy of age strata (Riley, *et al.* 1972; Riley, 1976);
- Phenomenological theory stresses the meanings attributed to ageing by those who are ageing (Decker, 1980);
- Restructuration theory suggests that time-budget and leisure participation data better describe changes in the daily lives of older adults by the notion of restructuration than by that of withdrawal or continuity (Zuzanek and Box, 1988);
- Modernisation theory identifies changes in society that are likely to reduce the status of older people. The conclusion drawn is that improved health and increased longevity, new technologies in the labour force, elaborated educational systems and urbanisation leave older people weak – they remain alive but are underemployed, untrained in the latest technologies and separated from family/community webs of relationships (Cowgill, 1974).

These various approaches based on fragmented research about elderly people in most cases lack the key constituent elements of social theory. They do, however, provide a useful analytical framework for empirical studies in view of middle-range theory development and informed policy building. Theory building based on the analysis of the behaviour and preferences of people needs to acknowledge both social heterogeneity and between-country differences in the social, economic, legal and normative settings. Choices and strategies are partly determined by personality features such as drives, motivation, ability and health of individuals. The socio-economic and cultural environment within which individuals live provides a framework for choices – this environment may be enhancing or inhibiting for activity at high age.

We do not opt *a priori* for any particular theoretical approach but pursue an analytical path by identifying what different population sub-groups do in later stages of life by means of an analysis of the main domains of activity, and by acknowledging how the elderly feel about their life chances.

3. 4. Data sources

Exploration of the literature shows that there is abundant research on ageing and the aged but that there are only a relatively limited number of studies that relate to active ageing. A fragmented approach to activity and lack of international comparative integrated research makes comprehensive activity profiling of the elderly quite a challenge.

In many countries, surveys on elderly include data on activities and time use in old age. But the country or region-specific surveys are not comparable because of differences in timing, aims, contents, methodologies and scope. Targeted international comparative surveys on active ageing do not exist. However, some international databases such as the European Community Household Panel (ECHP) and the time use surveys do include relevant, albeit limited, information on this theme.

The most recent European Community Household Panel is the fifth and the last wave was implemented in 1998. The panel has since been disbanded. The most up-to-date version of the database was released by EUROSTAT in December 2001 and the statistical database created for the Council of Europe European Population Committee (Avramov, 2002) is used in this report. The database of the Multinational Time Use Study (MTUS) of the Institute for Social and Economic Research (ISER) at the University of Essex, UK⁵ has been constructed by the MTUS team to include the age group 20 to 59. Therefore, for the purpose of our activity profiling of elderly people we could retrieve information only about the younger elderly aged between 55 and 59.

5. Grateful acknowledgement is made by this author to Dr. Kimberly Fisher and Ms Beate Lichtwardt of ISER, University of Essex, UK, for access to the Multinational Time Use Study database.

It is obvious that retirement provides the elderly with more free and leisure time. However, time-use studies seldom pay special attention to leisure in old age. Particularly missing are longitudinal surveys. In some countries there are comparative repetitive cross-sectional surveys allowing for assessing the recent dynamics of active ageing.

With a view to making the best use of what is available, rather than dwelling on what would be optimal, we will summarise the key findings regarding activity profile of the elderly based on the desk-review of pertinent literature, our own analysis of the European Community Household Panel (ECHP) database in as far as relevant data on active ageing may be exploited from this source and the Multinational Time Use Study (MTUS) database in as much as it is relevant for elderly people.

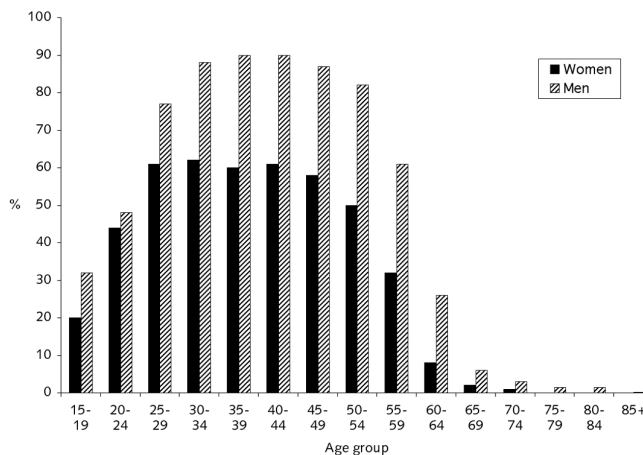
3.5. Domains of activity in old age

Four major activity domains - paid work, domestic activities, care for others, and leisure activities - will be dealt with, albeit to a different analytical degree due to data-related constraints. The first three will be largely illustrated by data from the ECHP database as the main source of currently available comparable micro-level data for a group of European countries. Leisure activities will be mainly documented on the basis of available literature and some data from the time use studies.

3.5.1. Paid work

The major change in activity over the life course obviously concerns paid work (Figure 3.4.). Labour force participation increases for people in their late twenties and starts to decrease from 50-54 onwards.

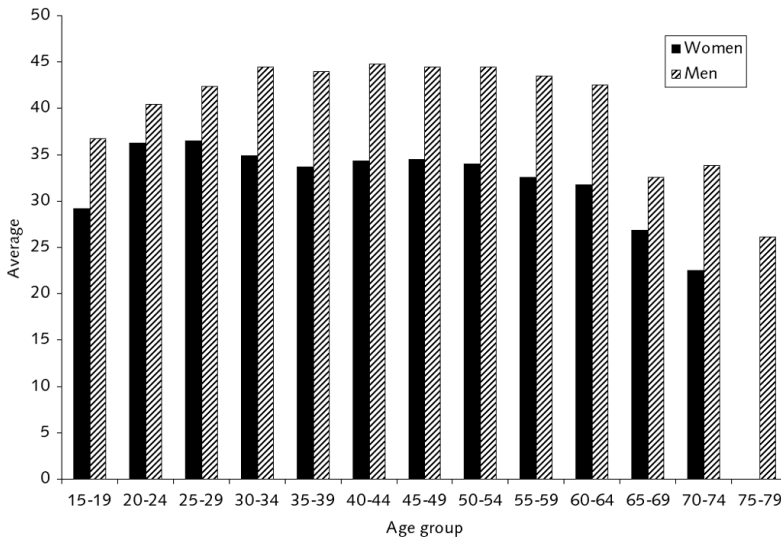
Figure 3.4. – Percent of working women and men by age, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

As may be expected paid work and the legal age at retirement do not fully coincide. Preferences of individuals, labour law and social protection benefits tilt behavioural patterns of the elderly towards inactivity rather than activity in the labour market.⁶ The proportion of people who drop out of the workforce before the statutory age at retirement is much higher than the share of elderly who continue working after the legal retirement age (see again Figure 3.3.).

Figure 3.5. – Average number of hours worked per week by the economically active women and men by age groups, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

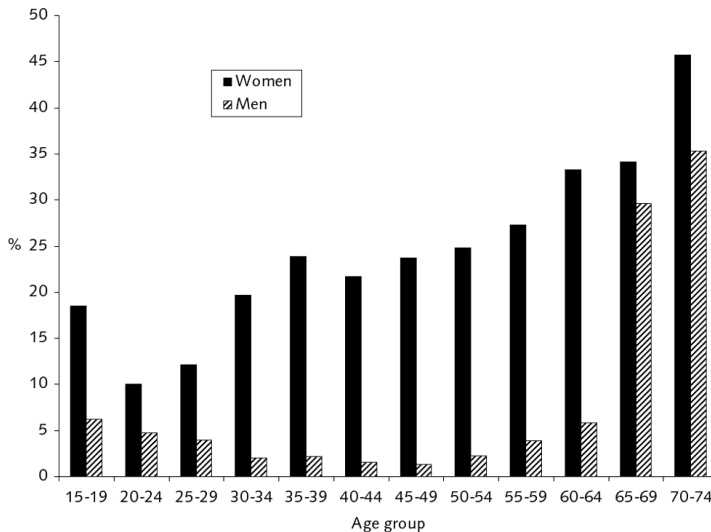
According to the data from the ECHP database the average age at retirement for men is 59 years and for women 58 years. There is, however, a quite substantial variation among elderly with peaks at 55, 60 and 65 - the standard deviation is approximately 6 years for both sexes.

The amount of time spent in paid work for those who are employed decreases with age. The average number of working hours for those who are economically active decreases slightly from age 65 to 69 (Figure 3.5.) and part-time work (calculated as percent of the working population that has a

6. The data from cross-sectional sample surveys should however be carefully interpreted because some of the age-related differences may partially represent intergenerational changes. By way of example, part of the elderly active after age 70 are people working as independents in the agricultural sector who under older social protection regimes acquired only minimal, if any, pension rights and thus continue working at high age out of sheer necessity.

part time job) increases with age (Figure 3.6.). For women part-time working is not only quite significant but it increases at a roughly constant pace during the life course; for men, by contrast, it is relatively insignificant during most of the life course but shoots up after the statutory age of retirement.

Figure 3.6. – Women and men who have a part time job as percent of economically active by age group, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

3.5.2. Early retirement

Workers in advanced European economies are leaving the labour force at much earlier ages than the statutory retirement age and much earlier than in the 1970s. In the 1970s and the 1980s, the labour force participation of men aged 55-64 decreased very quickly (see again Figures 1.1. and 1.2.). By way of example, in 1979 in France 67% of men were in work and by 2000 this dropped to 42%. In Japan, a country with the highest labour force participation rates among industrialised countries, the proportions were 85% in 1979 and 84% in 2000. Belgium stands out in the group of industrialised countries with the lowest percent of economically active, merely 36% of men aged 55 to 64 are still working and contributing to the public funds from which pensions and other social rights are paid out.

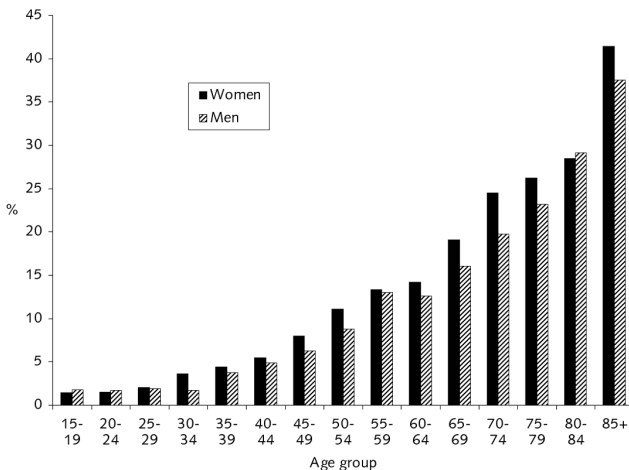
The trend towards early retirement has slowed down in some countries and any further decrease has stopped in others in the late 1990s. In the few countries in which a modest increase in labour participation of elderly workers has occurred, possibly marking the beginning of the reverse in the tendency, the rates are still far lower than those of the 1970s. In the Netherlands,

for example, 65% of elderly workers were in paid labour in 1979 and a decline occurred throughout the 1980s and the first half of the 1990s, with the lowest rates recorded in 1995 when only 41% of men aged between 55 and 65 were economically active. The most recent data indicate that this has increased to 51% in 2000 and thus is still some 14 percentage points below the level of the late 1970s in this country (OECD Employment Outlook, www.oecd.org).

Early retirement is a consequence of the combined effect of chances and choices. Relation between (early) retirement and unemployment is multifaceted. A significant proportion of older jobless people classify themselves as retirees (Guillemand and van Gunsteren, 1991) and considerable proportions of people threatened by redundancy opt for early retirement. Bad health is the major reason given for early retirement (Goldrick and Cooper, 1988), another important factor, less frequently reported by people, is the greater difficulty many elderly workers have in coping with stress at work, be it due to physical strain or requirements of the new technology. When balancing disadvantages of work and advantages of retirement the perspective of a new lifestyle after early retirement, with more free time, leisure opportunities and family networking plays a significant role.

Bad health is often invoked as a reason for early retirement. Indeed, the subjective appreciation of one's own health shows that, as they age, growing proportions of people feel to be in bad or very bad health (Figure 3.7.). However, there is clearly a broad variation in the population and between ages 55 and 65, when the majority of people retire, less than 15% report to be in bad or very bad health.

Figure 3.7. – Percent of women and men reporting bad or very bad health by age group, 15-EU pooled data

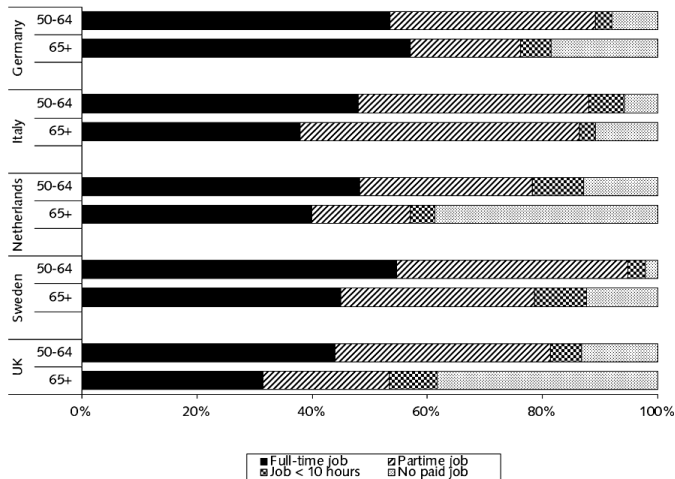


Source: own calculations based on the ECHP database (Avramov, 2002).

3.5.3. Preferences regarding activity and satisfaction with retirement

Surveys about preferences about one's own labour force status indicate that there are considerable between-country differences, more particularly regarding the preference for no paid job whatsoever after the age of statutory retirement. This is probably strongly related to the combined effect of the within-country differences in the level of retirement benefits paid out to different social groups and the overall generosity of country specific public pension systems. Data also suggest that there may also be generational differences in commitment to work. Data for Germany, for example, show that a full-time job is the preference of a higher percentage of people above the statutory age of retirement than among elderly workers. OECD data (2002) for several advanced market economies presented in Figure 3.8. confirm that considerable proportions of people above the age of 65 would prefer a full time job to part time or complete economic inactivity and that the vast majority of elderly people would prefer some kind of a job to no economic activity whatsoever. Elderly workers and retired people are by no means homogeneous groups regarding willingness to work but surveys on preferences and attitudes do imply that there is a significant pool of elderly people who would welcome opportunities or incentives to continue gainful employment. Obviously the desire to continue working in later stages of life decreases with age, particularly among the oldest old. The key questions that arise from a somewhat abstract general willingness to be economically active that need to be further pursued in research are what kind of jobs are or could be made available in the regular labour market and what kind of jobs could and would elderly people be willing to take up.

Figure 3.8. – Preferences about one's own labour force status among people aged 50 and over in selected countries



Source: International Social Survey Programme, 1997.

There is an apparent inconsistency between findings that indicate that considerable proportions of people would be willing to work and findings that the overwhelming proportions of elderly people are satisfied with their retirement status. Indeed, regarding the activity status *per se* retirees are more satisfied with their economic inactivity than the working population with their work status. This probably tells us more about stress under which the working population is due to the high demands of the labour market, family life and individual aspirations, than about retirement as such.

Satisfaction with retirement as activity status is quite widespread but feelings are mixed regarding overall life chances at higher age. Income security and the level of pension benefits have a prominent role but satisfaction during retirement years is dependent on the combined effect of factors such as health, wealth, and age rather than by retirement that entails economic inactivity as such.

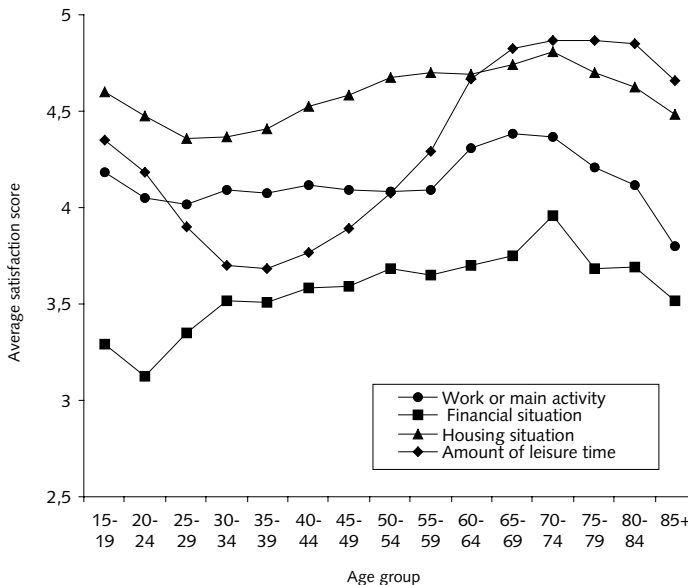
Publicly funded retirement benefits in the European market economy/welfare nexus generally provide a greater degree of income security than employment, although the level of income as a rule decreases at retirement. Those retirees who were in lower income groups during their working life are obviously most affected by income poverty at higher age. The source of income is quite secure but the amount of benefit is frequently insufficient to lift all the elderly people out of poverty. On the whole, the elderly are over-represented among low income and poor households. In the European Union 22% of households in which the household head (main earner) is aged 65+ live in income-precarious conditions - the percent for the population as a whole stands at 17. The proportion of elderly households in financially precarious conditions ranges from 7% in Sweden and 8% in Finland and the Netherlands at the lower end of the scale, to 36% in Ireland, 37% in Greece and 44% in Portugal at the upper end of the European Union scale (Avramov, 2002).

Although more often materially deprived than the rest of the population in most countries the elderly appear to be less dissatisfied than the working-age population. We clearly observe the generational-based changes in the perception of needs and expectations, with the elderly generally being more satisfied with what they have even when they own visibly less than younger people. The self-perception of the elderly appears to indicate that they are more satisfied with their activity status i.e. retirement, income, housing conditions and leisure than the active age population. They are most satisfied with the amount of their leisure time (Figure 3.9.).

Poverty and dissatisfaction only increase among elderly above the age of 75, i.e. among those generations who were economically active during the 1930s recession and the Second World War. These generations had less opportunity to earn insurance-based benefits and/or to accumulate personal

wealth. In addition, due to their lower educational attainment and other age related impediments, they were poor competitors in the labour market at a time of technological acceleration. The generational disparities in life chances associated with these historical circumstances have only partially been alleviated by social benefits to supplement low pensions in a limited number of countries.

Figure 3.9. – Average satisfaction scores for work or main activity, finances, housing and leisure by age group, EU pooled data*



Source: own calculations based on the ECHP database (Avramov, 2002).

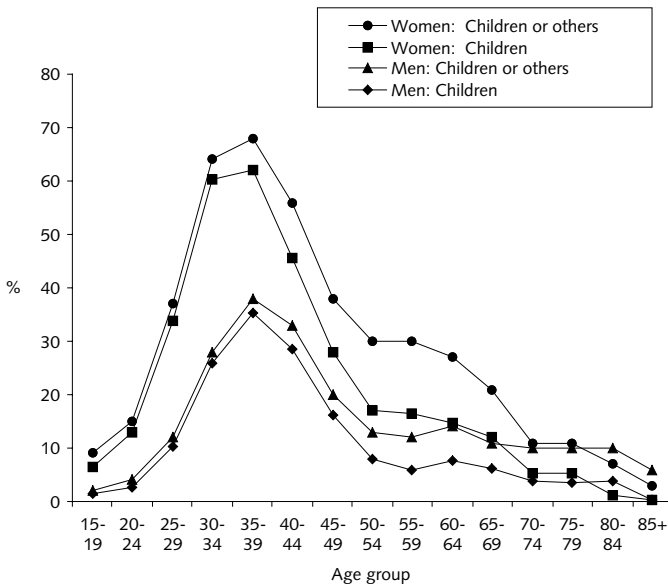
*Data for Sweden are not available.

3.5.4. Care for others

A significant proportion of elderly people continue to provide care for children, grandchildren or other persons after the age of retirement. In the age group 50 to 65 between one third and one fourth of women take care of others (Figure 3.10.). Even the oldest old aged 80 to 85 continue to provide care for others, but the proportion clearly is small and concerns one out of every 10 very old people. The ECHP database does not allow for the determination of the actual time spent on caring for others nor is it possible to determine who the 'others' are. It may be expected that the category includes mostly spouses and to a lesser degree grandchildren and other family members.

The Multinational Time Use Study (MTUS) has a specific question on childcare. Among those aged 55 to 59 it is in the transition countries, particularly the Czech Republic, Poland and Yugoslavia that high proportions of women and men are childcare providers. By way of example, in Poland 12% of economically active women and men and as many as 23% of economically inactive men and 30% of inactive women aged 55-59 are providing care for children. This is in sharp contrast to northern and western countries where fewer elderly people provide childcare. High proportions of childcare providers among elderly in eastern Europe can partly be explained by high participation of young mothers in the labour force and shortcomings of public childcare facilities especially during the early years of transition to market economy.

Figure 3.10. – Percent of women and men looking after children and children or others, by age, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

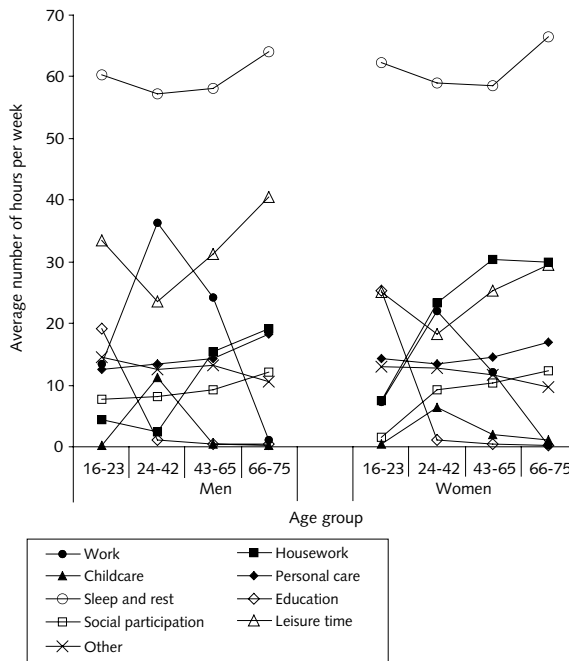
3.5.5. Domestic activities

It is a truism that women spend considerably more time on housework than men. Time use survey data for Belgian (Flanders) show the life course changes and differences by sex in the allocation of time to domestic activities (Figure 3.11.). At ages 24-42 women spend 23 hours and men only 2 hours per week on domestic chores. Among women the housework burden peaks at ages 43-65 at some 30 hours per week while men in the same age group spend half as many hours, only 15. Housework peaks for men only after the age of

statutory retirement and is some 19 hours per week, still considerably lower than among women of the same age who spend on average 30 hours on domestic chores. It is interesting to note that men appear to spend more time on childcare than women at ages 24-42. They report an average of 11 hours of childcare per week. Women, by contrast report only 6 hours per week. This difference can probably be attributed to the different type of childcare chores that women and men divide between them and also the perception of childrearing activities many of which for women probably fall largely under housework.

At higher age men appear to take up more housework activities as they become economically inactive, but they also appear to spend considerably less time on house chores than women in the same age group. Data from the Multinational Time Use Study (MTUS) show that at age 55-50 those men who are inactive spend almost twice as much time each day on housework as do their economically active counterparts both in eastern and western European countries. However, the weight of gender biased division of work may be illustrated by the fact that economically inactive men aged 55-59 spend less time on housework than economically active women in the same age group. This holds true for both advanced market economies and transition countries.

Figure 3.11. – Average number of hours per week spent on different life activities by age group and sex, Belgium (Flanders)

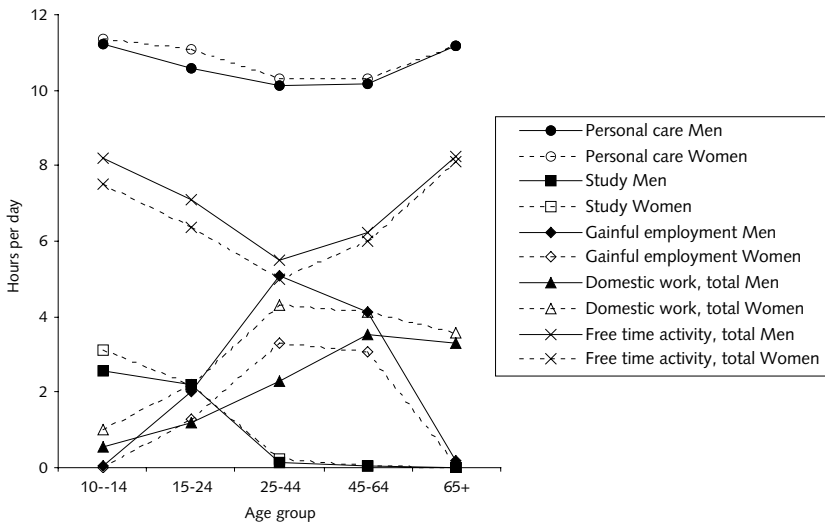


Source: own calculations on the basis of the Flemish Time Budget Study TOR 1999, Glorieux et al., 2002.

3.5.6. Self-care

Self-care that includes sleep and rest, personal care (hygiene, nutrition, etc.) and leisure takes up the bulk of people's lives at higher ages. Data for Belgium (Flanders) show that middle-aged men and women spend on average 15 and 14 hours each day on self care and elderly (aged 66+) 18 and 16 hours per day respectively. Data for Finland (Figure 3.12) and for Germany (Kohli *et al.* 2000) give a similar picture. OECD database confirms that time spent on sleep and rest grows in older ages as well as leisure time.

Figure 3.12. – Average number of hours per day spent on different life activities by age group and sex, Finland



Source: based on data from the Finnish survey, Niemi and Pääkkönen, 2002.

From the Multinational Time Use Study (MTUS) database it also appears that among economically inactive people aged 55-59 sleep, personal care and leisure take up much of the day. In Poland and in the Czech Republic economically inactive men spend as many as 19 hours each day on self-care, while inactive women spend 15 hours a day sleeping, taking care of themselves and on leisure activities. For those men who are still in the labour force in Poland and the Czech Republic self-care takes up 14 hours and for women 13 hours each day.

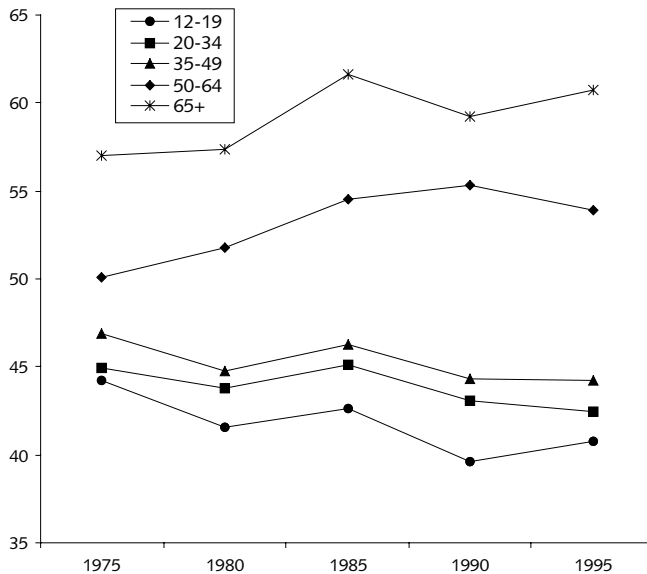
3.5.7. Leisure

In literature leisure or free time is usually defined as the amount of time remaining after all daily obligations (education, work, domestic tasks, and personal care) have been fulfilled (e.g. de Hart, 1995). There is by no means

general consensus in the research community about the conceptual framework for defining leisure. It is clearly a culture-loaded concept that often refers to activities that are outside the scope of 'duty'. However, duty may have different meanings in different socio-economic and cultural settings, socially stratified groups and age groups. By way of example, under the prevailing pension system people above the statutory age of retirement who follow educational courses are not enhancing their employability, since in most countries they are either discouraged or even prohibited from working, but are rather spending their duty free time in active leisure.

In general, the amount of duty-free time has been increasing in recent decades in advanced market economies in Europe. However, there are substantial differences between countries. Spain and Sweden show relatively high levels and Germany somewhat lower levels of leisure time. In Japan, since work takes up much of the time of the majority of the population, this country stands out among industrial countries with little leisure time left after all duties have been completed (for data see Garhammer, 1999).

Figure 3.13. – Amount of leisure time in hours per week in the Netherlands, by age and calendar years



Source: based on data from van den Broek *et al.*, 1999.

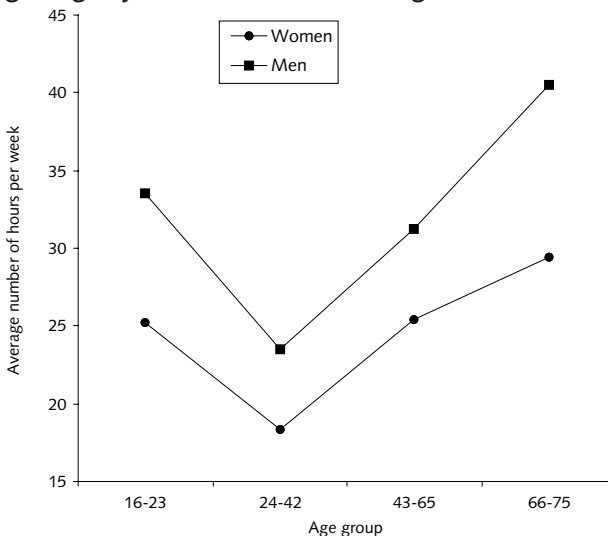
The increase in free time also differentiates according to age groups. Data for the Netherlands show that the amount of free time has been increasing for older age groups, whereas for younger people it shows the opposite trend (Figure 3.13.). Grosso modo, the same applies for the number of leisure activities performed. Namely, the elderly 65 and over have considerably

increased their number of leisure activities since the mid-1970s, as have elderly middle-aged people 50-64 years old. The increase was rather small for people in their mid-life aged 35-49 while for children aged 12-19 and young adults aged 20-34 the opposite occurred, namely their leisure activities became less numerous in the last two decades of the 20th century.

Data for the Netherlands confirm the trend observed in several countries, namely children and young adults are having less and less leisure time while elderly people are having more and more time for leisure.

Important differences in leisure time exist in the different phases of the life course, especially for men. Leisure time evolves over the life course in a typical J-shaped curve, with a low point in the early phases of working life and the highest value after retirement (Figure 3.14). Men and women show the same life course pattern, but women clearly spend less time on leisure activities.

Figure 3.14. – Average number of hours per week spent on leisure activities according to age by women and men in Belgium (Flanders)



Source: based on data from the Time Budget Study TOR 1999, Glorieux *et al.*, 2002.

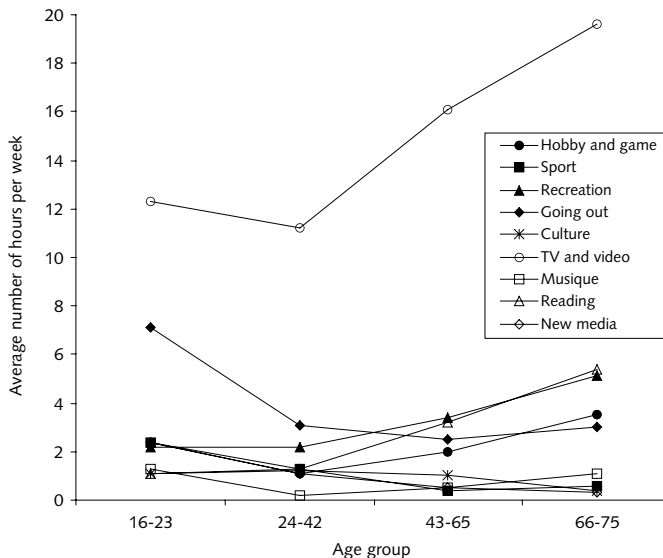
3.5.7.1. Passive leisure

The additional free time at retirement is distributed both over different active pursuits (sports, reading, unpaid work, domestic work) but mainly over passive pursuits (especially TV watching). Watching television takes up the bulk of leisure at all ages but particularly among the elderly (Figure 3.15). On average, elderly spend three hours per day on passive television watching and only 40 minutes on reading and recreation. New media, culture, music and sports take up an insignificant amount of leisure time of the elderly.

Time-use studies for many countries show that the decrease of paid work after retirement frees on average some 20-25% of the daily time of older people. Approximately half of this liberated time is spent on other activities than paid work some of which are productive (i.e. care for others and domestic work) and others relate to self-care. The other half of time freed by retirement is spent on various leisure activities, among which passive mass media consumption (mainly TV-watching) largely predominates. Repetitive comparative surveys on activities of elderly people during the last decades not surprisingly document a clear shift from radio listening to TV watching, the well-known shift from a 'word-culture towards an image-culture' (de Hart, 1995; Knulst & Kalmijn, 1988; Dooghe *et al.*, 1988; van den Broek *et al.*, 1999).

Reading, social leisure, physical leisure and creative leisure activities appear to increase in some countries (e.g. Altergott, 1988). However, OECD (2000) data point to the conclusion that the bulk of time free from work after retirement is not used actively. MTUS database gives a similar picture. For example, among inactive men and women aged 55-59 in the UK six hours a day are spent on passive leisure and only three hours on active pursuits. While there are some between-country differences, namely in the northern countries, the allocation of time to passive leisure is higher than to active ones but the difference is somewhat smaller. The pattern for women is the same as for men, although inactive women on the whole spend less time on leisure activities. By way of example, in the UK economically inactive women spend 4.4 hours each day on passive leisure and 2.6 hours on active leisure.

Figure 3.15. – Average number of hours per week spent on various leisure activities during the life course by women and men in Belgium (Flanders)



Source: based on data from the Time Budget Study TOR 1999, Glorieux *et al.*, 2002.

In general, activity patterns of people in pre-pension ages (45-64) and elderly above the statutory age at retirement (65+) are quite similar. The change between those in work and pensioners concerns mainly an increase in passive, home-centred leisure activities among retired people.

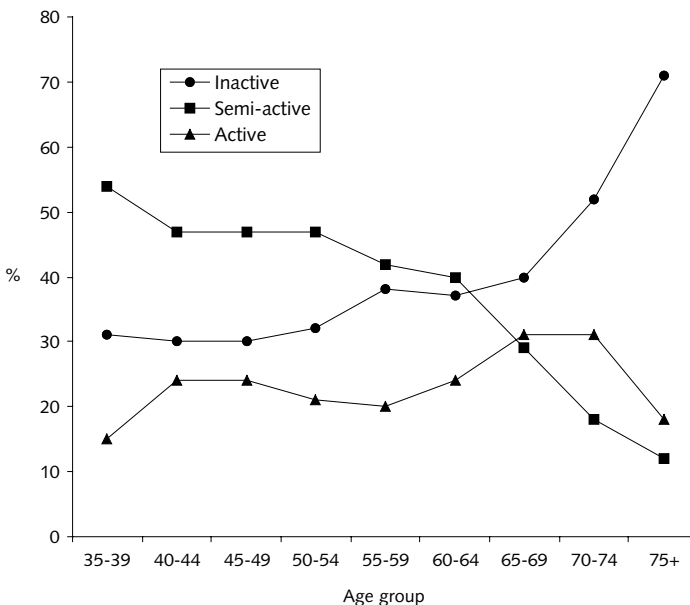
3.5.7.2. Active leisure

Active leisure that encompasses mainly community work, sports, hobbies, social contacts, and education appears to reflect what people have been doing before retirement.

Community work, referred to as voluntary or unpaid work does not appear to be a domain of activity that is 'discovered' after retirement when people make choices about additional free time. Indeed, on average little unpaid work takes place after retirement. It seems rather that volunteering is an activity that is pursued by the elderly if it was already carried out before retirement. In that respect retired people spend much of their time as they did before retirement (see for example Gauthier and Smeeding, 1999).

Sport activities are inversely related to age: with increasing age, less sport activities are being performed (Figure 3.16.). However, in recent decades, in some countries, notably in the Netherlands, a general increase in physical activity, also among older people, can be observed.

Figure 3.16. – Percent of the Netherlands population active in sports, by age

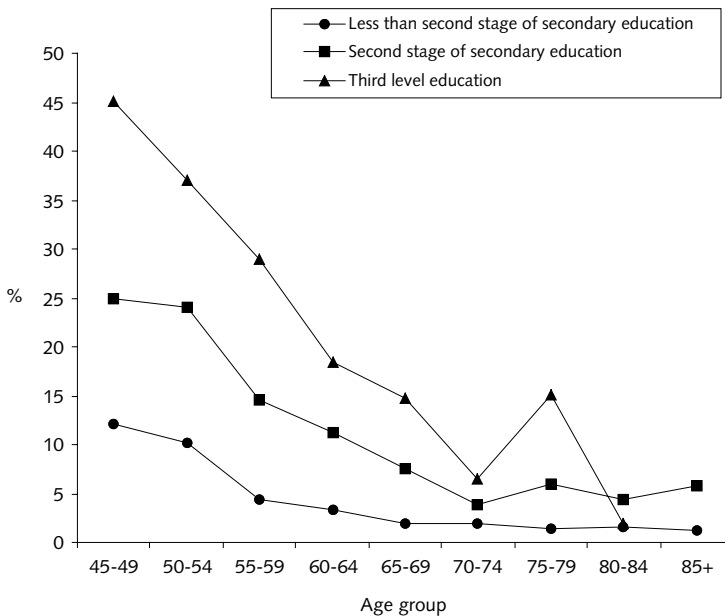


Source: based on data from Hildebrandt *et al.*, 1999, quoted in de Klerk, 2001.

Engagement in hobbies is also strongly related to age. Data for the Netherlands confirm that the elderly spend more time than younger people on hobbies. In the last two decades of the 20th century hobbies seem to have lost appeal among young adults and middle aged people and the amount of time spent has been systematically decreasing for all but the elderly 65 and over.

Social contacts during free time differentiate according to age and research also suggests that a distinction needs to be made between people living alone and those cohabiting with family members as well as between domestic family life and social participation away from home for those who live in a family. A Dutch study showed that on the whole, people are slightly less regularly at home in the evening than in the past. In recent decades, family contacts decreased for all age groups. Social participation outside the family on the contrary increased for the older and middle age groups, while it decreased for the younger ones (van den Broek *et al.*, 1999).

Figure 3.17. – Percent of people at higher ages in education according to educational level, 15-EU pooled data

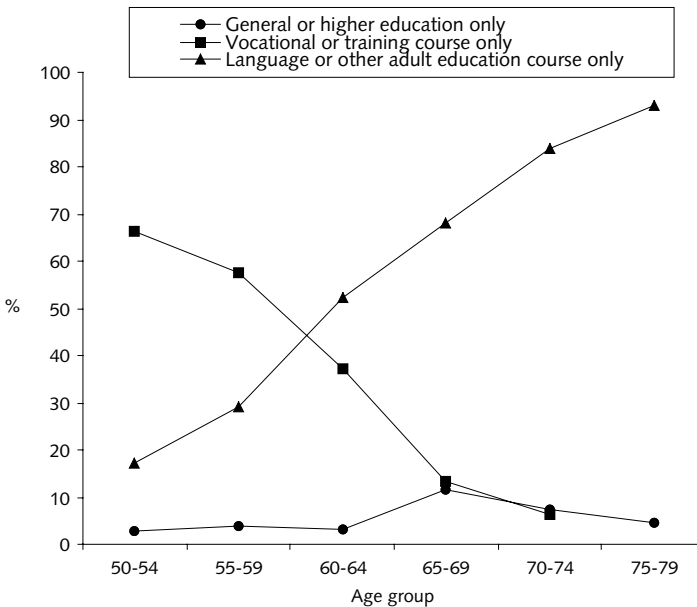


Source: own calculations based on the ECHP database (Avramov, 2002).

The proportion of people in education at higher ages decreases substantially (Figure 3.17). With increasing age, the type of course followed shifts from general and vocational education towards language courses and other adult educational courses indicating that this is rather an activity to enhance leisure time dedicated to travel or hobby (Figure 3.18.).

Education, of course, has a broad range of social functions, and cannot be reduced to the economic domain only. Research shows that continuous education has not produced any significant change in the overall educational attainment of the population. Such improvement is attained mainly by means of initial education. The increase in the educational attainment has been the result of inter-generational changes, namely the arrival of successive generations with higher educational attainment (EDEX, 2001). Our analysis of data from the ECHP database confirm what is known from targeted research, namely that better educated people make more use of education to enhance their competitiveness in the labour market. People without diplomas from initial education obtained in childhood and youth are much less involved in life long learning to enhance their employment opportunities. At ages 55-60 small proportions of people pursue any kind of education and among those who do some 30% already have a university degree while less than 5% of people pursuing life-long learning have not completed secondary school during their initial education.

Figure 3.18. – Kind of course followed by people of higher ages in education, by age, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

Judging from the time use survey data for Belgium (Flanders), elderly workers spend on average half an hour per week and retired people 12 minutes per week on education. An increase in the proportion of people attending educational courses at higher age seems to be occurring in some countries, notably in the Netherlands (e.g. de Klerk, 2001).

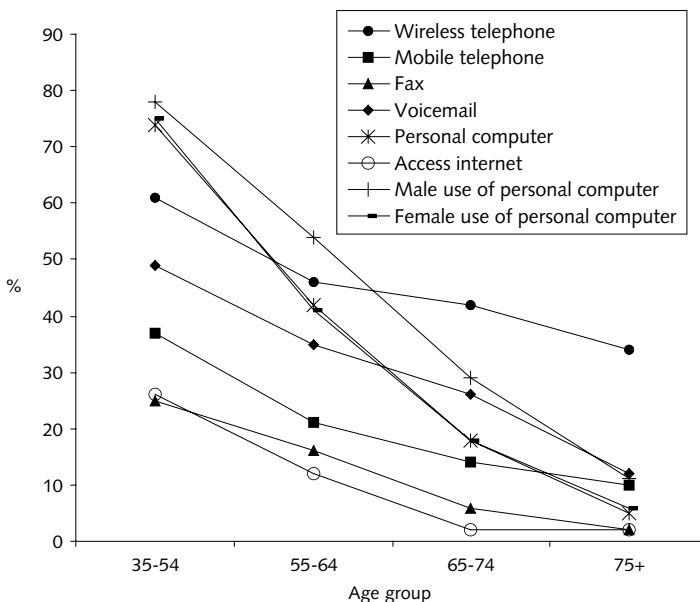
Information and communication technology, and in particular personal computers, are still less widespread and used among the aged (Figure 3.19.). For the future a gradual further increase may also be expected in this domain, first because of the fact that older people are also subject to technological diffusion processes and second because of generational shifts. The acquaintance and familiarity with ICT technology in adulthood are strong incentives to continue their use at higher age.

3.6. Retirement, 'duty free' time and active lifestyle

Our analysis of literature and relevant databases confirms that for a small minority of people only, retirement years are spent as years of active engagement in continuous labour market participation, active contribution to domestic tasks and provision of care for others, active participation in community life -also by means of voluntary activities - and active leisure.

There is not yet a clear shift to greater gender equality among elderly people, particularly regarding housework. Gradual retirement is not yet very common. On the whole, the proportion of people working beyond the standard retirement age is very low in all European countries. This contrasts to the situation in the US where working at higher ages is somewhat more common and in Japan where more than half of the 65-69-year-old men are still at work.

Figure 3.19. – Percent of the Netherlands population possessing or using selected ICT facilities, by age



Source: based on data from de Klerk, 2001.

Time-use studies show that home-centred leisure activities predominate among the elderly and that the additionally free time after retirement is not used actively. Data for Belgium (Flanders) illustrate to what extent self-care that includes personal care, sleep or rest and (passive) leisure takes the bulk of people's life at higher ages (Table 3.1.). Data for other advanced market economies give a similar picture.

Middle-aged men and women spend on average 15 and 14 hours respectively on self-care and the elderly 18 hours and 16 hours. Education takes up as little as two to four minutes per day. Averages, of course, cover up remarkable differences between those in work and the economically inactive, as well as within-group differences determined by needs and opportunities but also by aspirations and commitment to paid work and active participation in society and social activities in general.

The results on time use of older people in Germany (Kohli *et al.* 2000) are largely comparable to surveys in other countries quoted in this report. In Germany a very small proportion of the aged, only 5%, are still economically active. Age at retirement decreases among younger age cohorts, sport activities decrease with age, TV watching increases, domestic activities increase slightly for men and there is very low use of new electronic media, notably only 0.5% of 70+ use computers.

However, some lessons may be learned from population averages, namely that the pool of time free from 'duty' among elderly people is huge. It appears that large numbers of healthy and well-off elderly are not given much opportunity to continue contributing actively in paid labour or other social activities for that matter. It is generally left to individuals to find what to do with their free time and it is not surprising that individual factors such as individual drives and personality features play a greater role in the pursuing of an active lifestyle after retirement than the opportunity enhancement that comes from social institutions.

Table 3.1. – Average number of hours per week spent on different life activities, by age group and sex, Belgium (Flanders)

Activity	Men Hours per week spent on specific activities		Women Hours per week spent on specific activities	
	Age group 43-65	Age group 66-75	Age group 43-65	Age group 66-75
Paid work	24	1	12	0.2
Housework and childcare	16	19	32	31
Personal care, sleep and leisure	104	123	98	113
Education	0.5	0.4	0.5	0.2
Social participation	9	12	10	12

Source: based on data from the Time Budget Study TOR 1999, Glorieux *et al.*, 2002.

Our analysis shows that activation of elderly is gradually gaining grounds but that it still affects very small proportions of people because there are both institutional obstacles to economic activation of elderly people and weak institutional support for the active way of life. This finding is in line with the conclusion that “retirement and active ageing are not, as yet, going hand in hand” (OECD “Reforms for an Ageing Society” 2000).

3.6.1. Determinants of activity in old age

Many factors appear to influence the type and level of activities of people in old age. Three major levels can be distinguished: the individual level, the family level and the societal level.

At the individual level, leisure choices and degrees of activity depend on temperament, environment, social learning, personality and preference (e.g. Lawton, 1993).

Age and sex are traditionally the two primary factors that are distinguished in ageing research. Although both age and sex are biological in nature, age/sex related behaviour in the field of active ageing is also socially influenced, through culturally induced values and norms, and socio-economic structures and institutions. Obviously a factor of crucial importance for active ageing is mental and physical health (Avramov, 2002).

Sex differences in leisure activities have so far shown that at higher age women keep themselves busy with sewing, knitting, and crocheting whereas men are more involved in gardening, walking or cycling, sport activities, and housing repair activities. Classical socio-positional characteristics such as education and socio-economic status or occupation and its associated resources and assets have been shown to differentiate in active ageing.

However, all of these ‘objective’ features apparently do not suffice to fully explain the type and level of activities after retirement. Many authors are of the opinion that several bio-social, psychological and cultural factors such as personal drives, personal convictions and specific life course events and experiences also play an important role. These ‘individual propensities’ (Chapin, 1974) are much more difficult to measure and have clearly less been investigated in large sample surveys.

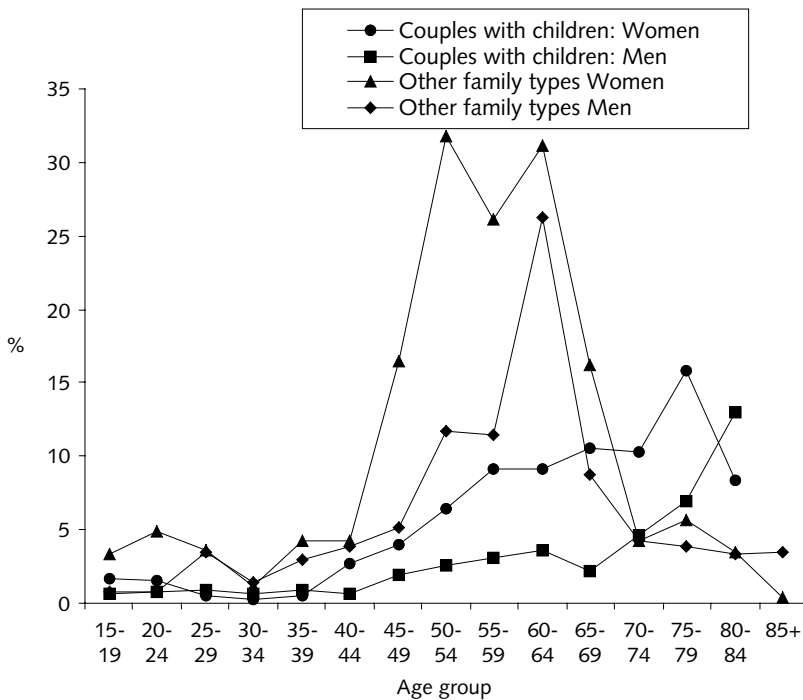
Familial factors such as household structure, marital status, living arrangement, presence and accessibility of children and other family members, but also quality of family relations have been shown to be differentially related to active ageing.

Household structure seems to have no important effect on the prevalence of economic activity among older persons. However, in extended families both

women and men, and in particularly women, provide more care for persons other than children (Figure 3.19).

Marital status and living arrangements differentiate in interaction with gender, on the one hand reflecting some of the traditional gender role divisions (Knipscheer *et al.*, 1988), and on the other hand revealing effects of other bio-social processes such as assortment and selection.

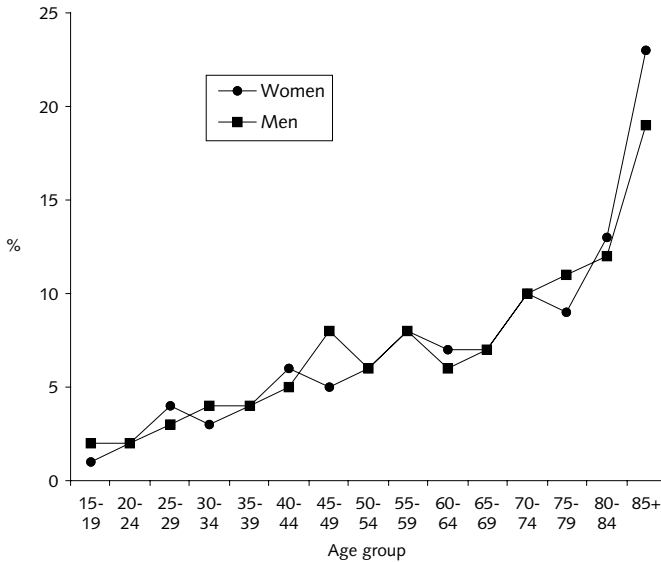
Figure 3.20. – Percent of people looking after other persons than children in households with children and households including persons other than parents and children, by age, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

The ageing process itself, which brings about decreasing vitality and increasing invalidity and the loss of social contacts due to the disappearance of the earlier working relations and the new family life stages which one reaches have as effect that social contacts decrease or at least that a minority of older people is increasingly confronted with fewer social relations (see Figure 3.20.). The same applies for a decrease in the proportion of people providing caring tasks towards children, grandchildren and other family members.

Figure 3.21. – Percent of women and men meeting people (friends or relatives not living with the person) at home or elsewhere less than a month or never, by age, 15-EU pooled data



Source: own calculations based on the ECHP database (Avramov, 2002).

3.7. Social barriers to active ageing and opportunity enhancement

The examination of the activity patterns of older people in different countries and in particular international comparative studies on ageing suggest that a broad variety of societal factors - cultural values, economic conditions, social provisions in various domains (education, care, communication, etc), - influence the behaviour of people at higher ages.

First of all, institutional retirement provisions can explain some of the striking between-country differences in working patterns among the aged. In the 1980s labour participation among the 65 and over was 41% in Japan, 19% in the US, 8% in France and 7% in the UK (e.g. Wada, 1988).

In many European advanced market economies it seems that better educated and higher income groups are encouraged to make the trade off between work and early retirement because the loss of part of the income at retirement can be compensated by the rewards of a less stressful life style, while low income workers may find advantages in early retirement that frees up time for casual, often non declared work. Substantial labour force participation at higher ages obviously reduces the available time for various leisure activities. On the other hand, favourable economic conditions are conducive to the development of more expensive leisure activities such as travelling or spending part of year in a vacation resort.

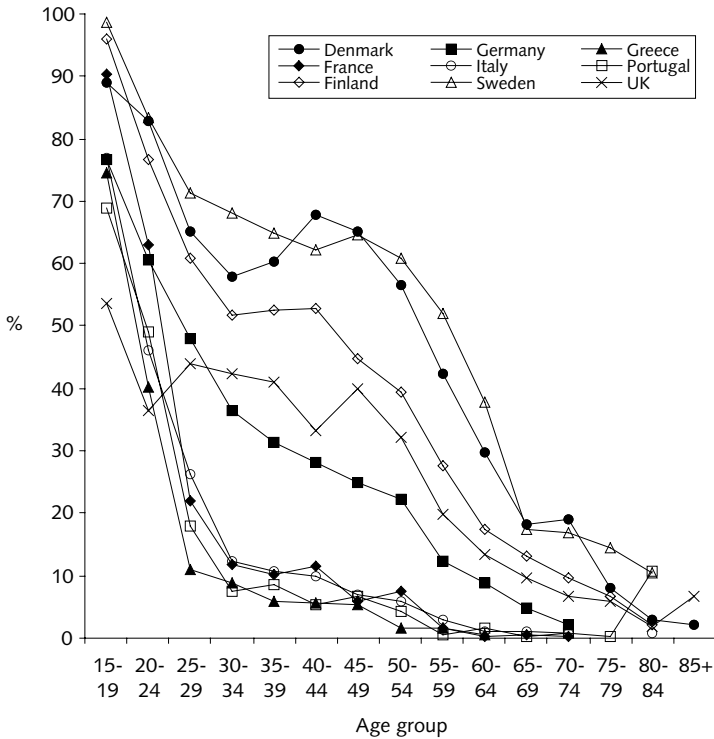
Statutory retirement provisions are an opportunity but can, at the same time, be a barrier to activation of the elderly. The institutionalisation of retirement is undoubtedly a considerable and commendable victory of modern culture allowing people a well-deserved stage of rest and leisure after a busy and stressful active life. However, some major pension requirements and provisions (e.g. the imposition of a mandatory age of retirement; the absence of flexibility in retirement regulations that would acknowledge individual variability in the ageing process; and the prohibition to work at the risk of losing one's pension,) prevent people from continuing or adapting their activities to their changing needs and capacities. Some retirement provisions ostentatiously force people into a stage of abrupt and total economic inactivity.

In some countries economic conditions or social provisions for pensioners can be so bad that the bulk of older people are forced to continue working, possibly part-time, if necessary via second economy participation, to supplement their small pensions and raise their standard of living. That appears to be the case in some transition countries and in particular among people who had worked in less rewarding branches of the economy.

Country differences in labour participation at higher ages can partly be explained, in some cases, by the different stage in the modernisation process of the economy. A high proportion of people working in the traditional agricultural sector usually goes hand in hand with a higher labour participation into high age. Another example applies to the lower out-of-the-house labour participation of women in more traditional economies.

Thus indicators of economic activity at high age can stand both for free choice and for lack of choice regarding one's use of time and pursuit of active ageing as they reflect both the country specific welfare system and the socio-economic position of individuals that may enhance or limit options.

The creation of age-specific life-long educational opportunities such as the third-age university is obviously a pertinent instrument to incite older people to get involved in educational activities at higher ages. Such provisions may be partly the basis of the important between-country differences found in the EU in the educational participation rates of older people (Figure 3.21.). Taking advantage of educational opportunities is clearly associated, at all ages, also at higher ages, with various factors such as initial educational level, health, and income. However, the country-specific incentives and institutional set up clearly play a pivotal role. In the Nordic countries there are higher proportions of people in education at all ages, but particularly during the peak working age. Proportions of elderly people following some kind of educational program are also high, especially when compared to southern European countries. Participation rates clearly show that the Nordic system, more than any other European welfare model, encourages and provides an institutional setting for life-long learning both to increase employability and to promote active leisure of people as they age.

Figure 3.22. – Percent of people in education by age in selected countries

Source: own calculations based on the ECHP database (Avramov, 2002).

Furthermore, prevailing cultural values and norms with respect to the performance of various activities at higher ages must be taken into consideration. How to explain, otherwise, the important differences found between countries, or between gender, educational levels or social classes, in the willingness to continue working at higher ages.

Indeed, there is a striking difference between the small proportion of people who continue working beyond the statutory age of retirement, and the high proportion of retirees who would prefer to be working (see again Figures 3.3. and 3.8.). Several factors have been identified in this report to explain that remarkable difference: legal barriers, financial disincentives, poor health, preference for part-time work which is in short supply for the elderly, technological change, and discomfort or burden of particular jobs which may be available.

Chapter 4

Conclusions and policy implications

4.1. By way of conclusions

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Our analysis leads to the conclusion that active ageing stands for a set of values and norms generally acknowledged in standard-setting documents at international and national level but which are yet to be translated into integrated knowledge-based public policies and accepted as a way of life by the bulk of elderly people.

Gradual retirement is not yet very common. On the whole, the proportion of people working beyond the standard retirement age is very low in all European countries. Research shows that for a small minority of people only, retirement years are spent as years of active engagement in continuous labour market participation, active contribution to domestic tasks and provision of care for others, active participation in community life also by means of voluntary activities and active leisure.

Time-use studies show that home-centred leisure activities predominate among the elderly and that the additionally freed time after retirement is not used actively. Data illustrate that self-care that includes personal care, sleep or rest and (passive) leisure, mainly TV watching takes the bulk of people's life at higher age. There is not yet a clear shift to greater gender equality among elderly, particularly regarding housework.

Social and economic policies to offset some of the negative consequences of population ageing are still in the making and implementation strategies appear to be vague. At the international level, and in most countries, promoting youth employment, activation of women and employability of older workers, as well as creating work for those in retirement are dealt with by separate departments in a fragmented manner. In the absence of integrated public policies, it comes as no surprise that up to now only a small minority of people appear to pursue an active role in society either through paid work or other social activities after retirement. European societies have not so far been making use of the potential for work of elderly people above the age of statutory retirement and have even been encouraging the economic inactivity of elderly workers through early retirement schemes. Comprehensive

policies and practices in the Nordic countries aimed to promote life-long learning and prolonged economic activity of people as they age appear to be examples of up to date best practice.

Life expectancy has been increasing throughout the 20th century and the causes of death have largely shifted from infectious disease to senescent deterioration. As a consequence younger elderly people aged between 65 and 75 years reach today the third age in relatively good health and the bulk of elderly live under conditions of income security. The health and socio-economic profile of the oldest old is less favourable as a consequence of the individual ageing process and disparities in life chances of the oldest generations.

Statutory age at retirement has, meanwhile, remained unchanged in most European countries while *de facto* age at retirement has been declining for men throughout the 1970s, 80s and 90s. While the effective age at retirement has been increasing for women it is still considerably below statutory retirement age and economic inactivity is still very high among elderly women in many European countries.

Lack of policies, measures and services to effectively activate the elderly populations is in sharp contrast with the demographic ageing that has already occurred and which is expected to accelerate in the next 50 years or so. At the turn of the 21st century population ageing is the dominant demographic process in Europe. Europe has the highest percentage of old people and will continue to be the oldest region in the world. In the next fifteen years the European population will enter into a new phase of population ageing characterized not only by the increase in proportions and numbers of elderly people but also by the decrease in size of both the youth and the working age populations. Ageing will also be reflected in changes in the relative weights of broad age groups. Persistent low fertility and increase in longevity are the underlying factors of oncoming and expected changes in the age structure.

Current and expected pace of ageing in individual European countries varies considerably. It reflects very diverse demographic settings determined by the different onset of the demographic transition and changes in the weight of ageing determinants in the 20th century. On the one hand, there are countries with essentially young age structures like Albania, Turkey or Azerbaijan where the proportions of population aged 65 and over lie below 6%, and on the other hand, Italy, Greece and Sweden are countries where the elderly account for more than 17% of the population. In the next fifty years no country in Europe can expect to avoid progressive ageing. Between 2000 and 2015 rapid ageing of already aged countries is expected, while between 2015 and 2030 progressive ageing will affect all other European

countries. After 2030 population ageing is expected to continue at a slower pace in northern and western European countries but should speed up in other countries. In Spain and Italy the relative weight of elderly in 2050 is projected to rise to the historical peak of 38 and 36% respectively. Substantial ageing will also occur in currently younger countries where fertility has recently dropped to very low levels. In the large majority of European countries at least every fourth person is likely to be 65 years and over by 2050. In the next fifty years Turkey and Albania are expected to remain the youngest populations in Europe with the elderly population accounting for 18% of their total populations.

Many implications of ageing for the economy and social policy are directly linked to numbers of older people. Substantial changes in the upper part of the age pyramid are expected up to 2050. Since people who will be 50 or over in the first half of the 21st century are already born, the future growth is determined by mortality trends. The steady increase in longevity in all countries is expected and as a result there will be an increase in numbers of older people. In most countries the cohorts that will gradually enter older age will be numerically very uneven and this will cause fluctuations of growth rates of older age groups. Ageing of post-war baby-boomers will be the most significant factor, more particularly in the western European countries. In the next 15 years it will cause the more substantial increase of the pre-retirement age group in many countries, in 2015-2030 it will be reflected in the growth of the numbers of younger old and in 2030-2050 the arrival of baby-boomers will speed up the increases of the oldest old. Between-country differences in the intensity and timing of the growth of older populations are great. Generally, in today's older countries the increases will be smaller while in younger ones a much higher absolute growth of the older population can be expected as a legacy of the past high fertility levels. The oldest old will increase in number in the next 50 years while those aged 50 to 64 are expected to decrease in numbers in almost all countries after 2030. Also younger old are likely to slightly decrease before 2050 in western and northern European countries.

The prevalence of women among elderly is expected to persist in all countries, albeit at different levels, as a result of excess male mortality. The predominance of women in the elderly population is the highest in the former Soviet republics where very high sex differences in life expectancy are combined with the effect of war losses among men in World War II. The latter reason is apparent also in Germany and Austria and is more pronounced in the sex imbalance of the oldest old. The gender gap in life expectancy is projected to narrow in almost all countries in the future. As a result both younger old and oldest old will become gradually more gender balanced. This tendency will be much more apparent in the younger old group.

Age-dependency ratios give the first approximation of the burden of the economically inactive on the working age population. The retirement of the baby boomers between 2015 and 2030 will bring about a sharp increase in old-age dependency in the majority of countries. The changes of total dependency ratio in most countries are driven by the evolution of old-age dependency; the highest total dependency is expected to materialise in Spain with 96 dependants per 100 working age. For policy building the relation between young and elderly dependants is also important because public expenditure on older persons is several times higher than costs for the public of children or adolescents for whom the subsistence means are provided by the family. For policy makers a relevant picture of the potential burden put on the active population is given by taking into account activity rates both of working age and of elderly populations.

4.2. Policy implications

Dragana Avramov

4.2.1. Consequences for individuals of inactive ageing

Inactive ageing impacts individuals' live through loss of part of the income, allocation of much time to passive home-centred leisure and the loss of opportunity enhancement for potential activation that is beneficial both for health and self fulfilment.

Economic inactivity at older age impacts on financial resources available to individuals and families. The transition to retirement usually results in a substantial decrease of income. The level of income can be increased by continuing work, part-time or full-time, beyond the current age of statutory retirement and continued economic activity is indeed found to be a buffer against poverty for those who have acquired poor insurance based benefits (Avramov, 2002).

Free time increases in old age due to the disengagement from paid work. Duty-free years in retirement could enhance social relations both within family and in the community. Research shows that the increased free time after retirement is indeed partly devoted to social leisure. However, the bulk of time is allocated to the home-centred passive pursuits especially TV watching and rest.

There is extensive literature showing that engagement in productive roles of work or volunteering in old age is beneficial to older adults. Care-giving is more negatively associated with health outcomes, but multiple role involvement (care combined with other activities) seems to have a more positive effect (e.g. Morrow-Howell, 2000). Policy proposals that younger elderly should

provide more care for older elderly and thus reduce pressure on public services might not be the best of solutions. Care giving is often a stressful activity and reinforcement of the 'sub-culture' of the aged might not enhance the quality of life of people as they age. Promoting a variety of activities appears to be a beneficial policy response to the inactive ageing of the bulk of today's elderly people.

Satisfaction with several forms of activity varies with age, though not always in a simple linear fashion. Satisfaction with work slightly increases over the life course and lies both for women and men substantially above the degree of satisfaction homemakers report. Satisfaction with the state of retirement increases up to age 65-69 and then decreases only at very high age. A striking, but not surprising phenomenon is the strong increase in satisfaction with the amount of available leisure time, a process which starts already in midlife (probably due to the decreasing parental investment) and continues throughout old age. Retired people are satisfied that they have a lot of leisure time but do not appear to get much outside stimuli and institutional support to use that time actively for the benefit of society and their own health and wealth.

4.2.2. Consequence for public policies of inactive ageing

Neither the advanced market economies in Europe nor countries in transition are homogeneous groups. Remarkable between-country differences exist regarding social protection in general, and elderly people in particular, and demography.

We continue to observe considerable variation in the forms of state involvement in social protection, choice of priority areas and preferential rating of target groups, as well as in the public resources invested in social integration. The history of the national development of welfare regimes is embedded in social structures and is reflected in social processes which orient the setting of priorities for policy targeting. Country-specific structures and the history of welfare states seem to influence their capacity for reform.

All European countries, be they advanced market economies or countries in transition, share the main features of the demographic future. Namely, population ageing will continue with accelerating pace in the next decades and a growing number of people will spend an increasing number of years living alone. Both trends will require some considerable societal adaptations regarding work, family life and social protection. If active ageing is to be pursued as a coherent public policy in view of enhancing the social role and the capacity for autonomy in old age as well as the quality of life of all citizens in ageing societies, the reinforcement of the mediating role of the

state, rather than the disengagement of public authorities, may be a desirable way forward towards more population-friendly policies and practices.

High standards of welfare provisions have so far been needed to lift large numbers of elderly people out of income poverty and also help reduce generational disparities in life chances. The invisible hand of the labour market has, to date, proved an insufficient provider of a “minimum acceptable way of life”⁷ for the entirety of elderly people.

The trend towards early retirement well below the statutory limit has coincided with such factors as the disenchantment of older people with work, the self-interest of employers in removing from the labour market the elderly who are less skilled or more expensive than younger workers and the needs of families to use the pool of early retired relatives to provide informal care both to (grand) children and elderly parents.

Regarding the policy discourse on active ageing it is pertinent to note that the overwhelming majority of today's elderly are satisfied with their retirement and considerable changes in public policy and public opinion may be needed to promote longer working lives and later and more gradual retirement. Keeping the elderly economically active may require considerable public funding for skill enhancement given the generational disparities in educational attainment and labour market requirements. A considerable proportion of the elderly report bad health and health problems hamper them in their daily activities which make them poor competitors in the global economy.

However, the overwhelming majority of today's elderly, and even more so tomorrow's elderly are far from the image of “*de vieilles gens qui ruminent de vieilles idées dans de vieilles chaumières*” as depicted by the French demographer Alfred Sauvy in the mid-20th century. They are healthier, wealthier, better educated, have greater social capital and more duty-free time and duty-free years ahead than ever in human history. If greater opportunity for autonomous living and active ageing are to be pursued, public policies need to remove structural barriers to economic activity of elderly people, reduce stress at work and employer's pressure to push the elderly workers out of the workforce, further invest in health protection at all ages (in view of also decreasing the cumulative effect of health related impairments at higher ages) and build the work environment which is adaptable to all ages and levels of competence. In a nutshell, the tasks are two-dimensional and entail both removing structural barriers and creating opportunities.

7. In 1984 the Council of Ministers of the European Union defined the poor as “persons, families and groups of persons whose resources (material, cultural and social) are so limited as to exclude them from the minimum acceptable way of life in the member State in which they live”.

Finally, old age is a phase in the life course of individuals. The living circumstances depend largely on the individual's history which is a mix of chances and choices regarding health, education, work, family life, personality features and socio-cultural environment in which opportunities have been enhanced or limited. Thus, more effective ways are needed of spreading the risks associated with competition in the labour market, the low-income/high needs nexus, stress at work, and high demands on time in the workplace and family over the entire life-course.

4.3. Implications for future research

Good data are a prerequisite for systematic research and knowledge-based polity building. Internationally comparable data on activities, time-use, abilities, aptitudes, expectations and preferences of elderly people are conspicuously lacking.

Active ageing has up to date received more attention as a political concept than as a social condition. Much of the ongoing research is focused on the national active ageing policies in terms of policy goals, policy instruments and institutional settings and to a lesser degree on strategies to implement them.

There is a conspicuous lack of comparative research in view of assessing the effectiveness and efficiency of public policies in terms of economic benefits, use of social capital, and the quality of life of elderly people and their satisfaction with life chances. There is much space for research about expectations of people regarding their own old age, how elderly people live and feel about their life chances and responsibility sharing between individuals and the state in the life-long perspective.

4.3.1. The study of best practices

Socio-economic background and the normative basis of social protection appear to be the key factors of variation in the level of participation of the elderly in various domains of activity as well as for the satisfaction of aged people with their life chances. The tentative conclusion that may be drawn from our research is that countries may be identified as examples of, up to date, best practices in social protection and activation of their elderly people. Here we would point to the advantages provided by the Nordic welfare model.

In an international comparative perspective it is less, if at all, useful to look for individual projects or services that are set up in various socio-economic and cultural settings and highlight them as good practice because their aims appear to be appealing, without assessing their real contribution to the over-

all social policies and practices. We find examples of good individual projects or services in countries that are under-serving their elderly just as we find examples of bad practice in countries that have an outstanding record in enhancing the quality of life of the overwhelming majority of elderly people. The extraction of individual examples of good or bad practice from the general socio-economic and welfare context is of little research and policy relevance and can be misleading. A few examples of good practice should not serve as a screen to hide poor general performance of governments or the disengagement of some of the key policy actors and the conspicuous absence of a comprehensive age-friendly environment.

Snapshots of projects described in terms of aims rather than analysed in terms of achievements are poor instruments for knowledge-based policy building. For all those reasons we have not embarked in listing examples of appealing activating-the-elderly projects in this report. Identification and analysis of good and bad practice in terms of inputs, outputs and outcomes is a research area in its own right that requires the development of appropriate tools and comparative testing of the evaluation tools on various projects and services in a variety of cultural settings. The analytical evaluation needs to encompass the study of relevance, internal coherence, external coherence, effectiveness, performance, ethics, efficiency, legitimacy and reproducibility of a particular model (see for example for methodology Châtel and Soulet in EUROHOME project 2001). Identification of good examples of activating the elderly practices should be an output of scientifically credible evaluation, rather than an adhoc selection of good intentions. This challenge could be taken aboard in the future population related activities of the Council of Europe.

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Appendix 1

Selected tables

Appendix 1.1. – Healthy life expectancy (in years); (A: at birth; B: at age 60; C: expectation of lost healthy years at birth (in years); D: percentage of total life expectancy lost)

Country	Males				Females			
	A	B	C	D	A	B	C	D
Albania	56.5	11.4	7.9	12.2	62.3	14.4	10.6	14.5
Armenia	56.9	9.7	7.5	11.7	61.1	12.0	10.1	14.2
Austria	68.1	15.2	6.8	9.0	72.5	18.4	8.9	10.9
Azerbaijan	53.3	12.2	8.4	13.6	57.5	14.6	11.4	16.5
Belarus	55.4	9.9	6.6	10.7	64.8	14.4	9.2	12.4
Belgium	67.7	15.3	6.9	9.2	71.0	18.0	9.9	12.2
Bosnia and Herzegovina	62.1	12.4	6.6	9.5	65.3	14.3	9.4	12.5
Bulgaria	61.0	12.4	6.3	9.4	65.8	15.2	9.2	12.2
Croatia	60.8	11.4	9.0	12.9	67.1	15.2	10.6	13.6
Czech Republic	62.9	13.0	8.6	12.0	68.3	15.8	9.9	12.6
Denmark	68.9	15.7	5.3	7.2	70.1	16.5	8.4	10.7
Estonia	56.2	10.0	9.3	14.2	65.4	14.8	11.0	14.4
Finland	66.1	14.8	7.6	10.3	71.5	17.9	9.5	11.7
France	68.5	16.6	6.7	8.9	72.9	19.4	10.2	12.2
Georgia	56.1	9.5	9.6	14.6	60.2	11.1	11.6	16.1
Germany	67.4	14.8	6.9	9.3	71.5	17.6	9.2	11.4
Greece	69.7	16.0	5.7	7.6	72.3	17.6	8.5	10.5
Hungary	55.3	9.4	11.0	16.5	64.5	13.8	10.7	14.2
Ireland	67.8	14.3	6.3	8.5	70.9	16.9	8.8	11.0
Italy	69.5	16.3	6.4	8.5	72.8	18.8	9.6	11.6
Latvia	51.4	9.1	12.8	19.9	63.9	14.4	11.6	15.3
Lithuania	53.6	10.1	13.3	19.8	63.2	14.2	14.0	18.2
Netherlands	68.2	15.2	7.3	9.6	71.2	17.8	9.7	12.0
Norway	68.8	15.8	6.9	9.2	72.3	18.2	9.1	11.2
Poland	59.3	10.9	10.0	14.4	64.3	13.8	13.4	17.2
Portugal	63.9	13.6	7.8	10.9	68.6	16.0	10.7	13.5
Moldova	55.4	10.2	7.7	12.3	61.5	12.5	8.9	12.7
Romania	59.5	12.1	6.8	10.2	64.0	14.4	9.5	12.9
Russian Federation	50.3	8.2	9.1	15.3	60.6	12.2	11.4	15.8
Slovak Republic	59.6	10.7	9.7	14.0	65.2	14.0	12.3	15.9
Slovenia	64.5	13.6	7.4	10.3	69.3	16.7	10.2	12.8
Spain	68.7	15.8	6.6	8.8	72.5	18.3	9.8	11.9
Sweden	70.1	16.8	7.2	9.3	72.7	18.7	9.2	11.3
Switzerland	70.4	17.0	6.2	8.1	73.7	19.7	8.8	10.7
Macedonia	63.9	12.5	6.3	9.0	65.9	14.3	8.9	12.0
Turkey	56.8	11.2	10.0	14.9	60.5	13.4	12.0	16.5
Ukraine	52.3	8.1	10.3	16.4	61.3	11.8	12.0	16.4
United Kingdom	68.3	15.3	6.5	8.7	71.4	17.4	8.5	10.6
Yugoslavia	63.3	13.0	6.5	9.3	65.4	14.6	9.3	12.5

Source: based on WHO (2001).

Appendix 2.1. – Proportion of population in the age 65 and over in the total population and its absolute change, 2000-2050

Country	Proportion of population 65+ (%)				Absolute change (per cent points)		
	2000	2015	2030	2050	2000-2015	2015-2030	2030-2050
Albania	5.6	8.1	13.1	18.4	2.5	5.1	5.3
Armenia	9.4	10.3	19.2	29.3	0.9	8.9	10.1
Austria	15.5	20.0	27.9	34.0	4.5	7.9	6.1
Azerbaijan	5.9	8.1	15.1	23.7	2.1	7.0	8.6
Belarus	13.5	14.0	20.4	26.9	0.5	6.4	6.5
Belgium	16.7	19.9	26.0	29.0	3.1	6.1	3.1
Bosnia and Herzegovina ¹	9.9	13.6	22.7	29.1	3.7	9.1	6.4
Bulgaria	16.3	17.9	21.9	30.1	1.6	4.0	8.2
Croatia	12.5	16.9	21.4	24.3	4.4	4.4	3.0
Cyprus	11.4	14.8	19.6	23.2	3.4	4.8	3.6
Czech Republic	13.9	18.7	24.4	32.7	4.9	5.6	8.3
Denmark	14.8	19.5	24.2	25.9	4.7	4.7	1.7
Estonia	15.2	17.0	21.2	26.9	1.8	4.2	5.7
Finland	15.0	20.7	26.7	27.9	5.7	6.0	1.2
France	16.1	18.6	23.8	26.7	2.5	5.3	2.9
Georgia	13.6	15.0	21.0	27.5	1.4	6.0	6.5
Germany	16.2	21.0	27.7	31.0	4.7	6.7	3.3
Greece	17.3	21.2	26.2	34.1	3.9	5.0	7.9
Hungary	14.7	17.4	21.7	29.0	2.8	4.3	7.3
Iceland	11.6	14.1	20.0	23.4	2.5	5.9	3.4
Ireland	11.2	13.1	16.9	21.9	1.9	3.8	5.1
Italy	18.2	22.4	28.6	35.9	4.2	6.2	7.3

Latvia	15.2	17.9	22.3	28.2	2.7	4.4	5.8
Lithuania	13.6	16.6	22.3	28.9	3.0	5.7	6.6
Luxembourg	14.3	16.1	19.5	19.7	1.8	3.4	0.2
Malta	12.3	18.0	23.5	27.0	5.7	5.5	3.5
Moldova	9.4	10.2	16.5	23.5	0.8	6.3	7.0
Netherlands	13.6	17.8	24.2	26.5	4.2	6.4	2.3
Norway	15.1	18.2	23.5	26.2	3.1	5.4	2.6
Poland	12.3	14.8	21.4	27.9	2.5	6.7	6.5
Portugal	15.6	18.0	22.5	29.8	2.5	4.5	7.3
Romania	13.5	14.6	17.7	26.0	1.1	3.1	8.3
Russian Federation	12.6	13.8	20.9	27.7	1.2	7.1	6.7
Slovak Republic	11.5	13.7	20.2	28.9	2.3	6.5	8.6
Slovenia	14.1	18.5	26.9	34.8	4.4	8.4	7.9
Spain	16.9	19.8	26.5	37.6	2.9	6.7	11.1
Sweden	17.2	22.3	27.0	30.3	5.1	4.7	3.3
Switzerland	15.4	22.1	30.2	31.9	6.7	8.1	1.7
Macedonia	10.0	12.9	18.5	26.1	2.9	5.6	7.6
Turkey	5.6	7.2	11.1	17.9	1.6	3.9	6.9
Ukraine ²	14.0	15.7	21.1	28.7	1.7	5.5	7.6
United Kingdom	15.6	18.9	24.3	27.3	3.3	5.5	3.0
Yugoslavia	13.6	15.1	19.3	25.0	1.5	4.2	5.7
Europe	13.9	16.4	22.1	27.6	2.5	5.7	5.5

¹ data in 2000 from: United Nations, 2001a; ² data in 2000 from: Council of Europe, 2002.
Source: Council of Europe, 2001; United Nations, 2001a.

Appendix 2.2. – Fertility, mortality and migration assumptions in the UN projections-medium variant

Country	Total fertility rate			Life expectancy at birth-males			Life expectancy at birth-females		
	2000 ¹	2025-2030	2045-2050	2000 ¹	2025-2030	2045-2050	2000 ¹	2025-2030	2045-2050
Albania	2.10	2.10	2.10	71.7	74.9	77.2	76.4	80.7	82.7
Armenia	1.11	1.40	1.70	73.2	74.0	76.6	77.6	79.6	81.9
Austria	1.34	1.42	1.65	75.4	78.8	80.8	81.2	84.6	86.6
Azerbaijan	1.71	1.65	1.90	68.5	73.3	76.2	74.1	79.2	81.8
Belarus	1.31	1.59	1.86	63.4	70.8	74.4	74.6	78.6	81.2
Belgium	1.66	1.63	1.82	74.4	79.1	81.1	80.8	84.7	86.7
Bosnia and Herz.	1.21	1.50	1.70	70.5	74.4	76.4	75.9	79.5	81.5
Bulgaria	1.26	1.56	1.89	68.5	71.9	75.3	75.1	78.5	81.1
Croatia	1.36	1.80	1.90	70.2	74.0	76.6	77.0	80.6	82.6
Cyprus	1.83	1.90	1.90	75.3	78.3	79.9	80.4	82.9	84.5
Czech Republic	1.14	1.57	1.97	71.7	76.6	78.4	78.4	82.8	84.4
Denmark	1.77	1.75	1.90	74.5	77.3	79.0	79.3	82.2	83.9
Estonia	1.39	1.67	2.00	65.6	71.3	74.7	76.4	79.5	81.5
Finland	1.73	1.72	1.94	74.2	78.2	79.8	81.0	84.5	86.1
France	1.89	1.87	1.90	74.9	78.6	80.6	82.4	85.3	87.3
Georgia	1.35	1.60	1.90	73.0	73.7	76.3	76.5	80.4	82.4
Germany	1.36	1.45	1.61	74.7	78.8	80.7	80.7	84.2	86.2
Greece	1.29	1.53	1.85	75.5	78.3	79.9	80.6	83.5	85.1
Hungary	1.32	1.59	1.97	67.2	73.2	76.1	75.7	80.5	82.5
Iceland	2.08	1.96	2.10	78.0	79.2	80.8	81.4	83.9	85.5
Ireland	1.89	2.08	2.10	74.2	77.2	78.9	79.2	82.4	84.0
Italy	1.23	1.41	1.61	75.7	77.9	79.5	81.8	84.0	85.6
Latvia	1.24	1.63	2.00	65.0	71.2	74.6	76.1	79.3	81.3

Lithuania	1.27	1.63	2.00	67.5	73.2	76.1	77.7	81.1	83.0
Luxembourg	1.79	1.83	1.90	74.9	78.4	80.0	81.3	83.9	85.5
Malta	1.67	1.77	1.84	75.1	80.0	82.0	79.3	84.1	86.1
Moldova	1.30	1.60	1.90	63.9	71.0	74.6	71.2	76.1	79.7
Netherlands	1.72	1.66	1.81	75.5	78.0	79.6	80.5	83.3	84.9
Norway	1.85	1.86	2.07	76.0	78.8	80.8	81.4	84.7	86.7
Poland	1.34	1.68	2.10	69.7	74.6	76.9	77.9	81.4	83.3
Portugal	1.52	1.62	1.83	72.6	76.0	77.9	79.6	82.4	84.1
Romania	1.31	1.69	2.05	67.7	71.6	74.2	74.6	77.7	79.7
Russian Fed.	1.21	1.44	1.75	59.0	68.7	73.1	72.2	77.4	80.5
Slovak Republic	1.29	1.49	1.70	69.2	74.0	76.6	77.4	80.4	82.4
Slovenia	1.26	1.47	1.83	72.3	76.8	78.6	79.7	83.4	85.0
Spain	1.24	1.37	1.64	75.5	77.8	79.4	82.7	84.3	85.9
Sweden	1.54	1.65	2.01	77.4	80.1	82.1	81.7	85.1	87.1
Switzerland	1.50	1.53	1.72	76.9	78.3	79.9	82.6	84.4	86.0
Macedonia	1.88	1.58	1.90	70.5	74.8	77.1	74.8	79.5	81.8
Turkey	2.50	2.10	2.10	66.9	73.4	76.0	71.5	78.4	81.3
Ukraine	1.10	1.45	1.70	63.0	70.2	74.0	74.0	77.9	80.8
United Kingdom	1.65	1.75	1.91	75.4	79.0	80.6	80.2	84.0	85.6
Yugoslavia	1.67	1.68	1.90	70.1	74.3	76.6	75.0	79.3	81.6

¹ current level (Council of Europe, 2001).

Appendix 2.2. – cont.

Country	Net migration rate (per 1000 population)		
	2000-2005	2025-2030	2045-2050
Albania	-6.3	-2.7	-2.6
Armenia	-1.3	-1.4	-1.5
Austria	0.6	0.7	0.8
Azerbaijan	-0.6	-0.5	-0.6
Belarus	1.0	1.1	1.2
Belgium	1.3	1.3	1.3
Bosnia and Herz.	9.8	0.0	0.0
Bulgaria	-2.6	-3.4	-4.3
Croatia	0.0	0.0	0.0
Cyprus	1.9	0.0	0.0
Czech Republic	1.0	1.0	1.2
Denmark	1.9	1.9	2.0
Estonia	-6.8	-6.8	-9.0
Finland	0.8	0.8	0.8
France	0.7	0.6	0.6
Georgia	-5.8	-7.0	-9.0
Germany	2.2	2.3	2.5
Greece	1.9	2.0	2.2
Hungary	-0.4	0.0	0.0
Iceland	0.0	0.0	0.0
Ireland	2.6	2.1	1.9
Italy	1.0	1.2	1.4
Latvia	0.0	0.0	0.0
Lithuania	0.0	0.0	0.0
Luxembourg	8.9	6.8	5.7
Malta	0.0	0.0	0.0
Moldova	-1.9	-2.0	-2.2
Netherlands	1.9	1.8	1.9
Norway	2.2	2.1	2.0
Poland	-0.5	-0.5	-0.6
Portugal	1.0	1.0	1.1
Romania	-0.2	-0.2	-0.3
Russian Federation	0.3	0.4	0.5
Slovak Republic	0.4	0.4	0.4

Slovenia	0.5	0.5	0.6
Spain	0.8	0.8	0.9
Sweden	1.1	1.2	1.3
Switzerland	0.6	0.6	0.7
Macedonia	0.0	0.0	0.0
Turkey	-0.7	-0.6	-0.5
Ukraine	-2.1	-2.6	-3.2
United Kingdom	1.6	1.6	1.6
Yugoslavia	-1.9	0.6	0.7

Source: United Nations, 2001a.

Appendix 2.3. – Distribution of European countries according to the proportion of the elderly in the total population

Per cent 65 and over	Year			
	2000	2015	2030	2050
Less than 10.0	Albania 5.6 Turkey 5.6 Azerbaijan 5.9 Armenia 9.4 Moldova 9.4 Bosnia and Herz. 9.9	Turkey 7.2 Albania 8.1 Azerbaijan 8.1	-	-
10.0-14.9	Macedonia 10.0 Ireland 11.2 Cyprus 11.4 Slovak Rep. 11.5 Iceland 11.6 Poland 12.3 Malta 12.3 Croatia 12.5 Russian Fed. 12.6 Romania 13.5 Belarus 13.5 Netherlands 13.6 Yugoslavia 13.6 Lithuania 13.6 Georgia 13.6 Czech Rep. 13.9 Ukraine ^e 14.0 Slovenia 14.1 Luxembourg 14.3 Hungary 14.7 Denmark 14.8	Moldova 10.2 Armenia 10.3 Macedonia 12.9 Ireland 13.1 Bosnia-Herz. 13.6 Slovak Rep. 13.7 Russian Fed. 13.8 Belarus 14.0 Iceland 14.1 Romania 14.6 Poland 14.8 Cyprus 14.8	Turkey 11.1 Albania 13.1	-

15.0-19.9	Finland Norway Estonia Latvia Switzerland Austria Portugal United Kingdom France Germany Bulgaria Belgium Spain Sweden Greece Italy	15.0 15.1 15.2 15.2 15.4 15.5 15.6 15.6 16.1 16.2 16.3 16.7 16.9 17.2 17.3 18.2	Georgia Yugoslavia Ukraine Luxembourg Lithuania Croatia Estonia Hungary Netherlands Bulgaria Latvia Malta Portugal Norway Slovenia France Czech Rep. UK Denmark Spain Belgium	15.0 15.1 15.7 16.1 16.6 16.9 17.0 17.4 17.8 17.9 17.9 18.0 18.0 18.2 18.5 18.6 18.7 18.9 19.5 19.8 19.9	Azerbaijan Moldova Ireland Romania Macedonia Armenia Yugoslavia Luxembourg Cyprus	15.1 16.5 16.9 17.7 18.5 19.2 19.3 19.5 19.6	Turkey Albania Luxembourg	17.9 18.4 19.7
20.0-24.9	-	Austria Finland Germany Greece Switzerland Sweden Italy	Iceland Slovak Rep. Belarus Russian Fed. Georgia Ukraine Estonia Croatia Poland Hungary Bulgaria Lithuania Latvia Portugal Bosnia -Herz. Malta Norway France Denmark Netherlands UK Czech Rep.	20.0 20.7 21.0 21.2 22.1 22.3 22.4	Iceland Slovak Rep. Belarus Russian Fed. Georgia Ukraine Estonia Croatia Poland Hungary Bulgaria Lithuania Latvia Portugal Bosnia -Herz. Malta Norway France Denmark Netherlands UK Czech Rep.	20.0 20.2 20.4 20.9 21.0 21.1 21.2 21.4 21.4 21.7 21.9 22.3 22.3 22.5 22.7 23.5 23.5 23.8 24.2 24.2 24.3 24.4	Ireland Cyprus Iceland Moldova Azerbaijan Croatia	21.9 23.2 23.4 23.5 23.7 24.3

25.0-29.9	-	-	Belgium Greece Spain Finland Slovenia Sweden Germany Austria Italy	26.0 26.2 26.5 26.7 26.9 27.0 27.7 27.9 28.6	Yugoslavia Denmark Romania Macedonia Norway Netherlands France Belarus Estonia Malta UK Georgia Russian Fed. Finland Poland Latvia Ukraine Slovak Rep. Lithuania Hungary Belgium Bosnia-Herz. Armenia Portugal	25.0 25.9 26.0 26.1 26.2 26.5 26.7 26.9 26.9 27.0 27.3 27.5 27.7 27.9 27.9 28.2 28.7 28.9 28.9 29.0 29.0 29.1 29.3 29.8
30.0-34.9	-	-	Switzerland	30.2	Bulgaria Sweden Germany Switzerland Czech Rep. Austria Greece Slovenia	30.1 30.3 31.0 31.9 32.7 34.0 34.1 34.8
35.0 and more	-	-	-	-	Italy Spain	35.9 37.6

¹ data in 2000 from: United Nations, 2001a; ² data in 2000 from: Council of Europe, 2002
Source: Council of Europe, 2001. United Nations, 2001a.

Appendix 2.4. – Absolute numbers, indices of growth and average annual growth rates of population aged 50-64 years, 2000-2050

Country	Absolute number (in thousands)					Index of growth (2000=100)				
	2000	2015	2030	2050		2000	2015	2030	2050	
Albania	416	548	658	755		100	132	158	182	
Armenia	437	797	785	780		100	182	180	179	
Austria	1425	1770	1653	1341		100	124	116	94	
Azerbaijan	702	1518	1760	2074		100	216	251	296	
Belarus	1545	2099	1926	1793		100	136	125	116	
Belgium	1714	2226	2037	1862		100	130	119	109	
Bosnia and Herz. ¹	588	1005	906	748		100	171	154	127	
Bulgaria	1527	1438	1422	968		100	94	93	63	
Croatia	833	966	881	776		100	116	106	93	
Cyprus	117	158	160	173		100	135	137	148	
Czech Republic	1922	2060	2328	1678		100	107	121	87	
Denmark	1015	1112	1097	1007		100	110	108	99	
Estonia	242	244	217	156		100	101	90	64	
Finland	995	1116	950	921		100	112	95	93	
France	9677	12325	11825	10874		100	127	122	112	
Georgia	572	974	859	696		100	170	150	122	
Germany	15570	18543	16306	14289		100	119	105	92	
Greece	1852	2161	2387	1675		100	117	129	90	
Hungary	1765	1880	2052	1555		100	107	116	88	
Iceland	39	58	59	62		100	149	152	160	
Ireland	541	748	915	868		100	138	169	161	
Italy	10736	12018	12468	8265		100	112	116	77	

Latvia	426	468	442	377	100	110	104	88
Lithuania	591	722	725	653	100	122	123	110
Luxembourg	73	101	102	128	100	139	140	176
Malta	69	82	77	75	100	119	112	109
Moldova	476	819	773	803	100	172	162	169
Netherlands	2799	3567	3401	3133	100	127	121	112
Norway	745	944	952	938	100	127	128	126
Poland	5929	8364	7639	6690	100	141	129	113
Portugal	1734	1968	2295	1655	100	114	132	95
Romania	3634	3958	4937	3644	100	109	136	100
Russian Federation	23148	30324	26046	23233	100	131	113	100
Slovak Republic	812	1116	1179	998	100	137	145	123
Slovenia	342	443	422	306	100	129	123	89
Spain	6411	8152	9454	5777	100	127	147	90
Sweden	1676	1757	1705	1640	100	105	102	98
Switzerland	1290	1643	1306	1164	100	127	101	90
Macedonia	299	403	438	432	100	135	146	144
Turkey	6612	10984	16010	18008	100	166	242	272
Ukraine ²	8593	9306	8395	6907	100	108	98	80
United Kingdom	10193	12442	12077	11640	100	122	118	114
Yugoslavia	1709	2039	2047	1892	100	119	120	111
Europe	131789	165366	164073	143409	100	125	124	109

Appendix 2.4. – cont.

Country	Average annual growth rate (%)		
	2000-2015	2015-2030	2030-2050
Albania	1.84	1.22	0.69
Armenia	4.01	-0.10	-0.03
Austria	1.45	-0.46	-1.05
Azerbaijan	5.15	0.99	0.82
Belarus	2.04	-0.57	-0.36
Belgium	1.74	-0.59	-0.45
Bosnia and Herz. ¹	3.57	-0.69	-0.96
Bulgaria	-0.40	-0.07	-1.92
Croatia	0.99	-0.61	-0.63
Cyprus	2.01	0.08	0.39
Czech Republic	0.46	0.82	-1.64
Denmark	0.61	-0.09	-0.43
Estonia	0.05	-0.78	-1.65
Finland	0.76	-1.07	-0.16
France	1.61	-0.28	-0.42
Georgia	3.55	-0.84	-1.05
Germany	1.16	-0.86	-0.66
Greece	1.03	0.66	-1.77
Hungary	0.42	0.58	-1.39
Iceland	2.67	0.11	0.25
Ireland	2.16	1.34	-0.26
Italy	0.75	0.25	-2.06
Latvia	0.62	-0.38	-0.80
Lithuania	1.33	0.03	-0.52
Luxembourg	2.20	0.07	1.14
Malta	1.16	-0.42	-0.13
Moldova	3.61	-0.39	0.19
Netherlands	1.62	-0.32	-0.41
Norway	1.58	0.06	-0.07
Poland	2.29	-0.60	-0.66
Portugal	0.84	1.02	-1.63
Romania	0.57	1.47	-1.52
Russian Federation	1.80	-1.01	-0.57
Slovak Republic	2.12	0.37	-0.83

Slovenia	1.72	-0.32	-1.61
Spain	1.60	0.99	-2.46
Sweden	0.32	-0.20	-0.19
Switzerland	1.61	-1.53	-0.58
Macedonia	1.99	0.56	-0.07
Turkey	3.38	2.51	0.59
Ukraine ²	0.53	-0.69	-0.98
United Kingdom	1.33	-0.20	-0.18
Yugoslavia	1.18	0.03	-0.39
Europe	1.51	-0.05	-0.67

¹ data in 2000 from: United Nations, 2001a; ² data in 2000 from: Council of Europe, 2002.
 Source: Council of Europe, 2001; United Nations. 2001b.

Appendix 2.5. – Absolute numbers, indices of growth and average annual growth rates of population aged 65-79 years, 2000-2050

Country	Absolute number (in thousands)					Index of growth (2000=100)				
	2000	2015	2030	2050		2000	2015	2030	2050	
Albania	167	235	421	534		100	141	253	320	
Armenia	307	308	601	682		100	100	196	222	
Austria	965	1154	1499	1257		100	120	155	130	
Azerbaijan	421	517	1161	1489		100	123	276	354	
Belarus	1155	1023	1520	1629		100	89	132	141	
Belgium	1359	1429	1887	1677		100	105	139	123	
Bosnia and Herz. ¹	351	458	759	700		100	130	216	199	
Bulgaria	1148	971	991	1029		100	85	86	90	
Croatia	437	588	732	697		100	135	168	159	
Cyprus	68	99	132	142		100	145	194	209	
Czech Republic	1173	1473	1654	1955		100	126	141	167	
Denmark	578	810	914	823		100	140	158	142	
Estonia	172	153	162	148		100	89	94	86	
Finland	600	814	941	811		100	136	157	135	
France	7240	8037	10536	10086		100	111	146	139	
Georgia	456	523	685	617		100	115	150	135	
Germany	10416	12447	15610	12594		100	119	150	121	
Greece	1446	1572	1858	2001		100	109	128	138	
Hungary	1222	1244	1384	1593		100	102	113	130	
Iceland	25	31	49	51		100	124	195	203	
Ireland	327	449	621	858		100	137	190	262	
Italy	8168	8842	10197	9370		100	108	125	115	

Latvia	299	295	329	349	100	99	110	117
Lithuania	411	430	558	582	100	105	136	142
Luxembourg	49	61	88	90	100	124	178	183
Malta	38	58	69	70	100	153	183	185
Moldova	300	350	555	655	100	117	185	218
Netherlands	1658	2245	2945	2586	100	135	178	156
Norway	482	628	811	774	100	130	168	161
Poland	3966	4277	6104	6829	100	108	154	172
Portugal	1292	1348	1625	1861	100	104	126	144
Romania	2609	2458	2825	3612	100	94	108	138
Russian Federation	15428	14320	20794	21299	100	93	135	138
Slovak Republic	515	582	838	1004	100	113	163	195
Slovenia	234	266	361	350	100	113	154	149
Spain	5266	5375	6964	7591	100	102	132	144
Sweden	1078	1421	1520	1412	100	132	141	131
Switzerland	818	1143	1399	1008	100	140	171	123
Macedonia	179	216	305	364	100	121	171	204
Turkey	3239	4677	8383	13979	100	144	259	432
Ukraine ²	5755	5336	6357	6353	100	93	110	110
United Kingdom	6910	8429	10611	9751	100	122	154	141
Yugoslavia	1267	1195	1495	1665	100	94	118	131
Europe	89993	98287	129250	132927	100	109	144	148

Appendix 2.5. – cont.

Country	Average annual growth rate (%)		
	2000-2015	2015-2030	2030-2050
Albania	2.29	3.89	1.19
Armenia	0.03	4.46	0.63
Austria	1.19	1.74	-0.88
Azerbaijan	1.37	5.39	1.24
Belarus	-0.81	2.64	0.35
Belgium	0.34	1.85	-0.59
Bosnia and Herz. ¹	1.77	3.37	-0.40
Bulgaria	-1.12	0.14	0.19
Croatia	1.98	1.46	-0.24
Cyprus	2.49	1.92	0.37
Czech Republic	1.52	0.77	0.84
Denmark	2.25	0.81	-0.52
Estonia	-0.77	0.38	-0.45
Finland	2.03	0.97	-0.74
France	0.70	1.80	-0.22
Georgia	0.91	1.80	-0.52
Germany	1.19	1.51	-1.07
Greece	0.56	1.11	0.37
Hungary	0.12	0.71	0.70
Iceland	1.41	3.05	0.20
Ireland	2.11	2.16	1.62
Italy	0.53	0.95	-0.42
Latvia	-0.08	0.73	0.30
Lithuania	0.30	1.74	0.21
Luxembourg	1.42	2.44	0.11
Malta	2.85	1.16	0.07
Moldova	1.03	3.07	0.83
Netherlands	2.02	1.81	-0.65
Norway	1.77	1.70	-0.23
Poland	0.50	2.37	0.56
Portugal	0.28	1.25	0.68
Romania	-0.40	0.93	1.23
Russian Federation	-0.50	2.49	0.12
Slovak Republic	0.81	2.43	0.90

Slovenia	0.84	2.04	-0.15
Spain	0.14	1.73	0.43
Sweden	1.84	0.45	-0.37
Switzerland	2.23	1.35	-1.64
Macedonia	1.26	2.30	0.88
Turkey	2.45	3.89	2.56
Ukraine ²	-0.50	1.17	0.00
United Kingdom	1.32	1.53	-0.42
Yugoslavia	-0.39	1.49	0.54
Europe	0.59	1.83	0.14

¹ data in 2000 from: United Nations, 2001b; ² data in 2000 from: Council of Europe, 2002.
Source: Council of Europe, 2001; United Nations, 2001b.

Appendix 2.6. – Absolute numbers, indices of growth and average annual growth rates of population aged 80 years and over, 2000-2050

Country	Absolute number (in thousands)				Index of growth (2000=100)				
	2000	2015	2030	2050	2000	2015	2030	2050	
Albania	23	42	72	184	100	179	307	784	
Armenia	50	84	102	241	100	169	205	485	
Austria	295	417	579	937	100	142	197	318	
Azerbaijan	60	188	217	621	100	315	364	1042	
Belarus	192	328	348	604	100	171	181	314	
Belgium	356	611	745	1106	100	171	209	310	
Bosnia and Herz. ¹	43	124	164	307	100	288	381	714	
Bulgaria	183	250	278	334	100	137	152	183	
Croatia	111	194	220	319	100	175	198	287	
Cyprus	19	28	44	75	100	150	235	401	
Czech Republic	250	407	665	800	100	163	266	320	
Denmark	214	235	378	492	100	110	177	230	
Estonia	36	49	49	54	100	136	136	150	
Finland	177	259	416	497	100	146	235	281	
France	2278	3469	4473	6443	100	152	196	283	
Georgia	78	193	186	268	100	249	240	345	
Germany	2935	4476	5909	9332	100	153	201	318	
Greece	373	647	753	1063	100	173	202	285	
Hungary	246	369	468	576	100	150	190	234	
Iceland	8	10	16	26	100	125	200	325	
Ireland	96	127	201	319	100	132	209	331	
Italy	2388	3546	4317	6039	100	148	181	253	

Latvia	62	104	111	142	100	168	179	230
Lithuania	92	157	186	281	100	171	202	306
Luxembourg	14	21	30	48	100	151	216	345
Malta	9	16	29	38	100	172	312	409
Moldova	42	73	101	187	100	174	241	447
Netherlands	517	681	1066	1608	100	132	206	311
Norway	197	221	332	504	100	112	169	256
Poland	780	1344	1739	2482	100	172	223	318
Portugal	303	461	561	824	100	152	185	272
Romania	408	669	735	1100	100	164	180	270
Russian Federation	2860	4081	4642	7572	100	143	162	265
Slovak Republic	104	162	219	345	100	155	210	331
Slovenia	47	90	122	181	100	191	260	385
Spain	1527	2365	2691	4180	100	155	176	274
Sweden	453	504	757	949	100	111	167	210
Switzerland	291	398	583	781	100	137	200	268
Macedonia	24	52	74	130	100	219	312	548
Turkey	467	1009	1576	3751	100	216	337	803
Ukraine ²	1093	1449	1586	2253	100	133	145	206
United Kingdom	2407	3003	4314	6345	100	125	179	264
Yugoslavia	181	364	409	592	100	201	226	327
Europe	22286	33277	42463	64930	100	149	191	292

Appendix 2.6. – cont.

Country	Average annual growth rate (%)		
	2000-2015	2015-2030	2030-2050
Albania	3.88	3.59	4.69
Armenia	3.51	1.29	4.30
Austria	2.32	2.19	2.41
Azerbaijan	7.66	0.96	5.26
Belarus	3.56	0.39	2.76
Belgium	3.59	1.32	1.98
Bosnia and Herz. ¹	7.06	1.86	3.13
Bulgaria	2.08	0.71	0.92
Croatia	3.72	0.84	1.86
Cyprus	2.69	3.01	2.67
Czech Republic	3.26	3.27	0.92
Denmark	0.64	3.17	1.32
Estonia	2.07	0.00	0.49
Finland	2.53	3.16	0.89
France	2.80	1.69	1.82
Georgia	6.07	-0.25	1.83
Germany	2.81	1.85	2.28
Greece	3.67	1.01	1.72
Hungary	2.71	1.58	1.04
Iceland	1.49	3.13	2.43
Ireland	1.85	3.06	2.31
Italy	2.63	1.31	1.68
Latvia	3.46	0.43	1.23
Lithuania	3.57	1.13	2.06
Luxembourg	2.75	2.38	2.35
Malta	3.62	3.96	1.35
Moldova	3.71	2.16	3.08
Netherlands	1.84	2.99	2.06
Norway	0.77	2.71	2.09
Poland	3.63	1.72	1.78
Portugal	2.80	1.31	1.92
Romania	3.29	0.63	2.02
Russian Federation	2.37	0.86	2.45
Slovak Republic	2.94	2.01	2.27

Slovenia	4.33	2.03	1.97
Spain	2.92	0.86	2.20
Sweden	0.72	2.71	1.13
Switzerland	2.08	2.54	1.46
Macedonia	5.23	2.35	2.82
Turkey	5.13	2.97	4.34
Ukraine ²	1.88	0.60	1.76
United Kingdom	1.48	2.42	1.93
Yugoslavia	4.65	0.78	1.85
Europe	2.68	1.63	2.12

¹ data in 2000 from: United Nations, 2001a; ² data in 2000 from: Council of Europe, 2002.
 Source: Council of Europe, 2001; United Nations, 2001b.

Appendix 2.7. – Masculinity ratio for population aged 50 and over by age groups, 2000-2050 (males per 100 females)

Country	50-64					65-79				
	2000	2015	2030	2050	2000	2015	2030	2050		
	Albania	107	103	104	105	81	91	90	93	
Armenia	82	83	95	101	75	67	71	86		
Austria	97	101	101	103	70	84	90	92		
Azerbaijan	88	85	78	101	78	72	74	88		
Belarus	80	85	86	95	53	55	62	73		
Belgium	98	100	101	103	77	86	90	93		
Bosnia and Herz. ¹	90	96	100	102	74	77	83	88		
Bulgaria	90	88	94	98	76	71	71	81		
Croatia	88	97	96	98	58	75	80	85		
Cyprus	97	98	103	101	81	87	89	95		
Czech Republic	93	96	100	101	68	76	81	87		
Denmark	100	101	101	102	82	90	91	91		
Estonia	78	82	92	95	54	58	65	76		
Finland	98	98	99	100	72	84	86	89		
France	97	94	98	101	77	84	83	89		
Georgia	80	84	95	99	62	68	72	85		
Germany	99	102	104	106	70	84	91	94		
Greece	95	96	99	102	83	84	85	90		
Hungary	84	88	96	99	63	64	69	81		
Iceland	103	100	97	100	89	94	88	89		
Ireland	101	95	100	103	84	88	84	91		
Italy	95	97	99	102	77	81	85	88		

Latvia	78	85	93	97	51	59	62	78
Lithuania	79	86	91	96	56	61	70	79
Luxembourg	102	98	96	100	75	91	87	88
Malta	95	105	103	108	75	87	92	100
Moldova	80	82	91	98	63	65	70	81
Netherlands	102	101	102	102	80	89	89	91
Norway	102	102	101	103	82	89	90	91
Poland	89	99	97	100	66	70	74	84
Portugal	90	91	105	101	74	74	78	86
Romania	89	90	94	98	74	73	74	80
Russian Federation	78	80	86	92	50	55	60	70
Slovak Republic	87	92	97	100	64	68	75	83
Slovenia	97	97	98	101	63	80	83	88
Spain	95	96	99	101	79	81	85	88
Sweden	101	102	102	103	83	92	93	94
Switzerland	98	104	101	101	77	88	93	91
Macedonia	93	100	100	103	82	80	85	90
Turkey	98	99	100	100	88	85	86	88
Ukraine ²	77	80	88	95	54	56	62	74
United Kingdom	98	99	102	103	82	87	90	93
Yugoslavia	94	97	100	103	78	79	82	88
Europe	91	93	96	100	69	75	79	84

Appendix 2.7. – cont.

Country	80+			
	2000	2015	2030	2050
Albania	53	40	41	48
Armenia	54	53	50	51
Austria	40	49	59	64
Azerbaijan	35	53	49	54
Belarus	29	31	33	38
Belgium	42	51	59	63
Bosnia and Herz. ¹	48	53	50	54
Bulgaria	63	49	42	42
Croatia	48	41	45	51
Cyprus	68	56	63	79
Czech Republic	43	40	47	53
Denmark	50	54	61	61
Estonia	30	32	32	35
Finland	37	46	56	55
France	46	49	56	55
Georgia	69	48	48	52
Germany	36	48	56	64
Greece	70	65	63	63
Hungary	43	37	36	43
Iceland	60	67	78	63
Ireland	54	55	57	56
Italy	48	50	54	58
Latvia	30	22	26	35
Lithuania	41	38	41	50
Luxembourg	39	40	58	55
Malta	60	45	61	65
Moldova	44	46	49	51
Netherlands	44	51	59	61
Norway	50	51	60	59
Poland	44	41	42	47
Portugal	51	44	44	50
Romania	55	58	51	50
Russian Federation	26	32	34	37
Slovak Republic	48	43	43	50

Slovenia	38	38	47	51
Spain	51	53	55	58
Sweden	54	56	63	64
Switzerland	49	52	60	62
Macedonia	74	53	48	53
Turkey	72	71	62	54
Ukraine ²	28	37	37	40
United Kingdom	47	55	60	63
Yugoslavia	74	62	57	57
Europe	42	47	51	54

¹ data in 2000 from: United Nations, 2001b; ² data in 2000 from: Council of Europe, 2002.
 Source: Council of Europe, 2001; United Nations, 2001b.

Appendix 2.8. – Dependency ratios and their percent change, 2000-2050

Country	Youth dependency						
	2000	2015	2030	2050	Percent change		
					2000-2015	2015-2030	2030-2050
Albania	52	33	32	30	-37	-1	-6
Armenia	34	19	18	21	-45	-2	15
Austria	25	17	20	21	-30	15	7
Azerbaijan	46	23	24	25	-49	3	3
Belarus	27	20	21	25	-26	3	21
Belgium	27	21	24	25	-22	13	6
Bosnia and Herzegovina ¹	27	19	20	22	-27	2	14
Bulgaria	23	17	18	25	-24	6	33
Croatia	29	25	26	27	-13	1	7
Cyprus	33	29	28	28	-10	-3	-2
Czech Republic	23	19	19	25	-20	2	33
Denmark	28	23	25	26	-17	10	1
Estonia	26	20	21	27	-25	6	29
Finland	27	22	26	26	-19	17	3
France	29	27	27	28	-6	0	3
Georgia	31	21	22	25	-32	3	14
Germany	23	18	21	22	-21	14	6
Greece	22	19	20	25	-14	1	27
Hungary	25	19	20	25	-22	6	25
Iceland	36	28	29	29	-22	6	0
Ireland	33	34	29	32	3	-12	10
Italy	21	18	18	22	-14	-1	19

Latvia	26	18	20	26	-30	12	31
Lithuania	28	18	21	26	-35	15	22
Luxembourg	29	26	28	28	-10	10	-1
Malta	29	26	27	26	-11	1	-1
Moldova	36	23	22	25	-36	-2	12
Netherlands	27	22	24	25	-21	11	3
Norway	31	24	27	28	-22	13	2
Poland	27	21	22	28	-25	8	26
Portugal	24	23	21	26	-6	-6	20
Romania	26	22	21	27	-18	-4	31
Russian Federation	25	19	19	23	-26	1	22
Slovak Republic	28	21	20	23	-24	-5	14
Slovenia	22	17	18	24	-24	7	29
Spain	21	19	17	22	-14	-7	31
Sweden	29	19	24	25	-34	27	5
Switzerland	26	18	23	23	-28	22	0
Macedonia	32	21	22	24	-35	5	7
Turkey	46	35	33	31	-23	-7	-5
Ukraine ²	25	18	19	22	-28	4	19
United Kingdom	29	23	26	26	-21	12	1
Yugoslavia	30	23	23	25	-24	1	9

Appendix 2.8. – cont.

Country	Old-age dependency							
	2000	2015	2030	2050	Percent change			2030-2050
					2000-2015	2015-2030	2030-2050	
Albania	9	12	20	29	29	72	47	
Armenia	14	14	28	50	-2	107	78	
Austria	23	29	46	62	28	58	35	
Azerbaijan	9	11	22	39	17	103	76	
Belarus	20	19	31	46	-1	59	49	
Belgium	25	30	43	51	18	45	18	
Bosnia and Herzegovina ¹	14	19	35	50	35	87	43	
Bulgaria	24	26	33	54	7	30	61	
Croatia	18	26	34	41	38	34	20	
Cyprus	17	22	31	39	29	40	23	
Czech Republic	20	27	38	61	38	40	58	
Denmark	22	30	40	44	34	34	10	
Estonia	23	24	33	47	8	33	44	
Finland	22	32	46	49	42	44	7	
France	25	29	40	47	17	37	17	
Georgia	21	21	32	47	3	51	47	
Germany	24	31	46	55	31	47	18	
Greece	26	32	43	65	26	33	52	
Hungary	21	25	33	51	17	33	53	
Iceland	18	21	32	40	18	54	22	
Ireland	17	20	26	37	20	31	42	
Italy	27	34	47	68	26	38	44	

Latvia	23	26	35	50	14	34	43
Lithuania	20	24	35	51	16	47	47
Luxembourg	21	24	31	31	12	29	1
Malta	18	28	39	47	53	40	20
Moldova	14	14	24	39	-1	74	59
Netherlands	20	26	40	45	32	50	13
Norway	23	28	39	45	19	42	16
Poland	18	21	33	50	17	59	48
Portugal	23	27	35	53	18	30	52
Romania	20	21	26	45	6	25	72
Russian Federation	18	19	32	47	5	66	49
Slovak Republic	17	19	30	50	16	58	64
Slovenia	20	27	44	66	32	64	51
Spain	25	29	42	74	18	44	75
Sweden	27	34	46	55	28	35	19
Switzerland	23	34	53	57	47	58	8
Macedonia	15	18	28	44	22	54	58
Turkey	9	10	17	29	20	58	74
Ukraine ²	20	22	32	49	8	45	55
United Kingdom	24	29	40	47	20	41	17
Yugoslavia	21	22	29	42	7	34	42

Appendix 2.8. – cont.

Country	Total dependency							
	2000	2015	2030	2050	Percent change			2030-2050
					2000-2015	2015-2030	2030-2050	
Albania	61	44	52	60	-27	18	14	
Armenia	48	32	46	71	-33	44	54	
Austria	47	47	66	84	-2	42	26	
Azerbaijan	56	34	46	64	-38	35	38	
Belarus	47	39	52	71	-15	31	38	
Belgium	52	51	67	76	-2	31	14	
Bosnia and Herzegovina ¹	40	38	55	73	-6	44	33	
Bulgaria	47	43	52	78	-8	20	51	
Croatia	48	51	60	68	7	17	14	
Cyprus	50	52	60	66	3	16	11	
Czech Republic	43	46	57	86	7	24	50	
Denmark	50	53	65	70	6	24	6	
Estonia	49	44	54	74	-10	21	38	
Finland	49	54	71	75	9	33	5	
France	54	56	67	75	5	19	11	
Georgia	52	42	54	72	-18	27	34	
Germany	47	49	67	77	5	35	14	
Greece	48	51	62	89	7	21	44	
Hungary	46	44	54	77	-4	21	43	
Iceland	54	49	62	69	-9	26	12	
Ireland	49	54	56	70	9	4	25	
Italy	48	53	66	90	9	25	37	

Latvia	48	44	55	76	-9	25	39
Lithuania	49	42	56	77	-14	33	38
Luxembourg	50	50	60	60	0	20	0
Malta	48	54	65	73	13	21	12
Moldova	50	37	47	64	-26	27	36
Netherlands	48	48	64	70	1	32	10
Norway	54	52	66	73	-5	29	10
Poland	45	42	56	77	-8	34	39
Portugal	47	50	57	79	5	14	40
Romania	46	42	47	72	-8	10	54
Russian Federation	43	38	50	70	-13	34	39
Slovak Republic	44	40	50	73	-9	25	44
Slovenia	43	44	62	89	3	41	45
Spain	46	48	59	96	4	24	62
Sweden	55	53	70	80	-4	32	14
Switzerland	49	52	76	80	7	45	6
Macedonia	47	39	50	67	-17	28	35
Turkey	55	46	49	60	-16	8	22
Ukraine ²	45	40	50	71	-12	26	42
United Kingdom	53	52	66	73	-2	28	11
Yugoslavia	51	45	53	67	-12	17	28

Youth dependency: population aged 0-14 per 100 population aged 15-64.

Old-age dependency: population aged 65+ per 100 population aged 15-64.

Total dependency: population aged 0-14 and 65+ per 100 population aged 15-64.

¹ data in 2000 from: United Nations, 2001b; ² data in 2000 from: Council of Europe, 2002.

Source: Council of Europe, 2001; United Nations, 2001a.

Appendix 2.9. – Ageing index and its absolute change, 2000-2050

Country	2000	2015	2030	2050	Absolute change		
					2000-2015	2015-2030	2030-2050
Albania	17	36	62	97	18	26	35
Armenia	41	73	155	240	33	82	85
Austria	93	170	235	294	77	65	60
Azerbaijan	20	46	91	157	26	45	65
Belarus	74	98	150	184	24	53	34
Belgium	95	143	183	204	48	40	22
Bosnia and Herzegovina ¹	52	97	180	225	45	82	45
Bulgaria	105	147	180	218	42	33	38
Croatia	63	100	133	149	37	33	16
Cyprus	53	77	111	139	24	33	28
Czech Republic	85	147	203	241	61	56	38
Denmark	80	128	157	171	49	29	14
Estonia	86	124	155	173	38	31	18
Finland	83	146	179	185	63	33	6
France	86	107	147	167	21	40	20
Georgia	67	102	149	191	35	47	43
Germany	104	173	223	250	69	50	27
Greece	114	166	217	260	53	51	42
Hungary	87	131	164	201	44	33	37
Iceland	50	75	110	134	26	35	24
Ireland	51	60	89	115	9	29	26
Italy	127	186	260	313	59	74	53

Latvia	88	143	172	187	55	29	16
Lithuania	71	128	164	197	57	36	33
Luxembourg	75	93	109	112	18	16	3
Malta	62	106	146	177	44	41	31
Moldova	39	61	108	154	22	47	46
Netherlands	73	121	164	180	48	43	16
Norway	75	115	144	163	40	29	19
Poland	65	101	150	177	36	49	27
Portugal	94	118	164	207	24	46	43
Romania	75	96	125	164	21	29	39
Russian Federation	72	101	167	205	30	65	38
Slovak Republic	60	92	153	219	32	61	66
Slovenia	90	155	238	279	65	83	42
Spain	115	158	246	330	43	88	84
Sweden	94	180	190	215	87	10	25
Switzerland	89	182	235	255	93	53	19
Macedonia	45	85	125	184	40	40	59
Turkey	19	30	50	92	11	21	41
Ukraine ²	81	122	171	222	41	49	51
United Kingdom	83	125	158	182	42	33	24
Yugoslavia	68	95	127	165	28	32	38
Europe	75	109	153	187	35	43	35

Ageing index: population aged 65+ per 100 population aged 0-14.

¹ data in 2000 from: United Nations, 2001b; ² data in 2000 from: Council of Europe, 2002.

Source: Council of Europe, 2001; United Nations, 2001a.

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