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Ageing report

Overall assessment of the effects of ageing and the adequacy of preparation for demographic changes

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Abstract
The ageing report reviews developments in the ageing of the population, the effects of ageing and Finland's ageing policy, on which basis it assesses the adequacy of the preparations for this, and the need for new policy measures. In addition to the established fiscal sustainability, social and political sustainability form the perspective of this assessment.

In recent years, ageing-related developments have been positive in many respects. Regardless of this, the public finances will not be returned to a sustainable basis without new policy measures. The sustainability gap may not be extraordinarily large, but its assessment is subject to considerable uncertainty. Unfortunately, the current economic crisis has greatly increased the probability of a very large gap. In terms of social sustainability, problems include both the low level of the smallest pensions, and the varying, partly deficient availability of nursing and care services. No major conflicts are evident between generations, but it is possible that such conflicts may arise if problems related to fiscal and social sustainability cannot be remedied in a balanced manner.

The best policy response is seen as involving a reduction in the sustainability gap of public finances through measures promoting the rise of the employment rate, enhancing the efficiency of public service provision and improving the health and functional ability of citizens. Health promotion is the key in terms both of curbing the rise in the employment rate and care expenses caused by illnesses. Improving health will create promising prerequisites for a considerable rise in the employment rate, particularly as concerns senior citizens.

A higher employment rate will require distinctly longer working lives, which will in turn require both solid general labour demand for and greater incentives for employees to remain in the labour market. The attractiveness of early retirement options must be reduced. Tax subsidies for pension saving should be reformed so as to not to motivate workers towards early retirement. In time, the retirement age for the old-age pension should also be raised.

The potential for enhancing the efficiency of public service provision is remarkable, merely through the adoption of best practices. Furthermore, efficiency often goes hand in hand with high quality.

If successful, various structural measures should prove capable of substantially alleviating the threats and restrictions presented by fiscal sustainability to welfare promises concerning pensions and services. Sound policy will facilitate attending to these promises, while partly even improving safety nets, without raising the overall tax ratio.

Keywords
Ageing, ageing policy, fiscal sustainability, social sustainability

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PREFACE

For years, preparation for ageing has been a key policy issue in Finland. Indeed, many reforms have been implemented, the most important being the pension reform that took effect in 2005.

In 2004, Prime Minister Matti Vanhanen's first Cabinet issued a government report on the future concerning demographic trends, population policy and preparation for ageing. The report, entitled 'Finland for people of all ages' defined the objectives of a broad-based ageing policy, including a follow-up obligation. In addition to an annual follow-up, "a broader assessment of the population ageing trend and its impacts, and the related preparations, should be made regularly in the future, using updated information on population trends". The first such broader assessment was scheduled for the year 2008. The Government Programme of Prime Minister Matti Vanhanen's second cabinet states, in turn, that "an evaluation will be made during this parliamentary term to assess whether sufficient provision has been made to meet the impending challenges brought about by the ageing of the population, so that any requisite action can be undertaken while the present Government is still in office."

On 22 November 2007, with reference to these statements, the Prime Minister assigned the Secretariat of the Economic Council to prepare a report on ageing development, its impacts and the ageing policy by 30 November 2008. The aim of the project was defined as follows: to update the outlook on demographic trends and to form an overall view of the impacts of ageing development, the preparation policy implemented or decided on, and the need for new policy measures. Insofar as new policy measures were considered necessary, the report should outline policy options. In November 2008, the Prime Minister granted an extension to the project until the end of January 2009.

An expert group was appointed for the project, with Vesa Vihriälä, Secretary General of the Economic Council appointed as Chairman. The members appointed are Helena Hiila, Managing Director of Väestöliitto – the Family Federation of Finland, Unto Häkkinen, Research Professor, National Research and Development Centre for Welfare and Health (STAKES), Seija Ilmakunnas, Director General of VATT – the Government Institute for Economic Research, Mikko Kautto, Head of Department at the Finnish Centre for Pensions, Jukka Lassila, Research Advisor at ETLA – the Research Institute of the Finnish Economy, Tuija Martelin, Senior Researcher, National Public Health Institute (KTL), Marja-Liisa Parjanne, Ministerial Counsellor for Finance, Ministry of Social Affairs and Health, Jukka Pekkarinen, Director General – Ministry of Finance, Jukka Pirttilä, Research Coordinator – Labour Institute for Economic Research, Heli Saijets, Ministerial Adviser, Ministry of Employment and the Economy, Director Marita Savola, Ministry of Education, Professor Marja Vaarama of the

University of Lapland, and Raija Volk, Research Director – Pellervo Economic Research Institute PTT. Veli Laine (M.Soc.Sc.) was appointed as Project Manager, and Pekka Sinko, Economist at the Secretariat of the Economic Council was appointed as second secretary. In February 2008, Seppo Koskinen of the National Public Health Institute replaced Tuija Martelin on the expert group, since she was unable to continue on the group on a regular basis. The expert group convened a total of 11 times.

The various sectors of ageing development and policy were handled in detail through eight sub-projects: demographic trends (coordinated by Pekka Sinko), health and functional ability (Seppo Koskinen), labour supply and demand (Pekka Sinko), the efficient production of welfare services (Seija Ilmakunnas), regional perspective on the ageing of the population (Raija Volk), fiscal sustainability (Vesa Vihriälä), social sustainability (Mikko Kautto) and political sustainability (Marja Vaarama).

In addition to the expert group members and secretariat, the following participated in the implementation of the sub-projects in various ways: Juha Aaltonen, Researcher (VATT), Juha Alho, Professor (University of Joensuu), Antti Alila, Senior Officer (Ministry of Social Affairs and Health), Arpo Aromaa, Research Professor (KTL), Harriet Finne-Soveri, Senior Medical Officer (STAKES), Annika Forsander, Director (City of Helsinki), Tari Haahtela, Professor (University of Helsinki), Robert Hagfors, Chief Economist (KELA - The Social Insurance Institution of Finland), Tuulia Hakola, Director (Ministry of Finance), Markku Heliövaara, Senior Medical Officer (KTL), Timo Hujanen, Researcher (VATT), Helka Hytti, Senior Researcher (KELA), Tommi Härkänen, Researcher (KTL), Juhani Ilmarinen, Professor (Finnish Institute of Occupational Health), Jyrki Jyrkämä, Professor (University of Jyväskylä), Sakari Kainulainen, Director of Research (Diaconia University of Applied Sciences), Jouko Kajanoja, Adjunct Professor, Aki Kangasharju, Research Professor (VATT), Antti Kasvio, Team Leader (Finnish Institute of Occupational Health), Jaakko Kiander, Director (Labour Institute for Economic Research), Miika Linna, Research Director (STAKES), Anne Lounamaa, Senior Researcher (KTL), Tuija Martelin, Senior Researcher (KTL), Anneli Miettinen, Researcher (Population Research Institute), Hennamari Mikkola, Research Director (STAKES), Antti Moisio, Principal Economist (VATT), Pasi Moisio, Senior Researcher (STAKES), Niku Määttänen, Research Supervisor (ETLA), Henna Nivalainen, Research Assistant (PTT), Anja Noro, Research Director (STAKES), Marja Paavonen, Financial Adviser (Ministry of Finance), Pekka Parkkinen, Research Manager (VATT), Markku Pekurinen, Research Professor (STAKES), Anne B. Pessi, University Lector (University of Helsinki), Eero Pukkala, Director of Statistics (Finnish Cancer Registry), Juha Rantala, Economist (Finnish Centre for Pensions), Markus Rapo, Senior Statistician (Statistics Finland), Antti Reunanen, Research Professor (KTL), Ismo Risku, Development Manager (Finnish Centre for Pensions), Harri Rissanen,

Research Assistant (KTL), Anna Rotkirch, Special Researcher (Population Research Institute), Juho Saari, Professor (University of Kuopio), Päivi Sainio, Researcher (KTL), Janne Salonen, Economist (Finnish Centre for Pensions), Sanna Sihvonen, Senior Researcher (KTL), Eero Siljander, Senior Research Officer (Ministry of Social Affairs and Health), Jussi Simpura, Director of Division (STAKES), Raimo Sulkava, Professor (University of Kuopio), Ilpo Suoniemi, Senior Economist (Labour Institute for Economic Research), Jaana Suvisaari, Senior Medical Officer (KTL), Eila Tuominen, Leading Researcher (Finnish Centre for Pensions), Marja Tuovinen, Financial Counsellor (Ministry of Finance), Jorma Tuukkanen, Financial Counsellor (Ministry of Finance) and Reijo Vanne, Head of R&D (Finnish Pension Alliance TELA). On the basis of information submitted by the ministries, the Prime Minister's Office compiled a report on the implementation of policy guidelines specified in the 2004 Government report on the future (PMO 2004).

Calculations concerning fiscal sustainability were primarily prepared using the SOME model framework by the Ministry of Social Affairs and Health, supplemented in part by calculations prepared using the general equilibrium model FOG by the Research Institute of the Finnish Economy. In addition, the long-term planning model of the Finnish Centre for Pensions (PTS model) was utilised in calculations.

The reports of sub-projects are reported separately in the following publications:

- Tuulia Hakola and Niku Määttänen: Pension system, unemployment insurance and employment at older ages in Finland, Prime Minister's Office Publications 2/2009.
- Mikko Kautto et al.: Perspectives on Social Sustainability, Prime Minister's Office Reports 2/2009 (in Finnish only)
- Marja Vaarama et al.: Ageing as a risk and opportunity. Report by the political sustainability sub-group, Prime Minister's Office Reports 3/2009 (in Finnish only).
- Raija Volk and Henna Nivalainen: Preparation for an ageing population – a regional perspective. Prime Minister's Office Publications 4/2009 (in Finnish only).
- Preparation for a change in age structure: Implementation of policy guidelines specified in the 2004 Government report on the future, Prime Minister's Office Reports 5/2009 (in Finnish only).
- Seija Ilmakunnas (ed.): Welfare services more efficiently. Potential and methods for reforms, VATT-Publications 48 (in Finnish only)
- Timo Hujanen, Mikko Peltola, Unto Häkkinen and Markku Pekurinen: Health expenditure of men and women by age group, STAKES working papers 37/2008 (in Finnish only).

The key results of the project were reported in the final report published in Finnish on 22 January 2009. In essence, the contents of this report in English are identical to the Finnish version. However, some international comparisons have been added to the report in English, while certain aspects which are perhaps of less interest to foreign readers have been omitted.

The final report was primarily compiled by Veli Laine, Pekka Sinko and Vesa Vihriälä. Iiris Koskela-Näsänen prepared the figures and finalised the report for printing. The final report extensively utilises the results of various sub-projects. Several members of the expert group have produced texts directly for the final report, while its contents and text drafts were considered in several expert group meetings, the Economic Council considering a draft report on 17 December 2008. However, neither the expert group members nor the Economic Council are responsible for the contents of the final report. The Secretariat of the Economic Council is responsible for the contents, in particular, the conclusions are based on assessments by the Secretariat. Correspondingly, the authors in each case are responsible for sub-report publications.

The recession caused by the global financial crisis is having a substantial impact on the public finances. The analysis of this report was finalised at a time (December 2008), when growth forecasts were subject to continuous, large revisions. Therefore, the conclusions on the sustainability gap in the public finances could not take full account of the likely medium-term increase in public debt. Upon the translation being finalised (in June 2009), an updated calculation by the Ministry of Finance suggests that the sustainability gap could be of the order of 5 to 7 per cent of GDP, thus substantially larger than assessed in this report.

The report had a significant impact on the policies defined under the Government's so-called mid-term review on 23–24 February, emphasising attempts at prolonging working lives. After an eventful public debate, the Government and labour market parties agreed on a preparation procedure to be concluded by the end of 2009, for the purpose of producing a credible action plan for raising the retirement age by three years by the year 2025.

On behalf of the Secretariat of the Economic Council, I would like to thank everyone for their valuable contributions to this project. The project would have been impossible to implement without these efforts. The expert group has worked in a spirit of extreme goodwill, and other people contributing to the project have been very helpful. I would like to express my special gratitude to Veli Laine, Pekka Sinko and Iiris Koskela-Näsänen of the Secretariat of the Economic Council for their tireless efforts in implementing this project.

Vesa Vihriälä
Secretary General of the Economic Council

CONTENTS

ABSTRACT

Continuing population growth will not alleviate the problem of an ageing population

Under any measurement method, the proportion of the elderly in the population is undeniably growing. In the forthcoming 20 years, Finland will have the fastest rate of ageing in the European Union.

According to the most recent estimates, the growth of the Finnish population should continue until at least the 2040s whereas, only a few years ago, Statistics Finland predicted that the Finnish population would begin to decrease, due to a declining birth rate, prior to 2030. Such a change in this estimate is mainly due to higher growth in immigration and increased life expectancy in comparison to previous estimates.

The latest population projections suggest that dependency ratios reflecting the population's age structure will increase, even at a slightly faster rate than previously predicted, due to the rise in life expectancy. For instance, the most frequently used old age dependency ratio, i.e. the proportion of people aged 65 or over to those aged 15–64, will rise from 26 per cent to 46 per cent by 2030, according to Statistics Finland's estimate from 2007.

GDP growth will decelerate, but the problem of welfare distribution will loom larger

The declining proportion represented by the working-age population will entail a decrease in labour input per capita. Based on realistic assumptions, this trend is inevitable, but the steepness of the downward slope will depend critically on the rate of participation of older people in the labour market, their employment and their average working hours.

Based on a given labour productivity growth rate, a reduction in labour input per capita implies a decelerating growth rate in GDP per capita. The ageing of the workforce will also, to some extent, slow down productivity growth, which will in turn undermine growth in production.

Productivity growth arising from technological advances and enhanced know-how will, however, determine the main trends of output per capita. According to one model calculation using fairly standard assumptions, GDP per capita 50 years from now will be 2.58 times higher than currently, due to the ageing of the population. If the age structure were to remain unchanged, GDP would be 2.75 times higher. Hence, the impact of an ageing population on the level of

output per capita would be 6 per cent – while this is not insignificant, it is not enormous either.

A more substantial impact of the change in the population's age structure concerns the question of how outputs might be distributed in a manner perceived as equitable, between citizens of all ages, while ensuring that this distribution does not create disincentives for participation in the labour market or reduce productivity growth. As the proportion of the working-age population shrinks, the proportion of pensioners and those with high requirements for care and nursing services will grow.

In Finland, as in the other Nordic countries, the Government provides broad support for the subsistence of the non-working population through pensions and other income transfers, while ensuring the comprehensive provision of welfare services. These are financed by taxes and tax-like charges levied chiefly on working population. In this kind of system, the distribution problem caused by ageing evokes the question of the sustainability of public finances: how can public finances be prevented from derailing due to accelerating indebtedness, while seeking to secure the welfare of the non-working population at reasonable tax levels?

Better health and functional ability changing the concept of the elderly

In defining ageing, relying on the generally used old-age dependency ratio, for instance, is problematic, notwithstanding the ratio's usefulness. It leads one to think that people over 65 are somehow qualitatively different from those aged 15–64. This concept is based on the idea that over-65s are retired and require more or less nursing, whereas in reality the need for nursing generally arises only towards the age of 80.

Indeed, such a fixation on certain age limits is misleading. Improved public health and functional ability means that an increasing number of, for instance, those who have just turned 65 are functionally capable of participating in the labour market if they so wish, or can be active citizens in other ways. Enjoying better health, they no longer require health care services to the same extent as people their age did a few decades ago.

Based on expert assessments, older citizens' health and functional ability can be expected to improve further. In particular, if lifestyles can be steered in a healthier direction, the prevalence of key fatal diseases and those eroding functional ability can be clearly reduced. In addition, early and effective care for these diseases may prove to be of great help.

Such a development outlook means that the increase in the share of people above a certain age limit will most probably not result in a proportional reduction in labour input per capita or participation in other types of activity, nor will it increase care and nursing expenditure. However, the impacts' magnitude depends significantly on the extent to which health developments can be influenced.

Size of the workforce will not necessarily reduce

In principle, better health and functional ability enable a distinct rise in age specific labour market participation rates. However, in spite of favourable developments during recent years, for instance the participation and employment rates of people aged 55 or over still clearly lag behind those of the other Nordic countries, not to mention Japan and the United States.

If age specific participation rates in Finland remained at their current levels, the proportion of the population constituting workforce would decrease from the current 49 per cent to 42 per cent by 2050. Instead, if age specific participation rates rose and attained the current average level of Sweden, Denmark and Norway, the same proportion would decrease by less, to 45 per cent. However, if the working life expectancy of 25-year-olds increased proportionally to their life expectancy, the decrease in the share of workforce in total population would be approximately only one percentage point.

Each of these scenarios suggests very different developments in the size of the labour force. While unchanged participation rates by age group would entail a reduction of the workforce by 190,000, if Finland achieved Nordic participation rates the reduction would be only 20,000 people. If the length of working lives corresponded to increased life expectancy, the workforce would increase by 140,000 people by 2050.

Nevertheless, utilising the workforce potential enabled by better health and functional ability is not self-evident. This requires sufficient incentives, particularly for the ageing people to participate in the labour market as well as for employers to hire an increasing number of older employees. Sufficiently strong general demand for labour is, naturally, a necessary prerequisite for the utilisation of such workforce potential.

Challenges: sustainability of public finances, social sustainability and political sustainability

During the last decade, social policy has been adjusted in many ways to take better account of the challenges created by population ageing. Although

substantial progress has been made in many sectors, preparation for these changes still is insufficient.

With unchanged expenditure rules and tax rates, public finances will sooner or later drift into deficit. The so-called sustainability gap, referring to the amount by which either taxes or expenditure should be immediately and permanently adjusted, amounts to approximately one per cent of GDP on the basis of this report's baseline scenario. This is somewhat less than generally estimated during recent years. However, this estimate excludes the impact of the current recession, still difficult to assess at the moment, on the balance of public finances over the next few years. If the balance assumptions of the latest stability programme update are realised, the sustainability gap could be nearer 2.5 per cent. A later calculation by the Ministry of Finance suggests that the gap could in fact be substantially larger, even of the order of 5 to 7 per cent of GDP The most important aspect is, however, that this estimate is highly uncertain.

On average, the current pension rules will result in pensions, which are clearly growing in real terms although, in time, the ratio of pensions to income will decrease. Nevertheless, pensions remain very small for some population groups, such as those living completely or almost completely on the national pension as well as those on a disability pension. Due to the current indexing rules, those who live very long, in particular, risk ending up with an unreasonably small pension if their starting pension is modest.

Moreover, securing welfare services for all citizens, particularly care and nursing services for the elderly, is not self-evident. Even now, the availability and quality of services vary markedly by municipality, and their level cannot always be deemed satisfactory. In the future, it is plausible that such differences will grow. Compared with pension security, the 'service promise' is also much vaguer; the realisation of services is more sensitive to developments, particularly in municipalities' financial positions and to some extent also in labour supply.

The Nordic model of broad-based public responsibility for welfare is widely appreciated by Finns. No major intergenerational conflicts concerning the 'social contract' implied by such a model have occurred or are expected in the immediate future. However, the possibility of such a conflict arising in some circumstances cannot be excluded, for example if the sustainability of public finances develops in such a manner that adhering to the pension and service promises would require sharp increases in taxation.

Policy options: taxes, benefits, structural reforms

In principle, the sustainability of public finances can be secured in three ways: by increasing taxation (preferably well in advance), by reducing the benefits provided by the public sector or by narrowing the sustainability gap through various structural measures. The latter refers to raising the employment rate, speeding up productivity growth, in particular, increasing productivity in the provision of public services, improving public health and influencing demographic trends through an increased birth rate and work-related immigration.

Naturally, such policy outlines do not merely represent economic optimisation but also value choices and the reconciliation of the interests of various population groups. Considering the problems related to increasing taxation as well as social sustainability issues, the most promising basic policy recommendation would be that concerning structural correction of the sustainability gap.

Increasing taxation tends to undermine economic activity and can be difficult in the face of tax competition. The bulk of public expenditure, in turn, includes highly appreciated income transfers and welfare services associated with social security and important to citizens' welfare. If the sustainability gap can be sufficiently narrowed through structural measures, at best it would be possible to cut taxation and/or improve social security deficiencies regarding both the pension and service promises.

Top three in public policy: employment rate, efficient service provision, health

The key issue is the extent to which various structural measures can influence the sustainability gap. Calculations carried out for this report suggest that, regarding those changes deemed realistic, the sustainability gap will mainly depend on the employment rate, the efficiency of public service provision and the development of health and functional ability.

If age specific participation rates attained the Nordic average level instead of remaining at their current level, the sustainability gap would decline by more than one percentage point. In fact, such a performance should be considered an imperative, since the baseline scenario leading to a one per cent sustainability gap assumes, among other things, that Nordic participation rates are achieved. In fact, no insurmountable barriers to attaining even higher participation rates are foreseen. If participation in the labour market increased in proportion to a higher life expectancy, the sustainability gap would even fall below that of the baseline scenario.

A 0.5 per cent annual productivity rise in public service provision would reduce the sustainability gap by 1.4 percentage points and, with unchanged expenditure bases, remove any practical need to augment the public sector workforce. Such an objective is a challenging one, given developments in recent years and the nature of public service provision. However, a substantial rise in productivity should not be considered impossible. The adoption of best practices throughout production would, according to various estimates, increase productivity by 5–20 per cent. If the enhancement potential is assumed to be 10 per cent and its realisation requires a period as long as 40 years, productivity will grow annually by 0.25 per cent.

If all additional years gained due to increased life expectancy were years of good functional ability, the sustainability gap would be approximately 1.5 percentage points smaller due to lower care expenses than in a situation where all gained years were years of ill health. The baseline scenario assumes that the additional years are divided evenly between years of good health and ill health.

If success can be attained in all of these areas, the sustainability of public finances might be strengthened substantially. In such a case, and even in a more challenging situation than assumed in the baseline scenario, pension and service promises could be kept and at least some social security deficiencies mended without increasing taxation.

Raising the employment rate requires strong measures

The greatest potential for raising the employment rate lies in older age groups, although earlier entry into working life and, in general, reducing structural unemployment would also, naturally, contribute to such a rise.

The foundation for a higher employment rate among older people lies in the successful improvement of health and functional ability. It would also be important to ensure that working life be developed to better cater for the needs of older employees and prevent any weakening in demand for labour which might push the aged permanently out of the labour market.

Another crucial factor lies in the incentives that encourage aged people to remain in working life. Routes for leaving the labour market before the onset of the old-age pension are currently too attractive. In particular, it can be assumed that the removal or substantial reduction of the so-called unemployment tunnel to retirement would lead to longer working lives. Similarly, reducing the attractiveness of the part-time pension would support the extension of working lives. It would therefore be necessary to initiate the related reforms rapidly and in a co-ordinated manner, in order to prevent the restriction of one early

retirement path from resulting in the increased use of another. At the same time, opportunities for developing the disability pension system and enhancing the related rehabilitation should also be identified.

Following the taking of decisions concerning early retirement routes, raising the age limits for the old-age pension should be considered. In this connection, assessments should be made of how the age limits might best be linked to developments in life expectancy.

In light of international comparisons, chances to extend working lives from their beginning also look promising. This would require faster access to vocational or academic studies for young people, and shorter graduation times. In parallel, lowering structural unemployment must continue to form an integral part of employment policy.

Enhancing public service provision is an imperative

The final goal of enhancing public service provision is to improve the relationship between services' impacts and the costs of their provision. Improving the relationship between service outputs and costs – or productivity – would prove insufficient. Unfortunately, impacts are often very hard to measure due to the nature of public services. It would therefore be necessary to invest more in the development of effectiveness indicators.

The fact that conducting effectiveness assessments is difficult is no reason for failing to aim at higher productivity. A host of examples prove that a high productivity rate would not rule out the high quality and effectiveness of service delivery.

Large efficiency differences between units suggest that the dissemination of best practices would significantly increase productivity. Thus, increasing awareness of best practices is important and, in the creation of incentives for adopting best practices, public comparisons of the efficiency of various service providers should be utilised. Within the Municipalities and Service Structure Project (PARAS), the current focus on unit sizes, although justifiable as such, should be shifted towards the development of efficient practices themselves.

In social and health care, the importance of functioning service chains should receive a particular emphasis. Enabling such chains requires an efficient information system which can be flexibly utilised by various players. Projects with such an aim have progressed too slowly and must be enhanced. In the long term, the efficient application of information technology offers the best opportunities for improving the productivity and cost-effectiveness of services.

More attention should be paid to the incentives included in financing systems: the multi-channel financing model in health care has been identified as inefficient and a cause of inequality. Reforming the system of central government transfers to municipalities is intended to enhance financing incentives. In connection with the reform, the need for steering elements, in addition to imputed central government transfers promoting efficiency, should be assessed.

Elevating health promotion to become a core policy element

During recent years, health promotion has attracted much attention; the current Government even has a dedicated Policy Programme for Health Promotion. The goal of this is to incorporate health promotion in all policy areas, and this priority should be further reinforced.

While solid evidence exists on health determinants, it is not nearly as evident what measures in practice are most cost-efficient in advancing better behaviour from the health point of view. Effectiveness assessments require enhancement.

In any case, the allocation of a larger proportion of social and health care resources to health promotion seems necessary. In this respect, municipalities' primary level operations are critical. To ensure that all municipalities allocate sufficient resources in health promotion, the reinforcement of normative controls and/or incentives incorporated in the system of central government transfers should be considered. The Decree on child welfare clinic services entering into force in 2009 is a prime example of tighter normative controls.

The greatest potential for health improvement lies among the socially disadvantaged. Narrowing health inequalities should be prioritised within policy for both this reason and because reduced health inequalities is highly important in terms of equality.

Private preparations require considered support

Public authorities should encourage citizens' to take the initiative and prepare for the financial challenges arising due to longer life expectancies. An important basis for such preparations is as comprehensive information on the extent of social security as possible. Thus, the dissemination of information to citizens, particularly on the level of pension security, should be further improved. Similarly, citizens should have a realistic understanding of the quality and extent of the future public service offering.

Tax subsidies related to private pension insurance is the most important public incentive for such private preparation. However, in view of the attempt to

lengthen working lives, this is currently steering people towards a much too early retirement from the labour market, which is why the age limit entitling to a pension qualifying for tax subsidy should be markedly raised. In the same context, raising the age limits related to group pension insurances paid by employers should be reviewed.

Furthermore, directing tax subsidies solely or predominantly towards life-long pensions should be considered. This would better target the subsidy to those who live very long, and make a more efficient use the insurance aspect of pension contracts. At any rate, taxation of the pension policies paid for in one instalment should be rendered more moderate.

While the aim should be to reduce labour taxation, a lower total tax ratio would be a problem

In order to raise the employment rate, a lighter tax burden on labour would be desirable. On the other hand, sound arguments exist for raising pension contributions in view of securing the financing of the pension system. Consequently, rises in pension contributions should be, at a minimum, compensated for by cutting other labour taxes.

A lower total tax ratio (including pension contributions) would, however, be highly problematic in a situation in which the public finances are subject to a sustainability gap. This should be deemed a responsible policy only if expenditures are cut simultaneously, or if strong evidence exists of a reduction of the sustainability gap in the future due to various structural measures.

For the moment, the best approach would be based on the assumption that any permanent cuts in the taxation of labour would be financed through the increases in taxation with a lesser impact on labour input.

Recession emphasises the importance of structural measures

Weakening economic activity due to the global financial crisis will lead to a decline in the employment rate. Simultaneously, the balance of public finances will most probably continue to weaken for several years, entailing an increase in the sustainability gap in public finances.

Supporting employment requires fiscal stimulus, but such a policy will inevitably increase the deficit in the public finances in the short term. Stimulation measures should thus be credibly tied to structural measures supporting the sustainability of public finances in the long term. The more ambitious the stimulus measures are, the more ambitious the structural reforms should be.

Not everything can be guaranteed or solved now

Due to the considerable uncertainty pertaining to the sustainability of public finances, it would be unrealistic to expect that a long-term policy could be determined through one-off decisions. On the other hand, uncertainty related to pension security and the availability of services required by older people is problematic in many respects.

Measures should be found to reduce this inevitable uncertainty. One option would be to augment rules such as the life expectancy coefficient, for instance regarding the age limits of the old-age pension. Another option would be to commit to regular evaluations of the pension and service systems, while adhering to sufficient transition periods prior to any reforms decided on the basis of such evaluations.

Social sustainability should be evaluated in parallel with fiscal sustainability

Established calculation methods exist for the evaluation of the sustainability of public finances. Such an evaluation forms part of the annual co-ordination of fiscal policy in the context of the Stability and Growth Pact. However, the kind of security that the public sector would be able to offer to citizens in various situations and, particularly, the way in which this might be expected to evolve in the future, is subject to unsystematic evaluations.

In assessing various policy options to improve the fiscal sustainability, it is, however, important to understand also the implications of various policies for income distribution, poverty and the poor availability of services. Drawing up a social sustainability report, for instance once each parliamentary term and well in advance of the implementation of a new Government Programme, should thus be considered. Such a forward-looking assessment should be conducted using the same basic assumptions as those used in the evaluation of the sustainability of public finances.

Finland for people of all ages is a challenge but not a Utopian idea

Finland's preparation for population ageing has improved, but in spite of the many measures taken over a period of years, it remains insufficient. An unchanged policy bears the risk that, in the future, we may be forced to compromise certain key social security elements, thus endangering the welfare of some citizens.

The magnitude of this problem is not extreme in international comparisons or in view of the extent to which the developments can be influenced by various policy measures. In particular, with policy measures aimed at improving the employment rate, the efficiency of public service provision and citizens' health and functional ability, promises concerning pension security and welfare services, can be kept without imposing an unreasonably high tax burden on the working population. With the political will to do so, the objective stated in the Government Report on the Future of 2004, 'Finland for people of all ages' can be attained.

1 INTRODUCTION

Population ageing due to growing life expectancy and a decline in the birth rate is a worldwide phenomenon. In Europe, Finland leads the way in demographic trends in the sense that, in the next 20 years, it will be the EU country in which the share of the population past normal working age increases most rapidly.

The ageing of the population poses an array of challenges for social policy. Economic growth is tending to slow down due to demographic change, while it is not self-evident that an adequate level of income can be secured for older people in particular, and neither is ensuring the services required by these people. Attempts to honour promises concerning pension security and services are exerting major pressures on the growth of public expenditure. This, in turn, raises the question of whether the increase in expenses can be financed, and of how the financing burden and the related risks should be distributed between various groups of people and generations.

These political challenges have led to several reforms in different countries over the past 10–15 years, particularly regarding the pension system. There have been various attempts at restricting the levels of pensions to be paid in the future in different ways, i.e. by linking pension levels to life expectancy and by transferring to defined contribution pensions, linked directly to financing. For the same purpose, and also in order to increase the supply of labour, the retirement age for the old-age pension has been raised while the possibilities of retiring from the labour market prior to the retirement age for the old-age pension have been restricted. On the other hand, efforts to increase advance savings in public pension schemes have been undertaken, while motivating people towards individual pension saving. Moreover, attempts have been made at improving the prerequisites for gaining the maximum returns on invested pension funds.

Finland has implemented all of the aforementioned measures, the most extensive one being the pension reform that took effect in 2005. This involved the introduction of a flexible retirement age for the old-age pension, between 62 and 68 years of age, revising pension accruals by ensuring that they incentivise late retirement, and creating a mechanism, with a life expectancy coefficient, that automatically decreases annual pension levels as life expectancy rises. In several instances, the possibilities for early retirement have been restricted in various ways. In addition, pension contributions have been raised. Since early 2007, regulations on pension fund investments have been relaxed, permitting a larger proportion of pension funds to be invested in stock, entailing higher expected returns but also higher fluctuations in return.

However, preparation for ageing is a considerably more extensive issue than reforming the pension system in order to restrain pension expenditure. The 2004 Government report on the future states that, in addition to reforming its pension schemes, Finland's preparation measures have included decreases in the public debt, the enhancement of productivity through various measures including the targeting of science, technology and innovation policy towards supporting competencies, the launch of a productivity programme aimed at enhancing public sector productivity, and attempts at raising the employment rate. Measures aimed at increasing the employment rate are broad-based: bringing forward the entry into working life, postponing the exit from working life, reforming social security and taxation in a manner motivating employment, and securing the quality of the workforce by investing in education and the ability to work.

In the section outlining future policy, the report on the future again points out the need for strengthening the potential for economic growth, both by raising the employment rate and supporting productivity growth. Likewise, the continuous importance of adapting income transfer systems to demographic change, and reforming the structures and operating practices of public services, is declared. In addition to these, the report highlights population policy measures for curbing the change in the age structure (enhancing the prerequisites for a rise in the birth rate, increasing work-related immigration), promoting the health and functional ability of people of different ages, attending to the conditions in which children and young people grow up, and the necessity of being able to capitalise on the resources offered by the elderly and the opportunities provided by ageing.

This report contains three main sections: as background information, a description of the population ageing trend and its impacts at a general level; the definition of political challenges and the assessment of their magnitude; and a discussion of the need and possibilities for policy development.

To begin with, Chapter 2 updates the outlook on demographic trends, based on the latest 'official' population projection by Statistics Finland, compiled in 2007, and the most recent research on population forecasts. In addition to this, the uncertainties surrounding population development are surveyed alongside a presentation of alternative population development trends.

The next chapter, Chapter 3, examines a society in which the population is ageing, reviewing the key impacts of this on the economy and society on a broader scale. The development of the population's health and functional ability is assessed fairly extensively on the basis of the most recent domestic research results. This is followed by a discussion on the behaviour of older people, e.g. in terms of requiring and consuming various goods and services, preferences with

respect to the location and form of residence, and the time management of the elderly.

Chapter 4 examines the impacts of an ageing population on labour supply and demand, beginning with a survey of the development of older people's participation in the labour market, and that of their employment. Thereafter, on the basis of research results, factors influencing the employment of older people in particular are analysed. Because an ageing population will see an emphasis placed on the efficient utilisation of labour input throughout, the section also highlights certain special issues relating to younger age groups, such as expediting their entry into, and improving the position of immigrants in, the labour market. The end of the chapter presents alternative development scenarios for labour supply, utilised, for example, in the sustainability calculations of Chapter 5.

The report divides the political challenges of ageing into two main issues: (1) fiscal sustainability and (2) social and political sustainability. Fiscal sustainability refers to whether, based on the current policy (expenditure and tax basis), the ageing of the population will place the public economy on a path of accelerating indebtedness, making a policy revision imperative sooner or later. Social and political sustainability are more multi-faceted concepts, and they are harder to define precisely. The issue at stake is the equality of the development in hand and, based on that, the ability of the political system to be even-handed while producing the reforms that prove essential for macroeconomic reasons.

Chapter 5 examines fiscal sustainability, based on the definition of the sustainability gap established in EU cooperation. The focus is on the impact of key factors, at least within the political sphere of influence and, to a certain degree, on the sustainability gap. On the basis of this analysis, a baseline scenario is formed, assuming no radical changes in the prevailing trends. However, the baseline scenario is not a development path leading from a completely 'unchanged policy', but, for instance, the rise in the employment rate included in the scenario will most probably require new policy measures. The impact of the recession due to the financial crisis, which is still hard to assess, is not included in the actual baseline scenario, but is assessed in a manner compatible with the latest update of the Stability programme (December 2008). Attention is also paid to the uncertainty of the sustainability assessment, characterised with the help of a separately conducted stochastic analysis. At the end of the chapter, pressures affecting the need for human resources in welfare services are assessed, both at nationwide and regional level.

Chapter 6 reviews income differences, poverty, health inequalities and the availability of welfare services as components of social and political sustainability. In addition to population groups, differences between regions are

pointed out. Furthermore, intergenerational income differences, the development of political power and activity, as well as confidence and faith in the future are reviewed for the purpose of identifying key problems in societal development, related to ageing, which should be taken into account in decision-making.

Chapter 7 focuses on the needs for policy development, first summarising problematic development scenarios on the basis of the analysis conducted in Chapters 5 and 6. Thereafter, various policy options are examined as solutions to the highlighted challenges. Finland's welfare model forms the basis for this survey, whose key elements are universal, publicly financed welfare services and comprehensive statutory pension security. In other words, policy options are discussed with the objective of retaining the key characteristics of the prevailing welfare model, which enjoys broad public support, in the years to come. The policy discussion also includes various policy measure proposals for consideration.

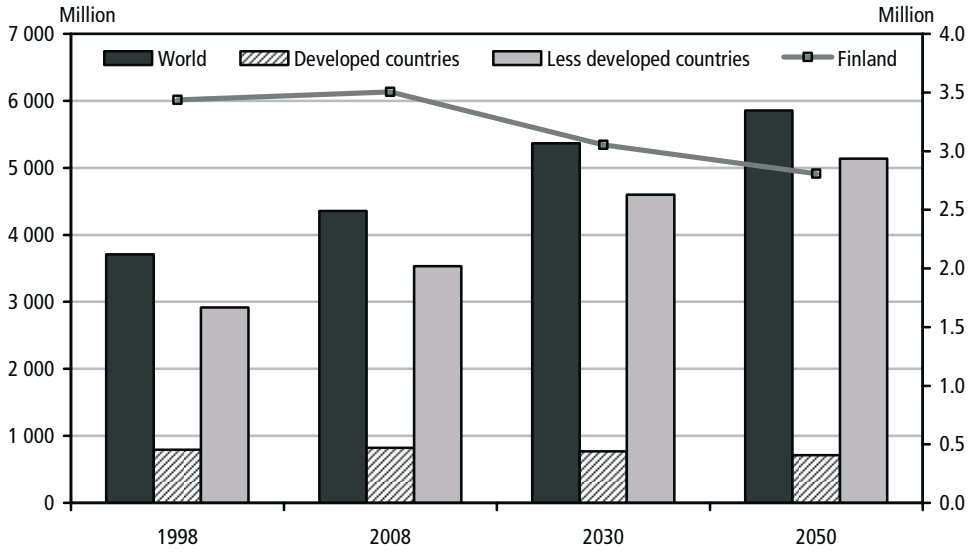
The abstract preceding the introduction presents a summary of the analysis results.

2 DEMOGRAPHIC OUTLOOK

2.1 Global demographic trends

The world population is growing at an annual rate of over one per cent, and it is estimated that, by the year 2050, it will rise from the current figure of approximately 6.5 billion to some 9 billion. Concurrently, the world's working-age population between 15 and 64 years of age will increase from over four billion to just under six billion. On a global scale, it therefore seems that the working-age population will continue growing for at least the next 50 years, albeit at a slower pace (figure 2.1).

Figure 2.1 Forecast of the development of the working-age population between 15 and 64 years of age, 1998–2050.

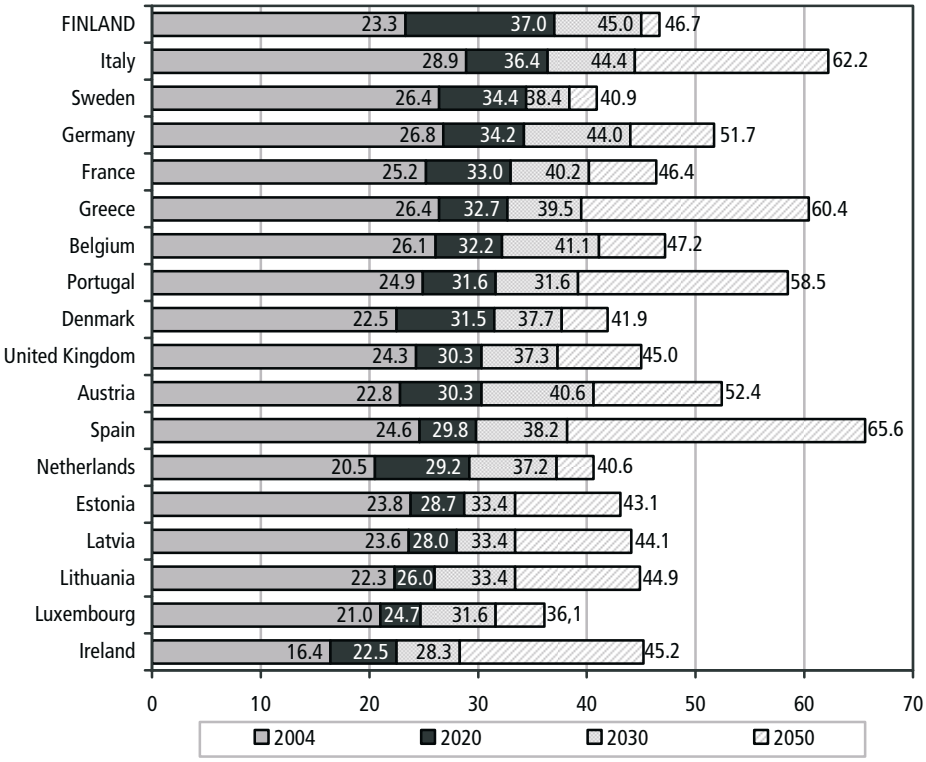


Source: U.S. Bureau of Census.

The simultaneous decrease in both the birth rate and mortality is transforming the population's age structure worldwide. In the least developed countries, a rising standard of living will accelerate population growth initially, mainly due to declining infant mortality. However, the majority of the Earth's population already lives in countries with continuously declining birth rates and a longer life expectancy. In a few decades' time, the focus of population growth, now in China and India, will be distributed more evenly across various parts of the globe, while the role of African countries with rapid population growth will be emphasised in global terms.

In today's industrial countries, the population will age earlier than in less developed countries. By the year 2050, the demographic old-age dependency ratio, i.e. the proportion of people aged 65 or over to working population aged 15–64, will, at the current rate, rise to approximately 45 per cent in developed countries, which means that the population will contain two working-age citizens per one older person. Concurrently, the corresponding ratio in densely populated, less developed countries will increase from the current figure of under 10 per cent to approximately 25 per cent. In such a case, on a global scale, there would be around four people of working age per one older person in 2050, i.e. approximately the same number as in present-day Finland (figure 2.2). There are also major differences between industrialised nations as concerns the timescale and intensity of ageing.

Figure 2.2 Predicted trend of the old-age dependency ratio (64/15–64) in EU countries.



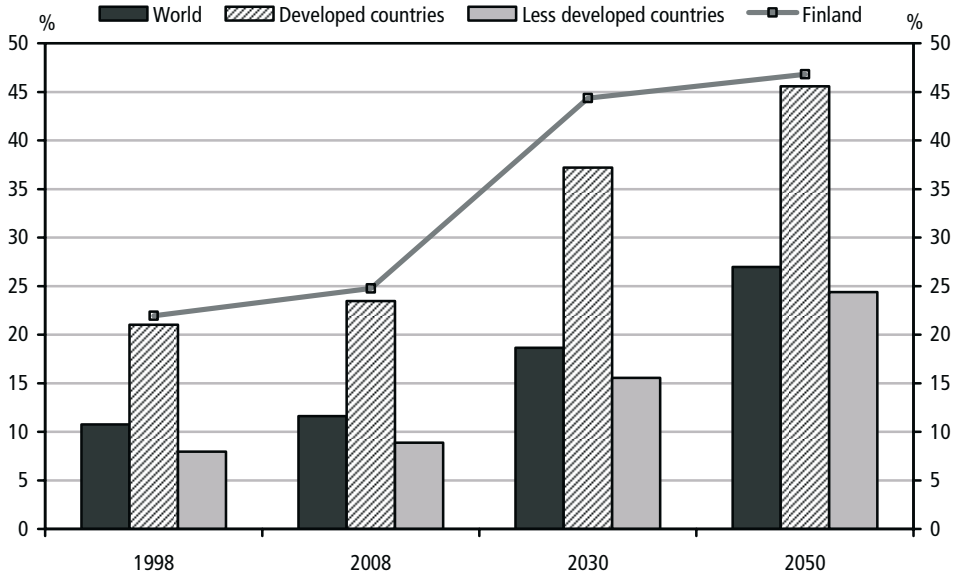
Source: Eurostat (2006).

In the European Union, it is predicted that the old age dependency ratio used to measure ageing will rise from the current 25 per cent to 50 per cent by the year 2050. In Finland, the population will age at a higher rate over the next 20 years than in other EU countries. If the current trend continues, in 2030 Finland's population will be the oldest in the European Union in terms of its old-age

dependency ratio. However, after that it seems that ageing will clearly slow down in Finland, at the same time as it picks up momentum in several other countries, such as Italy, Spain, Portugal and Greece (figure 2.2).

The ageing of the population in developed countries has resulted in the need to enhance the utilisation of domestic workforce reserves, as well as attempts to exploit foreign workforce to a greater extent than before. Partly as a consequence of attractive work opportunities, migration to OECD countries has been increasing rapidly over the last few years, although it decelerated slightly in 2006 (OECD 2008).

Figure 2.3 Demographic old-age dependency ratio in 1998–2050.



Source: U.S. Bureau of Census.

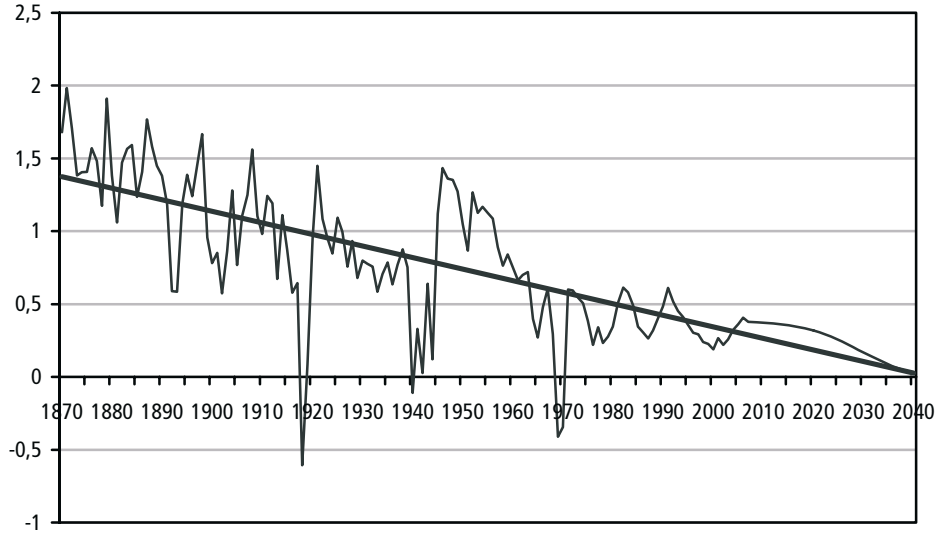
Observations and conclusions

- The majority of the world's population lives in countries with declining birth rates and a lengthening life span; in order to control excessive population growth, decreasing birth rates are a positive development.
- On a global scale, the working age population will continue growing in number, albeit at a slower pace.
- The global old-age dependency ratio will rise but not to alarmingly high levels, so that by 2050 the level will be almost the same as the current one in Finland.
- It is anticipated that the average old-age dependency ratio will double in the EU countries by the year 2050.

2.2 Main characteristics of Finland's demographic future

In Finland, the population has grown since the years of famine in the 1870s until the present day, roughly by an average of 25,000 people per year. However, the war years and the wave of immigration to Sweden in the late 1960s caused significant negative deviations from this trend. Correspondingly, in the 1950s and 1960s, population growth was temporarily higher than average. The quantitatively even population increase has resulted in a relatively declining locus for population growth in the past 150 years. It is predicted that population growth will continue decelerating in the future, but will maintain a slightly positive trend at least until the year 2040 (Statistics Finland 2007).

Figure 2.4 Population growth in Finland 1870–2040: Realised + Statistics Finland projection 2007, %. The direct line represents the linear trend.



Until now, population growth has entailed an increase in the working-age population, therefore being favourable in terms of economic development. Although, since the 1960s, the aged element of the population has grown relatively faster than the working-age one, the simultaneous decrease in the number of children has kept the demographic dependency ratio fairly stable[1].

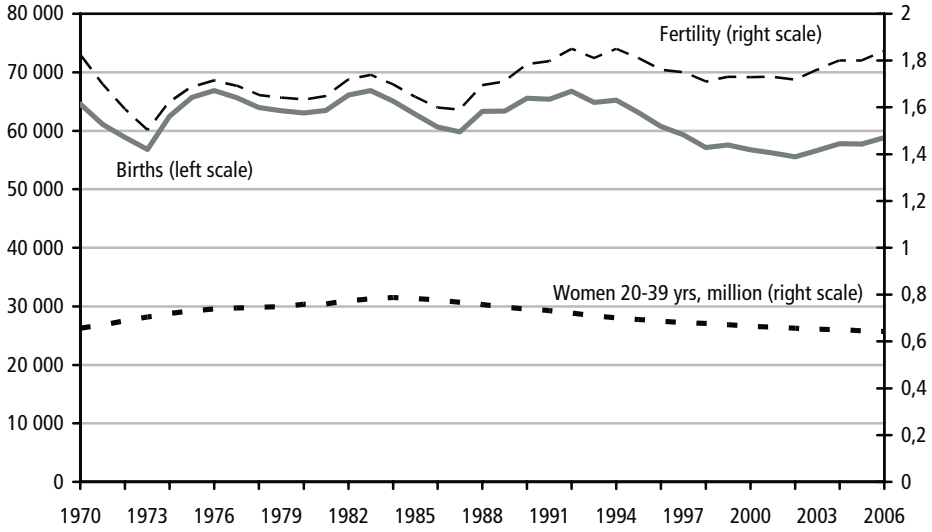
In this respect, the situation is taking a turn for the worse: it is predicted that the working-age population will begin declining in size as early as in 2010. As

[1] Demographic dependency ratio refers to the number of under 15-year-olds and over 64-year-olds in relation to the working-age population aged 15–64.

the size of the elderly population continues to rise, the demographic dependency ratio is weakening rapidly.

Historically, the development of Finland's population and its age structure has been primarily dependent on the development of the birth rate and mortality. Birth rate trends have been declining over the past 50 years, with lower fertility a particular cause of this decline, but in the last twenty years the population of fertile age has also declined. However, in the last few years, a slight upward trend in the number of births has been evident (cf. figure 2.5).

Figure 2.5 Total fertility rate, the number of women aged 20–39 and the number of children born in 1970–2006.



In 2007, slightly fewer than 59,000 children were born in Finland. According to preliminary data, the number of births in 2008 was slightly higher, at approximately 59,500. The total fertility rate implied by the birth rate in 2007 was 1.83 children per woman in fertile age[2]. In Finland, fertility decreased to its lowest ever figure in the 1970s, but has since retained a slightly upward trend, returning to approximately its current level in the early 1990s. Although in Finland, total fertility is below the so-called reproduction rate[3] (2.1) required to maintain the population at a constant level, it is still relatively high on the European scale, as figure 2.6 reveals.

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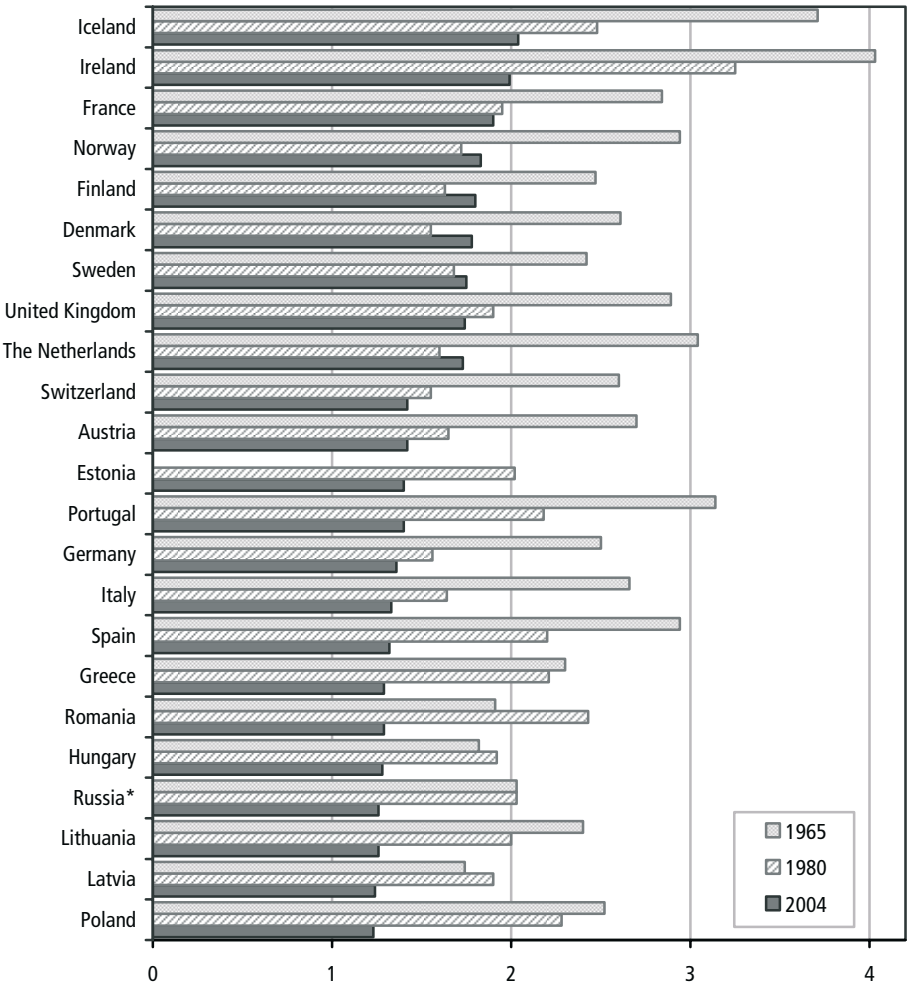
[2] The total fertility rate is the forecast, calculated on the basis of cross-sectional data, of how many children a woman entering fertile age will bear on average. As fertility increases, the rate slightly underestimates the actual cohort-specific fertility.

[3] In Finland, fertility is on such a level that, should other factors remain unchanged, in the long run there will be a 0.5 per cent annual decrease in population numbers. A birth rate below the reproduction rate will, as such, result in the ageing of the population, regardless of the development of life expectancy.

Figure 2.6 Total fertility rate in certain European countries in 1965, 1980 and 2004.

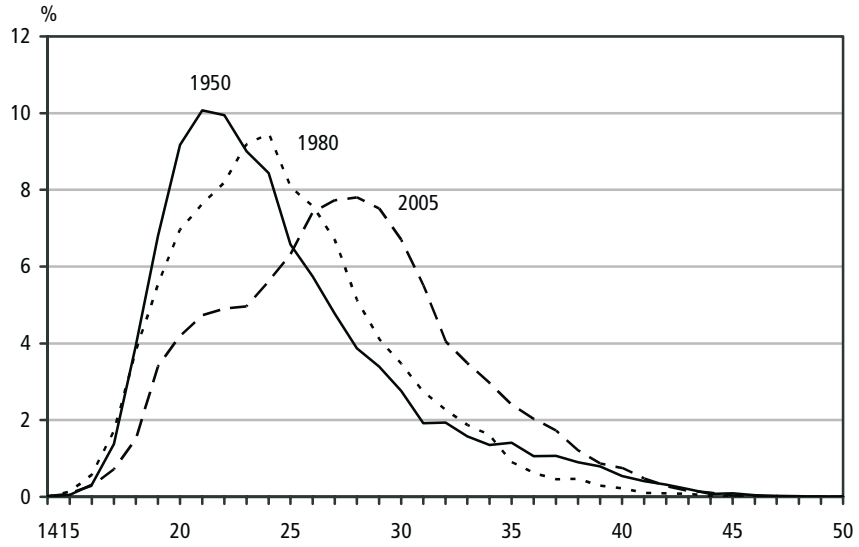


* Figures 1965=1965/69 and 1980=1980/84

Source: Eurostat (2006).

In Finland, families with many children are more common than in many other European countries, which contributes to raising the fertility rate. Concurrently, a trend which sees women giving birth at a later age, e.g. for working-life related reasons, is also discernible in this country. In addition, the share of women remaining completely childless has grown, and is in fact higher in Finland than in other Nordic countries. In the last few years, giving birth at a very young age has also become slightly more common, resulting in a broader age distribution of parturients and bringing the increase in the average age of parturients to a halt.

Figure 2.7 Primiparas by age in 1950*, 1980 and 2005, per cent.



* The age distribution for 1950 primiparas calculated only on the basis of children born in wedlock.

Mortality has also declined alongside the birth rate, contributing to maintaining population growth and increasing the life expectancy of Finns. While in 1900, the life expectancy of newborns was 47 years for women and 44 years for men, the corresponding figures for 2006 were 83 and 76. Until now, mortality has declined most in the age groups of children and people of working age.

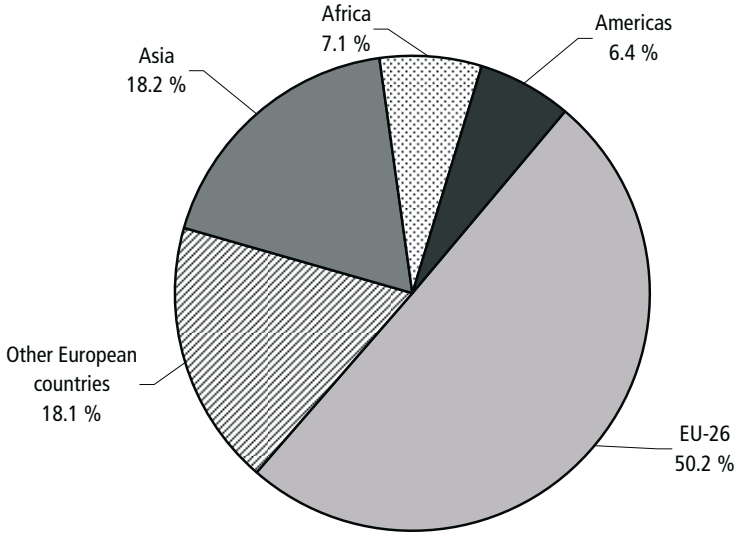
Over the last few decades, however, the focus in terms of declining mortality has gradually shifted to older age groups, and the growth in life expectancy has more clearly been the result of lower mortality subsequent to the 65th year. In the future, a considerable extension of the average life expectancy will be achievable only through the reduction of mortality among the elderly, since mortality is, in the main, already very low in younger age groups.

As an exception to the generally positive development in terms of lower mortality rates, the decline has been slowest in relative terms among young adults, whose mortality remained approximately unchanged in the 2000s. In Finland, the mortality of young men in particular is markedly higher than, for instance, in Sweden, primarily due to accidental and violent deaths which are twice as frequent among young males in Finland as in Sweden.

In Finland, emigration has traditionally slowed down the *natural growth of the population,* the result of the birth rate outstripping mortality. However, since the 1980s, immigration figures have exceeded those of emigration, increasing population growth. In 2007, immigration exceeded emigration by some 13,600 people. According to preliminary data, the migration gain will amount to 14,500 people in 2008. With the simultaneous natural growth in the population totalling approximately 10,000 people per year, immigration has become the most significant factor maintaining population growth. However, the level of net immigration in Finland is still low in European comparisons.

In the 2000s, on an annual basis, over 20,000 people have moved to Finland from abroad. In 2007, gross immigration amounted to 26,000 people. Approximately two thirds of immigrants come from other parts of Europe, and a significant proportion (around one third) are of Finnish origin. Finnish returnees come to Finland from Sweden in particular, whereas the most significant immigrant nationalities in the 2000s have been the Russians and Estonians, our close neighbours.

Figure 2.8 Regions of departure for immigration in 2007.



Regardless of livelier immigration, it remains that a rather small proportion of Finland's population is of foreign origin. In early 2007, the number of people not speaking Finnish, Swedish or Sami as their mother tongue was 157,000, i.e. around 3 per cent of the population, whereas the number of foreign nationals living in Finland permanently was slightly lower at the same time, i.e. 2.3 per cent of the population. In 2006, the share of the population born abroad totalled 3.3 per cent in Finland, while the corresponding average for 19 EU countries came to 10.9 per cent. Regional differences in the numbers and relative share of

foreigners are considerable in Finland, because the population of foreign origin is concentrated in the metropolitan area and other growth centres. For instance in Helsinki, the share of population with a foreign background is around 10 per cent, depending on the definition used.

Over the next few decades, Finland's demographic challenges lie in the ageing of its population. Several demographic factors provide the background for this phenomenon, the most crucial probably being the entry of the baby boomer generations, born after the war, into retirement age. Concurrently, both decreasing mortality and a falling birth rate will intensify the growth in the proportion of the elderly. According to Statistics Finland's population projection for 2007, the share of over-64s of the population will increase to 27 per cent in 2040. Over one third of these will be over 80 years old. Regardless of the uncertainty in connection with projections, it is clear that the population's age structure will continue shifting in the direction of older age groups.

Demographic development will move in different directions in different areas of the country, although account should be taken of the fact that the uncertainty of projections is highest as regards regional development. Differences between regions in age structure, natural population growth and migration are already significant at present, but over the next 30 years it is predicted that regions will become increasingly differentiated in this respect. Between 2006–2030, the number of over-85s will grow dramatically, by 105–170 per cent depending on the region, (table 2.1). Only in the regions of Southern Ostrobothnia and Ostrobothnia will the change be somewhat smaller, at around 90 per cent. Therefore, the population will undergo significant changes in various regions.

However, in a few regions population development will, on the whole, remain favourable for a prolonged period. In the province of Uusimaa, the population will grow by 16 per cent during the period under review, while the number of children and people of working-age will increase by 5–7 per cent. In Uusimaa, the number of over-80s will increase more than in any other province: the numbers of 80–84- and over 85-year-olds will grow by over 170 per cent. Regardless, Uusimaa is one of the few regions with a growing working-age population, the others being Åland, Eastern Uusimaa, Pirkanmaa, Kanta-Häme and Northern Ostrobothnia.

Other provinces will experience a decline in their working-age population. The development of Kainuu will be most unfavourable: the population of Kainuu will decrease by 10 per cent from the year 2006 to 2030, and the numbers of children and people of working age by some 20 per cent. The number of elderly will increase, but by relatively little in comparison, for instance, with Uusimaa. Instead, the number of over-85s will grow by 145 per cent.

Table 2.1 Changes in the population level in the provinces by age group in 2006–2030, with the annual immigration figure at 10,000, as a percentage of the original.

	0–19	20–70	71–74	75–79	80–84	85+	Population
Uusimaa	5	7	89	105	177	173	16
Itä-Uusimaa	4	6	79	88	136	149	15
Varsinais-Suomi	-1	-1	63	68	118	124	9
Satakunta	-10	-16	39	53	104	125	-4
Kanta-Häme	4	1	69	68	108	115	12
Pirkanmaa	13	6	60	65	117	134	16
Päijät-Häme	-4	-7	62	78	147	147	6
Kymenlaakso	-12	-14	46	50	104	124	-2
South Karelia	-13	-15	38	51	99	123	-4
Etelä-Savo	-18	-20	44	54	94	113	-7
Pohjois-Savo	-13	-15	54	59	94	120	-4
North Karelia	-14	-17	59	62	97	121	-4
Central Finland	0	-5	62	68	115	133	6
South Ostrobothnia	-5	-11	47	54	83	90	1
Ostrobothnia	1	-4	40	60	78	87	6
Central Ostrobothnia	-3	-10	43	63	109	139	2
North Ostrobothnia	9	1	79	95	133	158	13
Kainuu	-19	-23	41	50	86	145	-10
Lapland	-12	-16	54	63	115	156	-4
Åland	1	9	82	117	114	105	18
Whole country	**0**	**-3**	**63**	**72**	**121**	**135**	**8**

Source: Statistics Finland, Altika.

In international comparisons, Finland is in the frontline of nations undergoing a similar transformation of their population structure. Finland's present old-age dependency ratio (the ratio of over-65s to 15-64-year-olds) is highly typical of comparisons between EU countries. However, by 2020, the ratio will deteriorate most in Finland, and Finland will thus become the country with the most elderly population in the EU, measured by these criteria. Thereafter, the old-age dependency ratio will continue rising but at a much slower pace than in other EU countries on average. In 2050, Finland will return to being a rather typical EU country in terms of its old-age dependency ratio.

Observations and conclusions

- Population growth will slow down in Finland, but will remain quite positive, at least until the year 2040.
- The birth rate has declined both due to the decrease in fertility and the number of people of child-bearing age. The number of children born in Finland per woman of childbearing age is still higher in Finland than the European average.
- Lower mortality, and higher immigration in particular, have maintained population growth over the past few years.
- Regardless of higher immigration rates, it remains that rather a small proportion of Finland's population is of foreign origin.

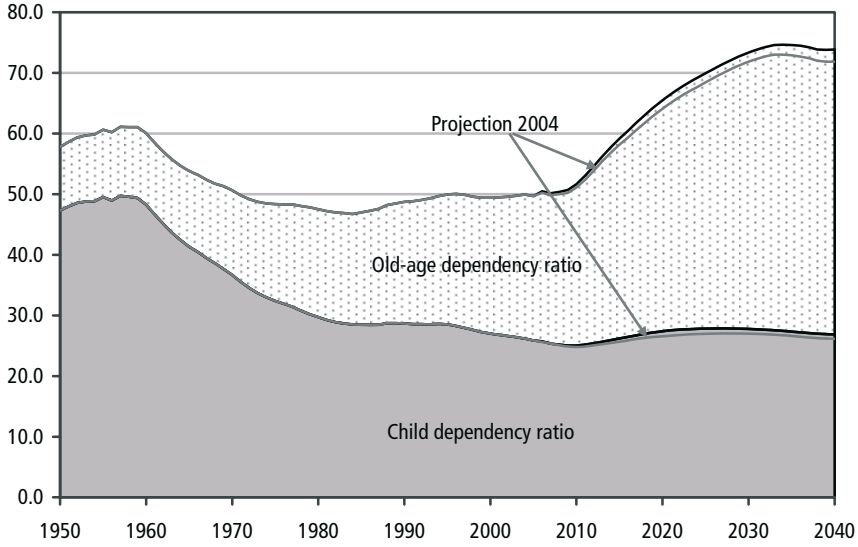
- The ageing of the baby boomer generations, and a longer life span, will result in the population ageing so that, in 2040, more than every fourth person in Finland will be over 64 years of age.
- The working-age population, 15–64-year-olds, will begin to decline as early as the period following the year 2010.
- The population is ageing faster in Finland than on average in the EU. In 2020, Finland will have the oldest population in the EU, measured in terms of the old-age dependency ratio.
- Regional demographic differences are already high and intense differentiation between regions will continue over the next 30 years.

2.3 Projected population development 2004/2007 and related uncertainty factors

The preparation of the 2004 Government Report on the Future was based on a slightly more pessimistic view of the total population's future development than that currently taken. The realised population development in 2004–2006 was more positive than predicted so that, in 2006, the population figure exceeded the forecast by 17,000. This was due to lower-than-predicted mortality and higher net immigration. The birth rate, too, was slightly higher than previously projected. Approximately one half of the error in prognosis is related to the higher than predicted growth in the level of the over 75-year-old population. Therefore, over the past few years, the population structure has aged slightly faster than expected.

Statistics Finland's latest population projection contains revised assessments regarding immigration, life expectancy and the birth rate, all adjusted upwards. Proportionally, the difference is most significant in net immigration, for which the annual estimate is now 10,000 people instead of the previous assumption, 6,000. Contrary to the previous projection, the total population figure will not begin to decline during the period under review, up to the year 2040. Finland's total estimated population figure for 2040 is 5.7 million, i.e. over 350,000 more than predicted a few years ago. By age group, the new projection is positioned so that the proportion of both children (under 15-year-olds) and older people (over 64-year-olds) is slightly higher, and, correspondingly, that of people of working age lower than in the projection for 2004. Therefore, it does not seem as if a more positive than projected population development will alleviate the structural problem related to ageing. On the contrary, it will aggravate it slightly (figure 2.9).

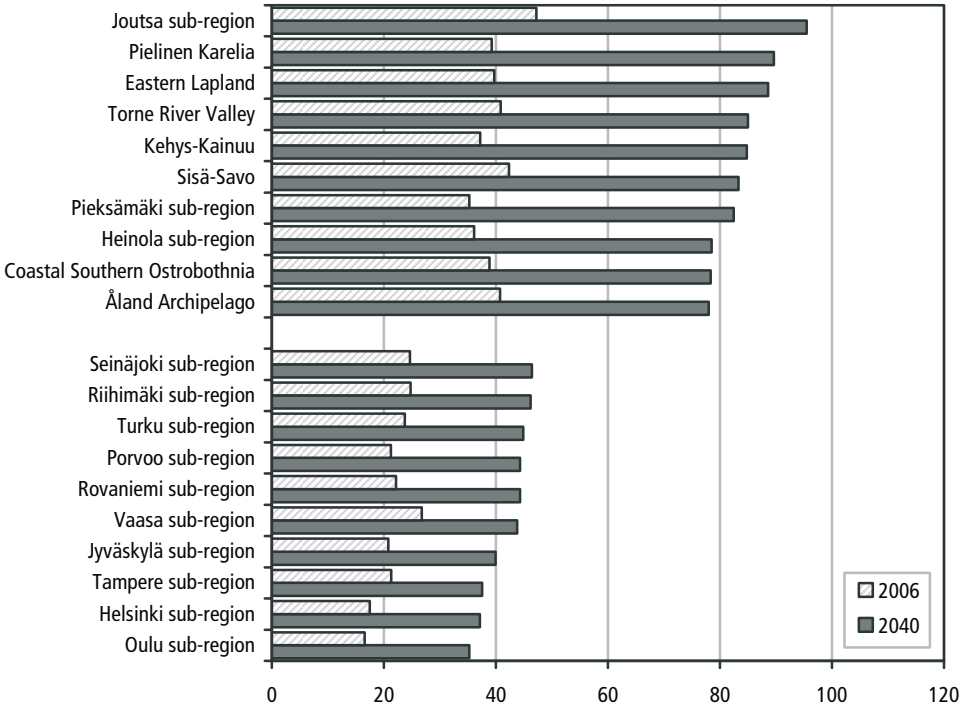
Figure 2.9 Demographic dependency ratio and its components in 1950–2040; Statistics Finland's projection for 2007 and comparison with the Statistics Finland projection 2004.



It can be projected with a high level of certainty that differences in the old-age dependency ratio between regions will increase, since migration inside the country is focused around the younger age groups. The population is growing in large centres and nearby sub-regions with good connections, whereas population figures are clearly decreasing and people growing older in many, predominantly rural sub-regions in Northern and Eastern Finland in particular. Therefore, dependency ratios are set to become particularly problematic in the predominantly rural regions of Eastern and Northern Finland (figure 2.10).

Population projections are always based on the assumption of past development continuing into the future. Hence they reveal the consequences of the continuation of the current population development trend. The key assumptions in the background of Statistics Finland's 2007 population projection are that total fertility will remain on approximately its current level and mortality will continue declining at a pace similar to that of the last 15 years. Net immigration is expected to remain at approximately the average level of the past few years, i.e. at 10,000 people.

Figure 2.10 Old-age dependency ratios by sub-region for 2006 and 2040, 10 lowest and 10 highest.



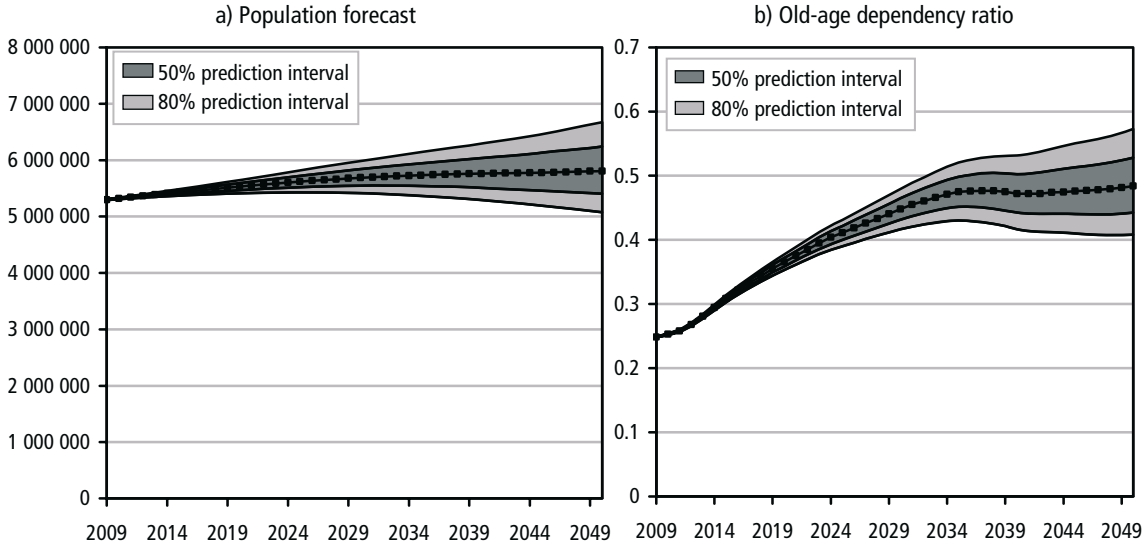
History proves that the various components of population development (birth rate, mortality, migration) often take quite surprising turns, which are unpredictable by means of projection methods. This uncertainty can be both described and measured by comparing the realised population development with the projection for the same period, formed using previous observations on population development. The result is an assessment of the degree of uncertainty related to the population projection, if various components take sudden turns approximately as often and to a similar extent as before. Therefore, the assumption is that predictions concerning the future are almost as accurate as previous projections based on the same methods.

A so-called *stochastic population forecast*, containing a group of alternative loci instead of one population locus, can be formed using the aforementioned method[4]. With the help of the alternative loci, statistical confidence intervals can be formed around the basic scenario (cf. Alho et al. 2008). Instead of forecasting, for instance, the total population figure for a certain year at exactly 5.7 million, with a certain probability it can be estimated that the population will

[4] Stochastic population forecasts can be prepared using several different methods, the premises of which differ somewhat. Among others, Scherbov et al. (2008) present a stochastic forecast for all EU countries (incl. Finland), based on the 2004 population forecast by Eurostat.

total between 5.3 and 6.1 million. Figure 2.11a shows Finland's stochastic population forecast until the year 2050, based on this principle. The figure reveals that the uncertainty related to the forecast will grow intensely as the forecast horizon extends further. Over a term of approximately 40 years, it is reasonably possible that the population figure will be lower than at present, despite the greater probability of a rising trend.

Figure 2.11 a) Stochastic population forecast and b) old-age dependency ratio based on the stochastic population forecast for the years 2009–2050.*



* Forecast median corresponds to Statistics Finland's 2007 projection. The percentage figure for the prediction interval indicates the probability of realised development falling within the prediction interval.

Source: Alho (2008).

On the basis of the stochastic population forecast, a corresponding probability distribution can also be formed for key figures, describing population development, such as the old-age dependency ratio. Figure 2.11b shows a stochastic forecast for the development of the old-age dependency ratio until the year 2050. This figure leads us to the conclusion that, with considerable probability, the old-age dependency ratio will be higher than at present and will fairly certainly rise from the current 25 per cent to at least 40 per cent by the year 2030.

Observations and conclusions

- Population forecasts involve an element of uncertainty and are rarely exact.

- Considerable regional differences prevail in the dependency ratio and, in particular, the old-age dependency ratio, and it is predicted that this will intensify further.
- The recent population projection by Statistics Finland contains revised assessments regarding both immigration, life expectancy and the birth rate, all adjusted upwards from the projection of 2004.
- More positive population development will not, however, alleviate the structural problem related to ageing.
- In light of the stochastic forecast, taking uncertainty factors into account, a substantial weakening of the old-age dependency ratio is unavoidable.

2.4 Sensitivity of population development in terms of various factors

One way of illustrating the uncertainty related to the anticipated population development involves an assessment of the realistic range of variation between different factors, and the calculation of the impact of results at the extreme ends of the spectrum, on population figures and the age structure. Such a sensitivity analysis provides an idea of how potential deviations in various factors (birth rate, mortality, migration) from the anticipated development would influence key demographic variables such as the proportion of the elderly population. A study like this produces partial scenarios, in which only one factor at a time deviates from its baseline (in this case, Statistics Finland's 2007 projection) and does not, as such, strive to form any realistic alternative scenarios. Contrary to the aforementioned stochastic forecast, no actual statistical probability is related to such a sensitivity analysis.

As concerns the sensitivity analyses, the dimensioning of deviations from the baseline is naturally crucial. In an ideal situation, the probability distribution of subcomponents would be known and utilised for the purposes of the sensitivity analysis. Since this is not the case, a range has been specified for each subcomponent, within which any realistic deviations from the baseline will occur *in the view of experts*[5]. The following outer limits for positive and negative deviations have thus been formed:

i) Mortality: Life expectancy declines/increases by ±3.5 years by the year 2050
ii) Birth rate: Total fertility rate is a) 1.35 b) 2.1
iii) Immigration: Net immigration is a) zero b) 20,000 people per year.

[5] The formation of a realistic variation range for various subcomponents was based e.g. on the views of an expert group comprising demographers.

The higher alternative figure given for immigration, i.e. net immigration of 20,000 people, would result in an increase of 10,000 people on the default figure of Statistics Finland for 2007, and stabilise the total population figure (also as concerns working-age population) in the long term. The lower alternative figure for net immigration (0 people per year) represents a symmetric shock downwards in relation to the baseline and concurrently a so-called self-sufficiency estimate, in which migration has no impact on population development.

As concerns the birth rate, the lower total fertility rate of 1.35 corresponds roughly with the current fertility levels of Italy or Spain. The fertility rate higher than the basic projection lies at approximately the population regeneration level of 2.1, whereby the next generation would equal its predecessor in terms of size. Life expectancy extending by 3.5 to 4 years, or a symmetrically equivalent decline, is based on the stochastic population forecasts calculated by Juha Alho et al. (2008).

Figures 2.12 and 2.13 present alternate loci for population development based on a sensitivity analysis. Figure 2.12 shows that maximum deviations in compliance with the presumed variation range of subcomponents would result in a variation range of a magnitude of +/- 10–15 per cent in both directions, from the projected total population figure in 2050. The most significant individual factor in terms of the population figure would be total fertility declining to a south-European level. As result of such a development, the population figure at the end of the forecast period would be some 15 per cent below the basic projection by Statistics Finland, and also clearly lower than at present. In the positive direction, the most significant deviation from the forecast would be caused by the doubling of net immigration, resulting in a population figure approximately 10 per cent higher than the basic projection by Statistics Finland.

Figure 2.12 Development of the total population figure, Statistics Finland 2007 projection and its sensitivity to shocks in various components i-iii.

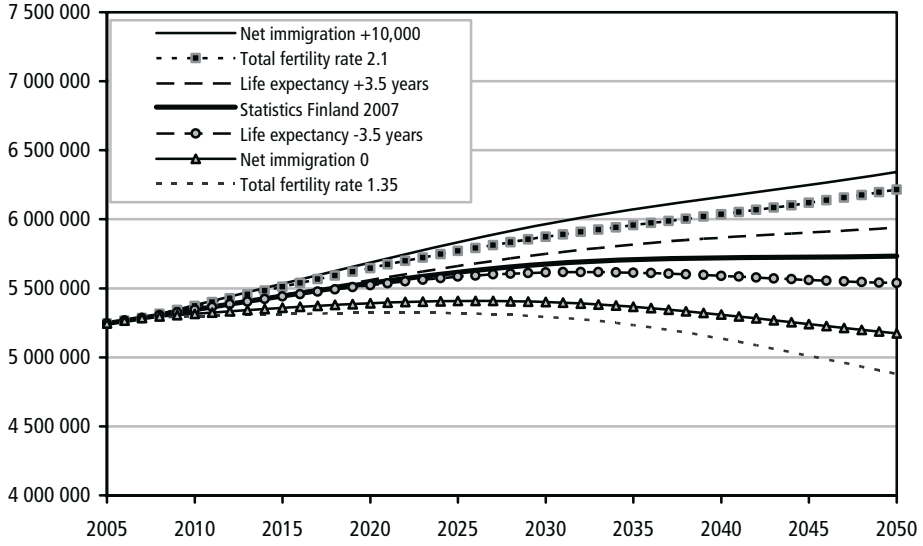
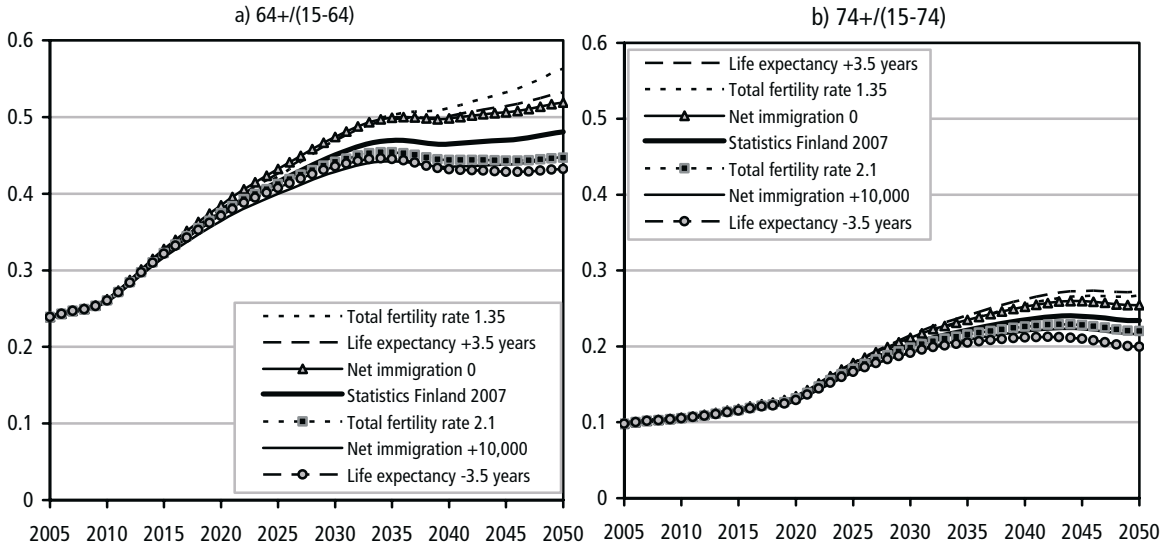


Figure 2.13 shows the corresponding sensitivity analysis for the old-age dependency ratio. The survey is carried out separately based on two alternative definitions of the old-age dependency ratio. The most generally used definition proportions the population over 64 years of age with the working-age population at the age of 15–64 (figure a). On the other hand, as the functional ability of the population improves, it would also prove interesting to review the effect of the ratio vis-à-vis the age limit of the 'dependent' part of the population being raised to 74 years (figure b). The figures indicate that the relative variation range of dependency ratios falls within the same magnitude as for the population figure, i.e. +/- 10–15 per cent. Moreover, the variation range of the old-age dependency ratio (64-year-olds) downwards (-10%), i.e. in a more positive direction than predicted, would be clearly smaller than that of the population figure (-15%) and, correspondingly, higher upwards, in a more negative direction. It is noteworthy that the old-age dependency ratio calculated for over-74s will undergo an intense increase later and will, for all alternative scenarios, remain clearly lower than the 'traditional' old-age dependency ratio for over-64s.

Figure 2.13 Development of demographic old-age dependency ratio a) 64+/(15–64) and b) 74+/(15–74): Statistics Finland 2007 projection and its sensitivity to shocks in various subcomponents i-iii.



The sensitivity analyses above compare the impact of individual shocks, located at the extreme ends of the subjective 'probability distribution,' on projected development. In the real world, shocks can be simultaneously targeted at various subcomponents, when their impact on the population figure and age structure can either weaken or strengthen each other. Changes in various subcomponents can also be mutually linked, and these links should be taken into account in scenarios aiming to be realistic.

The following takes a step in this direction since, on the basis of the sensitivity analysis above, alternative scenarios for population development are formed, simultaneously altering assumptions concerning different components (birth rate, mortality, migration), within the framework of the variation ranges presented herein. Possible links between different subcomponents (e.g. the impact of higher immigration on fertility) are not, however, taken systematically into account[6]

Combining the extreme ends of the variation ranges of three population development subcomponents produces 27 different combinations, of which six were selected for closer analysis. Figure 2.14 presents the total population

[6] Simulations assume that fertility and immigration will increase/decrease by leaps in the immediate future, and life expectancy will increase/decrease steadily, until the year 2050, and stabilise thereafter. It is assumed that the immigration age structure will correspond to the current structure. Simulations are made using the SOME model.

figure loci resulting from these alternatives. Alternative scenarios are identified using three consecutive symbols, of which the first indicates the development of life expectancy, the second total fertility, and the third net immigration. An individual symbol can be +, - or 0, depending on the direction in which the value of the variable in question deviates from the default figure in Statistics Finland's population projection. Hence, for instance in the 0-+ scenario, life expectancy follows the development of Statistics Finland's population projection, total fertility is in accordance with the lower alternative, 1.35, and annual net immigration is at 20,000 people, i.e. corresponds to the upper limit of the variation range presented above.

Figure 2.14 Development of total population figure for various population scenarios and Statistics Finland projection 2007.

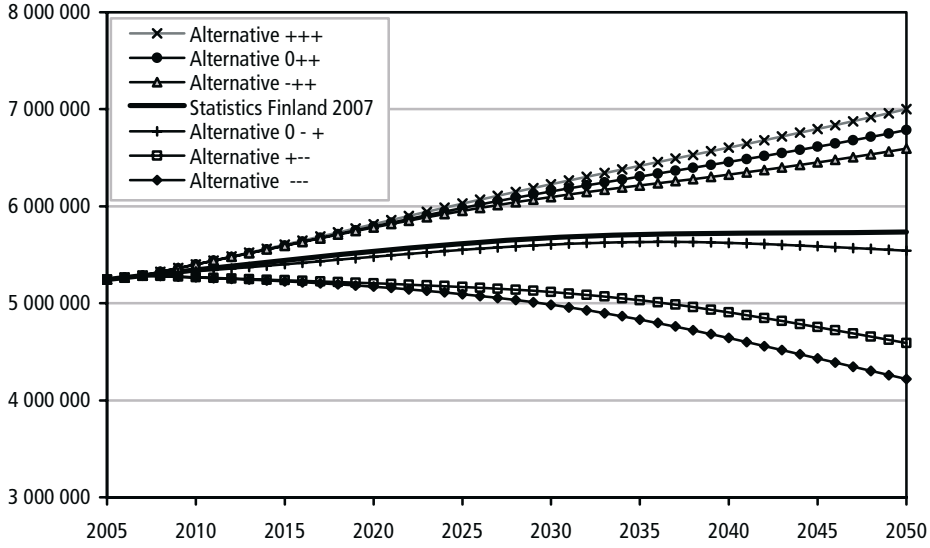


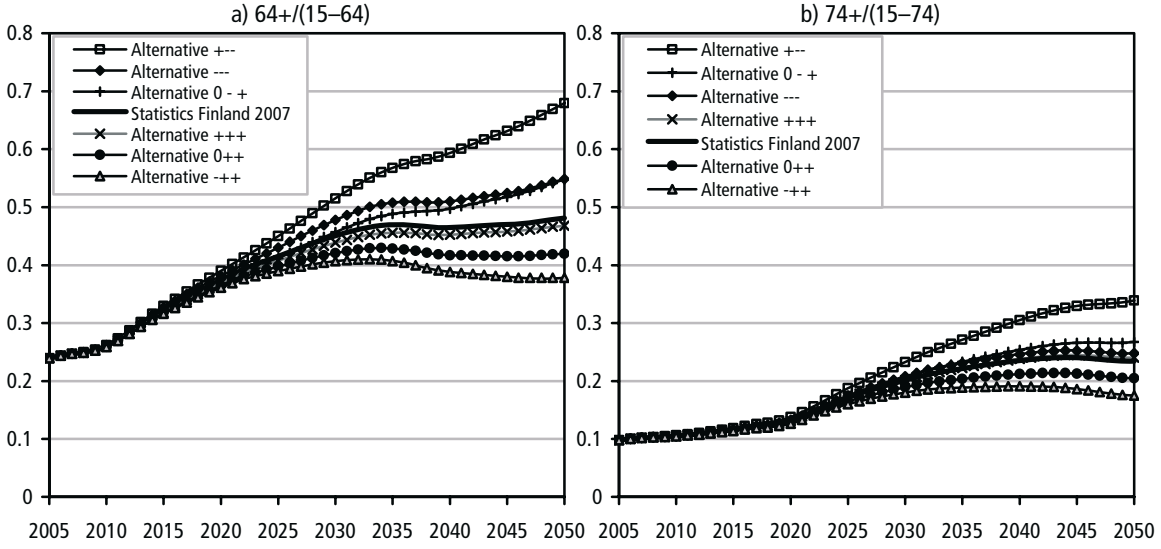
Figure 2.14 shows that combining the extreme limits (+++ and ---) of the variation ranges of different subcomponents, deviating in the same direction, produces development loci in which the development of the population figure differs markedly from the predicted scenario. Around the year 2050, the variation range around the basic forecast would be in the range of 20–25 per cent. However, it should be pointed out that the simultaneous realisation of the extreme limits of different subcomponents' variation ranges is not very likely[7]. On the other hand, the figure shows that the deviations of various subcomponents may moderate each other, so that even if the extreme development is realised, that of the total population figure will not greatly

[7] This is true if the realisations of subcomponents can be considered relatively independent of each other, as assumed here.

deviate from the basic projection. This is the case with the 0-+ alternative, whereby the birth rate will decline considerably while net immigration intensifies.

Figure 2.15 shows the impact of corresponding alternative scenarios on the development of the old-age dependency ratio, based on two alternative age classifications (cf figure 2.13). The alternative with a high life expectancy and other components at a low level, i.e. +-- produces the highest old-age dependency ratio. In addition, the variation range of dependency ratios increases when components are simultaneously allowed to deviate from their projected level. It is noteworthy that the variation range of old-age dependency ratios upwards, i.e. in a worse direction in terms of the financial burden, increases more than the variation range downwards.

Figure 2.15 Development of demographic old-age dependency ratio a) 64+/(15–64) and b) 74+/(15–74) based on different population scenarios and the Statistics Finland 2007 projection.



As stated above, the probability of alternative scenarios is subjective, and not quantifiable using statistical methods. Comparison of the sensitivity analysis results with the aforementioned stochastic population forecast gives some idea of the statistical probability of various options. Figure 2.16 shows such a comparison in terms of the variation of individual subcomponents, and in terms of the old-age dependency ratio of the entire population (a) and 64-year-olds (b). The figures indicate that the variation range resulting from the variation of individual subcomponents corresponds with a stochastic confidence interval of approximately 80 per cent for population development. This means that the probability that the development will become even better or worse is relatively small (one in five). Correspondingly, for combination scenarios (+++ etc.)

development paths resulting from extremes seem relatively unlikely, in light of the stochastic forecast.

Figure 2.16a The sensitivity of the total population figure to shocks in various subcomponents i-iii, in relation to the stochastic population forecast.

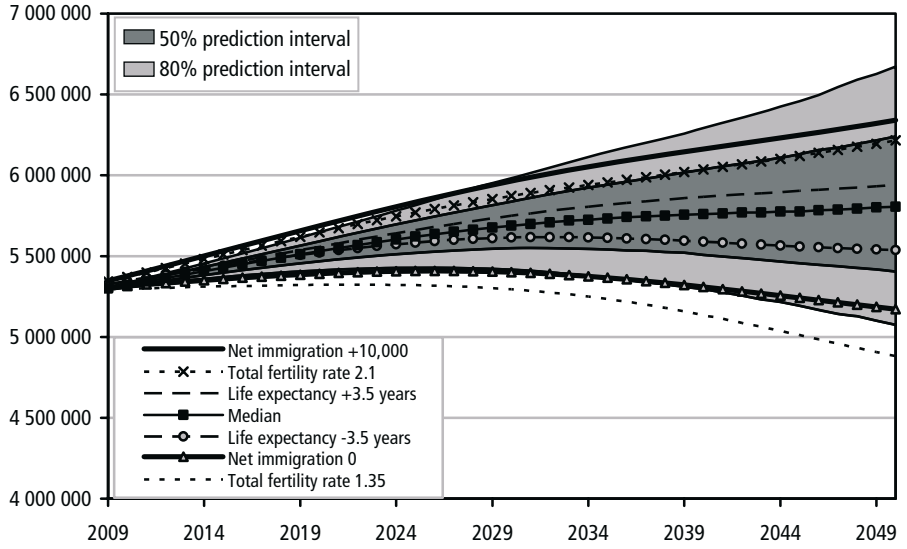
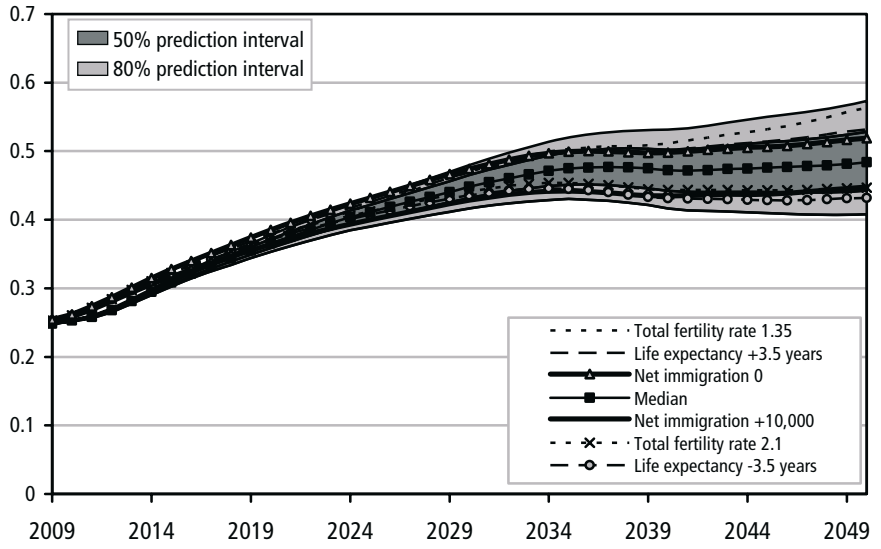


Figure 2.16b The sensitivity of the demographic old-age dependency ratio 64+/(15–64) to shocks in various subcomponents i-iii, in relation to the stochastic population forecast.



Observations and conclusions

- Around the year 2050, the total population figure and old-age dependency ratio will vary by +/- 10–15 per cent, depending on the development of various components (birth rate, mortality, migration), assessed as realistic.
- Based on all alternatives, the old-age dependency ratio of over-64s increases quite rapidly in 2010–2035, exceeding the 40 per cent limit.
- The old-age dependency ratio of over-74s will undergo an intense increase later on, with the level remaining clearly lower, for all alternatives, than the 'traditional' dependency ratio for over-64s.
- The development of fertility is clearly the most significant sensitivity factor in terms of population growth.
- An increase in net immigration will curb the rise in the old-age dependency ratio almost as effectively as the rise in fertility, but with a considerably lower increase in the population figure.
- An increase in net immigration represents the only way of simultaneously curbing the increase in both the old-age and overall dependency ratio (if growth in mortality is not included).
- In terms of the old-age dependency ratio, the most problematic development involves acceleration of the extension of life expectancy, lower fertility and more moderate than projected immigration.
- In light of the sensitivity analysis, the deviation of components from predictions, regarded as realistic, will increase the variation range of old-age dependency ratios, chiefly in the upwards direction, i.e. in a worse direction in terms of the financial burden.

2.5 Impact of policy measures on demographic subcomponents

Above, the intention was to use so-called sensitivity analysis to assess the impact of the various subcomponents of demographic development on future population development, and on the old-age dependency ratio in particular. The following provides a brief assessment of how different policy measures can influence the various subcomponents of population development.

Development of life expectancy

Longer life expectancy is a key factor intensifying the ageing of the population, and is partly related to the high standard of living, general wellbeing and health care of developed nations. One of the most important objectives of the welfare state is to promote health and functional ability while lowering mortality in all age and population groups, the advancement of which is viewed as necessary and essential, regardless of developments with respect to the ageing of the population. In this respect, there is reason to pay particular attention to the internationally high mortality rate among young men, maintained by factors such as binge drinking, accidents, suicides and violent deaths.

Health policy can influence mortality, and thus rising life expectancy. The rapid rise in life expectancy in the past one hundred years has been based on lower mortality, particularly as concerns children and younger age groups. At present, the mortality of young people in Finland is already at such a low level that any further decrease can no longer increase life expectancy in any significant way. Therefore, in the future a longer life expectancy will be largely dependent on lower mortality figures in more senior age groups.

A contrary development, tending towards a lower life expectancy, is possible at least in principle in younger age groups, related to the greater frequency of so-called lifestyle-related illnesses, such as diabetes, obesity and the excessive use of alcohol. Correspondingly, improvements in the prevention and treatment of these and other illnesses that raise mortality could further decrease mortality, to some extent in young age groups, and particularly in older ones.

Alongside the number of years of life, health policy influences the quality of those years and the functional ability of individuals. The significance of enhancing functional ability is emphasised from the demographic viewpoint, when the categorical definition of the working-age population is abandoned. In this publication the old-age dependency ratio has been defined in most cases as the ratio of the over 64-year-old population to 15–64-year-olds. In this case, the latent assumption is that the functional ability of the over 64-year-old population is limited to such a degree that such people cannot participate in productive work full-time (or not at all). However, since the state of health of the more senior population is continuously improving, the definition of the dependency ratio based on fixed age limits is becoming questionable. From a physiological perspective, and that of human resources, a more essential indicator would be the ratio of population with no functional ability to that with functional ability. From an economic-institutional viewpoint, it would indeed be justifiable to take account of the effective retirement age in defining the dependency ratio. Indeed, the effective retirement age contributes to regulating the share of population participating in productive activity. On the other hand, it is obvious that in the long term, the functional ability of older sections of the population correlates positively with the effective retirement age.

An attempt at quantifying the potential impacts of health policy on the life expectancy and functional ability of people is included in chapter 3.2. Since the positive impacts of health policy are closely related to labour supply, chapter 4 considers these issues in more detail.

Birth rate

In most developed countries, public authorities have adopted a relatively liberal policy in relation to birth rate and number of children, which is considered to fall within the sphere of individual free choice[8]. On the other hand, benefits and public services intended for securing the wellbeing of families with children work to a certain extent as incentives to fertility. In recent years, concerns over the ageing of the population have increased interest in implementing a policy aimed at promoting the birth rate (Ageing Horizons 2007).

However, there is no undisputed empirical evidence on the impacts of policy measures on the birth rate. According to a long-prevailing view, e.g. financial incentives can influence the timing of births at most, but not overall fertility to any significant extent. The idea is that the reproductive behaviour of humans is controlled largely by factors other than financial ones, such as those related to culture, traditions and family relations.

However, the possibility that the birth rate might be influenced by family policy measures, among other factors, cannot be completely excluded. For instance, in Sweden, a family allowance reform favouring families with many children has coincided with a rise in fertility. Recent studies based on material from Israel and France demonstrate that family allowances have a positive connection with the birth rate (Cohen et al. 2007, Laroque & Salanié 2008). Indeed, in recent years the notion according to which long-term, extensive child-friendly policies might influence total fertility, has become more common.

A trend decreasing the birth rate in developed countries can be found in the tendency of women to postpone pregnancy due to studies and careers. As a consequence, with increasing frequency childbearing is postponed to a time of life at which having children can be more difficult than at a younger age, both for physiological reasons and those related to forming relationships. This delay results in some desired pregnancies remaining completely unrealised. In Finland, too, the share of childless women over 35 has increased steadily, from approximately 17 per cent in 1986 to some 27 per cent in 2006.

In light of a recent Finnish survey, intentions to have children are, for men and women alike, linked to financial income and their position in the labour market. However, an anticipated decrease in earnings and unemployment clearly decrease men's intentions to have children. As concerns women, experiences of several bouts of short-term employment affect their intentions to have children. Moreover, health experienced as deficient, and stress, are cited as reasons for delays in having a family. Men, and women over 34 years of age, most

[8] A well-known, significant exception to this is the one child policy introduced in China.

frequently feel that their state of health is an obstacle. Stress commonly restricts having children, particularly among women and parents with one child (Miettinen & Rotkirch 2008).

In view of global population development, and the continuing problem of overpopulation, target-oriented promotion of the birth rate, even in restricted parts of the world, should be approached with caution. On the other hand, insofar as requirements and restrictions related to, say, studies and working life prevent individuals from acquiring hoped-for children, thus affecting their happiness and wellbeing on an individual level, the alleviation of such restrictions could be considered justified. In light of recent observations, it would seem that various long-term policy measures facilitating the combination of working life with family life might decrease problems related to having children in Finland, and thus contribute to promoting the birth rate and mitigating the aging of the population.

Research also indicates that older (over 30 years of age) parturients often take too pessimistic a view of their personal physiological preparedness for having children. In this respect, it may be necessary to enhance communication to help potential parturients obtain information which is as realistic as possible on conception and the risk factors related to pregnancy, and to prevent images, which actually stem from incorrect information, from persuading people to give up the idea of having children at an unnecessarily early age.

Migration

As a component in demographic trends, immigration is generally regarded as the factor that can be most clearly influenced by policy, and indeed, most countries aim to do so. Contrary to the birth rate (and mortality), no ethical or moral impediments are usually deemed to apply to the management of immigration. However, regardless of such regulation, the development of immigration has traditionally been difficult to predict on an international scale. Indeed, problems related to the reliable compilation of statistics have enhanced such difficulties, even in the United States with its long tradition of a systematic immigration policy.

Finland has traditionally pursued a restrained immigration policy, and work-related immigration in particular has been low. Refugees have accounted for a significant proportion of foreigners moving to Finland[9]. In recent years,

[9] In the 21st century, the annual number of so-called quota refugees entering Finland has been approximately 700. In the past few years, the annual average number of asylum seekers has been around three thousand, with an asylum or residence permit being granted to 500–800 people. In 2006 and 2007 the number of asylum seekers was lower than previously, but due to other Nordic countries introducing stricter conditions for granting asylum, the number of asylum seekers in Finland had begun to rise again in 2008.

motivated by the tightening labour market situation, even Finland has begun to pay attention to promoting work-related immigration. In that respect, too, the line adopted has been a fairly cautious one, as proven for instance by the introduction of transitional provisions concerning new EU member countries in 2004–2006.

Migration, work-related immigration in particular, is often closely linked to economic development. A recent report predicts, purely in light of economic analyses, that Finland will face considerable immigration pressure in the future. This view is based on the fact that, on a European scale, the income level in Finland is high and the difference in living standards large in comparison with some neighbouring countries (von Weizsäcker 2008).

It is possible that the increase in net migration gain, observed even in Finland over the last few years, is partly a consequence of financial development and the increase in employment, which has been good in comparison with many other countries. However, the stagnating economic trend may cause a decline in immigration too. This type of trend has lately been seen in the United States and the British Isles, among other countries. In United Kingdom and Ireland in particular, the massive flow of workforce from eastern Europe has reversed e.g. due to the demand situation, changes in exchange rates and increasing wage levels in countries of origin.

Furthermore, demographic developments in countries of origin may influence immigration. In this respect, Finland's position is weak in that in Finland's most important countries of origin, the population is declining (Russia) or remaining practically unchanged (Estonia). On the other hand, the population structure in these countries is not aging at an equally rapid pace to Finland's. In more general terms too, the ageing of the population is affecting migration potential in all European countries, on the basis of which it can be assumed that the share of immigration from the most distant countries will also grow further in the future.

According to a recent study (Belot & Ederveen 2006), differences related to culture and institutions are a significant factor in explaining migration between countries. Barriers to migration, related to culture and institutions, explain the observed behaviour even better than economic factors. Cultural barriers are related to language and the value base (religion), while institutional barriers relate to e.g. the transferability of pension rights and housing markets.

Authorities can facilitate work-related immigration e.g. by making work permits easier to gain, and by speeding up the handling of permits. Finland has already made progress in this direction by, for instance, reducing the so-called necessity

assessment in connection with granting work permits[10]. Authorities can also assist enterprises in recruiting from abroad by participating, for instance via embassies, in disseminating information and arranging recruitment events. Embassies' participation may be of special significance in emphasising the positive image and reliability of Finnish companies, and in dispelling suspicions related to people trafficking in particular.

Research indicates that a considerable part of immigration – including work-related immigration – is connected with family relations[11]. Therefore, in order to promote work-related immigration as well, it is vital that the integration of the population of foreign origin already in the country be ensured, while improving their living conditions and status in the labour market. In this respect, support for language training and other integration measures, finding employment and work induction are important.

In light of observations, the immigrant population's position in the labour market will only be improved to equal that of the original population over a long period of time, in practice only by the second generation, provided that the education of people of immigrant origin is at a sufficiently high level. From the viewpoint of the labour market, work-related immigration or temporary residence in the country are therefore emphasised, because they can provide immediate help in relieving labour market bottlenecks.

Observations and conclusions

- Health policy can influence mortality and life expectancy.
- Alongside the number of years of life, health policy influences the quality of those years and the functional ability of individuals.
- One of the challenges facing both health and social policy is related to the internationally high mortality rate of young men, maintained by intoxication-seeking drinking habits, accidents, suicides and violent deaths.
- No undisputed empirical evidence is available on the impacts of policy measures on the birth rate.
- According to recent assessments, a long-term, extensive child-friendly policy can have a permanent impact on total fertility.
- A key trend decreasing the birth rate lies in women's tendency, related to studies and work, to postpone childbearing.
- In light of a survey, for both men and women the intention to have children is linked to financial income and one's position in the labour market.

[10] The necessity assessment procedure only applies to a fraction of the workforce coming from abroad, and the intention is to abandon this process.

[11] According to the OECD, 44 per cent of international migration is related to family reunification (OECD 2008). Parallel results for Finland are presented inter alia by Holm et al. (2008).

- As an element in demographic trends, immigration is the one regarded as that which can be most distinctly influenced through policy measures. Finland has traditionally pursued a restrained immigration policy, and work-related immigration in particular has been low.
- There is good reason to promote work-related immigration in a controlled manner as a means of replacing the declining supply of labour, due to the aging of the native population.
- Migration is often closely linked with economic development. The declining economic trend may cause a decline in immigration, which has developed favourably over the past few years.
- Authorities can facilitate work-related immigration by removing institutional barriers to migration, by making work permits easier to gain, and by speeding up the handling of permits.
- In order to promote work-related immigration as well, it is vital that the integration of the population of foreign origin already in the country be ensured, and their position in the labour market improved.
- In addition to actual immigration, the prerequisites of temporary work-related residence in the country should be improved by continuing to remove barriers to workforce mobility within the Nordic countries, and the EU.

3 SOCIETY WITH AN AGEING POPULATION

The change in the population's age structure is affecting society's functioning in a variety of ways. This is true in spite of the fact that the phenomenon termed population ageing – growth in the proportion of persons over a certain age – is in part a mere statistical phenomenon. The average 65-year-old of today has a significantly better functional ability than was the case 30 years ago. There are no particular reasons for assuming that this trend will not continue.

The growing proportion of the elderly, however, will have many impacts on society's functioning, for instance with regard to citizens' health and functional ability, the nation's economic performance, the structure of consumption, places and forms of residence, income distribution and social relationships. The following summarises the key phenomena, focusing on the issues most probably subject to influence through policy.

3.1 Dependency of economic performance on population ageing

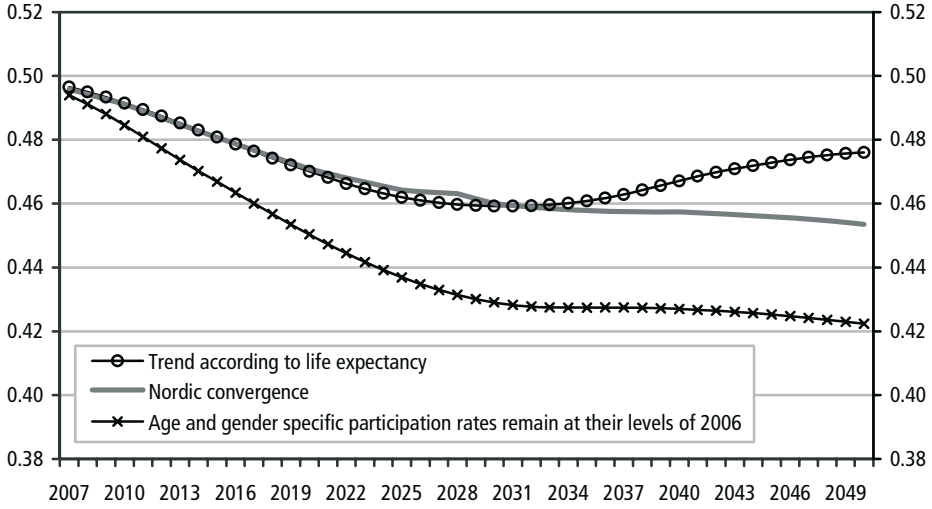
A nation's economic performance in terms of creating welfare is generally measured using GDP per capita. The increase in the proportion of aged people past working-age of the total population tends to lower the growth rate in GDP per capita. This is particularly due to ageing's negative impact on labour supply. However, the magnitude of such an impact depends greatly on the working-age population's participation in the labour market. If age specific participation rates remain at their current levels, the proportion of the population constituting workforce will reduce greatly. Nonetheless, this is not inevitable since many countries comparable to Finland have clearly higher participation rates, particularly among people aged 55 or over. In addition, the population's improved health and functional ability means that the 65-year-olds of the future will be capable of a much higher average labour input than people aged 65 presently.

Realistic growth in participation rates would have a significant impact in quantitative terms. For instance, if Finland's participation rates rose in all age groups and for both genders, attaining the current average level of Sweden, Denmark and Norway by 2028, the decline in the proportion of workforce would be clearly smaller than if age specific participation rates remained unchanged and, in absolute terms, the size of workforce could remain at almost the current level.

A simple method of reducing the impact of population ageing on the labour supply would involve creating some sort of link between years of workforce participation and life expectancy. If the workforce participation expectancy for a

25-year-old were to remain unchanged in proportion to life expectancy, the period of retirement in proportion to workforce participation would also remain nearly unchanged. Such a trend would correspond to that of Nordic convergence until the 2030s, after which both the proportion and number of workforce in the population would even begin to grow, although the workforce proportion of our mid-decade initial situation would not be regained.

Figure 3.1 Supply of labour in proportion to total population, under certain assumptions.

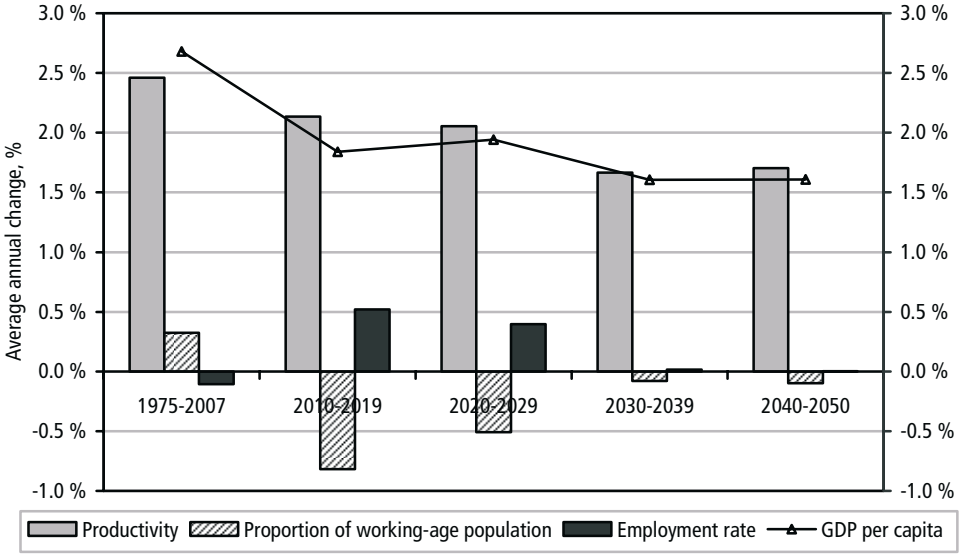


In addition to labour input economic growth is influenced by growth in productivity. Ageing will probably lower the average productivity of the workforce to some extent. However, a more important factor in the deceleration of productivity growth in Finland will probably lie in the inability to achieve productivity increases, to the same extent as previously, by copying technologies already adopted elsewhere. According to a fairly established view, growth in labour productivity will slow down in Finland, settling at slightly under 2 per cent, at level of the whole economy (Ministry of Finance 2007, Pohjola 2007). Combining such a productivity assumption with an employment career which sees the convergence of participation and employment rates at the Nordic level results in the GDP per capita trend and components illustrated in Figure 3.2.

According to this calculation, GDP per capita growth rate will decelerate from the average achieved over the last 30 years of 2.7 per cent, to an average of slightly under 2 per cent for the next 20 years, after which it will drop to slightly more than 1.5 per cent for the subsequent couple of decades. While the declining proportion of the working-age population will particularly weaken the GDP growth rate over the next decade, the decade after that will also be

affected. However, a higher employment rate could compensate for most of the impacts of the weakened demographic structure, resulting in GDP per capita growth almost corresponding to the contribution of productivity growth. The calculation suggests only minor changes in the demographic structure and employment rates after 2030, with GDP growth thereafter being determined solely on the basis of productivity.

Figure 3.2 Development of GDP per capita and its components, 1975–2050.



This estimate for the forthcoming decades is in line with the historical decomposition of economic growth. For instance, the 13-fold increase in Finnish GDP per capita during the 20th century can be explained by the accompanying 14-fold increase in labour productivity and a simultaneous reduction in the number of working hours per capita. Some of the increased earning capacity owing to higher productivity has been utilised for reducing the life-time work input.

The impacts of population ageing on the economy are realised through many inter-related channels. Typically, an economy's internal or endogenous reactions tend to mitigate the effects of exogenous changes. Thus, for instance, a scarcer supply of labour due to ageing entails a rise in salary levels, which in turn will increase the supply of labour, at least to some extent. On the other hand, incentives aimed at increasing the labour supply for certain stages of life may reduce it in other stages. Similarly, a rise in pension contributions will directly augment the pension system's funds and thus improve the balance of public finances. But, it will also increase labour costs and/or decrease take-home pay, which will have a negative impact on employment. This, in turn, will weaken the

balance of public finances. A sound assessment of total impacts requires taking account of these interdependencies. This is possible with the help of computable general equilibrium (CGE) models.

The following presents a comparison of assumed future developments in key macroeconomic variables related to the standard of living, in a situation in which the population ages and that in which the demographic structure remains unchanged. This calculation has been prepared using the so-called FOG model of the Research Institute of the Finnish Economy (for more information on the model's structure, see e.g. Lassila & Valkonen 2005).

Largely the same demographic trend as in Figure 3.2 above forms the basis of the calculation. The productivity trend is almost identical to that described above, but includes the positive impact of a change in educational structure on productivity, which will compensate to a large degree for the effect of the reduction in the working-age population. Labour supply is endogenous i.e. is determined on the basis of optimisation and includes responses to taxation and to pension system parameters. The model's employment includes longer working careers due, for instance, to the pension reform. Maturation of the pension system is taken into account and it is assumed that taxation covers public expenditure so that no sustainability gap emerges. In the case of an ageing population, this means a higher overall tax ratio. The key results are summarised in Table 3.1 presenting GDP per capita, private consumption and public consumption with some of its components at the beginning of the 2030s and 2050s relative to the beginning of the current decade.

As can already be assumed based on Figure 3.2, productivity growth will be the critical determinant in the level of GDP per capita. The impact of population ageing in 20–40 years amounts only to some 6–7 per cent. According to the calculation, for instance in the middle of the century, GDP per capita would be 2.6 times higher than at the beginning of the decade if the population were to age as predicted and, if the age structure remained unchanged, GDP per capita would be 2.8-fold or approximately 6 per cent higher. The differences in volumes of private consumption per capita are of a similar magnitude.

In terms of the volume of public consumption per capita, the difference between the two demographic trend scenarios is inverted: population ageing increases public consumption. The model's assumptions include current public expenditure bases and the adjustment of taxation to ageing-related pressures in order to increase public expenditure. A particularly dramatic impact would occur within health and nursing services, which would grow 1.5-fold compared to a situation

in which the age structure remains unchanged. On the other hand, reductions in education expenditure are forecast as the age structure changes.[12]

Table 3.1 The impact of ageing on standard of living, 2000–2004=1.

	2030–34	2050–54
GDP per capita		
A. Population ages	1.72	2.58
B. Constant age structure	1.85	2.75
Ratio A/B	0.93	0.94
Private consumption per capita		
A. Population ages	1.93	2.94
B. Constant age structure	2.10	3.13
Ratio A/B	0.92	0.93
Public consumption per capita		
A. Population ages	1.06	1.21
B. Constant age structure	1.09	1.11
Ratio A/B	0.98	1.09
Health and nursing services		
A. Population ages	1.28	1.55
B. Constant age structure	1.00	1.00
Ratio A/B	1.28	1.55
Education		
A. Population ages	0.91	0.92
B. Constant age structure	1.00	1.00
Ratio A/B	0.91	0.92

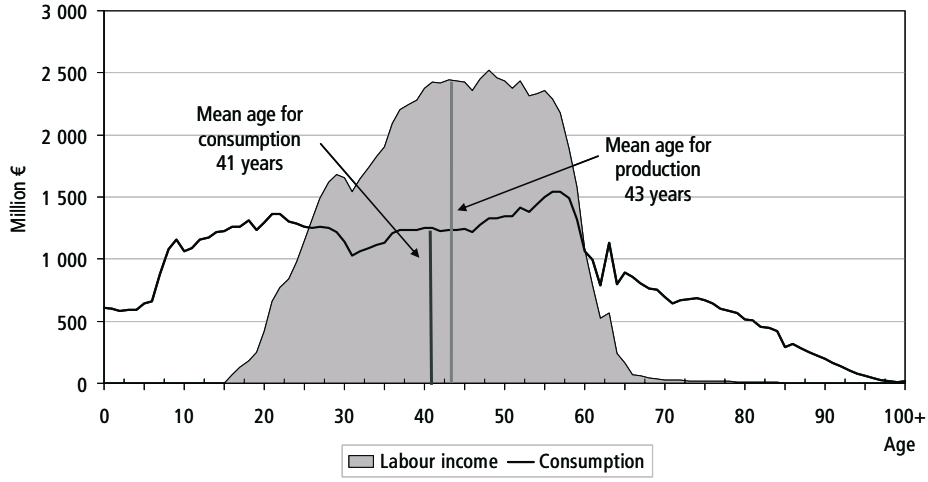
These calculations enable us to arrive at a fundamental conclusion: if the supply of labour adapts to longer life expectancies to a reasonable extent, over several decades population ageing will only cause a minor deceleration in the rise in living standards. Productivity enhancement is a much more important factor in raising the standard of living. Nevertheless, the effect of ageing with regard to increasing the standard of living might be more substantial if the extension of working lives lags far behind increased life expectancies.

Rather than being related to GDP growth rate itself, economic challenges due to ageing are tied to the question of how incomes might be distributed in a manner perceived as equitable, between citizens of all ages, while ensuring that this distribution does not create too many disincentives for participation in the labour market or reduce productivity growth too greatly. In a certain respect, ageing is primarily an issue related to the age specific distribution of income formation and the use of income, and of allocating scarce production resources.

[12] Both scenarios suggest a major reduction in the proportion of public consumption in GDP, since the volume, not the value, of consumption is under review. If zero productivity growth in public service provision is assumed, public services will become more expensive and, within given budgetary limits, may be purchased in smaller volumes.

To illustrate the background to the distribution problem, let us consider the national transfer accounts (NTA) which present labour income and consumption by age group. The difference between labour income and consumption is termed lifecycle deficit (LCD). This deficit is positive, i.e. the age group's labour income is higher than its consumption, when a sufficient proportion of the age group is working. Figure 3.3 presents Finland's aggregate values for consumption and labour income by age group in 2004.

Figure 3.3 Aggregate consumption and labour incomes by age group in Finland, 2004.



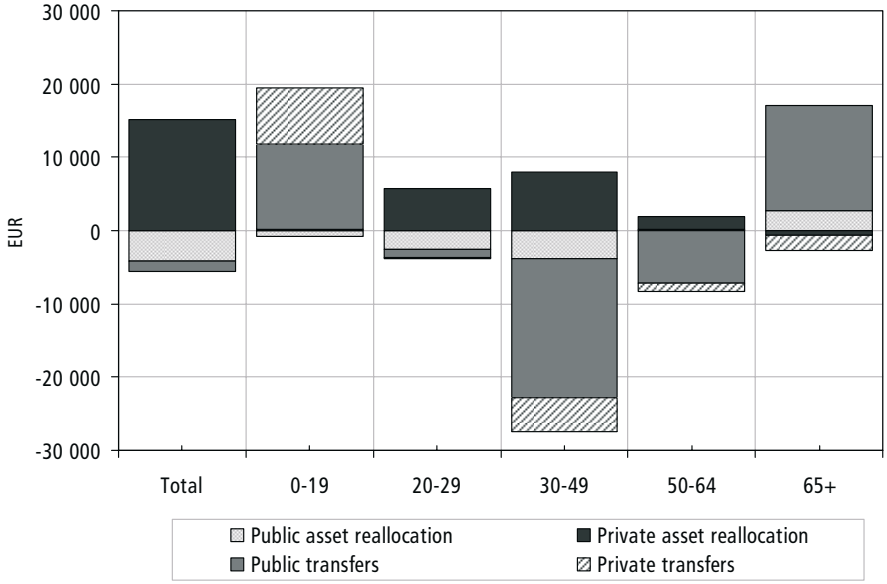
Source: Vaittinen and Vanne (2008).

In young age groups, consumption exceeds labour income until the age of 25. Between the ages of 26 and 60, labour income is higher than consumption meaning that the lifecycle deficit for these ages is positive. From the age of 61, consumption again exceeds labour income. Where labour income within a certain age group does not cover the age group's consumption, the deficit must be financed through capital reallocation, credit transactions or transfers from other age groups. Similarly, where labour income exceeds consumption, the ensuing surplus can be saved (including debt repayment) or reallocated to other groups as income transfers.

In the National Transfer Accounts, two main forms of financial flows between age groups can be distinguished: intra-household transfers and, on the other hand, credit transactions and savings by households. Each of these types can occur either within the private sector, or through the public sector. Figure 3.4 presents net financial flows between age groups in 2004, using the four above-defined financing methods.

The basic messages are very clear. To a significant extent, the consumption of those under 20 is financed by public transfers (free of charge education, health care, family allowances and other forms of social security for families with children). Private transfers, however, are also of major significance. Here, private transfers mainly refer to children's consumption paid for by parents. People of prime working age, 30–49, pay a high volume of taxes in proportion to the income transfers they receive, which translates into negative public transfers. Private asset reallocation refers to capital income. People of retirement age receive a considerable volume of public transfers in the form of pension income and public services.

Figure 3.4 Financing of the lifecycle deficit (LCD) per capita, by age group, 2004.



Source: Vaittinen and Vanne (2008).

International comparisons reveal a feature particular to Finland: that an exceptionally high share of consumption by the elderly is based on public transfers. Consistent calculations are only available for a small number of countries but, among these, the use of public income transfers i.e. a public pension system and free of charge or underpriced public services in financing the consumption of the elderly, is the highest in Finland (Vaittinen & Vanne 2008).

As the population ages, the negative lifecycle deficits of old age groups will increase at given per-capita labour income and consumption levels, since the size of these age groups will grow. The distribution problem caused by ageing, therefore, is an issue of how the economy will react to this change in lifecycle deficits.

Many ways of adjustment exist, however. The most natural of these would involve extending the period during which labour income is incurred alongside the rise in life expectancy. As the income level has increased, the share of working life years of life expectancy has reduced. As Figure 3.1 shows, stabilising the relationship between working life expectancy and life expectancy would have a profound effect on the labour supply outlook as well as the need for income transfers from the working-age population to those past working-age.

In addition to extending working lives, other methods include reducing consumption in age groups with a negative lifecycle deficit, increasing (private and/or public) transfers from working-aged people to age groups with a negative lifecycle deficit, increasing (private and/or public) savings made by working-age groups and adjusting gross transfers from people of retirement age to younger people (inheritances). Naturally, these various adaptation methods affect the welfare of people of various ages, as well as GDP. In practice, all of these methods are used to some extent, the fundamental policy issue being one of determining what kind of adaptation to promote, and which to avoid.

The public sector plays a key role with regard to financial flows between age groups. This is not only due to the fact that pension systems typically form part of the public sector, but also because in a society with an ageing population, demand shifts towards health and nursing services – which, to significant extent, are both financed and provided publicly.

One of the central issues with respect to ageing policy is the determination of public expenditures and revenues, i.e. how much people of working-age should be taxed in order to finance income transfers and services and how should taxation be modified from one period to another. The decisions pertaining to these flows, such as decisions on pension levels and pension contributions, also have a very long-term effect on the public sector's revenues and expenditure. In light of this, the essential issue is how to ensure that decisions taken now will be sustainable, in the sense that they will not have to be substantially amended later, either because accelerating indebtedness has derailed public finances or because consumption opportunities for some citizens have sunk to an intolerable level.

Sudden changes in policy are likely to reduce welfare in many ways (Auerbach 2008). This is why the debate over policy challenges associated with ageing habitually involves the concepts of sustainability of public finances, social sustainability and political sustainability. Generally, the main focus has been on the sustainability of public finances, i.e. confidence on the fact that no sudden increases in taxation or decreases in expenditure will be needed in the future.

In addition to the volume of output and the distribution of consumption opportunities it enables, the change in the population's age structure will also affect the targets and places of consumption. A tendency to consume personal services rather than goods is more common among the elderly than among the working-aged population. In particular, various nursing and health services are important items in the consumption basket of the elderly.

Similarly, age also influences people's choice of place and form of residence. Readiness to change one's place of residence generally diminishes with age. On the other hand, people appreciate different living environments at various ages. When participation in the labour market ceases to be the major determinant of the place of residence for the elderly, they can begin to select their places of residence based on prioritising other factors. Hence, the phenomenon of retired people moving back to their childhood environment or a similar location. However, as people's functional ability deteriorates, the availability of services becomes the dominant factor in the selection of both place and form of residence. People at this stage of life tend to move into village and town centres, from single-family houses to blocks of flats and, later, to sheltered housing with various degrees of nursing services and residential homes for older people.

Observations and conclusions

- The most important economic impacts of ageing concern the reduction in the proportion of citizens participating in the labour market out of the total population.
- This reduction in the proportion of population participating in the labour market will decrease the rate of economic growth. However, its overall impact on the rise in the material standard of living will remain minor. As up until now, the rise in the material standard of living will be determined by the economy's productivity growth.
- The greatest challenges caused by ageing are not related to the rate of the average standard of living, but to the issue of how outputs might be distributed in a manner perceived as equitable, between citizens of all ages, while ensuring that this distribution does not create too many disincentives for participation in the labour market or reduce productivity growth by too much.

- In a country of broad-based public responsibility for welfare such as Finland, the distribution problem culminates on the question of how to honour welfare commitments under public responsibility (pensions, other income transfers and welfare services), in a sustainable manner in the long term and at overall tax levels which are reasonable in terms of a functioning economy. Sustainability means that the indebtedness of public finances, for instance, would not compel sudden policy changes in the future.

3.2 The population's health and functional ability

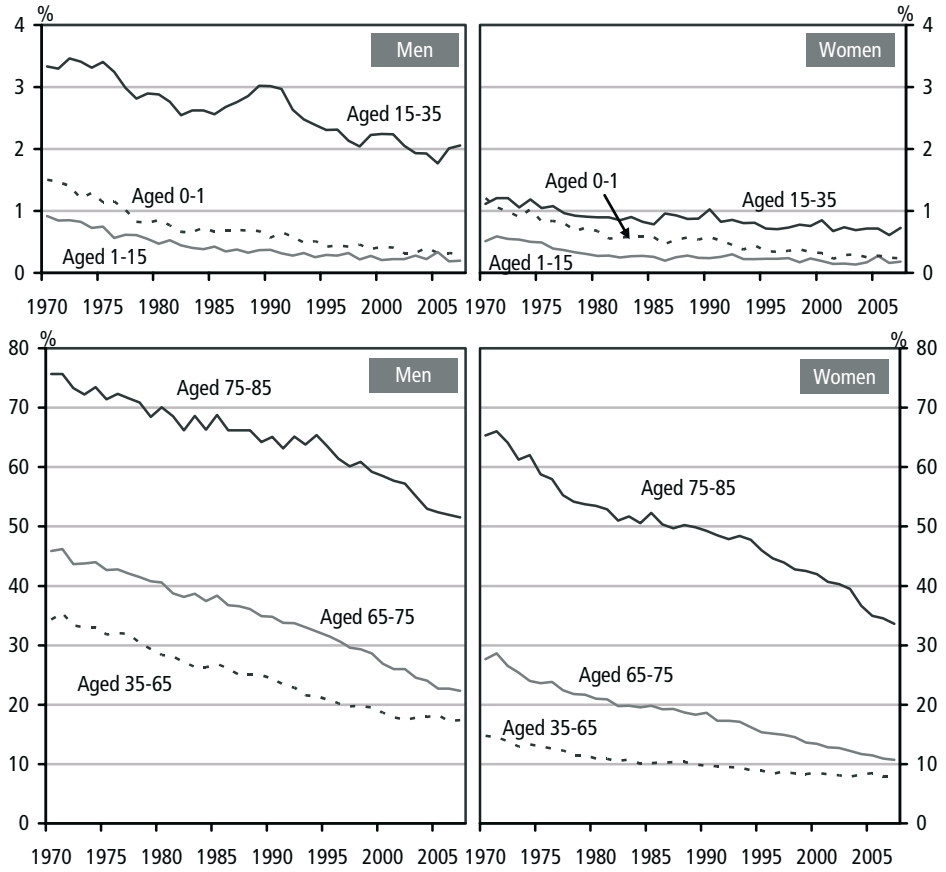
This chapter assesses mortality and its determinants and evaluates how changes in these determinants affect life expectancy and population levels. Below, we will examine the developments which have occurred in the ageing population's functional ability and the underlying factors, and project future trends in functional ability and ability to work. Finally, we will apply the assessments of morbidity and functional ability trends to predicting the outlook for health care and elderly care expenditure.

Recent mortality trends and outlook

In 2007, the average life expectancy of Finnish women was 82.9 years, nearly 8 years longer than at the beginning of the 1970s. During the same period of 35 years, the life expectancy of Finnish men increased by over 9 years, to 75.8 years. Compared with the rest of Europe, the average life expectancy of Finns is currently fairly high and its development has been above average. This rapid lengthening of life expectancy is due to a reduction of mortality in all age groups (Figure 3.5). The relative reduction rate has been highest in infant mortality, which has decreased to one-fifth, or to less than three per mille, from the level of the early 1970s. Indeed, infant mortality is lower in Finland than virtually in any other country and approximately one-third below the EU average.

Mortality among people of retirement age has also reduced markedly. If the mortality of various age groups remains at the level of 2007, a 65-year-old Finnish woman can expect to live until 86 years and a Finnish man of the same age until 82 years. Mortality among the elderly has also decreased in most other countries and, in the best performing Western European countries, the remaining lifetime expectancy of a 65-year-old is approximately one year longer than in Finland. The growth during recent decades in the life expectancy of a newborn has been increasingly due to the reduction in mortality after the age of 65. In the future, a considerable extension of the average life expectancy will be achievable only through the reduction of mortality among the elderly.

Figure 3.5 Probability of death by age and gender in Finland, 1970–2007.*



*The figure indicates the probability of the death of those, who have just attained the lower limit of an age range, before their attainment of the upper limit. The age ranges refer to exact age, i.e. age on birthday.

Source: Statistics Finland.

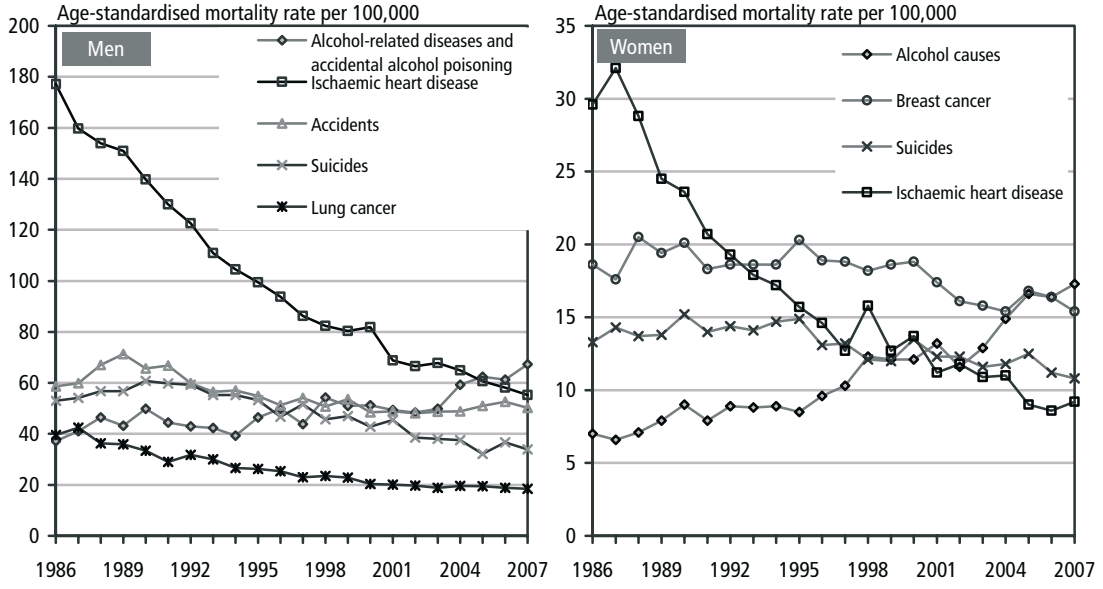
Positive mortality developments have been the slowest among young adults. During the current decade, young adult mortality has remained quasi unchanged. In Finland, the mortality of young men in particular is markedly higher than in Sweden. This is chiefly due to accidental and violent deaths which are twice as frequent among young males in Finland as in Sweden.

Cardiovascular diseases

The reduction of mortality in the adult age group is largely due to the decline in cardiovascular diseases which began in the late 1960s and has continued uninterruptedly ever since. Deaths from ischaemic heart disease among people of working-age have reduced over a couple of decades by more than

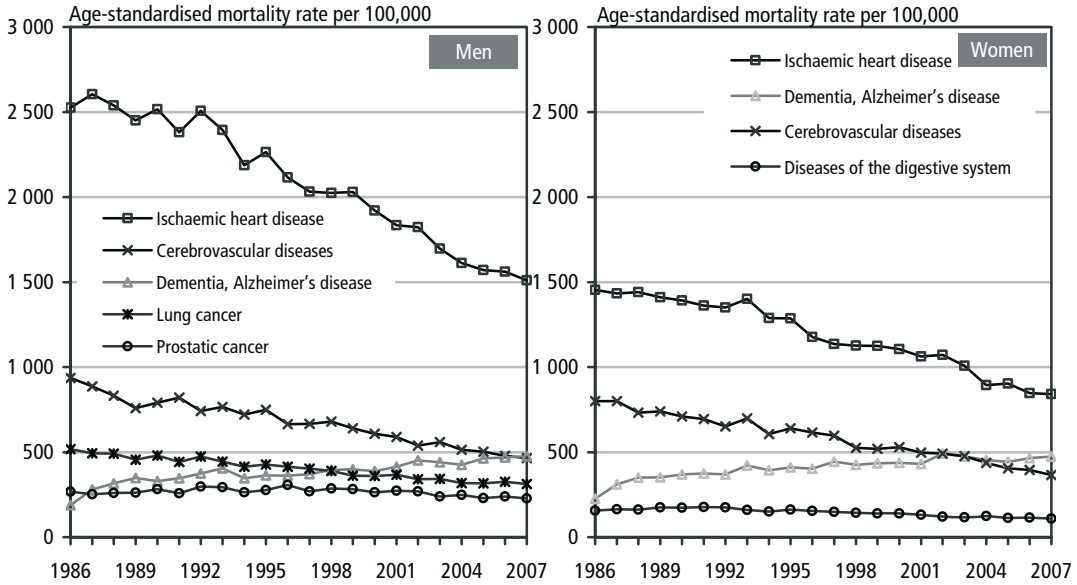
60 per cent (Figure 3.6) and even among the elderly by some 40 per cent (Figure 3.7). Among middle-aged men, the number of cardiovascular deaths alone was almost as high in the early 1980s as mortality due to all causes of death is today. In the 1960s, Finns had one of the world's highest mortality rates from cardiovascular diseases, particularly from ischaemic heart disease, but nowadays we are not far from Western European average figures. The reduction in cardiovascular mortality is largely due to reductions in smoking and the introduction of healthier eating habits and, among other factors, more effective treatment of high blood pressure. While three-fourths of Finnish men smoked regularly at the turn of the 1940s and 1950s, only some 26 per cent currently do so. The consumption of edible fat has also seen tremendous changes: while the annual consumption of butter averaged 18 kg per person in the mid-1960s, it remains at only 3 kg today.

Figure 3.6 Development of leading causes of death among working-age population, 1986–2006.



Source: Statistics Finland.

Figure 3.7 Development of leading causes of death among people aged over 65, 1986–2006.



Source: Statistics Finland.

If Finland managed to attain French or Japanese levels, mortality from ischaemic heart diseases would decline further from the current level to approximately one-third or one-fourth. Furthermore, if the number of deaths from ischaemic heart diseases in other educational groups reduced to the level already attained by those with a tertiary level degree, mortality would reduce to nearly half of the current level. By enhancing existing measures to improve cardiovascular health, significant decreases in cardiovascular mortality can most probably still be achieved.

Cancer

The number of deaths due to various cancer types (malignant neoplasms) has decreased significantly during recent decades. The most positive examples of this include lung cancer among men, whose prevalence has markedly decreased due to the reduction in smoking (Figures 3.6 and 3.7) and cancer of the uterine cervix in women, which has mainly reduced due to the enhanced screening of the pre-stages of cancer. Cancer mortality has seen a clearly slower reduction among women than men. This is primarily due to two factors: cancers related to smoking have increased among women, in contrast to men; and although the prognosis for female breast cancer has improved, this improvement lowers the related mortality only slightly since the disease's incidence has increased (Figures 3.6 and 3.7). Nonetheless, both female and male cancer mortality in Finland are among the lowest in Europe.

According to the latest predictions by the Finnish Cancer Registry, mortality due to nearly all leading cancer types will reduce in the near future. The most prominent exception is female lung cancer, which will most probably cause higher mortality. Since treatment results have improved, cancer mortality is set to develop much more positively than trends in the incidence of cancer.

Accidents, violence and alcohol-related mortality

Mortality from accidents and violence decreased throughout the 1990s while, early in the decade, even mortality related directly to the excessive use of alcohol reduced among young age groups and middle-aged men. From the late 1990s onwards, however, alcohol-related mortality has increased markedly, particularly from 2003 to 2004, as a result of a cut in alcohol prices and increased availability (Figure 3.6). The falling trend in mortality resulting from accidents and violence also halted in the early 2000s.

In Finland, mortality due to diseases caused by heavy, long-term use of alcohol nears the Western European average, but the number of deaths from alcohol poisoning is much more frequent than for instance in the other Nordic countries. Deaths from accidents and violence would reduce by half if we achieved the level of the European top performing countries (the Netherlands, United Kingdom and Sweden), and to one-third if the situation amongst the overall population was as good as among those with tertiary level education (Koskinen & Martelin 2007). Decreasing the consumption of alcohol and binge drinking is the most important single factor capable of reducing injuries and deaths from accidents and violence. Alcohol-related mortality among Finns would reduce to less than half of the current level if the overall population could attain the same rates as Finns with tertiary level education or as those countries at the top of international statistics.

Impact of the leading causes of death on future life expectancy and the number of the elderly

Many causes of death which were once very common have rapidly dwindled to vanishing point. In the 1930s, tuberculosis caused approximately one-sixth of all deaths and was the leading cause of death among young adults but, in the course of a few decades, TB deaths decreased by more than 90 per cent (Härö & Pätiälä 1958, Tala-Heikkilä 2003). Another prime example is ischaemic heart disease: since the beginning of 1970s, the related deaths have reduced by more than 80 per cent among the working-age population and, among people of retirement age, by some 50 per cent. Notwithstanding these improvements, ischaemic heart disease remains the leading cause of death among Finns, responsible for every fourth case of mortality. If major breakthroughs occur in

the prevention or treatment of the most important national diseases, similar eradications of the causes of death may be achieved in the future.

Next, we will describe how the elimination of certain key causes of death would affect the life expectancy and number of the elderly population in 2020 and 2040[13].

Table 3.2 indicates how life expectancies and the level of the elderly population forecast by Statistics Finland's population projection of 2007 would change by 2040 if a certain cause of death would disappear entirely as of 2007. For many causes of death, it may be more realistic to assume that the related mortality would reduce in half in all age groups. In such a case, life expectancies and the level of the elderly population in 2040 would deviate from Statistics Finland's projections by slightly less than 50 per cent in comparison to the situation where deaths from a specific cause would vanish entirely. These calculations also assume that the relative reduction in mortality used as the starting point in Statistics Finland's projection will be of a similar order for all causes of death.

Ischaemic heart disease affects life expectancy at birth more than any other individual cause of death. If IHD deaths could be entirely prevented and mortality due to other causes of death reduced at the rate projected by Statistics Finland, both women and men would live approximately 2–3 years longer than according to Statistics Finland's projections. An impact of the same order would be achieved if we were capable of preventing all deaths from neoplasms (i.e. tumours). However, neoplasms cover a wide range of diseases and the causes and prevention opportunities for various types of neoplasms deviate significantly from one another. The elimination of a single cancer type would only result in an increase in life expectancy of a maximum of six months.

Cerebrovascular diseases – which share some of the same causes and prevention methods as ischaemic heart disease – form the third most important death cause group regarding life expectancy, whose elimination would bring one additional life year to both women and men. On the other hand, the elimination of deaths from dementia would have a greater impact on life expectancy in 2040 than the disappearance of alcohol-related deaths and suicides. For women, dementia will be the fourth leading cause of death affecting life expectancy in 2040.

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[13] This calculation's population projection is based on data obtained from Statistics Finland on national age and gender specific mortality figures from 2002–2006, population data at the end of 2006, mortality trends in 1987–1991 and 2002–2006 and causes of death data by 5-year age group from 2006. Individual causes of death were eliminated from the population projections and life expectancies by deducting the number of deaths due to a specific cause from each age-specific mortality figure, and then dividing the result by the total number of deaths. After this, population projections and life expectancies have been calculated based on common life table methods and assuming that similar trends will continue in the future.

Table 3.2 Impacts of elimination of individual causes of death on life expectancy at birth, and on the number of the elderly, in 2040.

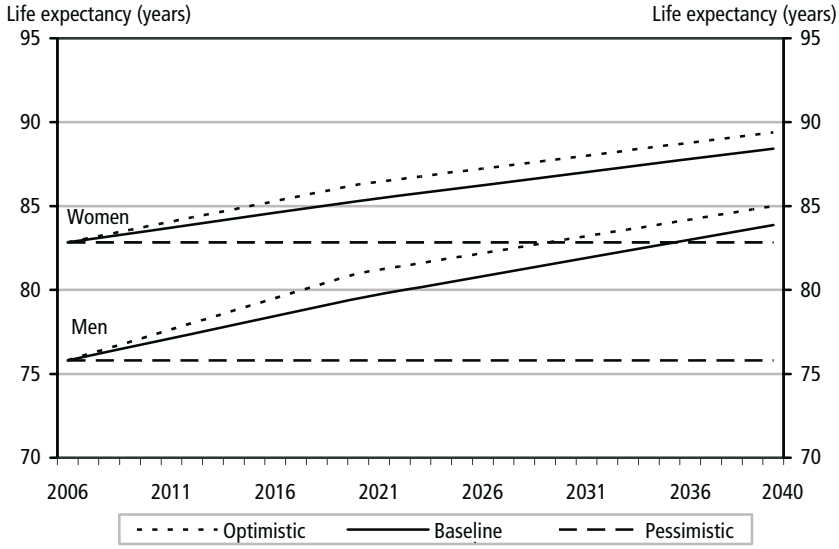
MEN	Life expectancy	Aged 65–79 Number	%	Aged 80–89 Number	%	Aged 90 or over Number	%
Starting situation 2006	75.80	285,871		59,313		5,998	
2040							
Statistics Finland's projection	83.86	447,082		202,084		46,762	
Impact of the elimination of a cause of death: deviation in life expectancy and number of the elderly from Statistics Finland's projection							
Neoplasms	2.28	20,971	4.7	36,355	18.0	21,675	46.3
- Lung cancer	0.23	5,950	1.3	9,184	4.5	4,175	8.9
- Prostatic cancer	0.43	1,781	0.4	5,215	2.6	4,171	8.9
Dementia	0.57	446	0.1	3,479	1.7	6,325	13.4
Alcohol-related death causes	0.29	9,686	2.2	5,492	2.7	992	2.1
Ischaemic heart disease	2.13	18,143	4.1	38,510	19.1	39,737	84.6
Cerebrovascular diseases	0.98	4,609	1.0	10,964	5.4	9,248	19.7
Traffic accidents	0.08	594	0.1	487	0.2	194	0.4
Falling	0.18	2,234	0.5	3,172	1.6	2,384	5.1
Suicides	0.23	2,833	0.6	1,819	0.9	421	0.9
WOMEN							
Starting situation 2006	82.83	361,916		132,614		23,080	
2040							
Statistics Finland's projection	88.42	480,256		277,979		94,292	
Impact of the elimination of a cause of death: deviation in life expectancy and number of the elderly from Statistics Finland's projection							
Neoplasms	1.78	14,022	2.9	24,841	8.9	19,741	20.9
- Lung cancer	0.18	1,957	0.4	3,002	1.1	1,682	1.8
- Breast cancer	0.35	2,936	0.6	3,836	1.4	2,466	2.6
Dementia	0.65	168	0.0	4,046	1.5	15,388	16.3
Alcohol-related death causes	0.24	2,269	0.5	1,668	0.6	452	0.5
Ischaemic heart disease	2.04	4,105	0.9	20,382	7.3	46,104	48.8
Cerebrovascular diseases	0.91	2,461	0.5	10,093	3.6	17,929	19.0
Traffic accidents	0.06	168	0.0	278	0.1	94	0.1
Falling	0.17	498	0.1	1,863	0.7	3,399	3.6
Suicides	0.18	498	0.1	834	0.3	283	0.3

Summary of mortality outlook based on calculations of impacts of the elimination of certain death causes, and drawn from expert estimates

The basic assumption of experts[14] on leading causes of death is that recent changes in mortality will also continue in the near future. Based on both expert estimates and calculations of the impacts of the elimination of certain causes of death, we will treat the trend suggested by Statistics Finland's projection, which relies on the assumption that recent mortality changes will continue, as the baseline scenario. Figure 3.8 presents the outlook of life expectancy and the number of elderly according to the baseline scenario and to two other population projection scenarios.

[14] The expert estimates mentioned in this chapter are based on interviews with the following persons: Antti Reunanen (ischaemic heart disease, cerebrovascular diseases diabetes); Raimo Sulkava (dementia); Eero Pukkala (cancer); Markku Heliövaara (MSDs); Tari Haahtela (allergies and asthma); Jaana Suvisaari (mental health and substance abuse problems); Anne Lounamaa and Sanna Sihvonen (accidents).

Figure 3.8 Life expectancy outlook, based on calculations on the elimination of certain causes of death and on expert estimates concerning expected trends in national diseases.



The pessimistic scenario refers more or less to a situation where mortality in all age groups stabilises at the levels of 2006. Such a situation could be the result of a considerable increase in obesity, substance-related harm and their consequences. The optimistic scenario, on the other hand, assumes that mortality will take a more positive turn than predicted by Statistics Finland, the difference being equivalent to the impact of eliminating approximately half of ischaemic heart disease deaths. Such a situation might arise if negative trends in obesity and substance-related harm could be turned to more positive ones, at least to some extent, and if significant developments were seen in the prevention and/or treatment of certain key national health problems (such as diabetes, dementia, certain cancer types, suicides and accidents).

A development according to Statistics Finland's population projection seems credible both in light of public health experts' opinions and key calculations on the impact of preventing individual causes of death. In that case, the number of people aged over 90 would increase from its 2006 level to nearly 5-fold by 2040. Similarly, the number of people aged 80–89 would increase to approximately 2.5-fold by 2040. However, the number of those aged 65–79 would rise by 50 per cent by 2020 but would then level off.

The optimistic scenario suggests that the number of over-90s would be six times higher by 2040, but the increases in the level of other, older age groups would not differ substantially from those of the baseline scenario.

In the pessimistic scenario, mortality would stabilise at its current level, meaning that life expectancy would remain unchanged. The number of over-90s would be more than 2.5-fold by 2040, and the number of those aged 80–89 would increase, albeit at a somewhat slower rate than according to the baseline scenario. However, the number of people aged 65–79 would change at approximately the rate suggested by Statistics Finland's projection.

Hence, all of these scenarios suggest a substantial growth in the level of the elderly population, although the rate of growth among the oldest age groups depends to a fairly great extent on future developments in mortality.

Functional ability in the elderly population

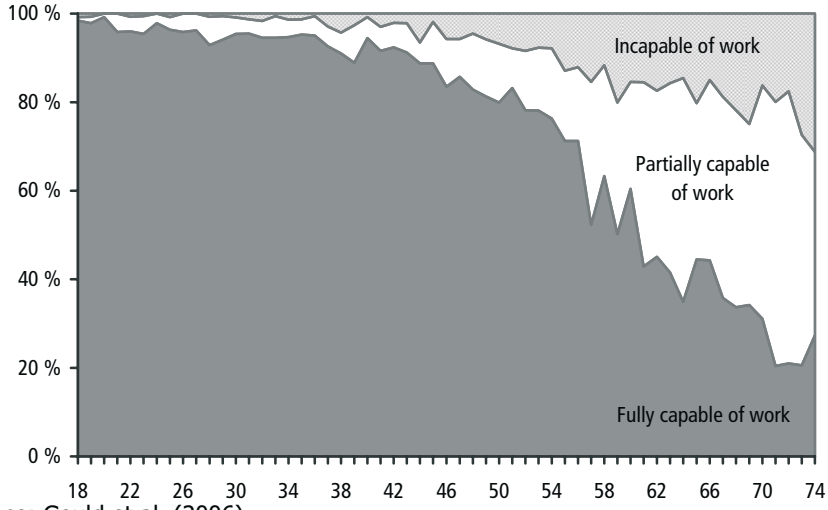
In recent decades, limitations in functional ability due to diseases and accidents have become more infrequent. To some extent, such reduction can probably be attributed to the improvement in living conditions, which means that carrying out certain tasks no longer requires as high a functional ability as before. On the other hand, a positive trend is also observed regarding tasks for which external conditions are somewhat irrelevant. However, data on changes in the frequency of impaired functional ability is mainly based on self-reports by people included in studies. The improvement of self-reported functional ability can also be due to the fact that an increased proportion of subjects can manage a task referred to in a question, at least by exerting themselves to the utmost, while another factor in the achievement of better results may lie in the greater importance attached to independent coping i.e. the increased desire to utilise all of one's resources.

For working-age people, the key dimension of functional ability is coping in gainful work. Among the working-age population under 55 years of age, the proportion of people on a disability pension has reduced since the mid-1970s by approximately one-fifth (to 4 per cent). In particular, the number of disability pensions granted due to a cardiovascular disease has decreased. By contrast, the number of pensions due to mental health problems, especially depression, has risen rapidly, although no substantial increases have occurred in the prevalence of depression. In fact, nearly half of all disability pensions are nowadays granted due to mental health disorders and approximately one-fourth due to musculoskeletal disorders.

Eligibility for a disability pension requires a disease limiting a person's ability to work, but the pension decision is also influenced by many other factors. One way of assessing people's capabilities to participate in working life is based on enquiring about their own opinions on their ability to work. People's own view of their ability to work is strongly linked, for instance, to their age and health. However, a large proportion of the elderly and, even people with chronic

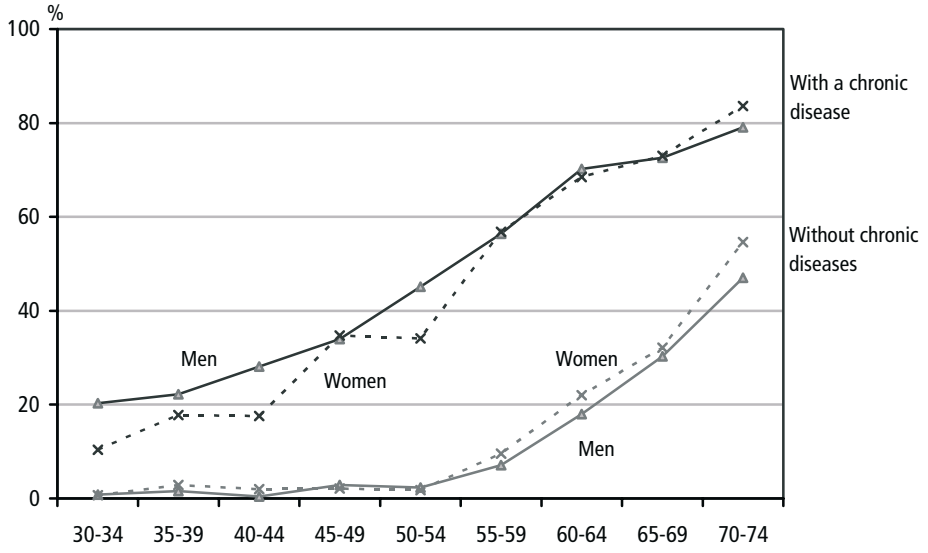
diseases, consider their ability to work to be at a good level (Figures 3.9 and 3.10).

Figure 3.9 Self-reported ability to work by age group, 2000–2001.



Source: Gould et al. (2006).

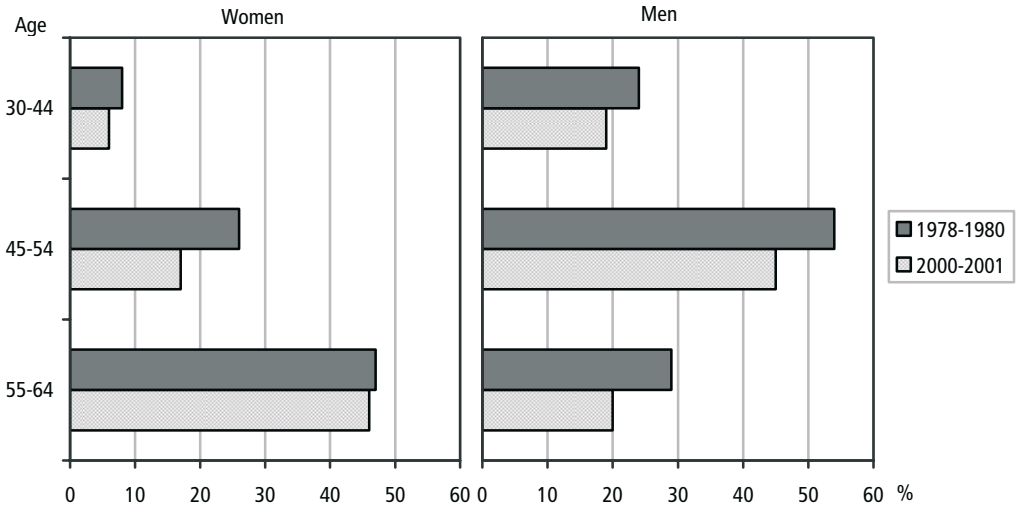
Figure 3.10 The proportion (%) of people with limited ability to work among those with a chronic disease and the total population, by age group, 2000–2001.



Source: Koskinen et al. (2006a).

From the late 1970s to the beginning of the 2000s, perceived ability to work improved markedly among men aged 45–64 and women aged 45–54 (Figure 3.11). However, this positive trend can be attributed almost entirely to a change in the educational structure of the population: an increasing proportion of the population represents groups with a higher education in which perceived ability to work is at a high level. Indeed, within all educational groups, perceived ability to work showed no significant improvements between the late 1970s and the beginning of the 2000s.

Figure 3.11 The proportion (%) of people with limited ability to work, by age group, 1978–1980 and 2000–2001.

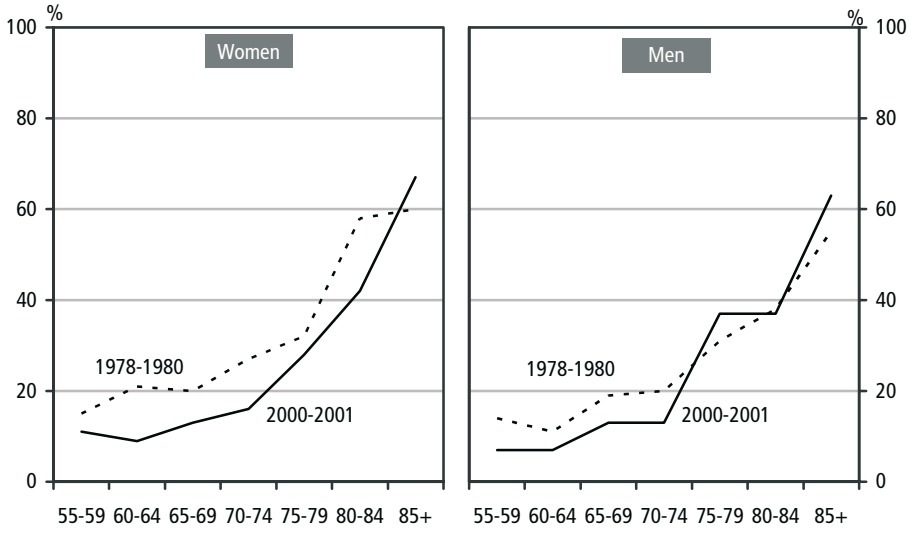


Source: Koskinen et al. (2006b).

The functional ability of the middle-aged also seems to have improved in other respects. The number of days of illness and days spent in bed rest due to diseases per person has reduced markedly. According to surveys, in 2007 more than half of 55–64-year-olds reckoned that they were capable of running a distance of half a kilometre, while less than one-third of the same age group had answered similarly in the early 1980s.

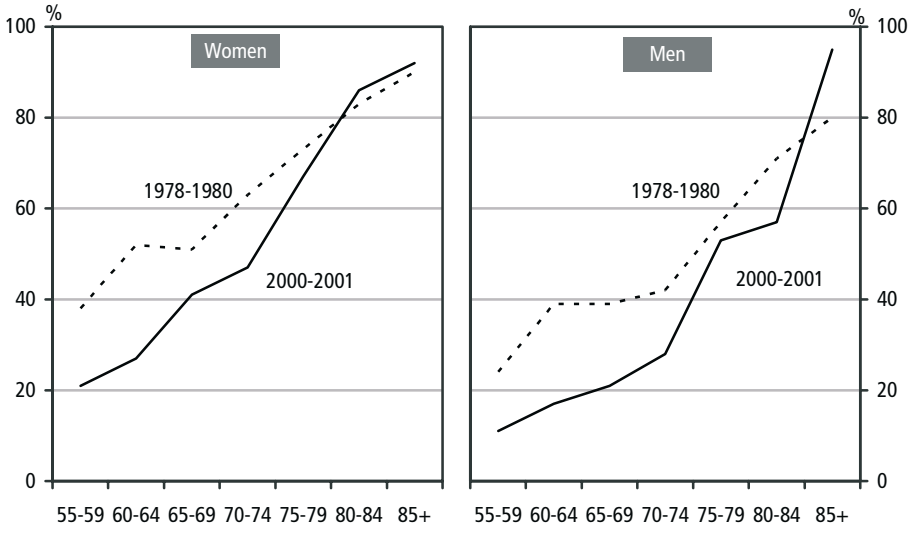
The proportion of people who are able to cope with daily tasks has increased in most age groups. While concerning the very oldest age groups, no reliable data on the development of functional ability is available, at least for people under 80 years of age, physical mobility, the ability to perform self- and home-care tasks, sight, hearing and psychological and social functional ability have improved and the need for help has reduced, based on a comparison of the 'Health 2000' survey data from 2000–2001 and the 'Mini-Finland' health survey data collected using similar methods in 1978–1980 (Figures 3.12 and 3.13).

Figure 3.12 People having experienced difficulties with basic tasks (putting on clothes, getting to bed, moving around at home), by age group, 1978–1980 and 2000–2001.



Source: Martelin et al. (2004).

Figure 3.13 People having experienced difficulties with physical mobility (going up stairs, carrying a shopping bag, walking a distance of 0.5 km), by age group, 1978–1980 and 2000–2001.



Source: Martelin et al. (2004).

The impact of various diseases in limiting the population's functional ability

Future trends in the population's functional ability and need for help are greatly dependent on developments in the prevalence of key national diseases and their degrees of disturbance. The relative importance of a certain disease to those suffering from functional limitations depends, on the one hand, on the prevalence of the disease amongst the population and, on the other, by how much the disease increases the risk of functional limitations at individual level. At the level of the overall population, a rare disease severely limiting a person's functional ability has a lesser impact than a common disease with a milder effect on a person's functional ability.

Depression is the most prominent contributor to the frequency of self-reported limitations in ability to work amongst the population aged 30–64: more than one-third of limitations in women and approximately one-fourth in men are related to depression. Depression is both a fairly common disease and one with a very powerful effect on perceived ability to work – in comparison to other people, the depressed more frequently regard their ability to work as much more limited (Koskinen et al. 2006a).

In spite of its rarity, psychosis emerged as an important factor among men. Diseases of the back were the second leading factor linked with the prevalence of limited ability to work both for men and women; diseases of the neck and women's hand arthrosis were also important factors. For women, nearly one-fourth of limitations of ability to work were associated with obesity. This observation is due to obesity's impact on the risk of many diseases impairing functional ability and on physical ability. Smoking was of a fairly minor significance for women while, for men, it was among the key factors, which can be attributed to the frequency of smoking among men and its importance as a risk factor in many diseases.

For both genders, obesity is a key individual factor in terms of the frequency of limited physical mobility, and is particularly prominent among women. Many diseases proven to be important factors in the incidence of limited physical mobility probably also greatly reflect the impact of obesity, examples including knee arthrosis in women and diabetes in men. For men, smoking was a key factor affecting physical mobility, manifested to a great extent through various diseases.

General functional limitation refers to the inability to perform at least one everyday task without help, and additionally, the fully blind have been classified as having limited functional ability (Kattainen et al. 2004). The most common problem of this nature is the inability to perform heavy cleaning tasks. Diseases

of the circulatory system are an essential factor contributing to the frequency of functional limitations. Furthermore, mental health problems and impaired cognitive function have major importance for both genders. For women, obesity is also a key factor impairing functional ability.

The most common causes of entry into institutional care include mental health problems (particularly for women) and diabetes (Nihtilä et al. 2007).

Diseases and unhealthy lifestyles (partially through diseases) substantially impair functional ability, whether regarding coping at work, difficulties in physical mobility or general functional limitation. Diseases imposing the greatest limitation on the population's functional ability include diseases of the circulatory system, diabetes, knee arthrosis, diseases of the back and mental health problems. Other very important limiting factors of the population's functional ability include obesity and smoking. By contrast, diseases seem to constitute a less accurate predictive factor with regard to entry into long-term institutional care. Grounds for permanent institutional care include severely impaired functional ability and difficulties in arranging home care enabling coping at home. These are also influenced by many factors other than diseases.

Expert estimates on trends in key national diseases and opportunities for prevention and treatment

Future developments in certain public health problems can be anticipated with relative reliability. A prime example is lung cancer, whose major determinant is long-term smoking. When the proportion of smokers in the population, the smoking duration and the probability of stopping smoking are known, the number of people developing a lung cancer in the future can be forecast fairly accurately. Since there is no firm evidence to suggest that the treatment results of lung cancer would change dramatically in the near future, the number of related deaths can also be predicted with reasonable reliability.

For some public health problems, however, the future outlook is much more uncertain. If the causes of a disease are not well known and their future developments difficult to predict, if the effectiveness of measures for eliminating causes remains unclear or if the disease's treatment results might improve substantially, forecasting future changes in the disease's prevalence and prognosis is a very demanding task.

In light of expert interviews, we can conclude that the recent trend in the public health outlook should largely continue in the future. The incidence of cardiovascular diseases will most probably reduce, similar to that of key musculoskeletal diseases. A reduction is also expected in the incidence of

dementia and suicides, while it is anticipated that diabetes, asthma, allergies and certain types of accident will continue to become more frequent.

It is estimated that the treatment costs of cardiovascular diseases, diabetes and dementia will increase, while per patient treatment costs of psychosis will most probably diminish if institutional care can be further reduced. With regard to many national diseases, functional ability among patients is expected to improve due to the development of the related treatments. For many other diseases, however, no reasons are evident to expect the patients' functional ability to change from the current level.

From the perspective of functional ability and the need for help among the elderly population, the most important positive change expected involves a reduction in the number of cardiovascular diseases and certain musculoskeletal diseases, entailing that they would cause fewer limitations in functional ability than so far. Correspondingly, the most serious threat is a continuing rapid growth in the incidence of diabetes and stagnation in the prevention of dementia. As the number of the aged increases, this would entail a rapid rise in the number of people with serious functional limitations.

Outlook for functional ability

Future developments in the prevalence of public health problems and their importance in limiting the population's functional ability will largely determine how the proportion of people with functional limitations will change in various age groups. Figure 3.3 briefly summarises the development outlook concerning the proportion of people with functional limitations based on the above-presented findings and estimates. According to the baseline scenario, the frequency of functional limitations among people aged under 80 will decrease and remain unchanged for the over-80s.

If we succeed in reducing cardiovascular diseases and in preventing a higher prevalence of diabetes and if major advances are made in the prevention and/or treatment of dementia – and if no substantial negative changes occur in other key public health problems – it is probable that the functional ability of people aged under 80 will improve more rapidly than suggested by the baseline scenario, and that the frequency of functional limitations will also reduce among the eldest age groups. If, however, the spread of diabetes continues, no major advances are achieved in preventing dementia and the positive trend in cardiovascular diseases halts – and if other key public health problems cannot be significantly reduced – functional ability will remain more or less at the current level for people of working age and will probably weaken for those of retirement age.

Table 3.3 Outlook for the population's functional ability based on expert estimates concerning the prevalence and severity of national diseases.

Proportion of the population of people with functional limitations up to 2020			
	Aged 0–64	Aged 65–79	Aged 80 or over
Pessimistic	→	→ or ↑	↑
Baseline scenario	↓	↓	→
Optimistic	↓↓	↓↓	↓

If functional ability within the various age groups remains at the levels observed in the 'Health 2000' survey, the number of people with functional limitations will increase sharply during the next few decades due to population ageing. In Table 3.4, the 'no trend' lines indicate that the number of Finns over 55 and suffering from difficulties in physical mobility will double, to approximately one million, by 2040 if the proportion of those with limited physical mobility remains unchanged in the various age groups both for women and men, and if the population level in various age groups changes in accordance with the population projection issued by Statistics Finland in 2007[15].

According to the forecast calculations, the number of people suffering from limitations in performing self-care tasks will even grow at a slightly faster rate: if age specific proportions remain at the level of 2000, the number of these people will be 1.3-fold in 2040 in comparison to their number in 2000[16].

Table 3.4 also presents developments during the two previous decades for each functional ability indicator. The numbers of both people with physical limitations and those with limitations in performing self-care tasks were more or less at the same level in 2000 as two decades before. The fact that the number of people with functional limitations remains intact represents a highly positive observation, given that during the last 20 years the number of over-65s has increased by more than one-third and the number of over-85s has nearly tripled. In other words, the frequency of functional limitations decreased in the various age groups so rapidly that it proved able to compensate for the effect of the elderly population's growth on the number of people with functional limitations.

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[15] Here, people with limited physical mobility refers to everyone with at least slight difficulties in at least one of the three elements of the physical mobility indicator (walking 500 m, going up a flight of stairs without stopping, carrying a weight of 5 kg for a distance of 100 m). If those suffering from slight difficulties are not deemed to have limited physical mobility, the resulting figures would be approximately one-third smaller. Regardless of the definition used, the number of people with limited physical mobility would grow at more or less the same rate.

[16] Here. people suffering from limitations in performing self-care tasks refers to anyone with at least slight difficulties in at least one of the three following elements: putting on and taking off clothes; getting into, and out of, bed; and moving around at home.

Table 3.4 The number of people experiencing difficulties in physical mobility and performing self-care tasks among the population aged 55, in 1980, 2000, 2020 and 2040: three future outlooks[1].

	Number of people (thousands)				Index (year 2000 = 100)			
	Observed		Forecast		Observed		Forecast	
	1980	2000	2020	2040	1980	2000	2020	2040
Difficulties in physical mobility[2]								
no trend			800	1,056			156	206
trend	519	514	626	787	101	100	122	153
highest educ.			649	878			126	171
Difficulties in performing self-care tasks[3]								
no trend			401	576			160	231
trend	247	250	330	488	99	100	132	195
highest educ.			331	483			133	193

1 No trend: the prevalence of functional limitations remains at the level of 2000 in each age and gender group
Trend: the prevalence of functional limitations changes at the rate observed during 1980–2000 in each age and gender group
Highest educ.: the prevalence of functional limitations changes in each age and gender group to the level that was achieved in 2000 by those in the highest educational group

2 Difficulties in physical mobility: difficulties in walking 500 mm, in going up a flight of stairs without stopping or in carrying a weight of 5 kg for a distance of 100 m.

3 Difficulties in performing self-care tasks: difficulties in putting on and taking off clothes, in getting into, and out of, bed or in moving around at home.

If, up to 2040, the improvement in the functional ability of the various age groups was to develop in a similar fashion as during 1980–2000, the number of people with functional limitations would grow at a markedly slower rate than if functional ability were to remain at the level of 2000 (Table 3.4, calculation acknowledging the trend). Thus, the growth in the number of people with limited physical mobility during the next 40 years would be half of that expected if physical mobility remained unchanged in all age groups. With regard to self-care difficulties, the above forecasts ('no trend' and 'trend') deviate less from each other. In order for the number of people with functional limitations to remain unchanged during 2000–2040, functional ability in the various age groups should improve at a minimum of twice the rate observed in 1980–2000.

The third forecast in Figure 3.4 is based on the assumption that functional limitations in 2020 and 2040 were as frequent in all educational groups as in the highest education group in 2000.

Figure 3.5 illustrates the number of long-term inpatients in health centres and people in residential homes or sheltered housing with 24-hour assistance in 2006, and estimates for 2020 and 2040. Forward-looking estimates are based on the assumption that the age and gender specific proportions of those in institutional care (or the equivalent) remain at the level of 2006 and that the size of the age groups changes in accordance with Statistics Finland's population projection of 2007. During the 2000s, the proportion of those in institutional care or the equivalent has remained largely unchanged in the various age groups. Since no reliable and comparable data exists on the situation of the preceding decades, and data concerning the proportion of people in institutional care by educational group is lacking, alternative forecasts were not prepared for this item. Based on the estimate, the number of people living in an institution or in sheltered housing with 24-hour assistance will grow 2.5-fold by 2040.

The baseline scenario, based on the expert estimate of the trend in functional limitations, assumes that recent trends will continue (Figure 3.14). According to this scenario, the number of people experiencing difficulties in self-care tasks will grow from the level of 2000 until 2020 by approximately one-third and will nearly double by 2040.

The pessimistic scenario is founded on the assumption that functional ability in all age groups will stabilise at the level of 2000. Such a situation could be the result of a considerable increase in obesity, substance-related harm and their consequences. In such a case, the number of people suffering from difficulties in self-care tasks would increase from its 2000 level by as much as two-thirds by 2020 and nearly 2.5-fold by 2040.

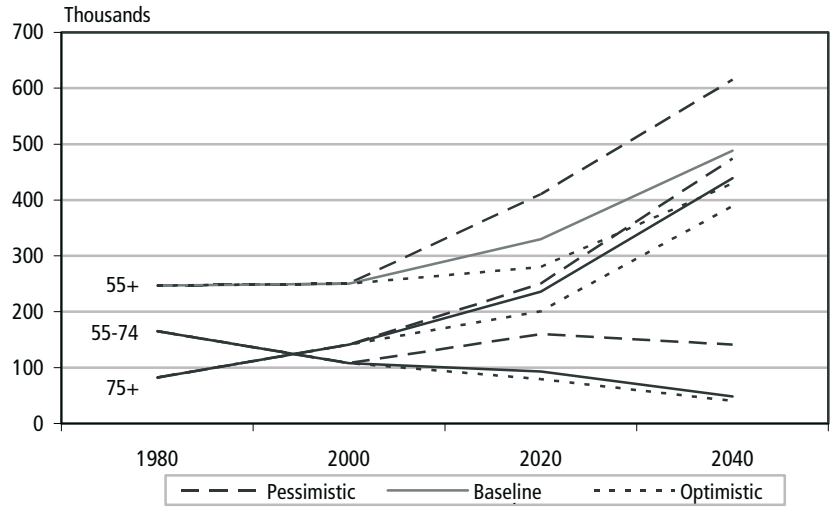
The optimistic scenario is based on the assumption that other population groups will achieve the level prevailing in the highest educational group, following which the development at the overall population level will continue at the rate observed during 1980–2000. Such a situation could arise if the negative trends in obesity and substance-related harm could be turned to more positive ones, at least to some extent, and if the prevention and/or treatment of certain key national health problems (such as diabetes, dementia, certain cancer types, suicides and accidents) were significantly developed and if clearly more attention were paid to the promotion of the functional ability of the elderly. This scenario suggests that the number of people experiencing difficulties in self-care tasks would increase from the level of 2000 by only slightly more than 10 per cent by 2020, but by more than 70 per cent by 2040.

Table 3.5 The number of people in sheltered housing with 24-hour assistance, in residential homes or in long-term care in health centres in 2006, and forecasts for 2020 and 2040.

	Number of people		
	2006	2020	2040
Total			
Aged 65 or over	47,485	69,031	121,953
Aged 65–74	5,619	8,703	7,396
Aged 75–84	19,718	25,056	36,204
Aged 85 or over	22,148	35,272	78,353
Men			
Aged 65 or over	11,990	20,539	38,032
Aged 65–74	2,546	4,098	3,587
Aged 75–84	5,645	8,391	13,043
Aged 85 or over	3,799	8,050	21,402
Women			
Aged 65 or over	35,495	48,491	83,921
Aged 65–74	3,073	4,604	3,809
Aged 75–84	14,073	16,665	23,161
Aged 85 or over	18,349	27,222	56,951

Figures for 2006: STAKES, Statistical Yearbook on Social Welfare and Health Care 2007, Official Statistics of Finland (OSF/SVT), pages 74–75, 78–79.

Figure 3.14 Outlook for the prevalence of functional limitations, based on forecast calculations and on expert estimates concerning expected trends in national diseases.



If the age specific proportions of people regarding themselves as capable of work remain at the level observed in the 'Health 2000' survey and if the number of population changes in line with Statistics Finland's population projection, the number of persons aged 30–64 and capable of work will reduce from its level in 2000 by some 9 per cent by 2040. This is specifically due to the reduction in the number of people aged 30–54. The line 'no trend' in Table 3.6 indicates that the number of 30–64-year-olds and capable of work will decrease by some 130,000 by 2020. According to this forecast, the number of people aged 65–74 and capable of work would rise by nearly 90,000, meaning that the number of 30–74-year-olds regarding themselves as capable of work would decrease from the level of 2000 by only approximately 40,000 by 2020. If we examine those regarding themselves as fully capable of work alongside those who consider themselves partially capable of work, the development outlook seems somewhat identical.

Table 3.6 The number of population aged 30–74 and capable of work by age group: estimates in 1980 and 2000 and forecast calculations for 2020 and 2040 based on three assumptions.

		Number of people (thousands)				Index (year 2000 = 100)			
		Observed		Forecast		Observed		Forecast	
		1980	2000	2020	2040	1980	2000	2020	2040
Fully capable of work									
Aged 30–64	no trend			1,882	1,832			94	91
	trend	1,599	2,012	1,972	1,987	79	100	98	99
	highest educ.			1,946	1,895			97	94
Aged 65–74	no trend			225	191			164	139
	trend[2]	153	137	247	228	112	100	180	167
	highest educ.			281	240			205	175
Partially/fully capable of work									
Aged 30–64	no trend			2,238	2,173			96	93
	trend	1,906	2,340	2,279	2,234	81	100	97	95
	highest educ.			2,288	2,222			98	95
Aged 65–74	no trend			568	483			165	140
	trend[2]	293	344	615	543	85	100	179	158
	highest educ.			618	526			180	153

If the number of people regarding themselves as capable of work will change during 2000–2020 by age group at the same rate as observed during 1980–2000, the number of people capable of work aged 30–64 will remain quasi unchanged – owing to the rapid rise in the number of people aged 55–64 and capable of work. Since the number of people aged 65–74 and capable of work in this forecast rises very rapidly, the number of people aged 30–74 and capable of work would grow by approximately 100,000 by 2020 and would reduce during the subsequent 20 years, by less than 20,000.

The third forecast in the Table 3.6 is based on the assumption that perceived ability to work in 2020 and 2040 will be at the same level across all educational groups as it was in the highest education group in 2000. In this review, higher educational group comprises all those who have attained the national matriculation examination and all those, regardless of their basic education, whose vocational education includes more than a vocational course or training at the workplace. Based on this scenario, the number of people capable of work will not develop quite as favourably as would be the case should the trend observed in 1980–2000 continue.

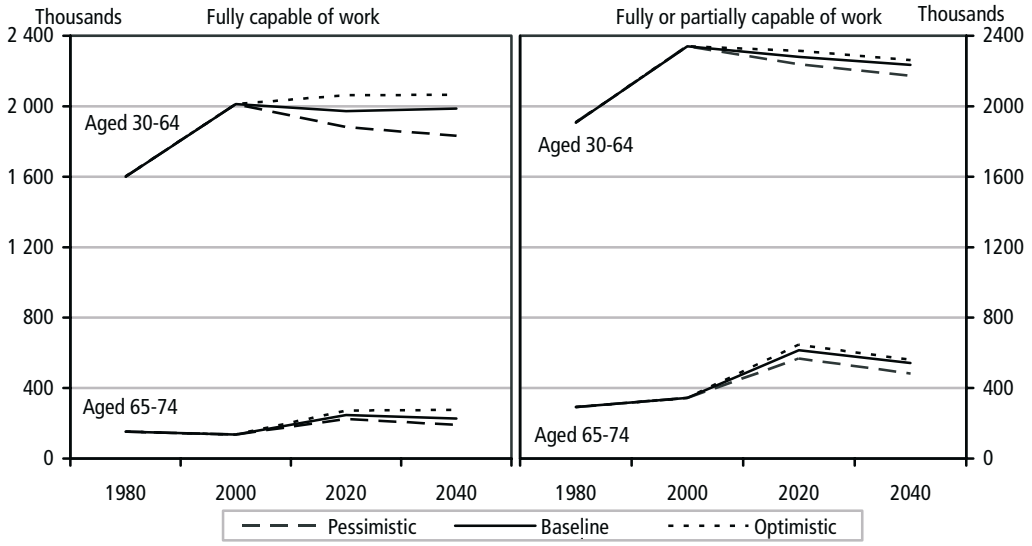
In any case, it seems that if the working-age population's health and functional ability develops favourably and if coping in working life is possible, even if a person's ability to work is no longer at its very best, the number of people capable of work will no longer decrease significantly during the first decades of the 21st century.

The baseline scenario on the outlook of the number of people capable of work assumes that recent trends will continue. This assumption is shared by experts in key public health problems.

The pessimistic scenario is founded on the assumption that ability to work across all age groups will stabilise at the level of 2000. Such a situation could be the result of a considerable increase in obesity, substance-related harm and their consequences as well as the intensification of requirements in working life.

The optimistic scenario is based on the assumption that other population groups will achieve the level prevailing in the highest educational group, following which the trend at overall population level will continue at the rate observed during the last two decades. Such a situation could arise if the negative trends in obesity and substance-related harm could be turned to more positive ones, at least to some extent, and if the prevention and/or treatment of certain key national health problems (such as diabetes, dementia, certain cancer types, suicides and accidents) were significantly developed and if clearly more attention were paid to the promotion of the functional ability of the elderly.

Figure 3.15 Outlook for the number of people fully or partially capable of work, based on forecast calculations and on expert estimates concerning trends in national diseases.



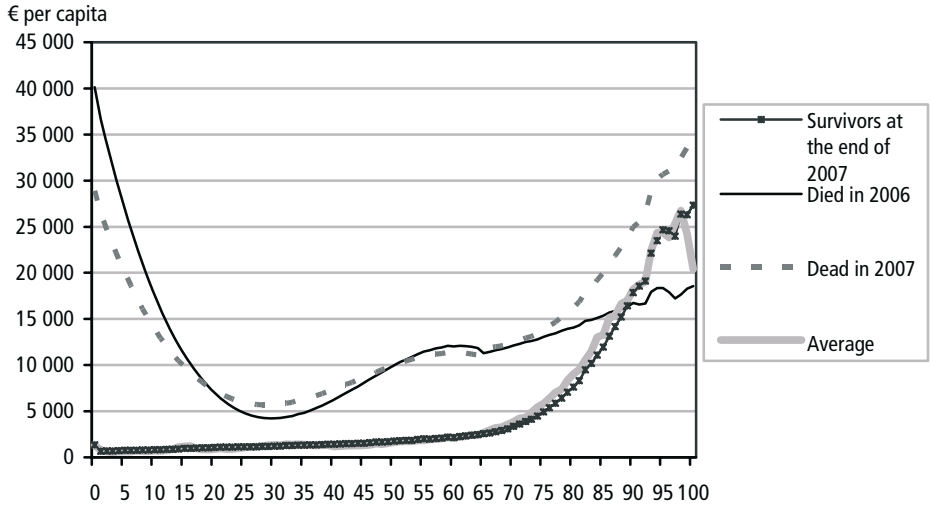
In light of all of these scenarios, the number of people aged 30–64 and capable of work would seem to remain at more or less at the same level as in 2000. A significant increase in the number of the population capable of work seems possible, chiefly in the 65–74 age group, particularly if the definition of people capable of work includes those who regard themselves as partially capable of work.

Scenarios on health care and institutional care expenditure, based on expert estimates

The above-presented expert estimates on the developments of key national diseases can be used in estimating expenditure on health care and institutional care. With respect to mortality, as previously mentioned, the assumptions included in Statistics Finland's population projection of 2007 can be regarded as referring to the most probable developments.

A high proportion of health care and elderly care expenditure during a person's life is linked to the proximity of death (Figure 3.16) and mortality is decreasing in nearly all age groups, according to Statistic Finland's population projection. Thus, it is essential for future expenditure developments that account be taken of the proximity of death.

Figure 3.16 Female health care and elderly care expenditure per capita (€ per capita) by age and proximity of death, 2006.



Source: STAKES, CHESS (2008).

Scenarios concerning the impact of morbidity and mortality trends on health care and elderly care expenditure were prepared by combining Statistics Finland's population projection data with the above-mentioned expert estimates on developments in diabetes, ischaemic heart disease and cerebrovascular diseases and using data on the impact of the proximity of death on expenditure. Table 3.7 shows the estimated impact of individual diseases on total expenditure. These estimates are based on a so-called naive forecast which assumes that morbidity by age and gender group remains at the current level and excludes the effect of death-related expenditure. The table indicates that the expected generalisation of diabetes almost neutralises both the effect of other diseases' reduction and the reductive impact that the proximity of death has on expenditure trends. In the scenario taking account of morbidity changes and proximity of death, the increase in annual expenditure is only approximately 0.1 per cent slower than in the naive scenario.

It can be assumed that the improvement in the population's functional ability will translate into a delay in the need for institutional care. No reliable expert estimate on future developments was available with respect to institutional care. However, we can obtain a picture of the relationship between functional ability and expenditure trends by estimating how much a delay of one, two or three years in the use of services would affect future expenditure. Table 3.7 presents how a delay of two years in the use of institutional care would affect total health care and elderly care expenditure.

Table 3.7 Impact of the inclusion of morbidity and the proximity of death on health care and elderly care expenditure trends.

	2007, € million	2020, € million	2039, € million	Change 2020/2007, %	Annual change 2020/2007, %	Change 2039/2007, %	Annual change 2039/2007, %
Naive forecast							
Men	4,919	6,192	8,037	25.9	1.94	63.4	1.55
Women	6,696	7,920	10,454	18.3	1.41	56.1	1.40
Total	11,615	14,112	18,492	21.5	1.64	59.2	1.46
Forecast including changes in diabetes, ischaemic heart disease and cerebrovascular disease and the proximity of death							
Men	4,919	6,179	7,435	25.6	1.92	51.1	1.30
Women	6,696	7,890	10,390	17.8	1.38	55.2	1.38
Total	11,615	14,069	17,825	21.1	1.61	53.5	1.35
Delay of survivors' institutionalisation by two years							
Men	4,919	5,898	7,329	19.9	1.52	49.0	1.25
Women	6,696	7,488	9,613	11.8	0.94	43.6	1.14
Total	11,615	13,386	16,942	15.2	1.19	45.9	1.19

Source: STAKES, CHESS (2008).

Observations and conclusions

- Finns' functional ability improved significantly during 1980–2000.
- The very oldest age groups' functional ability, however, does not seem to have improved; it may even have deteriorated.
- The population's functional ability will continue to improve if determinants of functional ability continue to develop positively.
- It seems that the number of the population capable of work will not reduce significantly.
- The promotion of the population's functional ability requires measures targeted at all influenceable determinants of functional ability. Key means for achieving this include the prevention and effective treatment of diseases, adaptation of the living environment and fostering activity in various ways.
- Taking account of the estimated trend in key national diseases and proximity of death only has a minor reductive effect on health care and elderly care expenditure in the near future. However, taking these factors into account gives markedly lower expenditure trends after 2020.
- Delayed use of institutional care due to the population's improved functional ability will markedly decrease health care and elderly care expenditure.

4 POPULATION AGEING AND THE LABOUR MARKET

As suggested previously in Chapter 3, increasing the participation and employment rates of all age groups, in order to reach those achieved in other Nordic countries, provides the key to mitigating the negative impacts of population ageing. Finland is about to enter a prolonged phase of population development, during which the number of older working-age people will surpass the number of younger people[17]. Considering the current participation rate and the future development of the population structure, increasing the participation rate among the ageing population, i.e. over-55s, will play a key role in securing the workforce in future decades.

The current participation and employment rates of people aged over 55 remain at the European average, when men and women are reviewed together. However, this fairly encouraging result can be partly explained by the higher-than-average participation of women in the labour market, while the participation rate of men remains lower than the European average. When the comparison is limited to the Nordic countries, where women's participation rate is generally high, Finland is found at the bottom, even though its employment rates among older people have taken a definite upward turn in recent years.

Several factors can be identified as having contributed to the favourable, general development. Firstly, the employment trend has remained positive in all age groups over the previous 10 years, as the economy has continued recovering from the slump of the early 1990s. An unusually long period of steady economic growth has created demand in the labour market, coinciding with an increase in the number of older people in the workforce. Secondly, older people are better educated and healthier than before. Thirdly, extended careers for older people have been supported by policy measures, such as introducing more stringent terms for granting pre-retirement pensions, increasing the pension accrual for the oldest employee age bracket, and implementing the Programme on Ageing Workers between 1998 and 2002.

In order to sustain such positive developments, it will be imperative to identify the factors in both labour supply and demand that have impacted, and will impact, on the employment of older people. In terms of fiscal sustainability, it seems somewhat paradoxical that factors related to pensions and their financing seem to provide the key disincentives to the employment of older people, having a negative impact on both supply and demand for ageing workforce.

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[17] Estimates indicate that the average age of the working-age population will rise until 2010 and, despite eventually turning downwards, will probably remain higher than the current average for a significant period of time (Prime Minister's Office 2007).

As well as leading to an older workforce, the current demographic development creates additional pressures to make the most of the potential contribution of younger working-age people. The longer individuals are available on the labour market, the higher their total labour input available to the economy. Factors such as late graduation, long care leaves, unemployment and early incapacity for work decrease the effective labour supply of the working-age population. However, such factors can be influenced through social security measures and health and education policies.

This chapter provides a review of participation trends among people aged 55–64 over recent years (4.1), followed by a discussion on the factors that, in light of current knowledge, may have an impact on the employment of this age group (4.2). Employment trends, including measures to improve participation in other age groups, will be discussed in more general terms in 4.3–4.4. Chapter 4.5 provides an estimate of labour supply developments, with the help of an analysis of various participation rates in each age group over the forthcoming decades.

4.1 Participation of older people and recent employment trends

Compared to the rates observed at the height of the slump of the early 90s, participation rates and employment rates in particular have maintained a general upward trend in all age groups. However, participation and employment rates among those aged 55–64 have risen more rapidly than in the younger age groups. In Finland, the participation rate in the 55–64 group increased from 41 per cent in 1994 to 59 per cent in 2007, while the employment rate rose from 34 per cent to 55 per cent in the same age group.

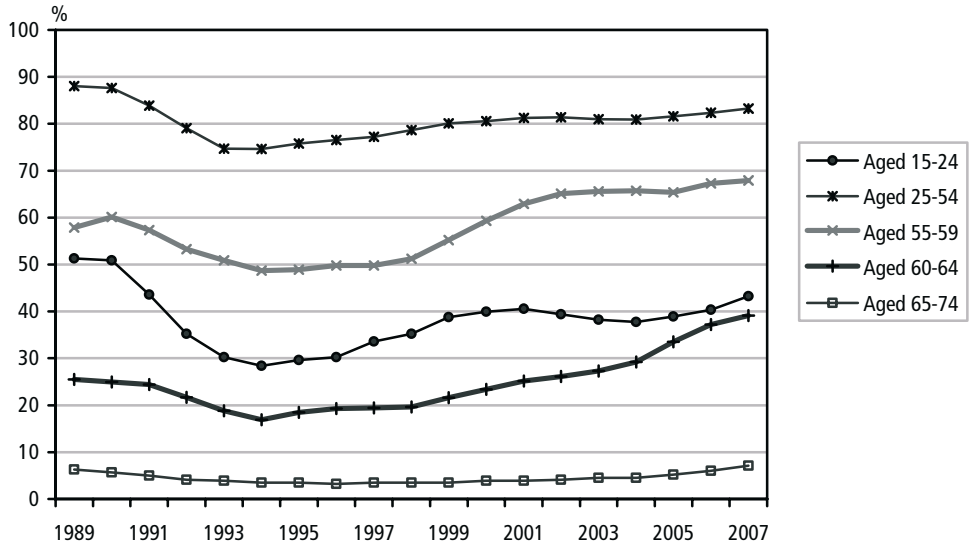
Proportionally, the most positive trend was observed in the 60–64 age bracket, where participation and employment rates doubled from just under 20 per cent to some 40 per cent. Participation and employment rates in the older age groups have been the only ones to clearly surpass the pre-slump levels. Figure 4.1 illustrates the employment rate trends by age group.

The position of older people in the labour market has also attracted interest elsewhere in Europe. Increasing the employment rate of people aged 55–64 to 50 per cent by 2010 is mentioned among the key targets of the Lisbon Strategy[18]. Over the last ten years or so, the member states have maintained a largely positive trend, even though the increase has not been quite as rapid as in Finland. In 19 member states, the participation rate in the 55–64 group increased from 38 per cent in 1994 to 47 per cent in 2007, while in the same

[18] Targets also include increasing the average retirement age to 64 years.

age bracket the employment rate rose from 35 per cent to 44 per cent. In 2007, the average participation rate in the 55–64 age group in the OECD countries was 56 per cent and the employment rate 53 per cent.

Figure 4.1 Participation rates by age group in 1989–2007.



Finland seems to have faired reasonably well in international comparisons in terms of older people's participation rate, remaining clearly above the EU average. This success can be partly explained by women's high participation rate in Finland, whereas men are coping less well: when the comparison is limited to men, Finland (55 per cent) falls close to the EU average (53 per cent) and significantly below the 2007 average OECD rate for men's participation (64 per cent).

The poor labour market position of older men in Finland becomes even more pronounced when the situation is compared to the other Nordic countries. Men's participation rate remains clearly below those observed in the four largest Nordic countries in the 55–59 and the 60–64 age groups.

In both of these age brackets, women's participation in the labour market is catching up on the Nordic average, even though in the 60–64 age group the variation between the countries is higher and the gap with the leading countries, Sweden and Norway, wider. The gender gap is emphasised by the finding that, out of the Nordic countries, only in Finland is the participation rate of women aged 55–59 higher than that of men in the same age group.

Figure 4.2 Participation and employment rates of men in the 55–64 age group in the Nordic countries, and the EU and OECD average in 2007.

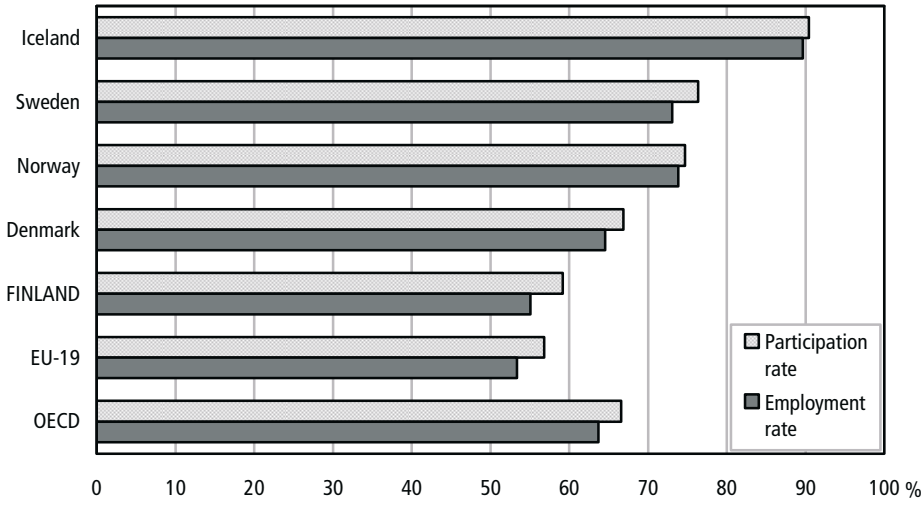
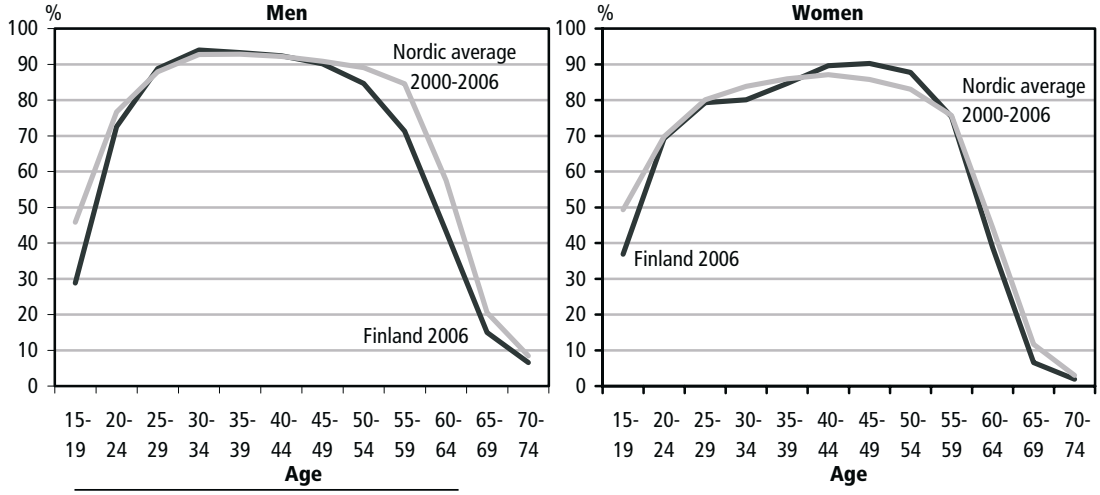


Figure 4.3 illustrates the comparison of average participation rates between age groups in Finland and other Nordic countries[19]. Data concerning women and men has been analysed separately. The figure indicates that men's labour market participation rate is lower in Finland than in the other Nordic countries, both in the youngest and oldest age brackets[20].

Figure 4.3 The 2006 participation rates by age group in relation to the average rates in the other Nordic countries (Denmark, Norway, Sweden) in 2000–2006.



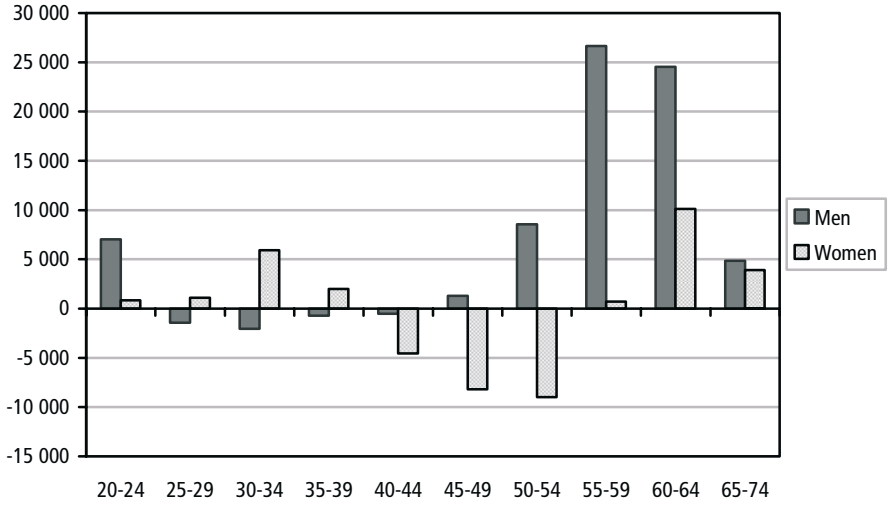
[19] Data for Finland has been collected in 2006; data for Denmark, Sweden and Norway illustrates the average rates in 2000–2006.

[20] Some differences can be identified between the other Nordic countries. For example, the participation rate of young people in Sweden is close to the Finnish rate.

The same pattern is repeated for women, although it is clearly less marked. Another interesting feature is that, in the early years, women's participation rate at the so-called best working age is lower than the Nordic average (women aged 25–40), while later in life it rises above the rates observed elsewhere in the Nordic countries (women aged 40–59). For women of fertile age (25 to 40), this phenomenon is likely to be explained by the Finnish child home care allowance, which does not exist elsewhere in the Nordic countries.

Figure 4.4 shows the deviation of participation rates from the Nordic average by age group, together with the age group size in Finland (in 2007), giving an idea of the potential increase in labour supply in each age and gender group. In other words, the figure illustrates the volume of "unused" workforce in each age group in proportion to other Nordic countries. It shows that men aged 55–64 form a significant workforce reserve. Bringing the participation rates up to the average Nordic level would increase the labour supply by around 50,000 men aged 55–64. Significantly smaller reserves are provided by men aged 20–24 and 50–54, and women aged 30–34.

Figure 4.4 Potential increase in labour supply by age and gender group in 2007 in proportion to the average Nordic participation rate.



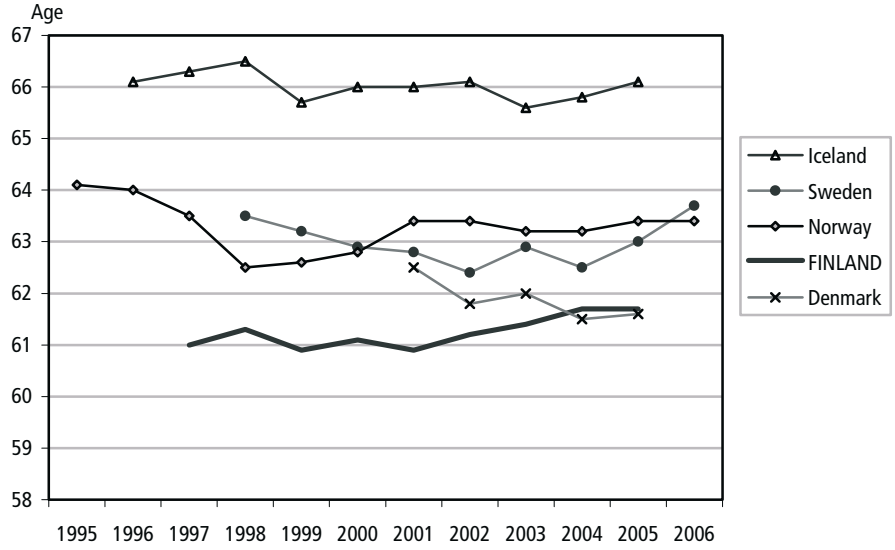
As expected, the improving position of older people in the labour market is reflected in the retirement age. In approximately ten years, the expected retirement age of individuals aged 50 has risen by around a year in Finland (Finnish Centre for Pensions 2008). In 2007, the expected retirement age increased on the previous year in the public sector, but remained largely the same in the private sector. In 2007, the average expected retirement age of a

person aged 50 was 61.5 years. In the Nordic comparison, this remains a fairly low figure, even though somewhat higher than in Denmark (see figure 4.5)[21].

In Finland, employment rates of older people vary significantly between regions and according to education level. In Uusimaa and Itä-Uusimaa, the employment rate of men aged 55–59 was around 75 per cent, while in Kainuu it remained just over 50 per cent. The regional differences were not quite as marked for older women.

For the most part, employment rates are positively dependent on the level of education in all population groups aged over 30. However, differences in education are emphasised in the groups of older people, as the employment rates of people with lower education levels decline rapidly when they turn 55. For example, while the average employment rate of men aged 30–50 without upper secondary educational attainment is 75 per cent, the employment rate of men with a higher education is around 95 per cent in the same age group. The corresponding rates by education level for men aged 60 are around 40 per cent and 80 per cent respectively[22].

Figure 4.5 The expected retirement age of people aged 50 in the Nordic countries in 1995–2006.



[21] In order to obtain comparable country data, the expected retirement ages applied in the Nordic comparison do not fully correspond to the official figures used in Finland (Finnish Centre for Pensions 2008).

[22] These employment rates are based on observations of men in 2003. With regard to women, largely similar differences by education level were observed, although the gap between education levels was higher in the group aged 30–45 (MSAH 2006a).

Observations and conclusions

- Participation and employment rates among people aged 55–64 have shown a favourable trend in the last 10 years, and risen more rapidly than in the younger age groups. The most positive trend was observed in the five-year bracket of people aged 60–64, where participation and employment rates were doubled.
- Finland has succeeded in European comparisons of older people's employment, largely due to women's high rate of participation. Men's participation remains at the European average.
- Older women's participation is at the Nordic average, while Finnish men's participation is by far the lowest in the Nordic countries. The average participation rate remains lower than that observed elsewhere in the Nordic countries.
- In relation to other Nordic countries, men aged 55–64 offer the most potential by providing a possible additional workforce of some 50,000 people.
- The remaining working life before retirement of a person aged 50 is shorter in Finland than elsewhere in the Nordic countries.
- In Finland, the employment rates of older people vary significantly between regions.
- The findings highlighted the variance in older men's employment rates according to their level of education.

4.2 Factors affecting the participation and employment of older people

In mapping the factors affecting the participation and employment of the older population group, an analysis of the micro-level factors and trends influencing the individual *demand and supply of labour would be useful*. Equally, it is obvious that older people's employment trends are linked to *general economic development*, which determines potential workforce demand in the economy as a whole. Factors affecting the increase in the older people's employment rate are discussed below in 4.2.1 at macro-level. Chapter 4.2.2 reviews the micro-level factors influencing demand for workforce in the older age groups, while 4.2.3 discusses individual-level factors affecting labour supply. The latter category includes the effects of taxation and social security, and pensions in particular, which will be examined separately in 4.2.4 and 4.2.5.

4.2.1 Employment, population structure and economic growth in the older age groups

Where economic policy and fiscal sustainability are concerned, attention is usually paid to the employment rates of entire age groups. Which factors determine the effective employment rate of a certain age group, say people

aged 55–64, over a certain period of time? In addition to micro-level factors, the employment rate of a certain age group clearly depends on general economic developments and the business cycle, which determine the economy's demand for workforce as a whole[23].

Micro-level factors, discussed later in more detail (see 4.2.2–4.2.5), can be further divided into institutional factors, such as work incentives in social security, taxation and collective agreements, and purely individual features, such as productivity, appreciation of leisure time and other preferences. Related to the latter, the employment rate of a specific age group is also affected by the personal characteristics of the individuals belonging to that group. This employment factor, related to generation-specific differences that ultimately reflect individual characteristics, is called *the cohort effect*. The cohort effect is created because people belonging to different generations systematically exhibit differences in habits, health, income level, education and other factors that affect the demand and supply of labour[24].

In terms of economic policy, the relative significance of general economic development on the one hand and micro-level supply and demand on the other, present interesting questions in determining the employment rate of older people. For example, can the observed improvement in the employment of people aged 60–64 be largely explained by economic growth (with the given structures), while the so-called structural factors, such as social security reform and improvements in health and education, have a much smaller effect? Unfortunately, no data is available to provide a direct answer to this question.

If labour market selection is understood to apply "the best of the bunch" approach, where the middle-aged enjoy the highest employability, the employment rate of marginal groups, such as older working-age people, can be subject to major fluctuations depending on production rates, even when other factors remain unchanged. There is some indication in Figure 4.6 that the employment rate of older people aged 55–64 has reflected economic fluctuations more markedly than the employment rate of those aged 30–54, i.e. those at the best working age. Regional differences are also more pronounced in the employment rates of older people than in the total employment rates (cf. previous chapter).

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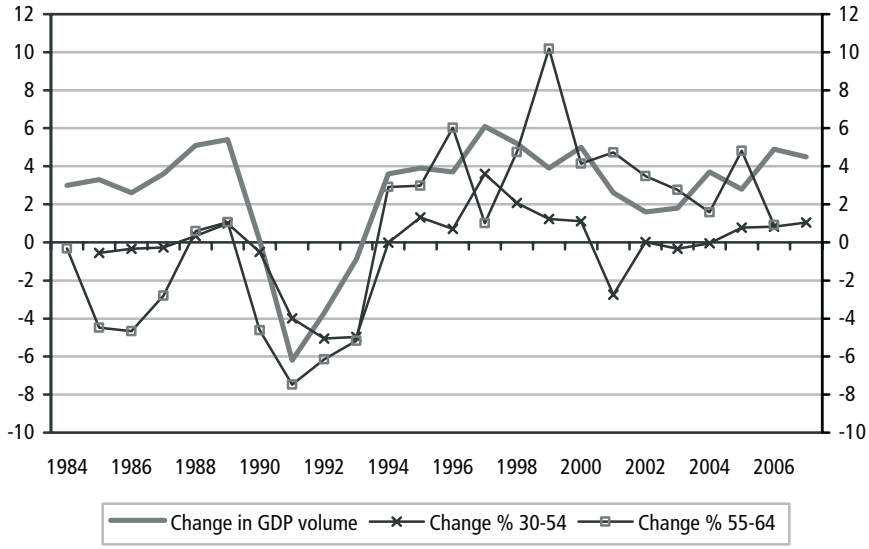
[23] Since older people form a relatively small section of the total labour force, total economic development can be viewed as an exogenous factor, which significantly affects demand for labour in the older age groups.

[24] The size of the cohort can also have a significant effect on the formation of the labour market position, if the sizes of one-year cohorts vary and the labour market position is reviewed by five-year age groups, as is commonly done (for further details, see e.g. Sihto 2005).

Conversely, the strong positive trend observed in 1997 and 1998 would also indicate that structural factors have influenced older people's employment rates, as this development coincides with the increase in the minimum age of the unemployment tunnel to retirement. This measure has been observed to lower the likelihood of unemployment in the 53–54 age group, while shortening periods of unemployment and increasing jobseekers' likelihood of finding employment (Kyyrä & Wilke 2006).

Figure 4.6 Change in the employment rate of older people aged 55–64 and people aged 30–54 i.e. those at the best working age, and economic growth in 1984–2007.

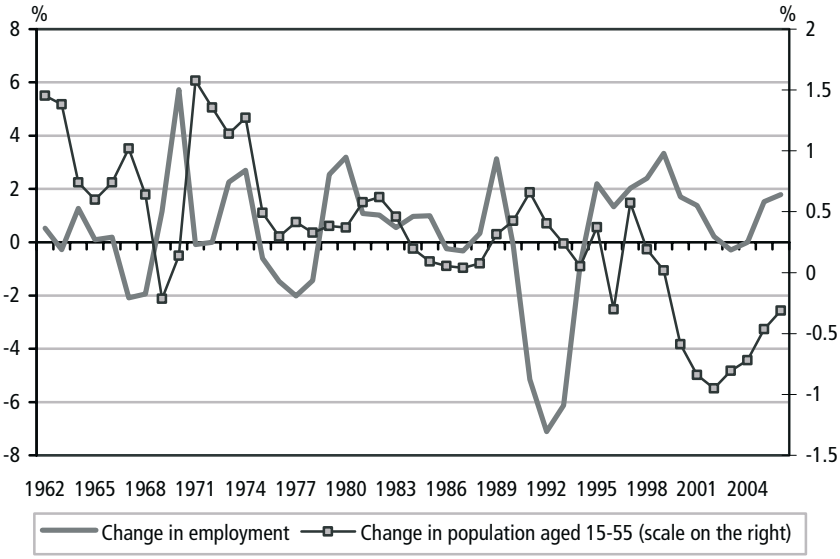


Source: Statistics Finland.

In addition to total demand, the population structure seems to affect demand for older people in the workforce. With the given production structure and rate, the rise in the average age of the working-age population shifts the balance of employment towards the older working-age population. In the last 10 years, the growth in the number of working-age population has depended on over-55s in Finland. While employment rates have increased, the number of younger people, aged 15–55, has declined. It is evident that, under these circumstances, demand for labour supply aged over 55 has grown (Figure 4.7)[25]. Over a longer period, ageing and the decline in the number of working-age population may become a factor that increasingly hampers overall production capacity.

[25] This is evident if the participation rates of younger age groups do not rise materially at the same time.

Figure 4.7 Development of employment and the volume of younger working-age population aged 15–55 in 1962–2006.



Source: Statistics Finland.

In Finland, the employment rate of people aged 55–64 increased significantly, from 33.5 per cent in 1994 to 52.6 per cent in 2005. During this period, the general economic outlook, legislative changes and the cohort effect clearly worked together to facilitate the rise in the employment rate. The relative significance of these various factors has been analysed by Rantala and Romppanen (2004), Sihto (2005), and Ilmakunnas and Rantala (2005) among others.

Rantala and Romppanen (2004) compared the prevalence of people who continued working after reaching a certain age (50, 55 and 60 years) across a range of cohorts, i.e., among people born in different years. According to their findings, older people were more likely to continue working towards the end of the 1990s. Rantala and Romppanen considered this trend to be largely explained by general economic developments and partly by the changes implemented in pension programmes.

Observations and conclusions

- In addition to micro-level factors, the employment rate of a certain age group depends on general economic developments and the business cycle, which determine demand for workforce in the economy as a whole.

- In the light of the available research data, it is difficult to ascertain the significance of positive economic developments versus institutional advancements and individual cohort effects in improving the position of people aged 55–64 in the labour market.
- Where older people form a flexible buffer in the labour market, their employment rate can fluctuate a great deal according to the economic cycle, as seems to have happened in Finland to a certain extent.

4.2.2 Factors affecting demand for workforce in the older age groups

From the employer's perspective, older employees are more experienced and therefore expected to bring more professional expertise to their organisation. On the other hand, their professional skills, acquired through formal training, are often considered to be outdated compared to those attained by younger employees. Assumed lower employee mobility and turnover (due to career development, parental leaves etc.) in older employees can also be considered positive, since they improve employees' commitment to the organisation and position, at least in the medium term.

According to the traditional view, individual ***productivity*** declines with age, although the empirical evidence supporting this hypothesis varies (see e.g. Lumsdaine & Mitchell 1999). Individual productivity tends to decrease with age, for example due to lower fitness levels[26]. On the other hand, increased experience and skills have the opposite effect, resulting in raised productivity. The latter should be the prevailing effect in the younger age groups, where physical performance has not been materially reduced. In the older age groups, the net effect is more likely to be negative, particularly if skills are not actively maintained and developed.

Individual productivity is clearly more related to physical fitness and mental agility than to age as such. Outdated training and skills can also partly explain the fact that productivity tends to decline with age, highlighting the importance of continuous professional training.

Empirically verifying the interdependence of productivity and age is challenging, and indisputable evidence of such interdependence is unavailable. Studies commonly suggest that individual productivity either does not depend on age or follows a reverse U curve in relation to age (Börsch-Supan & Ludwig 2008)[27].

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[26] The decline in older employees' productivity can be explained by reduced mental and physical powers and subsequent lower performance levels, evident either in the actual performance or in increased sick leave. However, people who continue to work feel healthier than those of the same age who have stopped working (Forma et al. 2004).

[27] Daveri and Maliranta (2006) have studied the effects of the average employee age on productivity, using data from Finnish workplaces from 1995–2002. According to their findings, productivity is not dependent on age, whereas salaries increase alongside the average age.

The lack of reliable research data is due, among other reasons, to the relatively low number of employees aged over 60. Those who continue working seem have been selected due to certain characteristics. In the light of more extensive findings on younger age groups, productivity does not seem to drop low enough to cause problems (Skirbekk 2005). Ilmakunnas et al. (2007) estimate that employees' ability to work declines with age to a certain degree. This decline in ability to work is most marked in jobs that require physical performance. Consequently, technological advancements have lessened the effects of ageing in many positions.

Economists have also pointed out the negative external effects of aged employees on the productivity of other employees. Although their own productivity is reasonably high, older people can lower other employees' productivity. If this is the case, retirement can increase total production and productivity (Sala-i-Martin 1996). In the light of this hypothesis, as working lives are lengthening, older employees should be allocated tasks in which they would not have a negative effect on other employees' productivity, such as in specialist or partnership positions.

On the other hand, there is evidence that ***salaries*** tend to rise with age, due to factors such as seniority. In such situations, the ratio of salary to productivity can become more disadvantageous for an employer who has older employees, compared to one with younger ones. According to Daveri and Maliranta (2007), workplace productivity does not depend on age, whereas salaries have a positive link to average age. Comparison data from European countries indicates that the size of the salary premium based on seniority correlates negatively with the employment rate of older people (European Commission 2007a).

At least in some cases, the attractiveness of recruiting older employees is decreased by the ***shortness of the remaining potential working life***: over-55s are usually not considered key employees, whose development and training justify investment. Younger employees who have the same competencies appear more valuable, as their future development potential is considered greater[28]. Employees are also thought to become less adaptable and mentally less flexible with age.

The statistical ***likelihood of having longer sick leaves grows*** with age, presenting another risk for the employer[29]. This risk is increased by the employer's payment liability for financing social benefits, such as the disability

[28] This thinking involves a certain short-sightedness since the practical opportunities of committing a young person with development potential to the organisation are limited, and the investment is subsequently easily "leaked" to competitors when the employee leaves.

[29] The 2003 Working Conditions Study indicates that the number of sick leaves somewhat decreases with age while their length clearly increases (Ilmakunnas et al. 2007).

pension[30]. The primary purpose of the employer's payment liability is to prevent the use of the social security system to remove "excessive numbers" of older employees from the labour market. However, this arrangement also increases the implicit costs of hiring older employees. Subsequently, its total effect on the employment of older people is unclear.

In recent years, special attention has been paid in Finland to "soft" redundancies, which can be made by using the so-called unemployment tunnel to retirement, allowed by the unemployment security system. During economic downturns and when companies reduce their staff, this system has increased redundancies among older employees and lowered the effective demand for them on the labour market. Looking at the bigger picture, it appears that companies have decided to lay off older employees, even when this has been unprofitable to the business as such (see Hakola & Uusitalo 2001).

Age discrimination commonly refers to the difficulties faced by older people in workplaces and in finding employment. ***Age discrimination*** also relates to other issues, such as the previously mentioned feature of the social security system. Therefore, age discrimination may not be solely related to a person's age. Virjo and Aho (2002) maintain that a range of evidence on age discrimination can be found in the Finnish labour market[31]. As a result of public debate, age discrimination appears to have decreased at workplaces but is still widespread in recruitment.

Based on survey findings, Tuominen and Takala (2006) have reviewed employer attitudes towards finding employment for older people and supporting aged employees in order to extend their careers. Their results show that only just over one in four employers think that they might employ more people aged over 55 in the future. About the same number of employers were of the view that employees were able to continue in most positions until the age of 65. Only around one in ten companies maintained that employees could continue in most positions until the age of 68 and were prepared to hire people claiming old-age pension for permanent positions.

Observations and conclusions

- Employee productivity is related more to physical fitness and mental agility than to age as such.
- The effects of ageing on individual productivity depend on the employee's job description. Productivity drops in physical labour, whereas in mental work productivity can easily be age-independent.

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[30] Large employers are liable for contributing to the financing of unemployment pensions and, recently, also to the extended unemployment allowance.

[31] According to an employer survey, recruiters prefer to hire people aged 30–39. Less than half of the surveyed employers would be prepared to recruit a person aged 55 (HRM 2000).

- The increase in salaries with age and seniority can raise the price of workforce in proportion to productivity and subsequently lower demand for older employees.
- The shortness of the remaining working life reduces the desire to invest in training and skills maintenance for older workforce.
- From the employer's perspective, the social security payment liability increases the cost of older workforce.
- Certain social security arrangements encourage employers to target older employees when implementing redundancies.
- According to survey findings, employers prefer not to recruit new employees aged over 55.

4.2.3 Factors affecting the labour supply of older people

Simplifying the issue somewhat, the labour supply of older people is determined by the marginal utility between working and retiring: in conditions characterised by a flexible retirement age, people will continue working as long as the net benefit of working is higher than that of retiring. In addition to monetary incentives, the benefits of working are determined by factors in working life, such as the meaningfulness of work, atmosphere, management, social contacts etc. The meaningfulness and attractiveness of working are often linked to the person's level of education, whereas factors such as pension income and the value attached to leisure time and domestic work increase the attractiveness of retirement. The choice can become easier if one of the options involves a lower labour input instead of full retirement. A person's physical condition and its development seems to be one of the most influential factors determining the net benefit offered by different options[32].

The following provides a review of the key areas affecting the labour supply of older people and divides them further into individual factors, such as health, education and preferences, and institutional factors, such as flexibility of work and social security.

Health and functional ability

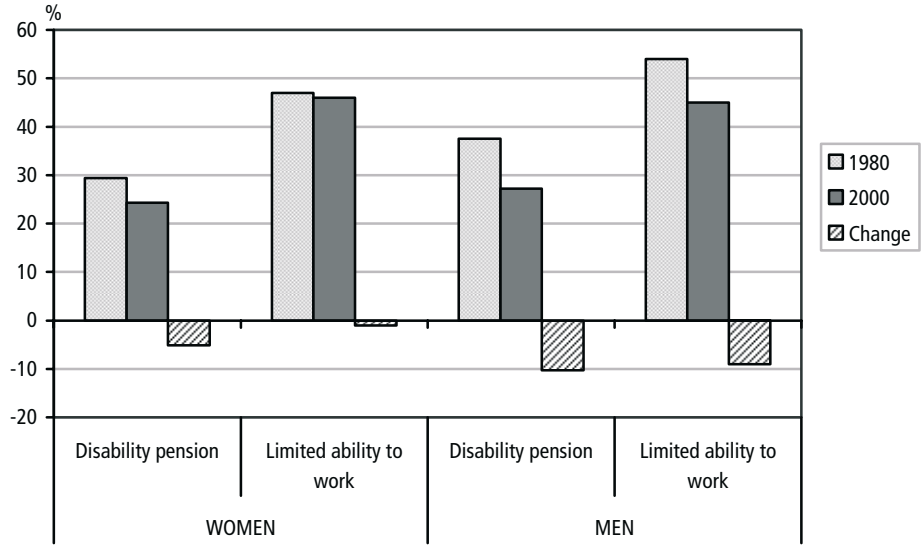
Sufficient health and functional ability constitute the basic requirements for participation in employment. Where older people are concerned, these characteristics tend to impair with age. However, the correlation between age and functional ability varies significantly from one individual to another. For some people, even advanced age does not signify any material impairment of their ability to work. Furthermore, ability to work is linked to the job description:

[32] Among other studies, Lumsdaine and Mitchell (1999) present more detailed methods that model the move from working life to retirement, explicitly taking account of the dynamic nature of the problem and the related uncertainties.

generally those engaged in mental work maintain their functional ability for longer than people whose work requires physical fitness.

Observations indicate that the ability to work of the older population has improved in the previous two decades, which is evident, among other factors, in the proportion of people claiming disability pension. The age-standardised rate of men aged 55–64 claiming disability pension was 37 per cent in 1980, compared with 27 per cent in 2000. Women show a similar trend, albeit less marked.

Figure 4.8 The proportion of people aged 55–64 claiming disability pension or feeling partly incapacitated in 1980/2000. These proportions are age standardised by using the 2000 population structure.



Source: Gould et al. (2006).

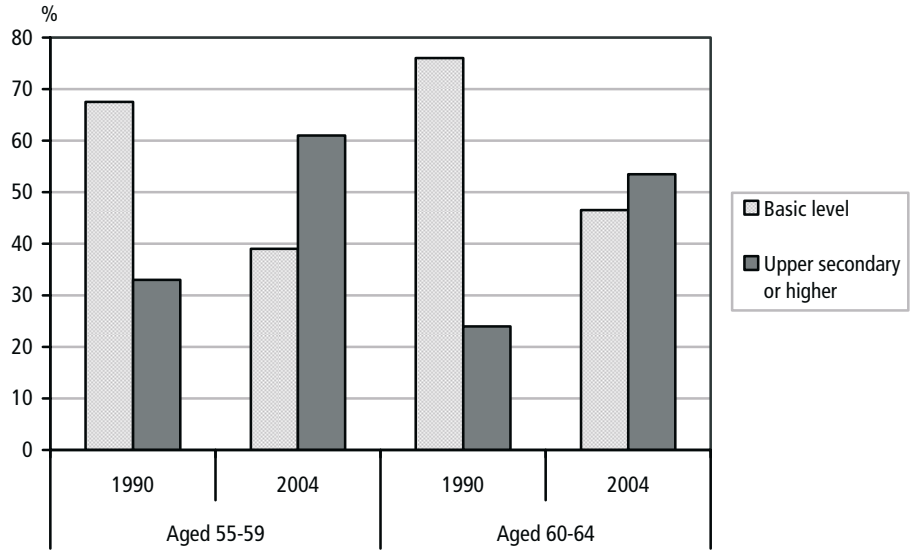
People's subjective assessment of their physical condition has also improved. According to their own estimate, the age-standardised rate of men aged 55–64 who felt partly incapacitated was 54 per cent in 1980 compared to 45 per cent in 2000. In the light of a recent survey mapping the physical condition of retirement-age people, an even more positive development can be observed in the state of health among people aged 64–84. In 2007, 47 per cent of men and 46 per cent of women aged 65–84 considered their health to be good or fairly good, compared to 33 per cent of men and 37 per cent of women in 1993 (Laitalainen et al. 2008). According to a recent estimate by the Finnish Institute of Occupational Health, a significant proportion of younger old-age pensioners has full ability to work (cf. 3.2).

Education and meaningfulness of work

As suggested previously in Chapter 4.1, differences between levels of education are emphasised in the age group of over-55s. In micro studies, the level of education has been observed to increase the likelihood of long careers. This observation can be explained by the type of work: employees with the highest level of education are engaged in mental work, where declining physical performance does not materially affect work performance[33]. The level of education has also been observed to correlate positively with people's subjective assessment of their ability to work, thus indirectly lengthening their careers.

In Finland, the general level of education has risen significantly, particularly among older working-age people. More than two out of three people aged 55–64 only had a basic-level education in 1990, compared to over half of the people in the same age group who had a minimum of a higher secondary education in 2004 (Haataja 2006).

Figure 4.9 Development in the level of education among older working-age people in 1990–2004.



Source: Haataja (2006).

Clearly, part of the empirical evidence indicating education's positive effect on employment is relative, as it relates to individual differences in, rather than an absolute level of, education. Consequently, the positive effects of education can be expected to somewhat decrease as the general level of education improves.

[33] It is evident that factors related to demand for labour also have a part to play in the longer careers of highly educated people.

At least two potential explanations have been suggested for the positive correlation found between the level of education and physical condition. While, on one hand, information on health and the related risks improves with education, increasing the number of preventative measures taken by individuals to look after their health, on the other it could be argued that positions occupied by people with a higher education are physically less demanding (Gould et al. 2006).

According to survey findings, the supply of labour and longer careers amongst older people are significantly influenced by factors related to the quality of working life, such as meaningfulness, praise, flexibility of employment and working hours etc. (see e.g. Forma et al. 2004). The finding that people place increasing emphasis on quality with age can partly be explained by lower mental flexibility and growing tiredness with work. However, pre-retirement pensions and similarly realistic alternatives can cause older people to focus on the disadvantages of employment and question its purpose, as in "why should I bother any longer when there is no need?"

Factors affecting working life, maintaining the meaningfulness of work in particular, are important. For individuals, they are linked to the level of education so that the feeling of having meaningful employment often correlates positively with higher education. The wellbeing of older people at work can be also influenced by so-called *age management*, which takes account of employees' age in daily management, planning and organisation, in order to provide older employees with opportunities to achieve their individual and organisational targets (see e.g. Vaarama et al. 2009).

Productivity, demand for leisure time and length of working lives

The notion that productivity will decrease, or at least not increase, towards the end of a person's working life, if not earlier, has been largely accepted (cf. 4.2.2 above)[34]. Meanwhile, if the appreciation of leisure time remains unchanged or grows, individuals will attempt to lessen their workload and increase their leisure time. However, this theory is not without reservations either: firstly, remuneration for work, which ultimately determines the benefits of working at individual level, will not necessarily change with productivity. On the contrary, salaries often rise with seniority and age, particularly in positions involving mental work. Secondly, even if salaries were to drop, the consequent negative effect on income could increase rather than decrease the supply of labour.

It is generally thought that the appreciation of leisure time grows with age, which lessens individuals' desire to continue working. This raises the question of

[34] In addition to physical and mental factors, this can be due to the view that professional development is no longer meaningful.

why people wish for more leisure time as they become older. A possible answer may lie in the increasing awareness of a limited lifespan and the consequent wish to be able to engage in other activities besides work. Increases in wealth, often experienced with age, also strengthen demand for leisure time, among other commodities.

Factors that lower the appreciation of leisure time can also be identified: while physical abilities are reduced, opportunities to performed domestic work during leisure time decrease, as does the range of suitable leisure pursuits. In addition, performing domestic work during leisure time can become less important as the size of the household decreases. The requirement and opportunities to perform domestic work are at their peak in families with children, while they typically drop with age[35].

Piekkola (2006) has studied retirement from the perspective of time management, emphasising the importance of domestic work to the motivation to continue in gainful employment. If domestic work carried out during retirement is valued at the market price, the compensation rate provided by a pension in proportion to gainful employment will rise and may even exceed 100 per cent[36]. According to Piekkola's empirical findings, people who perform a great deal of domestic work retire earlier, and the lower volume of domestic work partly explains the tendency of people with high educational attainment to continue working longer. Piekkola and Leijola (2007) present similar results based on comparisons between countries.

A shorter planning horizon, and the consequent reduction with age in the value placed on career development, are purely age-related factors, which can also have an impact on individual supply of (and demand for) labour. Weighing the marginal utilities between working and leisure time, rationally behaving younger employees take consideration of career development and the consequent increase in remuneration. This can make employment feel attractive, even when direct compensation does not exceed the marginal utility of leisure time. As their working lives inevitable draw to an end, the importance older people place on their remaining working lives diminishes and cannot motivate them to the degree it did earlier[37].

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[35] Households where care is provided for someone with a long-term illness, or an elderly spouse or grandchildren, constitute an exception, as such responsibilities place demands on the time spent outside gainful employment.

[36] Piekkola applies this hypothesis to material gathered for a time management study carried out between 1999 and 2000, and to follow-up material on labour market positions in 2000–2003.

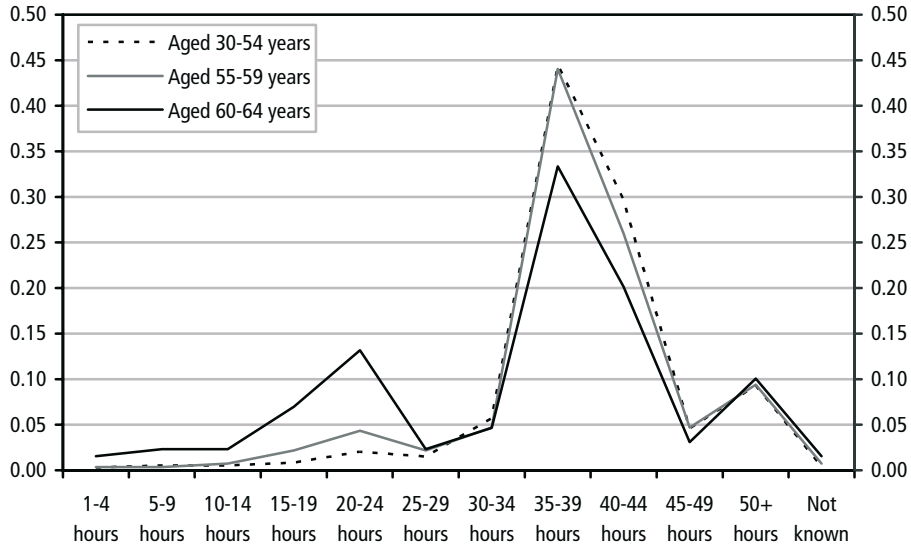
[37] Among others, Kimball and Shapiro (2003) have mentioned the positive impact of career development prospects on implicit remuneration. In principle, the shortening of the remaining career also affects the salary flexibility of labour supply, since the discounted revenue effect of a salary rise will decrease.

Ageing has also been observed to weaken efforts to seek employment following redundancy (see e.g. Virjo & Aho 2002). However, this can be due to the previously mentioned shortening of the planning horizon and the consequent reduction in remuneration in proportion to the costs of finding work. Older people's efforts can also be undermined by the opportunity, offered by social security, to withdraw from the labour market, which is a more cost-effective option than that offered to younger people (mainly the extended unemployment allowance, cf. 4.2.4 later in the document). However, over-55s have been observed to be fairly passive job seekers in Sweden, even if the country does not have a similar unemployment tunnel to retirement (Bolinder 1999).

Restrictions to working hours

As with younger workforce, in observing individual factors affecting older people's labour supply, it can be useful to separate the decision to participate in the labour market on the one hand (extensive marginal), and the decision determining the labour input, i.e. the working hours, on the other (intensive marginal)[38]. Figure 4.10 shows that in the Finnish cross-section study, the distribution of weekly working hours moves to the left with age and becomes bimodal with the growth of part-time employment. The observed distribution of working hours reflects both individual preferences and opportunities for flexible working provided by the system.

Figure 4.10 Distribution of weekly working hours by age group in 2007.



Source: Statistics Finland.

[38] Sometimes it is possible, and necessary, to review the intensity of labour input (effort) separately, see e.g. Fehr and Goette (2007).

At the macro level, participation of the older workforce is crystallised in the age-group specific employment rates, based on the choice to either work or fully retire. At the individual level, an older person's decision to supply labour is more complicated. It is based on a range of factors, such as the gradual lowering of labour input, transferring to lighter duties, unemployment, long sick leaves and possible part-time retirement. Even old-age pension does not necessarily indicate a final withdrawal from the labour force, since people can return to work during retirement (cf. 4.3 later in the document).

In most professions and positions, opportunities to influence the number of working hours are restricted, regardless of age. The decision to provide labour can be more accurately understood as involving a "package", which includes both participation and the predetermined weekly and yearly working hours. This setting emphasises the importance of the extensive marginal in determining labour supply while indicating that the employed are not necessarily in an optimal position to decide their working hours: some would like to work more and some less. Respectively, some people outside the labour market would take on work were it offered in "smaller portions".[39]

This may also suggest that improved flexibility in working hours will increase individual opportunities and willingness to participate in employment. By regulating working hours according to need, the overall benefit that participation offers to an individual can be increased. Such an outcome is emphasised in the case of older people, who enjoy better opportunities, provided by social security, to completely withdraw from working life. Part-time retirement is one of the options that can increase the flexibility of working hours for older people.

To summarise the above discussion, a flexible intensive marginal leads to higher participation and employment rates, since some people, who would completely withdraw from the labour force if no flexibility were offered, will participate. Meanwhile, some people who would continue to work even without any flexibility, will use this option to shorten their working hours. Consequently, the precise impact of increasing the flexibility of working hours on the total labour input remains unclear. Among others, Hytti (2004) has concluded that the opportunities for combining work and leisure time are less extensive in Finland than elsewhere in the Nordic countries.

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[39] This view can also explain some empirical findings, which indicate that wage elasticity of working hours is surprisingly low (see e.g. Blundell & MaCurdy 1999, in Finland Kuismanen 2000). Instead, recent studies illustrate that taxation and social security affect the supply of low-income labour in particular, especially through the extensive margin (e.g. Eissa & Hoynes 2005). According to Haataja (2007), around two out of three Finnish employees aged 50–59 were satisfied with their working hours in 2004. One out of five men and one out of four women saw themselves as working excessively long hours and wished to shorten their working time.

Observations and conclusions

- In addition to financial remuneration, older people's supply of labour depends on several individual-level factors, such as health, the meaningfulness of work, the working atmosphere and the appreciation of leisure time and domestic work.
- Part- and full-time pension programmes increase older people's opportunities to regulate their labour input in a manner that suits them.
- Adequate health is one of the prerequisites for continuing in working life. Objective and subjective indicators alike show that the physical condition and functional ability of the working-age population has improved in recent years.
- High level of education improves the likelihood of long working lives. In Finland, the general level of education has risen significantly among older working-age people over the past 10–15 years.
- In the light of these observations, older employees tend to shorten their working hours and shift to part-time employment. The option of adjusting working hours increases older people's opportunities and willingness to participate in employment.

Assessing the relative significance of the factors on the basis of survey findings

Each of the previously mentioned factors is clearly significant in influencing the decisions made by older individuals to provide labour. Since the weight and importance of each factor varies between individuals, it is difficult to assess which single factors are the most significant for the overall result. Nevertheless, some survey findings have shed more light on this problem.

Forma et al. (2004) report their findings from a survey included in the Working Conditions Study, where employees were asked which factors they thought were most important in order for them to continue working as long as possible. The most important condition for remaining at work was job security (in the current position), followed by improvements in rehabilitation opportunities and occupational health services, and salary rises (see Table 4.1). Less than 13 per cent of respondents considered training opportunities to be very important.

In addition to individual characteristics, the study analysed the impact of the size and operational methods of businesses, and individuals' feeling of wellbeing at work, on the intention to continue working. The intention to continue working was more common among employees in small businesses than those in large businesses, as well as among people working in businesses which had not used the unemployment tunnel to retirement to reduce the workforce. Savings targets that intensify the pace of work, more efficient target monitoring, and the risk of increased workload reduce employees' intentions to continue working, whereas

they are increased by opportunities to influence the pace of one's own work (Forma et al. 2004).

Table 4.1 Importance of factors influencing continued participation in employment in 2003.

Factor	Very important	Moderately important	Not that important	All right at the moment
	%	%	%	%
Job security	58.7	21.1	7.7	12.4
Improving rehabilitation opportunities	36.8	37.9	11.7	13.6
Developing occupational health services	36.4	29.9	9.3	24.4
Salary rise	35.0	33.8	23.7	7.4
Reducing workload and rush	31.9	40.5	14.7	12.9
Improving the working environment	27.5	40.0	11.0	21.5
More flexible working hours	26.9	33.8	15.1	24.3
Improving leadership methods	20.8	38.4	20.0	20.8
Part-time retirement	20.3	32.3	35.5	11.9
Sabbatical/job alternation leave	16.6	31.9	38.5	13.0
Improving training opportunities	12.8	35.8	32.6	18.8

Source: Working Conditions Study, Forma et al. (2004).

The target group of Pelkonen's (2006) study included salaried employees born in 1940–1942 and working at the end of 2004 in the public and private sector.
The results indicate that a retired spouse is a factor that shortens careers in all sectors[40]. In the private sector, the respondent's health correlates positively with continuing in employment.

According to Pelkonen, the level of earnings also has a statistically significant effect on public sector employees, in such a way that employees with higher earnings are more likely to continue working. As an exception, employees who consider themselves to be on a low income are almost as likely to continue working as those on a high income[41].

In Pelkonen's (2006) study, those who continued in employment justified their decision citing factors that, above all, were related to the quality of working life: more than 90 per cent of respondents considered a good working environment and atmosphere, and an interesting and challenging job, as important factors, while over 80 per cent thought opportunities to influence one's job alongside good supervision and social contacts in the workplace, were important.

[40] In the private sector, the effect of a retired spouse is statistically less significant than the effect of the respondent's age (Pelkonen 2006).

[41] The statistical significance of these findings should be considered with caution since, for example, the statistical methods have been inadequately described in the study. It should also be noted that, in reviewing differences such as those identified between employment sectors, it seems that other factors, such as the employee's gender and income level, have not been controlled.

Maintaining the level of income and accruing a better earnings-related pension were important to 65–75 per cent of respondents.

In this target group, the key reason for retiring was represented by the statement "I have worked long enough", which over 80 per cent of the respondents considered important. A clearly smaller proportion, at 63 per cent, considered the time taken by leisure pursuits as an important reason for retiring. A little over half of respondents considered their spouse's retirement to have significantly affected their own decision to do so (Pelkonen 2006)[42].

According to Haataja's (2007) statistical analysis in Labour Force Survey data, the likelihood of participating in employment decreases with age among people aged 56 and over, whereas the level of education correlates positively with participation, even though the trend is more marked among women than men. Among men, being married was also deemed a statistically significant factor supporting the decision to continue in employment[43].

According to Karisalmi et al. (2008), a work-centred lifestyle, the employer's positive attitude towards older people's continued working and accelerated accrual deferred retirement. A short working life, impaired ability to work and supplementary pension provision arranged by the employer led to earlier retirement.

Observations and conclusions

- The survey findings show that around one in four employees aged over 45 intends to continue working at least until the age of 64, beyond the minimum age of the old-age pension entitlement.
- Most respondents thought that continuing in employment after reaching retirement age depends on several conditions, such as job security in the current position, better rehabilitation opportunities, good opportunities to influence one's own job, and reducing the workload and rush. The employer's positive attitude towards older people continuing in employment was also considered important.
- Becoming tired of working, poor ability to work, leisure activities and the spouse's retirement are some of the key factors supporting the decision to retire. Supplementary pension provision arranged by the employer also causes employees to retire earlier.

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[42] The study does not distinguish between the proportion of respondents who have a spouse and the proportion of those whose spouse was retired. However, of those people who *have* a retired spouse, a rather high proportion clearly consider their spouse's retirement as an important motivation for retiring.

[43] Consequently, Haataja's (2007) finding concerning marriage seems to differ from that in Forma et al. (2004), according to which single people *plan* to continue working for longer. However, definitions of e.g. that of cohabitation are likely to differ between the studies.

4.2.4 Social security, pensions and taxation

One of the distinctive factors that clearly separate older people's labour supply from that of younger people is linked to the social security system, which offers age-specific benefits and therefore, after a certain age, makes withdrawal from employment an attractive option. Pension systems not only enable but, to a certain extent, provide incentives to stop working. In addition to the actual old-age pension system, (national pension, earnings-based pension) older people's incentives to participate in employment were affected by the pre-retirement pension and disability pension, and some age-specific special arrangements related to unemployment security. Unlike cases in which other social security benefits (unemployment security, income support) are claimed, the decision to retire usually leads to permanent withdrawal from the labour market.

In practice, people aged 57 and above are entitled to extended unemployment allowance in Finland (see the Further Information box on page 112). The minimum age for claiming a part-time pension is 58 years and an early old-age pension 62 years. Under the current legislation, the minimum age for claiming an old-age pension is 63 years[44].In European comparisons, the minimum age for claiming a full old-age pension is relatively low in Finland, particularly for men. Of the EU-15 countries, only France, Sweden and Italy have a lower minimum retirement age for men. The situation is slightly difference for women, since their retirement age is lower than that of men in many countries (table 4.2).

Table 4.2 Retirement age in the EU-15 countries.

	Men	Women
Netherlands	65	65
Belgium	65	64 (65)
United Kingdom	65	60 (65)
Spain	65	65
Ireland	65	65
Italy	65 (New system. 57–65)	60 (New system. 57–65)
Austria	65	60 (65)
Creece	65	65
Luxembourg	65	65
Portugal	65	65
France	60	60
Sweden	61– ; 65 (Guarantee pension)	61– ; 65 (Guarantee pension)
Germany	65 (67)	65 (67)
Finland	63-68; 65 (National pension)	63-68; 65 (National pension)
Denmark	65 (67); 67 (ATP)	65 (67); 67 (ATP)

[44] The tax concession for voluntary additional pension payments is tied to age so that the benefits can be claimed only after the claimant has turned 62. According to Ahonen (2004), over 50 per cent of people aged 45–64 who had taken a voluntary additional pension intended to withdraw from employment before the statutory retirement age.

- BE: Women's retirement age will be gradually increased to 65; 2006: 64; 2009: 65
- UK: Women's retirement age will be gradually increased to 65 between 2010 and 2020; retirement age will be increased to 68 in the period 2024-2046
- ITA: A new system for persons whose working life has begun after 1 January 1996. Pension will be based on the length of the insurance period: An insurance period of 35 years entitles to a pension at the age of 58, and an insurance of 40 years at any age. The minimum age for claiming a pension on the basis of long insurance period will increase to 59 in 2009, to 60 in 2011 and to 61 in 2013 with a minimum insurance period of 36 years. Even after these reforms, the possibility of retiring at any age will remain unchanged, provided that the person's insurance period is no less than 40 years.
- AUT: Women's retirement age will be gradually increased (by six months per year) to 65.
- GRE: Entitlement to full pension after 37 insured years regardless of the person's age.
- FRA: For persons retiring before the age of 65 years, a deduction will be made on their pensions if an insurance period of 40 years is not completed.
- SWE: Earnings-related pension includes a flexible retirement age starting from 61 years; under old scheme 65 years, guarantee pension 65 years.
- GER: The retirement age will be raised to 67 years in 2012–2029.
- FIN: Flexible retirement age of 63–68 years for earnings-related pension in 2005; national pension: 65 years.
- DEN: The general retirement age for the national pension was lowered to 65 years on 1 July 2004, having been 67 years before. Between 2024 and 2027, the minimum age for the old-age pension will be raised to 67 years. Retirement age for those born after 1963 will be tied to the life expectancy. The retirement age for the Danish ATP pension will also increase as per life expectancy.

SOURCE: Finnish Centre for Pensions.

The Finnish tax system includes hardly any age-specific incentive mechanisms, excluding low-pay support, which has been designed to decrease the employer's costs of hiring low-paid employees aged over 54[45]. In principle at least, the different tax treatment of earned and pension income is the taxation factor that influences retirement decisions. Tax relief on earned income, part of which has been implemented by increasing the amount of personal tax allowance for earned income in recent years, has increased the tax on pension income in proportion to earned income, thereby encouraging people to continue in employment. However, since the beginning of 2008, the tax on pension income has also been reduced by increasing the pension income deduction in state tax, thereby weakening the previously mentioned incentivising effect. Social security incentives designed to encourage people to continue participating in employment have attracted interest in Finland in recent years and played a role in the 2005 pension reform (see the Further Information box).

[45] Employers are entitled to low-pay support, if they employ a person aged 54 and over earning a salary of more than 900 euros and less than 2,000 euros per month. The fixed-term Act on low-pay support came into effect at the beginning of 2006 and will remain in force until the end of 2010.

Further Information: The 2005 Pension Reform

Entering into force in 2005, the pension reform changed Finland's earnings-related pension scheme in several ways. Pension is accrued during employment between the ages of 18 and 68 and, as of 2005, on the basis of earned income per year. The retirement age is flexible between the ages of 63 and 68. A reduced pension can be claimed from the age of 62.

The accrual of old-age pensions changed in 2005. Pensions can be claimed without any reductions from the age of 63, and the pension ceiling was removed in the private sector. The new accrual rates are 4.5 per cent for income earned for over 63s, 1.9 per cent for income earned between the ages of 53 and 63, and 1.5 per cent for income earned between the ages of 18 and 52. Meanwhile, the employer's TEL pension insurance contribution is graded so that the contribution is higher for employees aged 53 and over (5.8 per cent of salary) than for younger employees (4.6 per cent of salary).

As of 2005, the earnings-related pension index has been applied to all pensions. Accrued pension rights and pension income will be adjusted by the new income coefficient, where the real change in income will be taken into account with an 80 per cent weighting. An increase for deferred retirement is accrued from the age of 68 (0.4 per cent/month) and a rebate for early retirement no earlier than from the age of 62 (0.6 per cent/month).

Persons born after 1949 will no longer be entitled to the unemployment pension, while those born after 1943 will not be entitled to the individual pre-retirement pension. The unemployment pension has been replaced by the extended unemployment allowance provided under unemployment security, and the conditions for claiming an individual pre-retirement pension have been included in the disability pension regulations. As of 2009, a lifetime coefficient will be introduced in order to adjust the future pension to changes in life expectancy.

According to the extended unemployment allowance rules, persons who turn 59 before the 500-day unemployment allowance has finished can claim earnings-related unemployment allowance until the end of the calendar month in which they turn 65. Alternatively, a person entitled to the extended unemployment allowance can claim old-age pension from the age of 62.

This reform coincided with the legislative reform of the national pension system, where the retirement age remained at 65 years, and the coefficients for deferred and early retirement were not changed. However, the minimum age for early retirement was also changed to 62 years in the national pension system.

In order to measure the pension systems' incentives for employment or retirement, it is useful to define the concept of *pension wealth*. This refers to the discounted present value of a person's future pension income. Pension wealth includes the pension benefits an individual is entitled to claim from the beginning of pension eligibility (for instance, the minimum age for old-age pension) until death. Calculating someone's pension wealth requires information on the person's working life, lifetime earnings and life expectancy. To calculate

the latter, a statistical life expectancy is used, which is different for men and women, with a suitable common discount rate[46].

Usually, pension rights and pension wealth increase as working lives lengthen. From this perspective, a pension right becomes an additional incentive to participate in employment. The situation often grows more problematic after the person reaches the minimum age for pension eligibility. After that, each subsequent year in employment shortens the potential period of pension use and consequently tends to decrease the person's pension wealth. Meanwhile, continued participation in employment increases the pension and therefore raises pension wealth. However, if the pension accrual is insufficient, it is highly likely that continued employment will have a negative net effect on pension wealth. Thus, the pension system forms a negative incentive to work, to which the OECD refers with the term *implicit tax on continued work* (see e.g. Duval 2003).

According to the OECD, two dimensions can be distinguished in the pension programmes' incentives: i) level of pension wealth ii) change in pension wealth. A high level of pension wealth causes people to withdraw from employment due to the resulting, positive effect on income. The change in pension wealth can be measured using the implicit tax ratio on continued work, calculated by proportioning the change in pension wealth to earned income.

Figures 4.11 and 4.12 give a comparison of pension systems in different countries in the light of the previously discussed indicators. Pension wealth has been calculated by applying an average income and a standardised working life in order to achieve comparable results. Both indicators place Finland at the European average. It should be noted that this comparison applies to certain sample individuals and ages. The relative order of countries may change if the situation is reviewed based on different income levels and ages. Due to the imperfect functioning of the capital market, and perhaps also due to social factors, the age limits applied to pension programmes, such as the minimum age for old-age pension, seem to act as important incentives[47].

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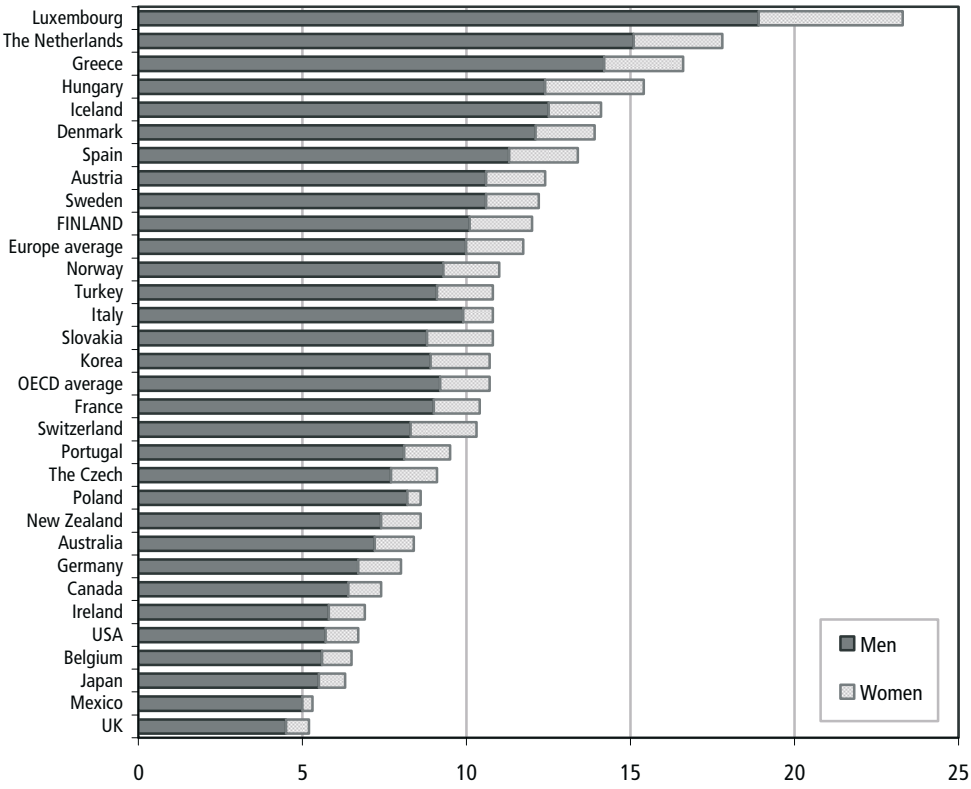
[46] Due to differences in life expectancy, women's pension wealth is higher at some point than that of men with a similar career history. For further information on calculating pension wealth, see e.g. Blöndal and Scarpetta (1999).

[47] In a perfect capital market, age limits should not affect the real retirement age, at least not in principle, because individuals could "discount" their future pension wealth in advance by using it as security for loans, or defer their retirement by saving (Duval 2003).

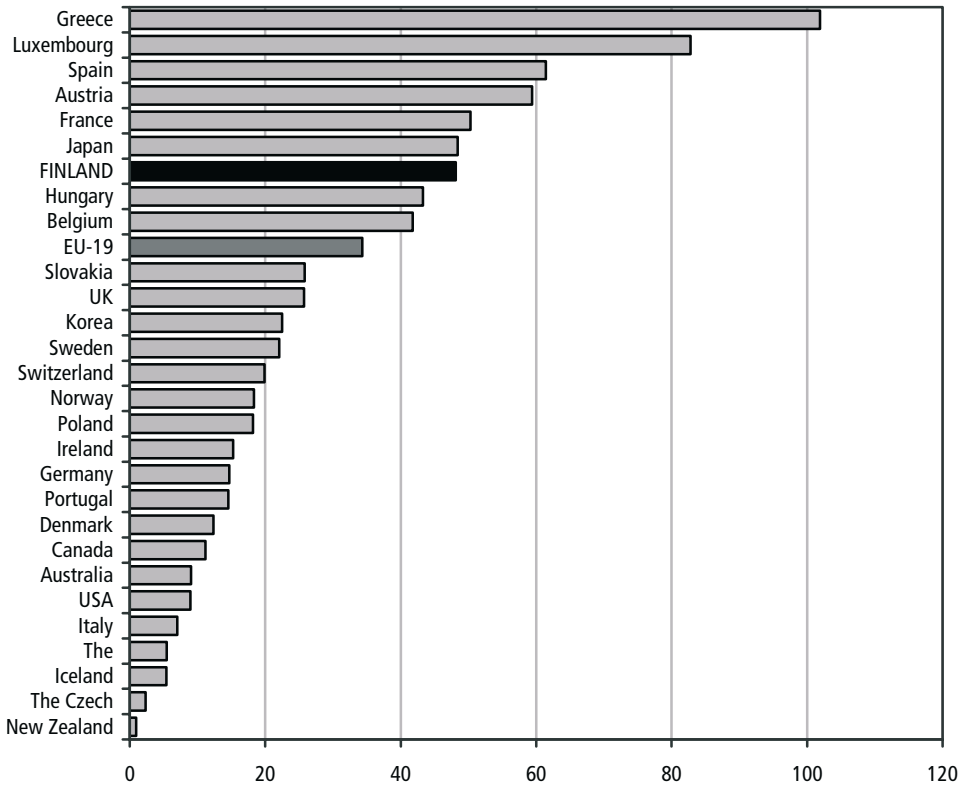
Figure 4.11 Average personal pension wealth in 2007 (in proportion to the average annual income).



Source: OECD.

The current deferral of retirement can be partly explained by the pension reform, the final effects of which remain to be seen. Hakola and Määttänen (2007) assess the effects of the 2005 pension reform with the help of a numerical simulation model based on economic theory. Their results show that the reform increases the average retirement age by some 0.7–1.5 years. The less the abolition of individual pre-retirement pension increases the popularity of the disability pension, the greater the positive effect. Lassila and Valkonen (2005) have reached similar conclusions on the effects of the pension reform by using a slightly different simulation model, which applies the overlapping generation theory to Finland. Their assessment of the reform's effects is somewhat more positive than that of Hakola and Määttänen.

Figure 4.12 The implicit tax ratios on continued work in 2005, pre-retirement pensions at 55/60 years.



Source: OECD.

4.2.5 A study of financial incentives provided by retirement

As part of the ageing project described in this report, Hakola and Määttänen (2008) examined the effects of possible changes in the pension and tax systems on the supply of labour, and on retirement. Hakola and Määttänen used a dynamic simulation model based on economic theory. This model includes a detailed prescription of the rules governing pension eligibility under the statutory earnings-related pension scheme in the Finnish private sector. The model also takes account of the national pension, progressive income tax, earnings-related unemployment allowance, labour market subsidy and unemployment allowance.

The simulation model assumes that individuals make financially rational decisions and react accordingly to changes in taxation and social security. Parameters guiding the intensity of behavioural effects are defined so that the results produced by the current taxation and social security systems correspond

as closely as possible to actual observations. The salary equation used in the model is an estimation based on Finnish data[48].

The effects of the reform on general government finances are examined with the help of net tax per person, calculated as tax revenue (income tax and consumption tax, social security payments) less current transfers (unemployment security and pension benefits). Consumption tax is calculated at 27 per cent of disposable income. The measure does not fully correspond to the definition of sustainability used in chapter 5, but it does provide an opportunity to compare the effects of different reforms on the financing balance of general government.

Three types of potential reform, designed to increase the employment rate of older people, are examined. The first group of reforms is related to limiting pre-retirement systems, particularly the so-called unemployment tunnel to retirement[49] and part-time pension. The second group of concerns the age limits of the old-age pension. Attempts might be made to extend working lives by removing the right to claim early pre-retirement pension at the age of 62 or deferring the age of the old-age pension beyond the current 63 years. The third group of reforms is related to taxation.

Table 4.3 Effects of eliminating the unemployment tunnel to retirement and part-time pension on the labour supply of people aged 55–68 and on the average net tax of the age group (taxes – benefits).

	Current system	Removal of unemployment tunnel	Removal of part-time pension	Removal of unemployment tunnel and part-time pension
Employment rate	47%	54%	45%	52%
Total labour input	44%	50%	45%	52%
Percentage of unemployed	12%	4.8%	13%	5.8%
Percentage of old-age pensioners	28%	28%	28%	28%
Net tax per person in the age group	€12,705	€13,111	€12,843	€13,368

Source: Hakola and Määttänen (2008).

Of these reforms, eliminating the unemployment tunnel to retirement would be most efficient in terms of increasing older people's employment. The removal of the unemployment tunnel would increase older people's employment rate by 7

[48] The principles of the simulation model correspond to those applied by Hakola and Määttänen (2007) in their model, notwithstanding some expansions of the pension system and elsewhere. The model and its hypothesis are described in greater detail in the research report by Hakola and Määttänen (2008).

[49] The unemployment pathway to retirement refers to the right to claim extended earnings-related unemployment allowance after the age of 57.

percentage points, representing 50,000–60,000 individuals[50]. Such a reform would also improve fiscal sustainability by decreasing unemployment security expenses and increasing income tax revenue. This result supports empirical studies which examined the effects of raising the minimum age of the unemployment tunnel to retirement in 1998 (see e.g. Kyyrä & Wilke 2006): increasing the minimum age had a direct and significant effect on the employment of those affected by the change. However, eliminating the unemployment tunnel also had negative impacts on the division of income, as this pathway is often used by people whose earning potential is relatively poor.

The study also analyses an alternative reform, where the loss of earnings-related unemployment allowance is compensated for by the right to claim labour market benefit to top up earned income. This system is designed to encourage job seekers to accept work which pays significantly less than their previous job, and to use labour market benefit to compensate for the lower earnings level. While being a softer reform, it nevertheless produces an effect on employment which is similar to simply eliminating the unemployment tunnel (5 percentage points, representing some 40,000 people). However, it clearly produces smaller savings for the government than the first option.

Abolishing or lowering part-time pensions also increases the employment rate of older people while improving fiscal sustainability. However, the increase in employment would amount to significantly less than if the unemployment tunnel were eliminated, for two reasons. First, fewer people benefit from the part-time pension than those claiming extended earnings-related unemployment allowance. Secondly, part-time pensions subsidise not only part-time work in relation to full-time work, but also part-time work in relation to unemployment. Eliminating part-time pensions would not only increase full-time employment but also unemployment and, in particular, the use of the unemployment tunnel to retirement.

The positive effect of eliminating part-time pensions would increase if the conditions for entering the unemployment tunnel were simultaneously restricted. This result reflects the fact that, based on the model, many people claiming part-time pensions consider the unemployment tunnel to be the second most attractive option. According to this model, people whose level of earnings is relatively high are particularly attracted by part-time pensions. Therefore, limiting part-time pensions would target people on lower incomes to a lesser degree than eliminating the unemployment tunnel.

[50] In 2007, some 425,000 people aged 54–68 were in work.

Table 4.4 Effects of increasing the minimum age for the old-age pension on the labour supply of people aged 55–68 and on the average net tax of the age group (taxes – benefits).

	Current system	Increasing the minimum age (65 years)
Employment rate	47%	45%
Total labour input	44%	42%
Percentage of unemployed	12%	14%
Percentage of old-age pensioners	28%	26%
Taxes – current transfers	€12,705	€12,220

Source: Hakola and Määttänen (2008).

The findings indicate that simply raising the minimum age for the old-age pension would not increase the labour supply, among other reasons because the current earnings-based pension system does not particularly lower incentives for working after the age of 63. Raising the minimum age would mainly show as an increase in the number of people entering the unemployment tunnel or claiming a part-time pension. In order for the increase in the minimum age to have any significant impact on labour supply, the minimum ages for pre-retirement pensions should be raised concurrently.

The study reviews two alternative income tax reforms, whereby income tax rate is lowered by 10 per cent. This cut in tax rates would target either people aged over 63 or only those who receive pension and earned income simultaneously. The first option would increase the supply of labour while having an almost neutral fiscal impact, whereas the second option would clearly reduce tax revenue.

In light of the model calculations, improving fiscal sustainability through income tax cuts would be difficult as their effect on the employment rate would be relatively minor. However, a carefully planned reform might decrease older people's taxation without having much effect on tax revenue. This result would be based on the significantly greater flexibility of older people's labour supply compared to that of younger people. However, a tax cut policy would involve risks: in order for the tax cuts to be self-financing, they would have to target people above a certain age. In addition, such a tax cut should not increase the attractiveness of other options, such as a part-time pension, in comparison to working full time.

The above calculations are not without reservations. Arguably, the results are fairly reliable when comparing the effects of mutually alternative reforms on labour supply. However, particularly in the case of larger-scale reforms (such as eliminating the unemployment tunnel to retirement), the scale of the effects on

unemployment and public finances should be treated with caution, since the calculations do not take account of the multiplicative economic effect, such as the effect of the increase in labour supply on salaries. The assumption behind the calculations is that people who were unemployed prior to the reform will find work at the given salary level, which cannot be taken for granted in the real world. An attempt to rectify such deficiencies might be made by evaluating similar reforms in an alternative model framework, where better consideration can be taken of the multiplicative effects.

Total economic effect of the reforms

In order to obtain an impression of the total economic effects of the previously mentioned potential reforms, they were assessed using the numeric general equilibrium model based on the theory of overlapping generations. This assessment was prepared using the so-called FOG model of the Research Institute of the Finnish Economy (see 3.1). Using two different observation frameworks simultaneously can be justified based on the fact that the FOG model takes account of overall economic links through the price mechanism, while the pension and unemployment security system is described at a relatively general level.

The effects of the previously mentioned simulation model on the supply of labour provided the starting point for assessing the total economic effects. These effects were adapted to the observational framework of the FOG model as consistently as possible. Due to the differences between the models, this was not a totally unambiguous phase but required consideration and the interpretation of the simulation results.

The effects of eliminating the unemployment path to retirement are assessed by reducing the unemployment rates in the 55–59 and 60–64 age brackets by 60 per cent at all education levels, over a period of 10 years. This reduces the volume of unemployment allowances. In the model, it leaves room for lowering income tax, which in turn increases the profitability of work and the supply of labour. However, growth in labour input, by 5–6 per cent in the 55–64 age bracket, would increase the ratio of labour and capital while decreasing salaries. As the capital stock grows over time, the reduction in wages will level out. The growth in labour supply is thereby nearly 50 per cent of the estimate (14%) given in the partial analysis.

In the long term, total production will grow by just over 0.5 per cent, and private consumption a shade more. Lower workforce costs will render increases in exports profitable, even if a fall in the terms of trade is required. An increase in labour input and a decrease in unemployment costs would improve fiscal sustainability, while the sustainability gap of the entire public finances (incl. the

TyEL system) would decrease by 0.3 percentage points of GDP. This would be wholly due to the improved position of central and local government. However, the state of the earnings-related pension system would not improve, since the increasing labour input of older people would increase their pension rights by larger accruals than in younger age groups.

In the FOG model, eliminating part-time pensions is described through three different effects of the reform: in the 55–59 age bracket, the age of claiming disability pension is lowered, which improves the employment rate. Unemployment rates are increased slightly in the 55–59 and 60–64 age brackets. Factors influencing pension costs include retirement and the survivors' pension parameter, which decreases current transfers from the earnings-related pension system to households.

Excluding unemployment allowance and pensions, the effects of abolishing part-time pensions are similar to, albeit somewhat smaller than, those of eliminating the unemployment tunnel. Labour supply would increase by around a per cent in the 55–64 age bracket, while GDP and private consumption would increase very little, and price changes would be almost nonexistent. Such a reform would reduce pension costs and therefore improve the sustainability of the earnings-related pension system. However, it would also slightly increase the unemployment rate and costs, and the sustainability gap of the entire public sector would fall by 0.2 percentage points of GDP.

Observations and conclusions

- Provided for by social security, older people enjoy better opportunities to completely withdraw from working life than younger people. Pension systems not only enable but provide incentives to stop working.
- The 2005 pension reform attempted to increase older people's incentives to extend their careers; according to estimates, this reform will defer retirement by 1–2 years over time.
- In the light of OECD indicators, Finland's pension system lies at the European average in terms of providing incentives to continue working.
- In the light of model calculations, eliminating the unemployment path to retirement and part-time pensions would potentially have a significant, positive effect on older people's employment and the balance of public finances.
- Raising the minimum age of the old-age pension would not, alone, prove sufficient to increase participation rates. This should therefore be implemented in a coordinated manner, together with restrictions on pre-retirement pensions. Tightening a single pension channel would probably only increase the use of other channels.
- Currently, the earnings-related pension system does not markedly weaken incentives to work after the age of 63. Consequently, additional tax incentives targeting older people do not seem particularly justified.

4.3 Labour supply during retirement

According to a stereotypical view of retirement, people stop working when they retire. In most cases, that is true. However, the pension system on the whole does not prevent people from working while claiming a pension[51]. With the downturn in the working-age population, it is possible that people claiming old-age pension will form an increasingly important group in terms of improving the labour supply. A significant number of people claiming old-age pension are able to work, and signs that work is becoming more popular during retirement have already been noted.

In their report, Forma et al. (2004) use interview data to analyse the intentions of employees aged 45–64 with respect to continuing to work or entering retirement. Their results show that an average of 27 per cent of respondents intended to continue working at least until the age of 64. Some 15 per cent of respondents said they would consider working even up to the age of 68. However, up to one in three respondents were prepared to consider working while claiming an old-age pension. The number of people who contemplated working during retirement was particularly high among government employees, at 45 per cent.

At the end of 2006, 12,000 people who claimed an old-age pension were also in employment. Thus, in proportion to the total number of pension claimants, just over 5 per cent of people claiming an old-age pension continued working in one form or another (Kannisto 2007). In proportion to the total number of people in employment, people claiming an old-age pension represented around 0.5 per cent. The 2007 preliminary data suggests that the number of people in employment has continued to increase.

People claiming old-age pension generally have fairly good incentives to work, since the amount of old-age pension is not means-tested, unlike other social security benefits (cf. model calculations in 4.2.5). Therefore, earned income does not reduce the amount of pension. However, if the pension amount is relatively small, earned income reduces the tax deduction for pension income, slightly raising the effective marginal tax ratio for earned income in proportion to employees earning the same amount of wages. In itself, through its positive effect on income, the pension benefit demonstrates a tendency to reduce labour supply.

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[51] Among other conditions, entitlement to disability pensions and part-time pension depends on a reduction in income. On the other hand, a part-time pension can be claimed only if the claimant continues to work.

In principle, a flexible retirement age provides employees with an opportunity to choose between two methods of continuing in employment after the age of 63. A person can either continue in his/her current employment or retire and find a new job. If the new job offers similar wages to the previous one, the latter option appears more attractive, at least in terms of direct income.

On the other hand, retaining the original job becomes more attractive due to accelerated accrual, which increases pension faster after the age of 63[52]. However, within the average life expectancy, accelerated accrual closely corresponds to the value of the pension benefit lost during employment and therefore does not have any material impact on the mutual advantageousness of the alternatives. If the total sum of pension and wages from the new employment exceeds the income earned in the previous job, working during retirement becomes economically more viable[53].

In practice, the choice is not as clear cut as presented here. A person can, for example, claim old-age pension and find part-time work. In such a case, part of the rise in income is channelled into increased leisure time. Therefore, the flexible retirement age provides a kind of alternative, unofficial part-time pension system, which imposes higher age limits than the actual part-time pension, but the amount of earned income is not limited.

The study by Hakola and Määttänen (2008), summarised in the previous section, analyses a reform, whereby tax on earned income would fall during retirement. In the light of the model calculations, lowering income tax during retirement would lead to growth in part-time working at the expense of full-time work, and would be relatively expensive from the central government's perspective.

With the help of a statistical regression equation, Forma et al. (2004) also evaluate the effect of individual characteristics on the intention to continue working. Their findings indicate that, on average, women's desire to continue working is lower than men's. The effect of accelerated accrual is also less pronounced with women. People who live alone, are highly educated and in good health are on average more willing to continue in employment and work during retirement. They are also more likely to consider accelerated accrual as enhancing their desire to continue working.

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[52] Working during retirement also accrues pensions in the 63–68 age bracket but to a smaller degree (1.5 per cent). According to Forma et al. (2004), on average three out of four respondents thought that the pension accrual included in the pension reform would not affect their intention to continue working beyond the age of 63.

[53] Roughly speaking, this rule applies to persons whose life expectancy corresponds to the average life expectancy. For persons who live (or expect to live) for a very long time, continuing in employment and accruing pension through accelerated accrual is relatively more attractive. Correspondingly, working during retirement becomes more attractive for people who claim pension for a short time.

According to Tuominen and Takala (2006), employers were reasonably positive about hiring retired people, at least for temporary employment: up to one in three employers were prepared to hire a person claiming old-age pension for a temporary position.

The basis and objectives of the current pension system should be re-evaluated if more people begin working while claiming old-age pension. However, this also raises other questions, such as whether it would be appropriate for people to earn regular income alongside claiming old-age pension or should the system be developed so that this option remains a marginal phenomenon.

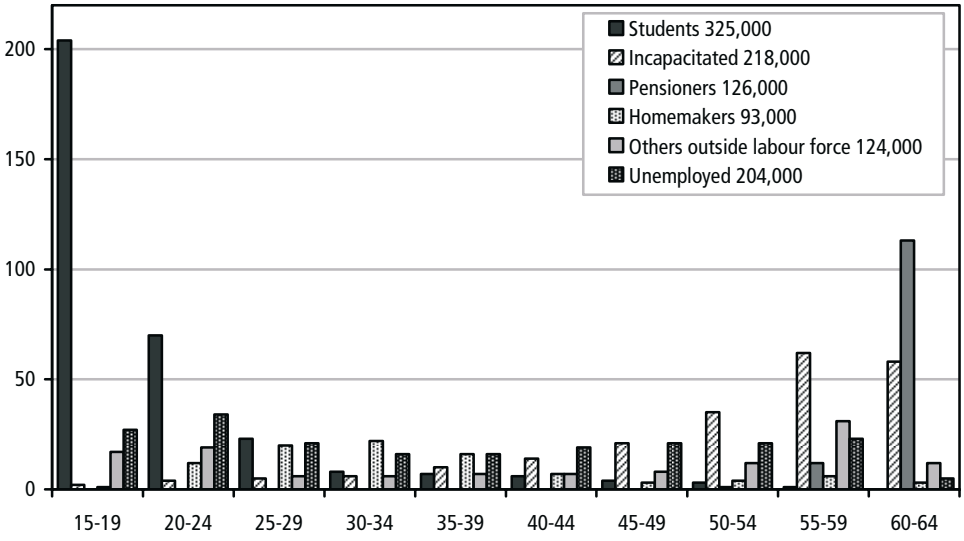
Observations and conclusions

- People claiming an old-age pension may form an increasingly important group in fostering the labour supply; signs that working is becoming more popular during retirement have already been observed.
- A significant number of people claiming old-age pension are able to work; the positive attitudes of both individuals and businesses support the growing popularity of working during retirement.
- In many cases, working and claiming a pension may be economically more attractive than continuing in a permanent position; therefore, increasing tax incentives to encourage working does not seem necessary and, in the light of the related calculations, would be fiscally disadvantageous.
- It remains somewhat unclear whether any large-scale combination of pensions and work would be appropriate and in keeping with the objectives of the pension system.

4.4 Increasing the participation of other age groups as a method of preparing for ageing

With slower growth in the working age population and the consequent downturn in the number of working age people, it will become important to leverage the existing workforce efficiently. Extending the working lives of older people might provide a solution to this challenge. The key methods include the provision of pension system incentives, maintenance of functioning ability and enhancement of working life. In younger age groups, the role of education is emphasised.

Figure 4.13 Non-employed people aged 15–64 by age group in 2006.



4.4.1 Participation in education

In 2006, 63 per cent of people aged 15–19 and a little more than 20 per cent of those aged 20–24 remained outside the workforce due to studying. In the 25–30 age group, students accounted for 7 per cent, while in the older age group of people aged 30–64, they accounted for only one per cent on average. The total number of students aged 15–64 was 325,000, representing a little under 10 per cent of the working age population[54]. In years, this means that a Finnish working age person studies for an average of 4.6 years of his/her working life. Consequently, a one-year reduction (extension) in the average period spent in education would correspond to a reduction (addition) of some 70,000 man-years in the potential labour supply[55].

The share of young people in education is directly linked to the population's high level of education, which has been consciously identified as one of the pillars of the Finnish economic strategy. According to a Government guideline, the share of vocational or higher education graduates among young people (the 25–34 age bracket) should be increased from the current 73 per cent to 88 per cent by 2020[56]. Such growth would be particularly reflected in the increasing share of higher education attainment from 30 per cent to some 40 per cent in the above

[54] These figures are based on the Statistics Finland Labour Force Survey.

[55] This calculation is a mechanical simplification, which does not take account of factors such as generational differences in education. However, it does provide an idea of the scale of labour input used for training.

[56] Education and Development Research Plan, Ministry of Education, December 2007.

age bracket. If the size of the age groups does not materially change, this objective will be achievable only if around 20 per cent more people continue onto high school and vocational collages in comparison to the current level. Depending on the length of studies, this would lead to a corresponding reduction in the supply of workforce in the younger working-age groups.

From this perspective, young people's low participation rate is a price that has to be paid in order to achieve a skills-intensive strategy. On the other hand, the age of entry into higher education in particular, and the period spent in education, appear high in international comparisons, which may indicate some potential for rationalising these aspects. The average time between taking the matriculation examination and entering higher education is protracted, and drop-out rates are high. Consequently, the average age of higher education graduates and the age of entry into the labour market are high in Finland.

Since just over one in three people graduate from higher education in Finland, the significance of the time spent in higher education should not be exaggerated in terms of the labour market. Lowering the higher education average graduation age by one year would shorten the average time of entry into the labour market by no more than four months, unless graduation from the lower levels of education were accelerated at the same time. In terms of employment rates and total labour input, the effectiveness of lowering the graduation age would also be undermined by the fact that a significant number of students, particularly in higher education, combine study with work. Therefore, the full effect of accelerated graduation would not transfer to the labour supply.

In the spirit of lifelong learning, older people's participation in postgraduate education, continuing professional education and retraining are desirable and should be encouraged. In Finland, the adult education participation rate comes out fairly high in international comparisons, even though only part of adult education involves professional development. In 2006, over 50 per cent of people aged 25–54 and more than one in three people aged 55–64 participated in adult education to some extent[57]. People typically participated for 8 days per year, while one in four participants devoted 19 or more days to their studies.

The First Vanhanen Cabinet set a 60 per cent participation target for adult education in 2008[58]. Annually, a 60 per cent participation rate in education lasting 8 days would correspond to around 2 per cent of total labour input being used for education[59]. However, this figure cannot be interpreted in terms of the

[57] Statistics Finland, 2007.
[58] Impact assessment of the Government's strategy document 2005, Prime Minister's Office Reports 4/2006.
[59] This calculation is based on the ratio of days used for training (8) to the total annual man-hours (230 days).

exclusion of such a large proportion of the working-age population from the workforce, even theoretically, since a significant part of adult education is carried out outside working hours.

Nevertheless, the number of people in full-time education directly decreases the potential labour supply in each age group. In addition to this purely quantitative perspective, education includes an important qualitative aspect. In order for education to meet economic expectations, it should offer qualifications that are in demand in the labour market. An education system that best meets the demands of the labour market will work towards guaranteeing a high employment rate for working-age graduates.

The qualitative equivalency between education and labour market needs is also emphasised in conditions of increasingly scarce workforce resources: the market cannot afford to train people and keep them in reserve. This situation presents even greater challenges for predicting educational needs. However, in the spirit of lifelong learning it can be seen that education needs can never be predicted with sufficient precision, at least not in the long term. Therefore, the education strategy must include sufficient opportunities for postgraduate education, continued professional education and retraining. It is thought that such a strategy might lead to a more equal spread across age groups in terms of the time spent in education.

The previous paragraphs have described the scale of the potential workforce resources used in education and training across different age groups, providing that the size of these groups remains more or less at the current level. The 2007 Statistics Finland population forecast indicates a downturn in the level of the working-age population in the near future. People in the younger age groups, aged 15–24, will also shrink in number, which will tend to lower the number of participants in education, unless participation rates increase (see the objectives described above). However, it should be noted that, according to this forecast, the *share* of young people aged 15–24 of the working-age population will remain at approximately the current level or even grow over the next 30 years. Bearing in mind the targets of raising participation rates and the predicted demographic development, it appears that the shrinking effect of education on the labour supply will strengthen in the future.

Observations and conclusions

- Studying is the most important single reason for members of the working-age population remaining outside the labour force; its significance is emphasised in the youngest working-age group of people aged 15–29.

- An average Finnish person will use an average of 4.6 years of their working-age years for education; a reduction of one year in the average period spent in education would correspond to an additional 70,000 man-years in the potential labour supply.
- The share of young people in education is directly linked to the population's high level of education, which is a desirable target in itself.
- However, a high participation rate in education would highlight the need to study efficiently and graduate within a reasonable timeframe.
- In Finland, the age of entry into higher education is high and the time spent in education is long in international comparisons, and attempts to decrease them have proven fruitless.
- Rising educational objectives and the predicted development of the relative size of younger age groups tend to strengthen the shrinkage effect of education on the labour supply.
- It is important for the labour market that education meet its requirements; this is yet another important factor presenting mounting challenges in a situation marked by increasingly scarce workforce resources.

4.4.2 Immigrants' labour market position

The capability of immigration to mitigate the effects of population ageing on the labour market essentially depends on the immigrant population's ability to find employment. In Finland, the high unemployment rates among the immigrant population reflect the problems they face in seeking employment. The unemployment rate of foreign nationals in Finland has been placed at 16.8 per cent, compared to 6.9 per cent for the total population[60]. A recent review suggests that the ability to work of unemployed immigrants is better than that of other unemployed people and indicates that there is an unused potential immigrant workforce of approximately 20,000 people (Holm et al. 2008).

However, the situation looks less grave in terms of employment rates and fluctuates a great deal according to gender. Statistics indicate that the participation of foreign *men* living in Finland is fairly high. Their average participation rate (80.3 per cent) is in fact higher that that of Finnish men (76.4 per cent). Despite high unemployment, their employment rate (68.1 per cent) is also reasonably high, and does not lag much behind the average employment rate (71.3 per cent).

In international comparisons, the difference in employment and participation rates between immigrants and the total population can be considered exceptionally small in Finland. This small difference can be largely explained by

[60] A slightly different picture emerges when reviewing the unemployment rate, at 13.3 per cent of those aged 20–64, of people born abroad but living in Finland in 2007. This can be compared to the unemployment rate of the total number of people aged 20–64, at 6.1 per cent.

the population age composition. Finland's foreign population is relatively young and for the most part at the best working age. On the other hand, a significant portion of the working-age (male) population belongs to the 55–64 age bracket, which contains very few immigrants.

If the comparison of participation and employment rates is limited to people aged 20–54, at their best working age, the result favours the original population. The participation rate of men of foreign nationality and aged 20–54 amounted to 86.1 per cent, while their employment rate was 74.4 per cent in 2007. The corresponding rates among the total population for men aged 20–54 were 88 per cent and 83.1 per cent respectively.

Women's situation is different, reflecting Finnish women's internationally high participation rate. The participation rate of women of foreign nationality amounted to 61 per cent, while the average employment rate for the total female population was 73.8 per cent in 2007. Since foreign women's unemployment rate is also high, their employment rate remains at 49.6 per cent, clearly under the average female employment rate of 68.5 per cent. Similarly, limiting the comparison to women aged 20–54, the result increases the difference in favour of the original population[61]. In the light of these observations, it would seem that the immigrant population has not adopted the model of women's high participation in employment.

The labour market position among the immigrant population also systematically varies, according to the country of departure. Statistics published recently by the EU Commission compare the participation and employment rates of foreign nationals, who have lived in the destination country for less than 5 years, according to whether they moved from another EU member state (EU-27) or from outside the EU. The statistics show that the employment rate of those arriving from another EU country was 71 per cent, whereas the employment rate of those moving from elsewhere was as low as 42 per cent in Finland.

One of the factors with a major effect on immigrants' employment opportunities is their educational background. No direct statistical data is available concerning the level of education of immigrants arriving in Finland. However, immigrants' level of education has been assessed with the help of indirect methods. The results indicate that the immigrant population's level of education is significantly lower than that of the original population or people emigrating from Finland (Johansson 2008).

[61] It is somewhat surprising that the labour market position of foreign women aged 20–54 is not much better than that of women aged 15–64.

Table 4.5 The employment and unemployment rates of the total population and non-Finnish nationals in Finland in 2007.

Age group	Total population			Other than Finnish national		
	Participation rate	Employment rate	Unemployment rate	Participation rate	Employment rate	Unemployment rate
Total						
15–64	75.1	69.9	6.9	70.6	58.7	16.8
20–54	85.7	80.5	6.1	74.1	62.6	15.5
Men						
15–64	76.4	71.3	6.6	80.3	68.1	15.4
20–54	88.0	83.1	5.7	86.1	74.4	13.5
Women						
15–64	73.8	68.5	7.3	61.0	49.6	18.6
20–54	83.3	77.9	6.6	63.0	51.7	18.0

According to the EU Commission's statistics, the average level of education of immigrants arriving in Finland from outside the EU is lower than that of the working-age original population, which is unsurprising considering the reasonably high level of education in Finland compared to other countries. On the other hand, the same statistics show that the level of education among those moving to Finland from third countries is higher than the level of education of people moving to the EU from third countries on average. These observations apply to immigrants who have lived in the destination country for less than 5 years. Among this group, 25 per cent has a higher education degree in Finland, whereas the corresponding rate in the EU (15 and 27 countries) is around 20 per cent[62].

Some countries, Australia and Canada among them, have deliberately attempted to raise the level of education among the incoming population with the help of a points system, which facilitates the granting of residence and work permits to those with a higher level of education. According to the previously-mentioned statistics, of the EU member states Sweden in particular seems to attract immigrants with higher education, both from the EU and third countries. In Sweden, the share of immigrants of higher educational attainment is clearly higher than the corresponding share of the original population.

In Finland, one of the factors complicating the integration of immigrants into the labour market is the unfamiliar, apparently difficult language. A recent survey indicates that a significant proportion of immigrants consider their spoken Finnish skills either good or sufficient. Language skills correlate with employment, as 70 per cent of those with good or sufficient language skills are

[62] Due to the small sample size, figures from Finland are extremely uncertain (European Commission 2008b).

in employment, whereas only 35 per cent of those with poor language skills work[63].

Alongside language training, adequate provision of employment services and support for work induction are highlighted, partly due to poor language skills, in promoting employment among immigrants.

Observations and conclusions

- The participation rate of immigrant men is relatively high and remains only a little under the original population average, even after correcting for the age composition.
- The participation rate of immigrant women is clearly lower than that of Finnish women.
- Problems with integration are most evident in the high unemployment rate among the immigrant population, around 2.5 times higher than that of the total population.
- Taking into consideration their relatively good ability to work, a recent estimate indicates an unused potential immigrant workforce of approximately 20,000 people.
- The immigrant population is estimated to have a considerably lower average level of education than the original population. However, people moving to Finland from outside the EU seem to have a higher level of education than people immigrating to EU member states on average.
- Sweden has been clearly more successful than Finland in attracting immigrants with an upper secondary and higher education.
- Language skills correlated positively with immigrant employment at individual level; employment services and sufficient work induction are highlighted as important factors in addition to language training. In this context, it should be investigated whether entitlement to integration services should be extended to those holding a work-related residence permit.

4.4.3 Mismatches and structural unemployment

As employment rapidly improves, the availability of workforce and sectoral workforce shortages have created some of the most difficult economic bottlenecks. Since the rise of this phenomenon coincides with a reasonably positive unemployment rate and a great deal of unused workforce potential in the working-age population, it is evident that the problem relates to some kind of mismatch of supply and demand (PMO 2007, PMO 2008). Mismatches refer to situations where professional or regional labour supply and demand do not meet.

[63] The figures are based on a survey by Holm et al. 2008 and due to sample restrictions and normal selection cannot be considered completely representative, but are likely to be indicative.

Without a doubt, the downturn following the international financial crisis will mitigate availability problems, at least temporarily and at average level, as demand for workforce decreases. However, it is unclear how the downturn will affect mismatches and availability in the long term. If the effects are felt harder in industry than in services, as would currently seem likely, it is possible that the downturn will strengthen structural changes in production, moving towards a more service-orientated system. A change in the production structure is likely to cause further difficulties in the availability of workforce, since new jobs will be created in sectors and positions that are different to the jobs lost during the recession.

Another risk related to the current economic environment will be realised if the pre-retirement and old-age pension systems are used on a large scale to adapt to declining workforce demand. Should this happen, a large proportion of people with good ability to work will be permanently removed from the labour market and will be unavailable when the economy and demand recover. Based on the experiences of the recession in the 1990s, prolonged unemployment during a recession can materially hamper individuals' later engagement with the labour market.

Professional mobility that is as flexible as possible provides a key method of mitigating professional mismatches. Professional mobility can be promoted by organising and supporting the appropriate, continuous professional training and retraining and changing people's attitudes. Further development of support measures and services for the inevitable breaks and transitions in working lives is seemingly also required. Reforms relating to these problems are being prepared within the framework of the adult education reform.

Mismatches between supply and demand can also be related to the regional dimension. The risk of regional mismatch is particularly high in a sparsely populated country such as Finland, where the economic structure is relatively thin, even in the regional centres. Although regional mobility of workforce has been reasonably high in Finland, it has mainly involved young people and those outside the labour force, students in particular (PMO 2007). As the population ages and mobility decreases, balancing the regional mismatches may become more difficult.

A functioning labour market inevitably produces some unemployment, which is a natural facet of the reallocation of workforce and the related friction. Individuals should experience only short periods of such "balancing unemployment". The Ministry of Employment and the Economy defines structural unemployment as referring to persons who have either been continuously unemployed for over a year or whose periods of unemployment are recurrent or broken up only by employment policy measures. At the end of 2006, the number of structurally

unemployed stood at nearly 140,000, of which less than 50 per cent were long-term unemployed, representing slightly under 60,000 persons. People aged 55–59 form a large section of this group. In 2005, as much as 25 per cent of the structurally unemployed and nearly 40 per cent of the long-term unemployed were aged 55–59.

In addition to the unemployed, nearly 100,000 people on average remained outside the labour force in 2006, according to the Workforce Survey. These people could have taken on work but had not sought it. A major proportion of the "hidden unemployed" experienced obstacles to finding work, such as health reasons, studies or childcare. Achieving an increase in labour supply is possible only if these population groups can be targeted through employment policy measures, which facilitate access to the labour market.

People who are partially disabled or able to work form a group that requires special attention, as the practices and requirements of working life often provide little support for their access to the labour market. For example, a significant proportion of people claiming a partial disability pension lack suitable employment.

In addition to devising measures to promote older people's working conditions and the meaningfulness of work, preventative action should be taken to support younger people's wellbeing at work. There are already signs of mounting pressures in working life that increase sick leave, particularly related to mental health reasons, and the number of people claiming pre-retirement disability pensions. If this becomes more general, the resulting trend will risk the long-term success of the strategy designed to extend working lives.

Observations and conclusions

- Efficient leveraging of the labour input of people of best working age will only be possible if professional and regional mismatches can be mitigated and measures introduced to prevent structural unemployment and early departure from the labour force.
- The current downturn will intensify structural economic change and may intensify mismatching and availability problems in the workforce in the future/medium term.
- A situation should be avoided where measures for adapting to the downturn will lead to a significant group of working-age people permanently leaving the labour market through early retirement channels.
- Efforts to prevent structural unemployment, for example through employment policy measures, should be continued.
- It is necessary to seek ways of supporting the access of partially disabled and people with partial ability to work to the labour market. This could be done, for example, by mapping employment opportunities

when the disability pension is granted and developing solutions, such as employment banks, which can lower the employment threshold.
- Attention should be paid to the mounting demands in working life in order to maintain the functional ability of those of best working age, since warning signs of untimely deterioration in working ability have already been noticed.

4.5 Labour supply scenarios

Three alternative scenarios have been constructed in order to evaluate the future development of labour supply (see also 3.1). If gender- and age-specific participation rates were to remain at the 2006 level, the volume of labour supply would decrease by 175,000 persons by 2030, due to the changes in the age composition. This negative development would then slow down so that, by 2050, the number of workforce would have dropped by around 15,000 persons in comparison to 2030.

Even though in this scenario the participation rates by age group would remain at the current level, such weak development is unlikely. Older people's participation rates by age group have settled on an upward trend in Finland but, at least in relation to the other Nordic countries, the ceiling has not yet been reached. Improving health and functional ability will increase the number of people with ability to work, particularly in the older age groups, while the reforms implemented in the pension system will also work towards extending working lives. In addition, if young people's access to employment can be accelerated and tax and social security policy measures supporting participation are continued, building a clearly more positive employment trend will be possible. Reaching the average participation rate currently observed in the other Nordic countries could be a realistic target.

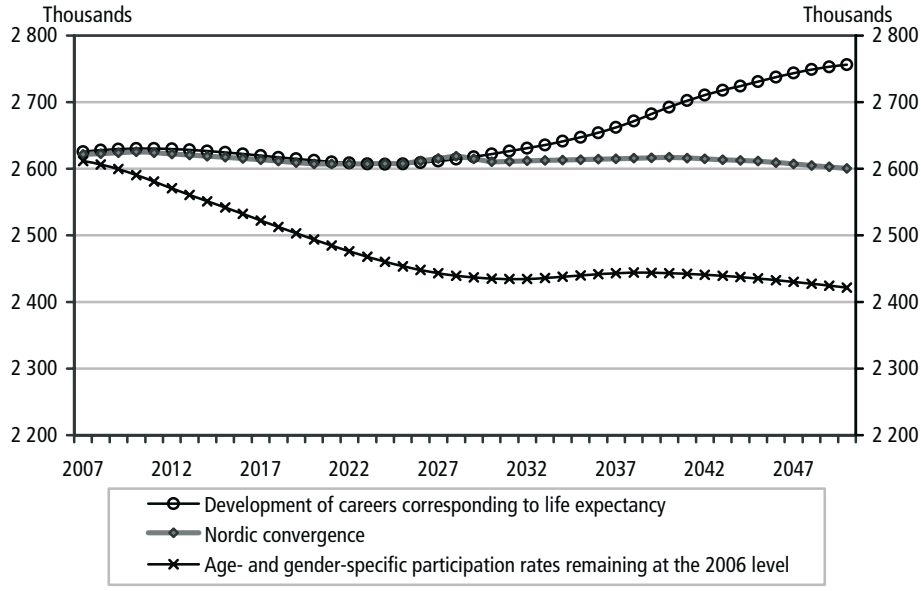
The scenario of pushing age- and gender-specific participation towards the current average rates in the Nordic countries (see Figure 4.3) was prepared by increasing age- and gender-specific participation rates linearly so that the Nordic age- and gender specific level was reached in 2028[64]. Since the participation rates of women aged 40–59 are higher in Finland than elsewhere in the Nordic countries, the participation rates of this group were left at the initial level. After 2028, the age- and gender-specific participation rates are expected to remain unchanged and population development will be the only factor affecting the volume of workforce.

[64] If the growth rate observed in age- and gender-specific participation in Finland in 1996–2006 were to continue, the average Nordic total participation rate would be reached in 2028.

By combining the development of participation rates with the 2007 population forecast by Statistics Finland, a Nordic convergence scenario was obtained, showing that the volume of workforce will decrease only slightly: by some 10,000 persons by 2030 and by some 20,000 persons by 2050.

Taking account of the predicted increase in life expectancy and the number of healthy life years, the above-mentioned convergence towards the current Nordic level can be considered too low a target in the older population groups[65]. Bearing this observation in mind, a scenario was formed whereby the length of working lives grew in proportion to life expectancy so that the ratio of working life expectancy to the life expectancy of a person aged 25 would remain at the 2007 level, while life expectancy would develop in accordance with the population forecast[66]. Until 2030, the workforce outlook, produced under the life-expectancy based scenario, closely follows the Nordic convergence scenario. However, after 2030 the volume of workforce will increase strongly under this scenario, and by 2050 the labour force will have grown by 140,000 persons from 2007.

Figure 4.14 Workforce development in 2007–2050 in three alternative scenarios.

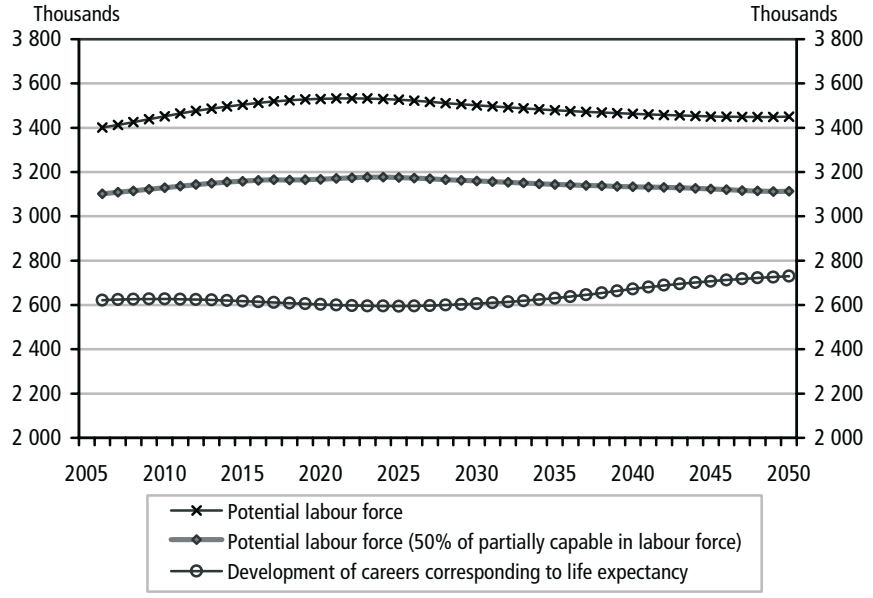


[65] Since health and functional ability will also improve elsewhere in the Nordic countries, older people's participation rates are likely to increase in the future, including in the other Nordic countries.

[66] This kind of development scenario involves the expectation that at least part of the additional life years will be healthy and used to extend the person's career. For example, if the life expectancy of a person aged 25 were to increase from 50 to 55 years, the working life expectancy would increase from 40 to 44 years (and the retirement age expectancy from 65 to 66 years).

The development of labour supply produced by the life-expectancy based scenario may seem overly positive. It may be asked whether there will be sufficient people with ability to work to meet the demand for workforce in these scenarios. For this estimate, a potential workforce calculation was prepared by assuming that the ability to work of the working-age population would remain at the 2000–2001 age-group specific level (see Figure 3.8 in Chapter 3.2). This development corresponds to the pessimistic scenario presented in 3.2 on the outlook of the volume of people able to work. The calculation was prepared in two alternative ways: the first calculation assumed that all who felt fully or partially capable of work were included in the potential workforce. The second assumed that 50 per cent of people who were partially able to work were so included. The potential workforce excluded homemakers, students and conscripts[67], whose age-specific proportions of the population remained at the 2007 level. Figure 4.15 describes both potential workforce scenarios and the labour supply scenario linked to life expectancy. This figure shows that the workforce is also sufficient under the life-expectancy based scenario, even though after 2030 a significantly larger portion of the potential labour force is expected to participate in the labour market. The volume of potential workforce would sustain a more positive trend than the one presented here if the population's ability to work were to improve according to either the optimistic or the basic scenario presented in Chapter 3.2.

Figure 4.15 Two scenarios for potential workforce development and a life-expectancy based labour supply scenario.

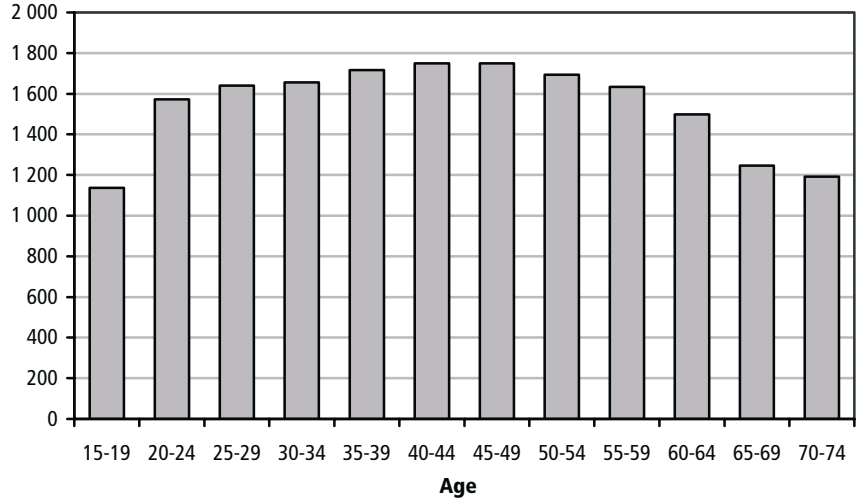


[67] The population shares of homemakers, students and conscripts were based on the Statistics Finland 2007 Labour Force Survey.

Working hours, unemployment and total labour input

The labour supply scenarios presented above solely describe the number of people participating in the labour market. They do not make any suggestions about the level of unemployment or fairly significant career variations by age group (see Figure 4.16). It is difficult to justify why unemployment should remain at a higher level in Finland than elsewhere in the Nordic countries in the long term. On the other hand, the number of average working hours can be expected to decrease in the Nordic convergence scenario, due to an expected rise in the participation rate. Such a rise is particularly expected in the younger and older age groups, where the number of actual working hours per employee is significantly lower than in other population groups due to studying, part-time employment or partial pensions.

Figure 4.16 Annual working hours per age group in 2007.



Source: Statistics Finland.

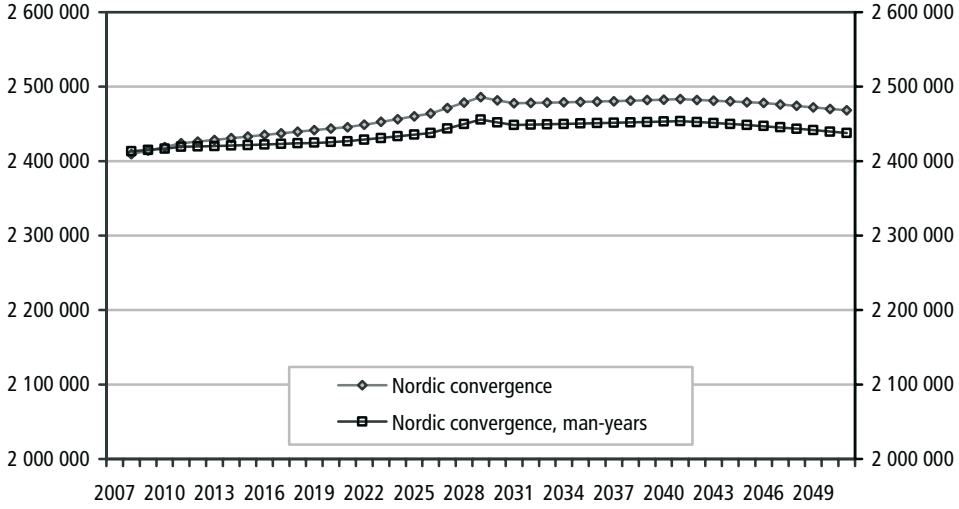
Figure 4.17 shows how the number of employed people would develop in the Nordic convergence scenario, if the employment rates (in other words, the unemployment rates and the participation rates) were to approach the Nordic level by 2028. Under this scenario, the number of employed people would increase to some 70,000 by 2030 and to nearly 60,000 by 2050 (the higher curve).

When working hours by age group, presented above in Figure 4.16, are proportioned to the average annual working hours, and this ratio is used as the weighting coefficient for age-group specific employment, the resulting scenario corresponds to the development in man-years. As expected, the picture of positive work input development deteriorates under this scenario (the lower

curve in Figure 4.17) but work input would nevertheless increase by some 35,000 man-years by 2030 and by some 25,000 man-years by 2050.

The progress of the expected retirement age under these scenarios can be calculated on the basis of the employment scenarios. In the Nordic convergence scenario, the retirement age expectancy of a person aged 25 will increase by 3 years in 2005–2050. This roughly corresponds to the latest estimate by the Finnish Centre for Pensions (Finnish Centre for Pensions 2007). Chapter 4.2.4 referred to findings, which seem to indicate that the changes implemented in the 2005 pension reform could alone defer retirement by 0.7–1.5 years (Hakola & Määttänen 2007).

Figure 4.17 Development of employment under the Nordic convergence scenario and development weighted by working hours by age group.



It should be emphasised that the positive scenarios predicting an increase or a slight decrease in labour supply are not based on any automatic mechanisms that might facilitate their realisation. These scenarios are not forecasts but attempts to sketch possible development paths. Although the participation rates of, say, older people have settled into a positive trend in recent years, it is likely that maintaining such a favourable development and taking positive steps is possible only if supportive measures, which promote health and functional ability, and enhance working life and the economic incentives to work, are implemented.

Observations and conclusions

- With the current age-group specific participation rates, the predicted population ageing would lead to a considerable fall in labour supply, amounting to 175,000 persons by 2030 and 190,000 persons by 2050.
- If Finland were to achieve the current Nordic age-group specific participation rates within the next 20 years, the labour supply would decrease by only 10,000–20,000 persons in the next 20–40 years.
- If working lives were to extend in proportion to longer life expectancy, the development in the labour supply could be even more positive, perhaps entering an upward trend after 2030 and increasing the workforce by 140,000 persons by 2050, in comparison to the current level.
- The development of the population's health and functional ability does not seem to obstruct the increase in total work input.
- Taking working hours into consideration, the total work input will not increase at the same pace as participation rates, even under the best scenarios. Nevertheless, the total work input will grow.
- Positive scenarios are unlikely to be realised without new policy measures supporting an increase in the employment rate.

5 FISCAL SUSTAINABILITY

5.1 Definition and significance of fiscal sustainability

Population ageing affects the balance of public finances by increasing expenditure and decelerating tax revenue growth. Ageing imposes expenditure pressures, for instance on pensions and nursing and health services. On the other hand, an economy with an ageing population may even see a decrease in expenditure on education and unemployment security.

Fiscal sustainability in the public sector does not have a single, unambiguous definition. In simple terms, public finances can be considered sustainable where they have been well managed in general. Indeed, fiscal sustainability is often defined through a so-called sustainability gap, referring to an adjustment required in public finances in order to attain an end result fulfilling certain sustainability criterion. Such an adjustment can be made either by increasing taxes or decreasing spending, while the adjustment need can be immediate or allocated over several years.

A certain year's volume of debt can also be treated as a sustainability criterion. For instance, the European Commission uses a sustainability indicator (S1) which reveals the immediate fiscal adjustment needed to meet the maximum debt target of 60 per cent, as defined in the Stability and Growth Pact, by 2050.

However, a sustainability assessment does not require any deadlines. Perhaps the most common definition of a sustainability gap specifies such a gap as the immediate improvement in the financial position required for covering the debt in the initial year and the aggregate present value of all future surpluses and deficits in public finances.

The longer the delay before bridging the sustainability gap, the higher the adjustment need. If the sustainability gap is bridged through a tax increase, the most economically efficient approach would require conducting it immediately in order to minimise the distortive effects of tax rises (Auerbach 2008).

However, from the viewpoint of intergenerational equity rather than economic efficiency, no immediate tax increase would be necessary if future generations were sufficiently wealthy to pay such increases in the future, without being worse off than the current generation. Since it can be estimated that consumption per capita will nearly triple from the current level by 2050, regardless of ageing (see chapter 3.1), future generations will be able to afford

even high tax increases without being at a disadvantage, in terms of intergenerational income transfers, than that of the current generation[68].

However, it may be that the tax ratio cannot be raised in the future, due for instance to increased tax competition, thus rendering other means of preparation necessary. A similar effect would be achieved by a focus on avoiding falls in consumption below a certain reference value.[69] Furthermore, it is worth asking whether future generations will consent to paying higher taxes. The alternative is to cut spending – which, in turn, may complicate the situation as regards social and political sustainability.

Moreover, the very idea of postponing tax increases to future generations, on the grounds that they will be wealthier than us, is problematic. Theoretically, the next generation might also make a similar decision and shift tax increases further on, to subsequent generations. Thus, tax increases would be perpetually deferred and indebtedness would grow to uncontrollable levels[70].

Age-related public expenditure and assumptions required in calculating the sustainability gap

In order to calculate the sustainability gap, assumptions need to be made, for instance on demographic and labour market developments, productivity and the interest rate level. In the long-term, GDP growth will be determined on the basis of employment and labour productivity. In turn, expenditure on servicing public debt and revenues from pension funds will depend on the assumed interest rate.

It is also essential to make assumptions on how age-related expenditure will increase alongside population ageing. In 2006, age-related public expenditure accounted for some 25 per cent of GDP, with the current tax ratio at 43.5 per cent, while approximately 18.5 per cent of GDP was used for other expenditure. Since it is assumed that the GDP shares of other expenditure items will remain unchanged and the tax ratio constant, age-related expenditure will be the key driver of developments in the balance of public finances[71].

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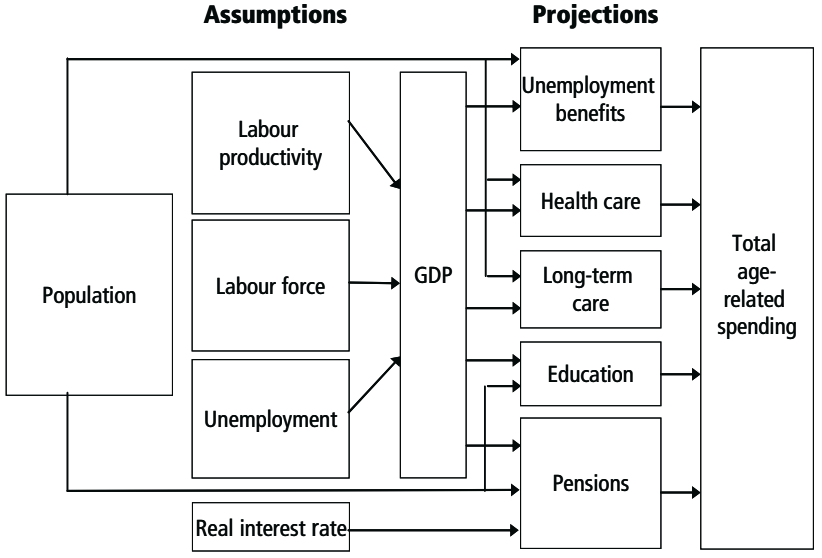
[68] Preparations and intergenerational equity are examined using sample calculations in Appendix 1.

[69] The concept of loss aversion (Kahneman-Tversky, Econometrica 1979) is considered a crucial factor, especially in the so-called psychological economic theory which has received so much attention recently.

[70] Such shifting of responsibilities is reminiscent of pyramid or Ponzi schemes.

[71] The definition of age-related public expenditure herein is consistent with that of the European Commission (see European Commision 2006).

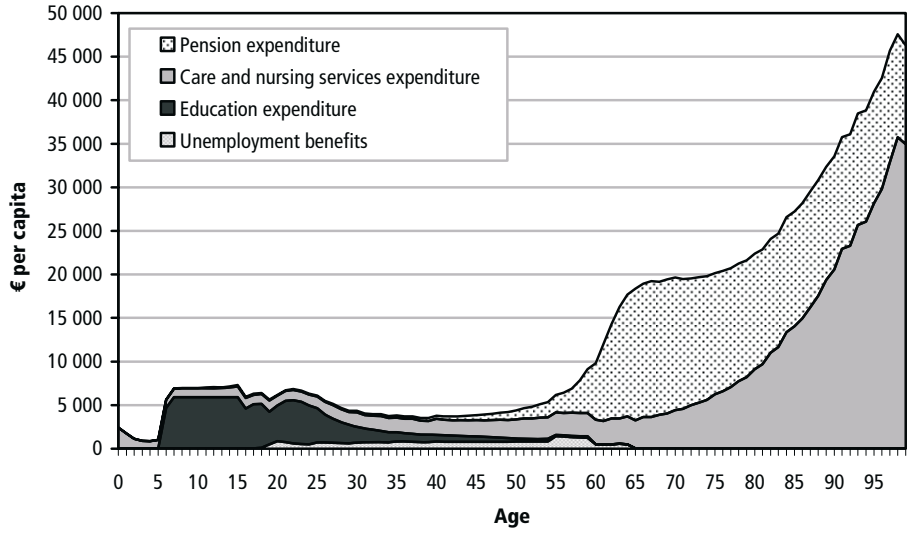
Figure 5.1 Age-related expenditure calculation framework.



Source: European Commission (2006).

Figure 5.2 illustrates age-related expenditure per capita in 2006, indicating that expenditure increases sharply with age. If expenditure developments were determined solely on the basis of demographic change, spending would grow rapidly, particularly in health care and services for the elderly. In education and children's day care, the situation would be more positive since the size of younger age groups will remain relatively stable (Table 5.1). Several studies suggest that, with a higher volume of services provided to the elderly, costs have not increased, and will not increase, anywhere close to remaining in line with the growth of the elderly population. In fact, improved health and functional ability will reduce the need for services, and thus their use. The OECD's review of Finland's health system states that technological changes will continue to be the key driver of developments in health services expenditure. On the other hand, a higher educational level and standard of living may lead to higher requirements, which would translate into increased demand for, and use of, services.

Figure 5.2 Age-related expenditure in Finland in 2006, EUR per capita.



The rise in pension costs relates to younger senior age groups than the rise in nursing and care services expenditure. With respect to pensions, funding will ease pressures to increase pension contributions, while the life expectancy coefficient under employment pension regulations will reduce pensions in the future in direct ratio to the rise in life expectancy.

Table 5.1 The impact of demographic development only, on certain municipal service expenditure.

	Expenditure in 2006, € billion	Index 2006=100					
		2006	2010	2020	2030	2040	2050
Municipal educational services	6.3	100	97	96	98	96	95
Children's day care and preschool education	2.0	100	103	107	105	103	104
Institutional services for older and disabled people	0.8	100	113	145	193	258	283
Other services for older and disabled people	1.5	100	107	125	150	177	184
Primary health care	2.6	100	108	127	153	181	191
Specialised health care	3.9	100	105	116	125	130	131

Source: Ministry of Social Affairs and Health.

Sustainability gap indicator

In stability programme updates, the European Commission has assessed the impact of ageing on Finland's fiscal sustainability, the latest such assessment being based on the Stability Programme Update for Finland 2007. In its assessments of fiscal sustainability, the Commission uses an indicator describing by how much either taxes should be immediately and permanently elevated or spending cut, in order to avoid uncontrollable public indebtedness in the long term[72]. In more precise terms, the value of the sustainability gap indicator describes by how much the cyclically adjusted, primary surplus of public finances should be immediately and permanently adjusted so that the present value of future surpluses cover the debt incurred in the initial situation. Hereinafter, this report will review the public sector's sustainability gap and its sensitivity to changes in various factors, using the above-mentioned indicator.

Table 5.2 presents the central assumptions of the stability programme update.

Table 5.2 Key assumptions of the stability programme update 2007.

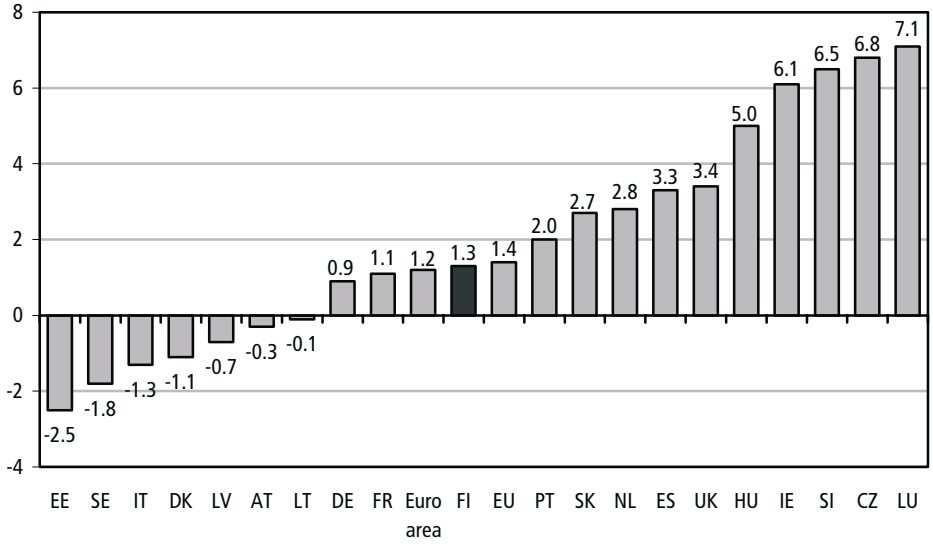
Assumptions	2010	2020	2030	2050
	per cent			
Labour productivity growth	1.9	2.1	1.8	1.8
Employment rate	70.6	72.8	74.0	74.4
Unemployment rate	6.8	6.5	6.5	6.5
Inflation	1.8	2.0	2.0	2.0
Real interest rate	3.0	3.0	3.0	3.0

In the Stability Programme Update 2007, the value obtained for sustainability was 1.3, entailing an immediate and permanent need to either increase taxes or cut spending by 1.3 per cent of GDP.

Based on the Commission's calculations, Finland's sustainability gap is near the European average. Although the significant surplus achieved in public finances and low debt levels have a reductive effect on the sustainability gap, population ageing still widens Finland's sustainability gap to the European average level (Figure 5.3).

[72] The indicator used is called S2 and its calculation formula is presented in Appendix 2.

Figure 5.3 Finland's sustainability gap is at the European average.



Source: European Commission (2008c).

Observations and conclusions

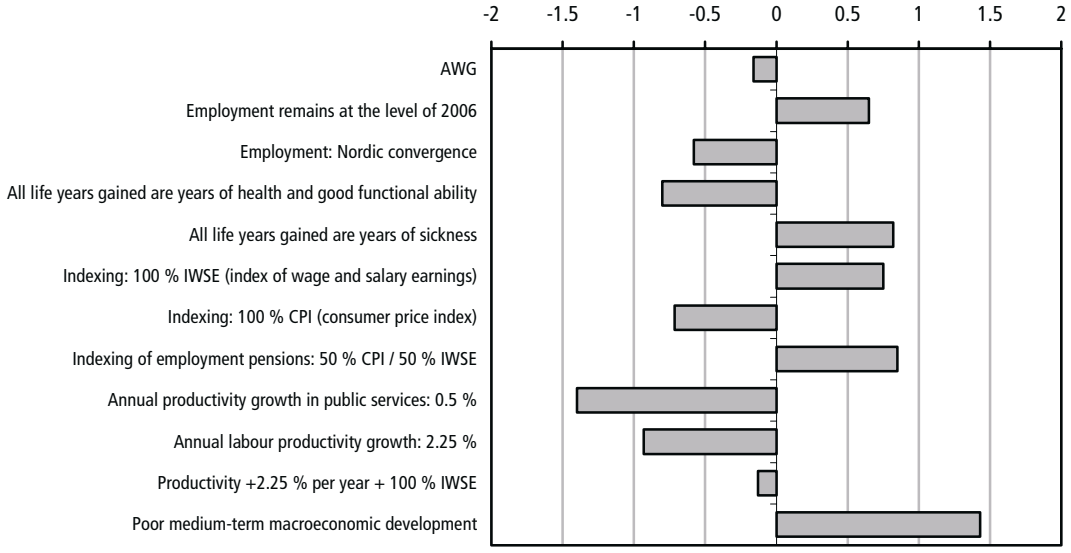
- In this report, sustainability gap refers to an immediate and permanent need to either increase taxes or cut spending in order to keep public indebtedness within reasonable bounds in the long term.
- The further bridging the sustainability gap is postponed, the greater the adjustment need will become.
- From the perspective of economic efficiency, responsive action to narrow the sustainability gap should be taken immediately.
- Regardless of the current sound financial position of public finances, population ageing will create a sustainability gap for Finland. According to the European Commission's comparisons, Finland's sustainability gap is at the European average.

5.2 Sensitivity analysis of sustainability calculations and a new baseline scenario

The new sustainability calculations presented herein are based on the methods and assumptions used in the stability programme. Concerning the initial situation of public finances and projected demographic development, these calculations use more recent data than the EU calculations. It is assumed that demographic development will follow Statistics Finland's population projection of 2007. Moreover, these calculations utilise the latest estimates of health and functional ability trends presented in chapter 3 and, in general, national data which is as comprehensive and recent as possible.

In constructing a new baseline scenario, the first step is to analyse the sensitivity of the sustainability gap in the stability programme 2007 (sustainability gap in accordance with the so-called AWG[73] scenario) to changes in various assumptions[74]. The reference point (the so-called zero-option) was obtained by complementing the AWG scenario with Statistics Finland's population projection 2007, which results in a sustainability gap of 1.4.

Figure 5.4 Sensitivity analysis of the sustainability gap. Deviation of the various scenarios from the zero-option, expressed as percentage points of GDP.



Demography

Using the latest population projection increases the sustainability gap: the topmost bar in Figure 5.4 indicates that, based on the population projection of 2004 (AWG), the sustainability gap is slightly smaller than the zero-option. This difference is due to the higher life expectancy used in the new population projection, whose weakening effect on the old age dependency ratio cannot be offset through a higher birth rate and immigration[75] (Table 5.3).

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[73] AWG refers to the Ageing Working Group, which consists of the Commission's and the EU Member States' representatives and determines the calculation assumptions of age-related expenditure.

[74] The sustainability calculations have been conducted using the 'SOME' model of the Ministry of Social Affairs and Health.

[75] The Commission's calculation uses the population projection issued by EUROSTAT in 2004, while the SOME model uses Statistics Finland's projection on 2004 rather than the EUROSTAT projection. However, the demographic developments suggested by these projections are very close.

Table 5.3 Key differences between Statistics Finland's population projections 2004 and 2007.

	Net immigration	Fertility rate	Life expectancy 2050	
			Men	Women
Statistics Finland 2007	10,000	1.86	84.9	88.8
Statistics Finland 2004	6,000	1.80	82.9	86.6

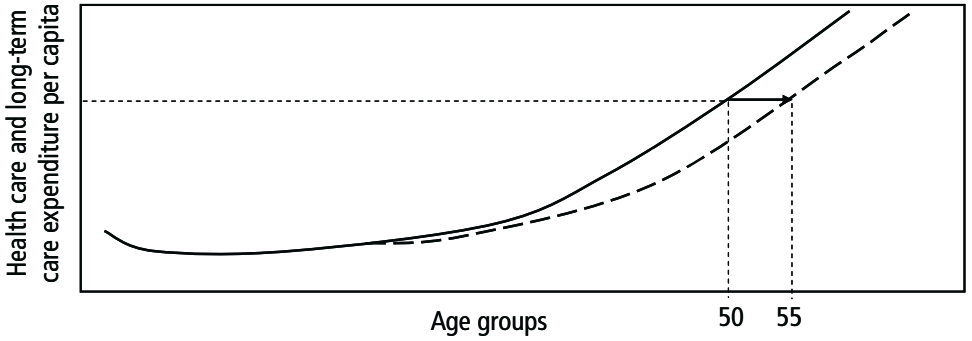
Employment

The sensitivity of the sustainability gap with regard to employment assumptions was assessed for two scenarios presented in 3.1 and 4.5. If age and gender specific participation rates and unemployment rates remained at the levels of 2006, the sustainability gap would increase by more than 0.5 percentage points of GDP. If the employment rate attained the Nordic level, the sustainability gap would see an almost equivalent reduction.

Health and functional ability

The AWG scenario assumes that the population's health will develop so that half of the life years gained due to a higher life expectancy are years of good health and high functional ability. Technically, this assumption is implemented by shifting the age and gender specific cost curve for nursing and care services to the right by a distance corresponding to 50 per cent growth in (age and gender specific) life expectancy. For example, if the life expectancy of a 50-year-old increased by ten years, the age specific cost curve for services would shift to the right so that the expenditure allocated to a 55-year-old of the future would equal that allocated to a 50-year-old in the initial year (Figure 5.5).

Figure 5.5 Impact of improved health and functional ability on age specific costs.



In Finland, the number of life years spent in good health and with high functional ability has increased in proportion to growth in life expectancy. If a similar development continued in the future, the sustainability gap would reduce by approximately 0.8 percentage points relative to GDP. If age specific health and functional ability remained unchanged, all gained life years would be years of sickness. Based on this alternative, the sustainability gap would then increase by 0.8 percentage points.

Indexing of benefits

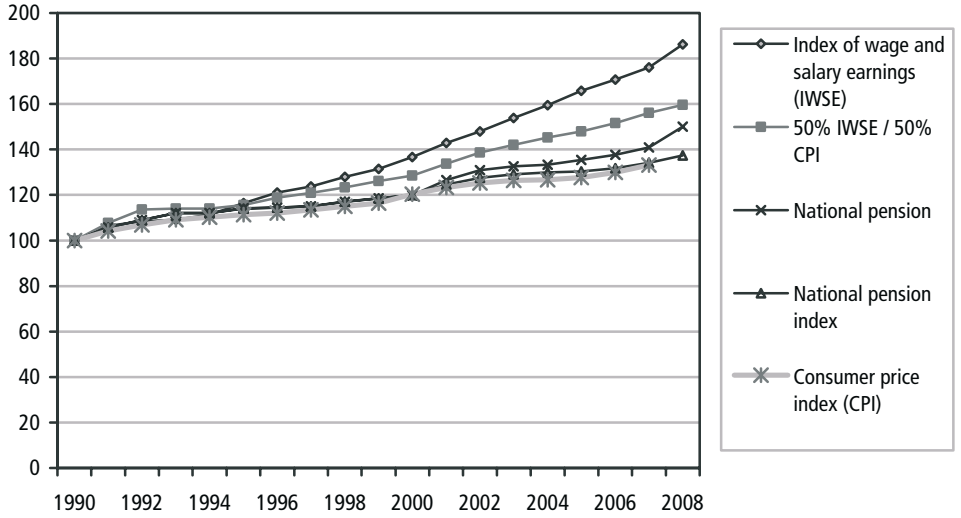
The AWG calculations are based on the assumption that policy will remain unchanged, i.e. it will remain based on the current legislation and binding decisions on legislative reforms. In Finland, the level of national pensions follows the national pension index, which in turn has followed developments in the consumer price index fairly closely[76]. However, in practice, the level of national pensions has been elevated nearly every year since the beginning of the decade[77] (Figure 5.6). Consequently, national pensions have approached the so-called half-way index in which wages and consumer price trends have an equal weighting. Indexing national pensions fully to the consumer price index would reduce the sustainability gap by approximately 0.7 percentage points. Correspondingly, indexing benefits fully to wage and salary earnings would widen the sustainability gap by somewhat more: just under 0.8 percentage points of GDP.

Under the current system, earnings-related pensions in current payment are increased annually using the earnings-related pension index, according to which the earnings level has a weighting of 20 per cent and the consumer price level a weighting of 80 per cent. Amending the earnings-related pension index to a half-way index would increase the sustainability gap of public finances considerably, by some 0.85 percentage points.

[76] The national pension index is determined annually based on the cost-of-living index. The index figure of the national pension for the subsequent year is calculated by dividing the mean value of the index figures for the third quarter (July, August and September) of the current year by 1.16.

[77] In 2001, 2002, 2005, 2006, 2007 and 2008.

Figure 5.6 Development of national pensions in proportion to various indices.



Source: Kela (2008).

Productivity

According to the AWG assumptions, productivity in public services will not change during the period under review. If productivity in public services were to rise annually by half a percentage point, the sustainability gap would narrow by 1.4 percentage points, or would disappear if the zero-option were considered the starting point. A productivity rise in public service provision would result in higher productivity across the economy and, thus, higher growth in production[78].

Under the zero-option, it is assumed that labour productivity in the economy will edge downwards to 1.75 per cent by 2030. However, if annual productivity growth remained at 2.25 per cent even after 2011, the sustainability gap would lower by nearly one percentage point of GDP. In the long term, productivity growth will correspond to the rise in earnings level and, thus, services will see an increase both in labour costs and wages, which accrue earnings-related pensions at the same rate as productivity. Hence, the positive effect on sustainability of productivity growth across the economy does not derive from the earnings-related pension scheme or services, since their expenditure trends are highly dependent on developments in the level of earnings. In fact, the positive impact of productivity on sustainability derives mainly from national pension scheme benefits which are not tied to the index of wage and salary

[78] It is assumed that public services' share of GDP will remain unchanged, at approximately 25 per cent, whereby a 0.5 per cent increase in productivity in public services would permanently increase productivity across the economy by approximately 0.13 percentage points.

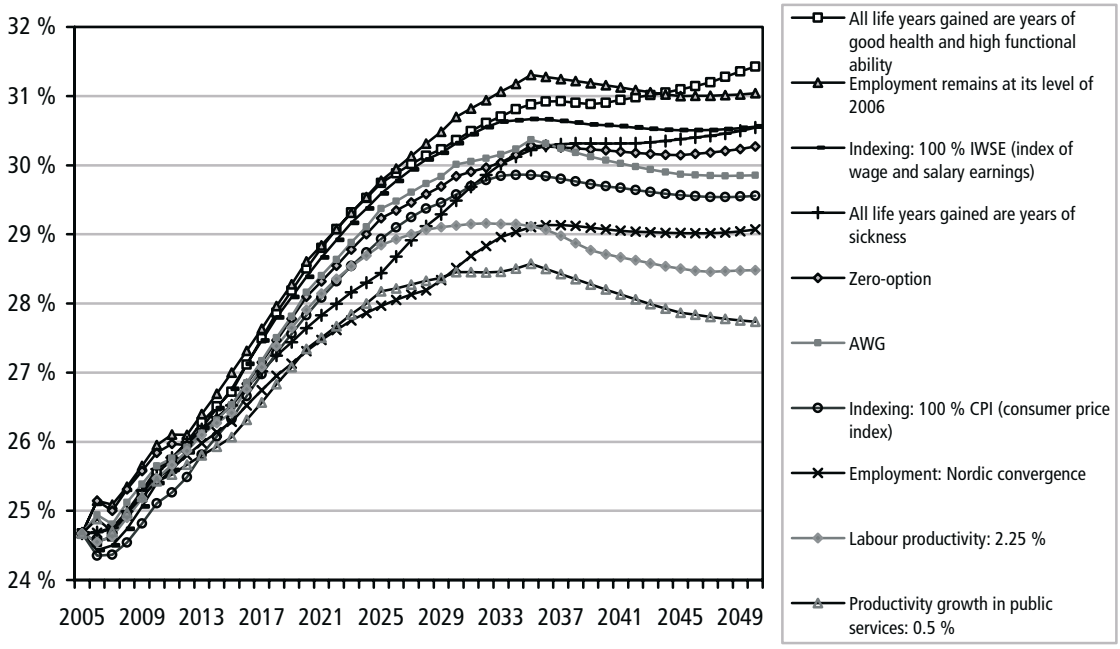
earnings. If said benefits were fully indexed to the index of wage and salary earnings, growth in labour productivity would have next to no impact on the sustainability gap.

Poor short-term macroeconomic development

Expectations with respect to short-term macroeconomic development have deteriorated rapidly since the autumn of 2008, due to the global financial crisis. This was taken into account in Finland's latest Stability programme update (Ministry of Finance 2008). Accordingly, if it is assumed that GDP growth and employment trends in the forthcoming years will be lower than previously, the financial position of public finances in 2011 will be clearly weaker than in the Stability programme update 2007: the surplus in public finances in 2011 will shrink from 3.3 per cent to approximately 1 per cent of GDP. Such a decline in the initial financial position will have a considerable effect on the size of the sustainability gap: poor short-term economic growth will widen the gap by some 1.4 percentage points of GDP.[79]

Figure 5.7 depicts the development of age-related expenditure suggested by various scenarios. These results are in line with the sustainability assessment.

Figure 5.7 Development of age-related expenditure according to various scenarios.



[79] The calculation excludes the decline in the value of funds, since asset values can be expected to recover quickly once the recession is over.

Baseline scenario

The new baseline scenario is founded on Statistics Finland's population projection 2007 and assumes a chiefly unchanged policy, with the exception of the employment assumption. With respect to employment and unemployment, it is assumed that Nordic convergence will be realised (see chapters 3.1 and 4.5), but this should be considered a target path which cannot be achieved without additional measures.

The baseline scenario shares the AWG scenario's assumptions on developments in health and functional ability, since they correspond to the estimates on health care and elderly care expenditure trends presented above in chapter 3.2 and take account of the effects of the proximity of death, morbidity and a two-year delay in, institutionalisation by 2040.

Indexing within the earnings-related pension scheme is in accordance with legislation and corresponds to the AWG assumption. However, for the national pension scheme, an index was selected for which one half is determined based on the change in the consumer price index (inflation) and the other based on the change in the index of wage and salary earnings (labour productivity). The underlying idea is that the level of the related small pensions would follow the general rise in the earnings-level more closely than according to the national pension index alone. This is in line with the decisions of recent years.

It is assumed that the GDP shares of non-age-related expenditures will remain unchanged. In order to facilitate the comparability of sustainability calculations, the expenditure items included in age-related expenditure are those defined by the Commission (pensions, education, health care, long-term care and unemployment security), although Finland also has other services and income transfers (such as day care and support for families with small children) whose expenditure have a distinct age profile.

The other assumptions in the baseline scenario are identical with those of the Stability programme update 2007. It is noteworthy that the initial balance of public finances is in line with the Stability programme 2007, which ignores the impacts – still difficult to assess – of the recession caused by the financial crisis.

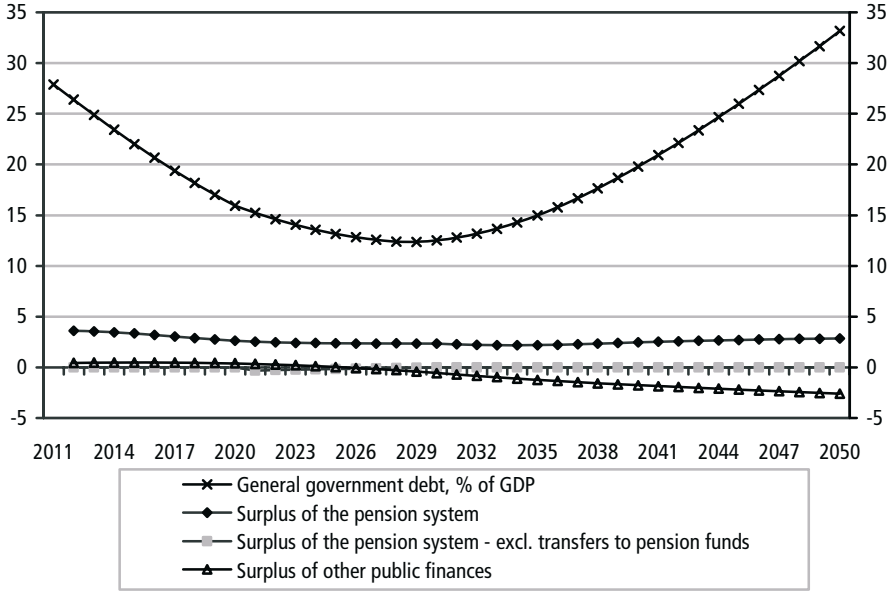
In the new baseline scenario, age-related expenditure increases during 2010–2050 by 3.4 per cent relative to GDP, which is some 1.5 per cent less than the rise in expenditure reported in the stability programme update (Table 5.4). A slower rise in age-related expenditure leads to a lower sustainability gap than according to the stability programme. **The sustainability gap in the baseline scenario is 0.9 per cent of GDP**.

Table 5.4 Change in age-related expenditure in the Stability programme update 2007 and the baseline scenario.

	Expenditure change 2010–2050, % of GDP	
	Stability programme update 2007	Baseline scenario
Pensions	2.6	1.9
Health care	1.2	1.1
Long-term care	1.6	1.4
Education	-0.2	-0.5
Unemployment	-0.1	-0.5
Total	5.1	3.4

The development of public finances can also be examined in light of financial surpluses and indebtedness. Figure 5.8 separately presents the financial surpluses of the pension system (including national pensions) and those of other public finances. The public pension system shows a surplus for the entire period under review[80]. By excluding transfers to funds from the pension system's surplus, the surplus curve obtained indicates that the pension system remains continuously in balance.

Figure 5.8 Financial surpluses of the public sector and the development of public debt according to the baseline scenario.



[80] For the earnings-related pension scheme, the baseline scenario uses established assumptions according to which earnings-related pension contributions will increase at an even rate until 2023. While an immediate increase in contributions would lower the overall pressure to increase contributions, the timing of such an increase would be of no great importance to the sustainability gap.

By the mid-2020s, other public finances will begin to create a deficit which will swell to 2.6 of GDP by 2050. The debt ratio will be at its lowest at the turn of the 2030s, after which indebtedness will increase rapidly. Thus, in 2050, the debt to GDP ratio will be approximately 5 percentage points higher than in the initial situation. If a similar trend continued, the debt ratio would soar after 2050.

Observations and conclusions

- Finland's public finances are not on a sustainable footing. In other words, with unchanged expenditure bases and an unchanged overall tax ratio, public finances are tending towards a permanent deficit.
- Despite the rapid ageing of the population, the sustainability gap is not exceptional in international comparisons, but fairly average.
- According to the baseline scenario, which ignores the distinct macroeconomic decline due to the financial crisis in the forthcoming years, the sustainability gap is 0.9 per cent of GDP. This figure is slightly lower than according to previous calculations.
- While the financial crisis' impacts remain difficult to assess, it will in any case see a deterioration in the ensuing financial position of public finances in the forthcoming years, which will widen the sustainability gap. If the financial position for the forthcoming years predicted by the most recent Stability programme, published in December 2008, is realised, the sustainability gap could rise to nearly 2.5 per cent of GDP.
- The employment rate, productivity of public service provision, development of health and functional ability and the type of index-linkage for pensions have a fundamental impact on the size of the sustainability gap. Higher-than-expected productivity growth across the economy would significantly reduce the sustainability gap, provided that social security benefits did not react to the faster growth in the earnings level associated with this phenomenon.

5.3 Alternative scenarios, the magnitude of uncertainty and comparisons to previous estimates

Above, sensitivity calculations were used to describe how various factors affect the size of the sustainability gap. By combining assumptions which have a positive influence on sustainability – concerning demographic developments, the supply of labour, health and functional ability trends and productivity in public services – an optimistic scenario for the sustainability of public finances can be constructed. Similarly, by combining assumptions which weaken the sustainability of public finances, a pessimistic scenario can be obtained. Table 5.5 presents the assumptions underlying these alternative scenarios[81].

[81] The alternative scenarios retain the indexing assumptions of the baseline scenario since indexing, unlike other assumptions, can be changed directly through policy decisions.

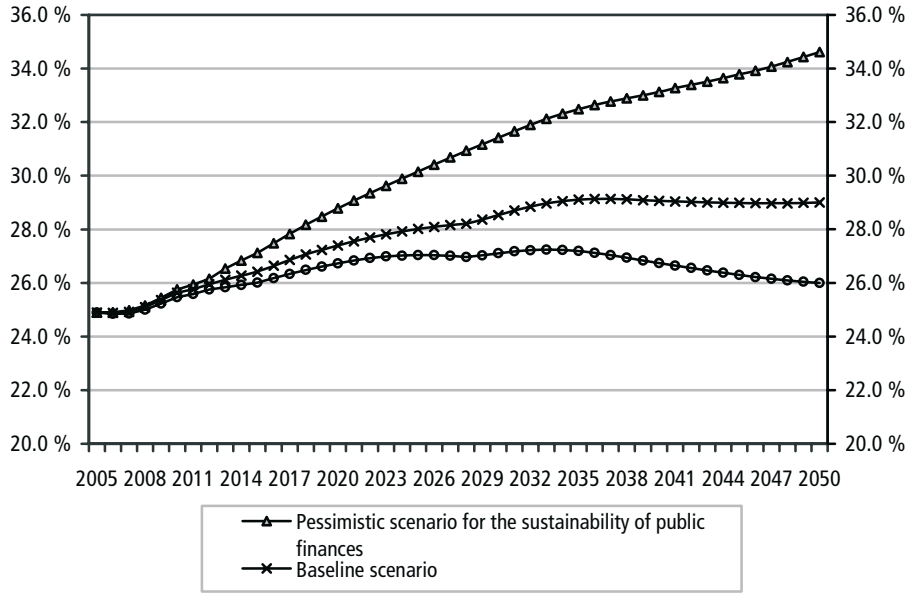
Table 5.5 Differences between the baseline scenario and alternative scenarios.

Assumption	Baseline scenario	Optimistic sustainability scenario	Pessimistic sustainability scenario
Demographic development	Statistics Finland 2007	+++	---
Employment	Nordic convergence	Nordic convergence	Age specific employment and unemployment rates of 2006
Productivity growth in public services	0	0.25 % per year	0
Health and functional ability	50 % of gained life years are healthy	All life years gained are healthy	All life years gained are spent in sickness
Indexing of benefits	50 % IWSE / 50 % CPI	50 % IWSE / 50 % CPI	50 % IWSE / 50 % CPI

Table 5.9 illustrates the developments in age-related expenditure according to the baseline scenario and the optimistic and pessimistic scenarios, in terms of fiscal sustainability. According to the baseline, optimistic and pessimistic sustainability scenarios, age-related expenditure will increase during 2010–2050 by 3.4, 0.5 and 8.9 percentage points relative to GDP, respectively.

kuvion selostuksesta puuttuu kolmas viiva: optimistic scenario

Figure 5.9 Development of age-related expenditure according to the baseline scenario and the two alternative scenarios.



According to the optimistic sustainability scenario, the sustainability 'gap' would be negative, -1.4 per cent of GDP. No gap would therefore appear, and expenditure could even be increased or taxes reduced without endangering fiscal sustainability. According to the pessimistic sustainability scenario, the sustainability gap would be 3.2. per cent of GDP.

Table 5.6 The sustainability gap according to various scenarios.

Scenario	Sustainability gap (% of GDP)
Baseline scenario	0.9
Optimistic scenario for public finances	–1.4
Pessimistic scenario for public finances	3.2

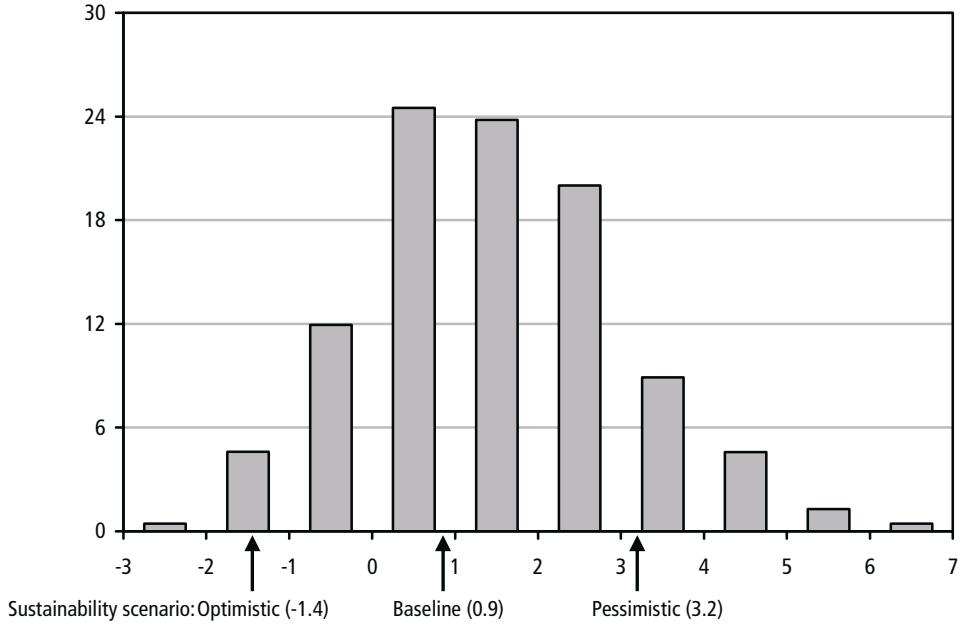
Recent studies and reports have examined fiscal sustainability in various ways. As mentioned previously, according to the Stability programme 2007, Finland's sustainability gap was 1.3 per cent of GDP, calculated on the basis of a forecast of medium-term macroeconomic development for 2006–2011. The Commission has assessed the Member States' sustainability gaps in light of the fiscal balance figures for 2007 (European Commission 2008c). Since Finland's growth in 2007 was more rapid than expected, the state of its public finances was also estimated to be more positive. In line with this, the Commission assessed that Finland's sustainability gap would be -0.5 per cent, i.e. there would be a small 'sustainability surplus', relative to GDP.

Kiander (2007) has assessed how the tax ratio would develop by 2030 if it were raised in line with expenditure developments. According to the baseline trend identified by Kiander, the tax ratio should be raised by 2 percentage points or, according to the negative scenario, by 6 percentage points and, according to the positive scenario, it could be lowered by 1 percentage point. Although Kiander does not use indicators which directly describe the sustainability gap, and the assumptions and timeframe in his study deviate from those presented herein, his results for the baseline, optimistic and pessimistic sustainability scenarios coincide fairly well with this report's results.

Lassila and Valkonen (2008) assess fiscal sustainability by taking account of uncertainties relating to investment yields and demographic development. Figure 5.10 presents the predictive distribution of the sustainability gap obtained in their study, with the sustainability gap's median at 1.4. Figure 5.10 indicates that, although this report's baseline scenario suggests that the sustainability gap (at 0.9) is slightly below the median, it is still very close to the mid-point of the predictive distribution. The optimistic and pessimistic sustainability scenarios also end up inside the predictive distribution. However, it should be noted that the study's results suggest that, in particular, a sustainability gap in line with the optimistic sustainability scenario is highly unlikely.

In sum, the difficulty in arriving at an adequate assessment of fiscal sustainability is clear. The end result is very sensitive to the macroeconomic forecast for the forthcoming years, as well as to various assumptions affecting long-term development. In light of the calculations conducted, there is a high probability that Finland's public finances will be subject to at least some kind of sustainability gap. Moreover, it is very likely that this gap will amount to several percentage points of GDP. This uncertainty is further increased by the continued difficulty in assessing the impacts of the historically exceptional financial crisis on the balance of public finances in the forthcoming years. Such high uncertainty means that policies should not be based on an idea of an accurately defined sustainability gap outlook but, rather, they should recognise the existence of uncertainty as one of their key premises.

Figure 5.10 Predictive distribution of the sustainability gap.



Source: Lassila and Valkonen (2008).

Observations and conclusions

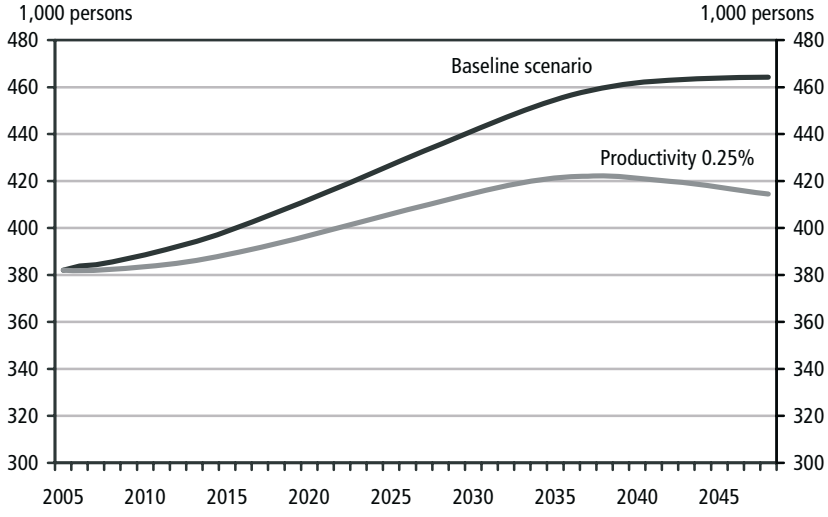
- The size of the sustainability gap is subject to great uncertainty.
- The baseline scenario's sustainability gap is close to previous estimates.
- The sustainability gap is sensitive to changes in the initial financial position.
- Since the macroeconomic outlook has deteriorated, there is a higher risk of a much larger sustainability gap than in the baseline scenario.

5.4 Challenges related to the sufficiency of staff in basic municipal services

The impact of ageing on the public sector does not solely concern long-term fiscal sustainability. The pressures imposed on public expenditure growth by ageing will materialise, to a significant extent, in a greater need for workforce in various welfare services. A key question is whether the public sector can satisfy this need for workforce in a situation where the supply of labour relative to the population is reducing. This challenge will primarily affect the municipal sector, which provides the majority of welfare services.

The baseline scenario can be used for assessing staffing needs in municipal services. If we assume that the number of staff will increase in line with the deflated unit costs in services, this would mean no change in the relationship between the labour input for services and other inputs. Based on this approach, the staff structure, wages and salaries in various staff groups, the number of pupils per teacher and the number of patients per nurse would also remain unchanged. Thus calculated, the additional staff need in municipal basic services (education, social and health care)[82] will total approximately 80,000 persons by 2050 (Figure 5.11). The additional staff need in both social and health care services would total more than one-third in comparison to staff figures of 2007. In education, the number of staff would reduce by some 8 per cent, due to the diminution in the sizes of younger age groups.

Figure 5.11 Staff needs of municipal basic services according to the baseline scenario and with annual productivity growth in services of 0.25 per cent.



[82] The calculations assume that the number of administrative staff in services remains unchanged.

According to this baseline calculation, the additional staff need will grow continuously until 2040, after which the increase will level off. However, the need for staff has a critical dependency on productivity in service provision. If productivity in basic services were to grow annually by 0.25 per cent, the additional staff need would reduce by half from the need suggested by the baseline scenario, to some 40,000 persons.

Regional challenges associated with staff availability

The sufficiency of workforce has already become a problem in certain locations. Since nursing services are labour-intensive and sufficient staffing is a basic driver of service quality, the opportunities for enhancing efficiency remain limited, particularly in nursing services. In Finland, the social and health care sector is one of the biggest employers, responsible for some 15 per cent of all jobs and employing nearly 27 per cent of all employed women. With regard to the regions, while social and health care services provide slightly less than 13 per cent of all jobs in Uusimaa, the highest regional share comprises Savo's 18 per cent. In the long term, these shares will increase by a few percentage points. During the peak period, more than one-fourth of the workforce in the provinces of eastern and northern Finland will work in the nursing sector, while at sub-regional level, this share may attain one-fourth or higher. Once the working-age population in these areas reduces, their economic structures are in danger of further weakening. This would reinforce the current trend whereby public services are the major employer in many remote regions, while inhabitants' income mainly consists of pensions and income transfers. Since the working population's income level would also remain below average, private business relying on regional demand would not be able to thrive. Thus, such sub-regions would become highly dependent on central government transfers.

Presently, the social and health care sector employs slightly under 340,000 persons, the majority working in the public sector. Of the 165,000 social welfare staff, approximately one half work in services for the elderly.

This sector is female-dominated and the proportion of middle-aged employees is above average. In general, the employee age structure in municipalities is more tilted towards older age groups than the equivalent age structures in the private sector. New employees will be needed, both to enable the extension of services and to replace retiring staff.

In social and health care, the balance of the workforce has shifted towards employees aged 40–59. Indeed, in the most remote regions such as Lapland and Kainuu, a significant proportion of social welfare employees are aged over 50 and the number of those retiring will peak in the near future (Volk 2009, Halmeenmäki 2007). The soundest employee age structure can be found in Itä-

Uusimaa, where the majority of social welfare employees comprise an even spread of 25–59-year-olds. In addition, small municipalities in Pirkanmaa and Varsinais-Suomi will also soon see high numbers of new retirees. Even between neighbouring municipalities, the numbers of retiring employees may vary considerably.

The greatest additional need for care staff will arise in Uusimaa and in large urban areas in general, with intense competition over workforce and the number of older people growing most rapidly. While many remote regions have high workforce availability, the challenge lies in matching the labour supply to demand, since the regions' inhabitants often lack the professional skills required to satisfy the needs in hand. The general availability of labour can be illustrated by referring to the employment rates of women aged 25–29 in 2007: while rates in Kainuu and South Ostrobothnia were as low as 60 per cent, in Itä-Uusimaa they were as high as 84 per cent.

Thus, problems in the availability of staff may vary across the country. In regions with low employment levels, it will probably prove difficult to recruit skilled employees, particularly for jobs requiring special expertise, but the same may not apply to basic nursing. Young, potential employees are available in many regions, but engaging them in nursing requires retraining, among other measures. Indeed, the greatest challenges in obtaining workforce lie in highly-populated regions and large cities in which the number of old people will grow the most. In these regions, the main problem will be in securing the availability of non-specialist employees, since demand for labour will continue to increase.

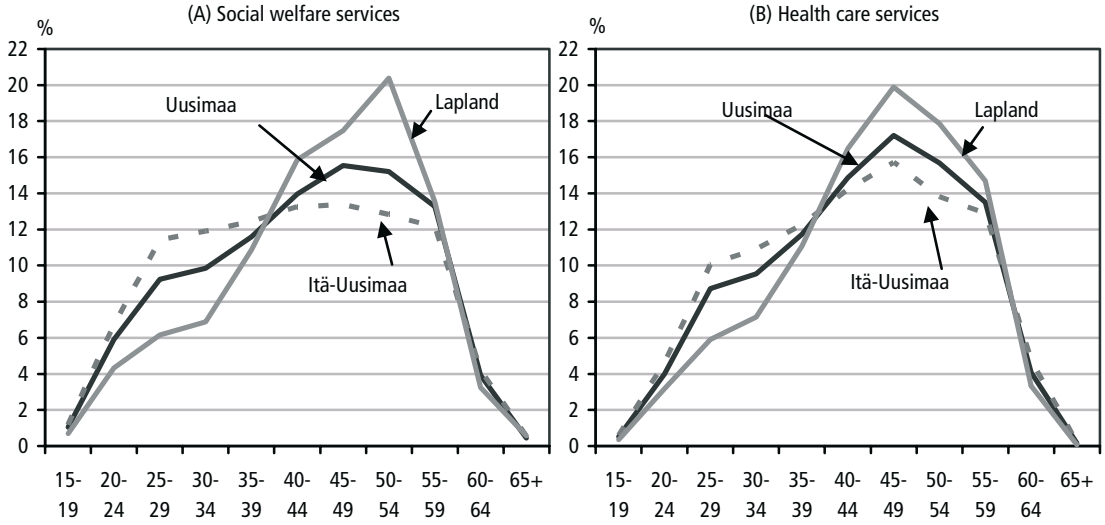
Uusimaa will face major challenges in constructing its services and recruiting workforce, since the number of over-80s will increase by some 73,000, to 2.7-fold of its current level by 2030. Currently employing more than one-fourth of all social welfare workers, Uusimaa may even require twenty thousand new employees if productivity cannot be improved.

The sector must also compete for workforce with other service sectors. Shift work and relatively low salary levels are reducing the sector's appeal, and competition over labour will intensify both against the private sector and between municipalities.

A large number of people have moved outside the social and health care sector, particularly during the 1990s. Approximately 40 per cent of trained nurses work outside social and health care (Snellman 2005), constituting a potential labour reserve. Furthermore, it would also be possible to make better use of the labour input of aged employees and those retiring. This requires increasing use of flexible measures, for instance with regard to working hours, tailored to the employee's life situation.

One approach to relieving the labour shortage, not only in the social and health care sector, but also in other industries, lies in training and recruiting immigrants. Employing immigrants in the social welfare sector, however, is far from straightforward. Recognition of foreign diplomas must be expedited and support must be provided for completing further training required in the Finnish labour market. Another imperative is the provision of guidance to immigrants on complementing their educational and language skills in order to render them equivalent to what is required for Finnish diplomas.

Figure 5.12 Age structure of those employed in social welfare services (A) and health care services (B) in Uusimaa, Itä-Uusimaa and Lapland in 2005.



Source: Statistics Finland, Employment statistics.

The sufficiency of financing in the regions

Keeping the nursing promise requires sufficient financing. The reduction in the working-age population will affect the availability of nursing workforce and municipalities' tax bases and, thus, the provision of services. Tax revenues form the main source of municipality financing, and since social and health care expenditure accounts for around half of all municipal expenditure, the sufficiency of financing is also a relevant factor from the perspective of the political sustainability of the regions.

The concentration of the working-age population in centres will cause a further differentiation in municipalities' ability to finance their services based on their own tax financing, with remote regions becoming more dependent on government aid. In municipalities with a decreasing population, as the proportion of the ageing population rises, so too will the need for services. Meanwhile, the municipalities' taxpayer base will shrink and include ever greater numbers of retirees. In 2030, people at an age requiring services (over 70 years of age) will represent one-fourth of the population in Kainuu, against 15 per cent in Uusimaa. Many services are statutory, i.e. must be provided regardless of the municipality's financial situation. While this creates pressures on municipalities both in terms of provision and financing, it also ensures a certain level of basic services in remote regions. Therefore, it can be expected that the pressure to cut services will concern those whose provision is conditional on municipal appropriations.

In the countryside, the challenge lies in ensuring diverse services and providing them nearby. Enhancing the use of technology represents an opportunity for alleviating problems arising from a sparse population, but new ways of bringing services near the customers are also required.

The challenge facing growing urban areas, alongside financing, lies in their capability to increase services in proportion to the growth in the number of ageing people. At national level, the rise in the total costs of providing welfare services will be largely determined by how well large cities manage their service provision. The municipal and service structure reform aims to secure municipalities' capability to provide high-quality services efficiently and economically. A larger municipality size and intermunicipal cooperation would help ensure the availability and level of services, while distributing the financing burden across a larger population base.

However, many municipalities remain outside the municipal and service structure reform. In the most remote regions, it is often the case that all municipalities involved in cooperation or municipal mergers have a weak tax base. In such regions, the municipal tax burden may become very heavy without much greater income redistribution through the central government transfer system since, in low-income regions, the financial inflow gained from raising the municipal tax ratio will remain significantly below average. Due to the low income level, a heavy client fee burden may also be imposed. To ensure reasonable access to services based on manageable financing inputs, special measures are required for the provision of services in northern Finland.

Observations and conclusions

- According to the baseline scenario, the additional staff requirement in basic municipal services approximates 80,000 persons.
- Increasing service productivity by 0.25 per cent per year would reduce this requirement by half.
- In terms of staff numbers, the highest additional staff requirement occurs in Uusimaa and the large cities.
- In remote regions, the availability of specially skilled labour may present challenges, while in urban areas the problem will lie in the availability of basic workforce.
- Demographic development will further differentiate the capability of the municipalities to finance their services through their own tax financing. The need for intermunicipal income transfers will most probably grow.

6 SOCIAL AND POLITICAL SUSTAINABILITY

6.1 The concept of social and political sustainability

According to attempts at its definition, *social sustainability* is dependent on the status and distribution of the population's welfare, alongside objective and subjective indicators describing the state of the individual, and information describing the state of the community. As the counterpart to fiscal sustainability, the term 'social sustainability' has become more common in Finland. For example, it is often cited in contexts concerning the sustainability of public finances. While social sustainability sounds worth striving for, it is striking that the related objectives are rarely specified. (Kautto & Metso 2008.) At any rate, in connection with pension security, social sustainability is often associated with the sufficiency of pension security.

Social sustainability is often considered to entail at least justice, equality and the opportunity to influence decisions. Moreover, the term is related to its societal content. In particular, perhaps due to its general and broad scope, social sustainability seems to have proven hard to measure. In the absence of a well-established definition and firm examples, organisations and nations have a wide variety of ways of measuring social sustainability in practical terms. Since collections of indicators do not express the relationship between concepts and indicators, on the basis of indicator listings available, it is difficult to interpret which dimension, or its possible content, the indicators describe. They often seem unconnected with respect to the lofty objectives of policy documents.

Whenever monitoring indicators are given for social sustainability, it is evident that the same indicators are also used in other contexts. The indicators used can be interpreted as applying to basic needs or skills (e.g. literacy) or resources essential for life management (e.g. income and employment/unemployment), while others describe the realisation of justice in the population (e.g. poverty level and the third group of indicators relates to the cohesion of the community (e.g. citizens' voting turnout), although the latter indicators can also be interpreted as measuring institutional or political sustainability.

The concept of *political sustainability*, too, lacks an established definition. For instance, in the related literature, the following are linked to the concept: sustainability of the social security system, the so-called redistribution policy, equity and social sustainability, demography, dependency ratio and intergenerational issues, voting behaviour and conflicts of interest, taxation and the sustainability of financing, adequacy and targeting, the 'local' and 'national' aspects of decision-making, environmental issues etc. Typically, the characteristics of political sustainability include assessments being performed

with an eye to the long term, and surveys on maintaining the support of the majority (e.g. Bergstrom & Hartman 2005, Casamatta et al. 2000, Galasso & Profeta 2004). Economic and social policy research into political sustainability has covered, in various ways, the fairness of distribution, and the sustainability of reforms implemented or of social security systems (e.g. social insurance, pension reforms, taxation).

On the one hand, the unpredictable nature of political decision-making, or the possible willingness of politicians to alter commitments made, poses a risk to predictability. In fact, literature on political sustainability links the concepts of 'democracy' and 'legitimacy' to sustainability, emphasising the fact that sustainable policy is based on the execution and realisation of such principles. Hence, political sustainability also concerns transparent decision-making and the consequences of decisions on people's lives: how is inter-generational equity realised and who bears the risks involved in many uncertainties concerning the future?

Therefore, a key issue in political sustainability is the intergenerational and intragenerational equity and distribution of risks. From the perspective of political sustainability, the key question often lies in whether an intergenerational conflict threatens the present intergenerational covenant, i.e. whether one of the generations wishes to denounce this social 'circular letter'. An intergenerational conflict was eagerly predicted, for instance, in the United States as early as in the 1990s, while a similar debate was carried out in Britain, and in both countries this idea has been used as the basis for cutting the social security of older people and privatising the risks of old age. However, at least for the time being, such a conflict has no basis in research, either in the US or Europe (Walker 2008) or in Finland (Vaarama & Moisio 2008). Instead, updating the intergenerational covenant for the 21st century society is considered important (Kohli 2005, Phillipson 1996, Walker 1996 and 2008).

The economic consequences of an ageing population are often discussed in the light of public finances sustainability calculations. Usually, the baseline scenarios for such calculations are founded on the assumption of a continuation of 'the current policy'. However, the ageing of the population as such may create pressure for a change of policy. For this reason, voting behaviour and the average voter's orientation represent a trend to research on political sustainability. Demographic change raises the average age of the median voter, while resulting in a continuously increasing number of aged voters, at retirement age or close to it, who may be willing to exert their power as a voting bloc to promote solutions favourable to themselves. Research does not support the argument that the aged population would prove electorally dominant, exclusively pursuing its own interests (Butler 2005, Kohli 2005, Phillipson 1996, Phillipson 1998, Walker 1996), but in practice, the ageing of voter bases has been visible

in Europe in terms of the difficulty of reforming pension and other welfare systems (Lassila 2008). On the other hand, regardless of voter ageing, Finland at least has been able to carry out the 2005 pension reform and restrict the supply of social, health and nursing services over the last 16 years, without older people manning the barricades. In any case, the behaviour of aged voters as such makes its own contribution to the already high uncertainty related to ageing scenarios.

Both Walker (1996) and Kohli (2005) emphasise that political sustainability is a question of both intergenerational and intragenerational equity, entailing the issues of inclusion and participation (for instance in terms of the labour market, consumption and societal influence) and the possibility of the maximum usage of one's own resources). Equity in intergenerational distribution does not concern pensions and income transfers only, but also the right to receive treatment and nursing whenever one needs it. Political research, in turn, pays attention even to the birth mechanisms of decisions, and political sustainability can be assessed e.g. in terms of involvement in decision-making. Even influence on decision-making can be assessed from the viewpoint of political sustainability. In fact, political sustainability concerns the tenability of the consensus on social security and its financing, but another essential factor is how social institutions, attitudes and norms prevent or promote people's participation and use of resources, and what should be done to improve the situation. Reviewed in this way, political sustainability comprises four dimensions: social security, social cohesion, inclusion and participation (cf. 'social quality', Walker & van der Maesen 2003). Thus, the concept of political sustainability appears to be rather complex.

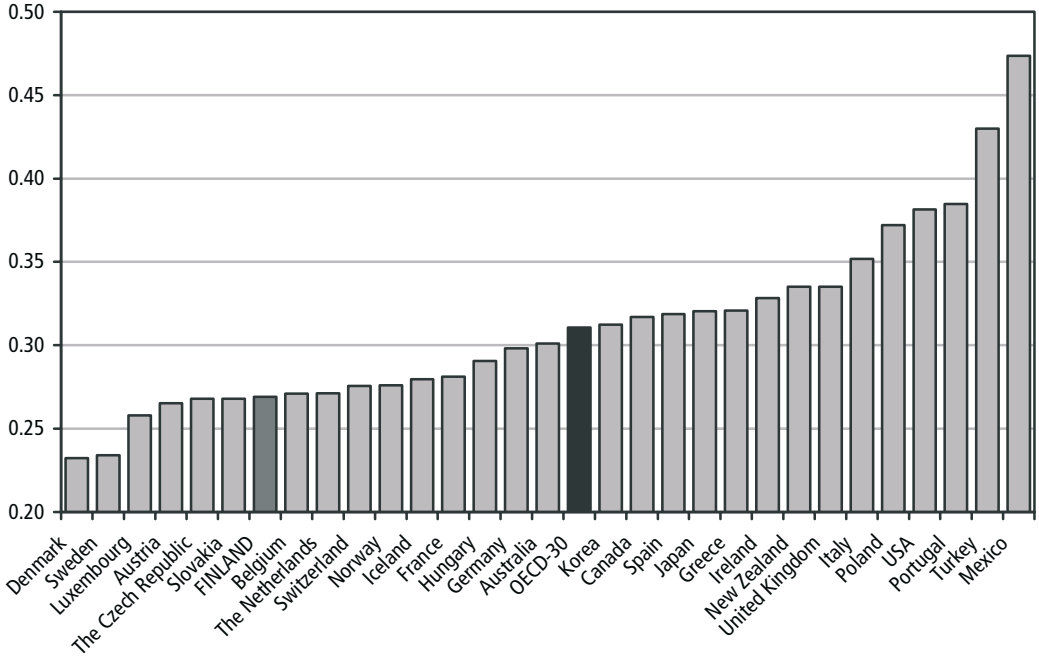
Hence, political, social and fiscal sustainability appear to be closely entwined, all of them emphasising the long term and intergenerational equity. Another prominent perspective entails the knock-on effect of fiscal sustainability decisions on various policy sectors.

6.2 Income inequalities, poverty and health inequalities

Income inequalities

Finns' material standard of living has developed positively since the slump of the early 90s, with a lower unemployment rate and less absolute poverty, better health, and even improvements in social security. Finland's relative poverty rate is among the lowest in the EU countries, and in international comparisons, Finland is still a nation with lower than average income inequalities (figure 6.1).

Figure 6.1 The Gini coefficient, a measure of equality in income distribution, for the OECD countries in the mid-2000s (the lower the value of the coefficient, the more evenly the available income is distributed).



However, developments in this respect have not been free of problems. Since the mid-1990s, income inequalities have grown at a more rapid pace than in many other countries. In particular, the intense growth of income of the top decile lurks in the background, the main reason for this being the rapid increase in capital income received by high income groups, alongside taxation lower than that levied on the corresponding earned income. In addition, the unfavourable development of income transfers, minimum security in particular, has increased relative income inequalities.

In the early 1990s, during the economic slump, the poverty risk clearly declined (table 6.1). However, since then relative poverty has become more common: the poverty risk increased from 6.5 per cent in 1994 to 12 per cent in 2004. While this has affected all population groups, its greatest impact has been on the long-term unemployed, students, pensioners, single parents and people living alone. Of any single factors, the increasing poverty risk of the unemployed has been the key factor explaining the greater incidence of poverty at the level of the general population (Kautto et al., 2009). In the past few years, low income levels have also become more common among young families with children. A total of 12.3 per cent of Finnish children live in low-income households.

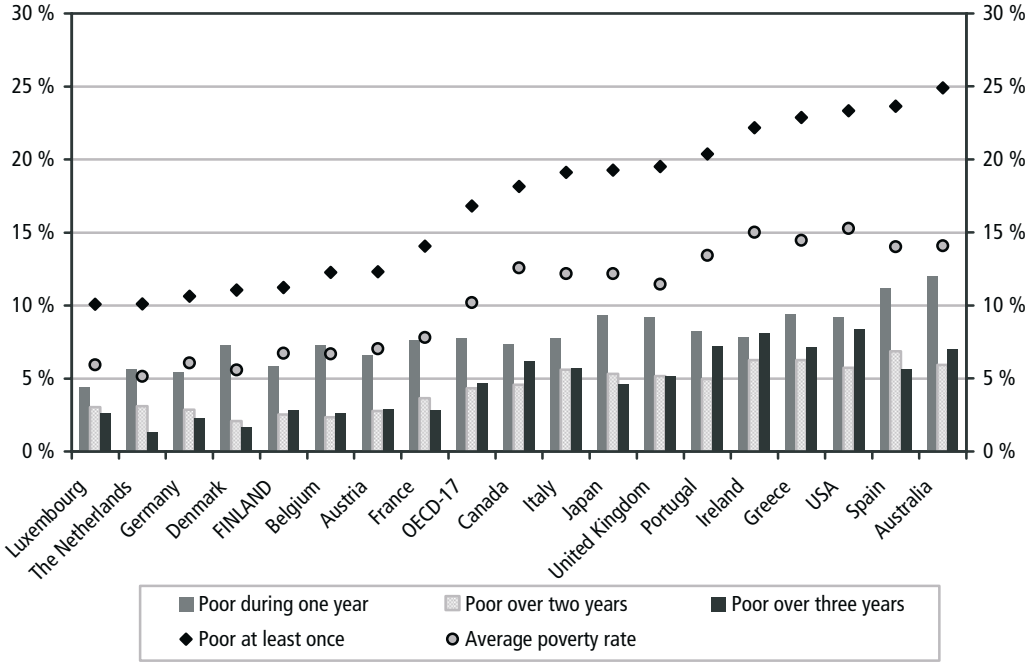
Table 6.1 Poverty risk of population groups, per cent.

Population group and age	Year			
	1990	1994	1999	2004
Entrepreneur	10.1	9.9	11.8	12.0
Wage earner, of which	2.0	1.2	2.2	2.2
Women 55–64	0.4	1.6	0.3	0.7
Men 55–64	1.5	1.0	1.4	0.3
Women –54	2.2	1.2	2.6	2.7
Men –54	1.9	1.3	2.0	2.4
Pensioner, of which	19.3	5.7	9.2	13.1
Women 75–	33.9	14.2	13.6	21.8
Men 75–	17.8	3.0	5.9	8.7
Women 65–74	20.9	3.8	8.2	10.1
Men 65–74	9.2	2.3	7.1	7.9
Women 55–64	17.1	2.8	5.8	8.5
Men 55–64	12.3	3.6	8.5	12.3
Pensioner –54	18.6	9.9	14.6	21.7
Women –54	20.1	9.6	13.6	18.1
Men –54	17.5	10.0	15.3	24.7
Students and long-term unemployed	18.0	17.8	28.5	33.3
Women 55–64	6.3	6.0	17.7	24.9
Men 55–64	25.3	19.7	18.6	35.0
Women –54	19.5	16.9	28.0	31.3
Men –54	16.6	19.2	31.5	36.1
Others	6.5	6.2	9.7	13.7
Total	8.1	6.5	9.6	12.0

The most deprived, both in terms of income level and its development, are the long-term unemployed aged 55–64. Of pensioners, men and women aged under 55, living alone, and women over the age of 75, living alone, are in the weakest position. In all age groups, a low income level is more common for those living alone than for other groups. However, the average poverty gap has remained stable from the beginning of the last decade, suggesting that low income levels have become more common rather than individual cases of poverty becoming more severe.

As concerns social and political sustainability, it is essential that low income levels do not become permanent or are passed on from one generation to another. Even though, over the past few years, people have remained in the low-income bracket in Finland for longer periods, those experiencing long-term poverty occupy a low proportion of the population in international comparisons (figure 6.2). Moreover, intergenerational income mobility is on an internationally high level in Finland, as in other Nordic countries. (Björklund & Jäntti 2008).

Figure 6.2 Those who have experienced temporary, recurrent and prolonged poverty (under 50% of the median income) as a proportion of the population in 18 OECD countries.



Source: OECD (2008).

Health inequalities

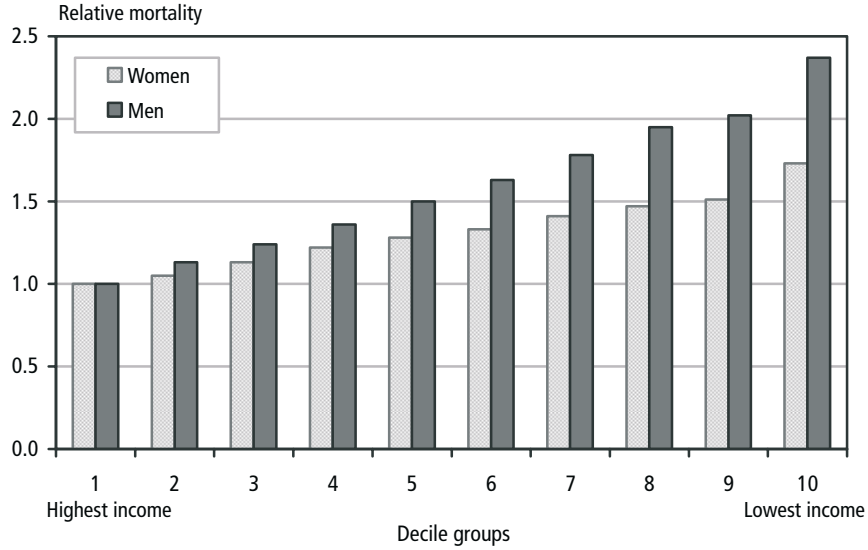
People with the highest educational level, upper-level employees and high income earners are considerably healthier, have better functional ability, and live longer than people with a basic-level education, working in subordinate positions, and people with a low-income (Palosuo et al. 2007, Martelin et al. 2005). These differences are major in comparison with many other countries (Mackenbach et al. 2003) and have increased over the last few decades.

Figure 6.3 indicates that the age-standardised mortality rate of those over the age of 30 increases steadily as income levels decrease. Therefore, health inequality does not apply to a small group of outcasts only, distinct from the majority, but is a phenomenon concerning the entire population: the better a citizen's socio-economic position, the more probable it is that this person will live a long, healthy life.

Differences in life span are remarkable. On average, a Finnish man of 35 with a university degree will live to be almost 81, but one with a basic-level education at most will die before the age of 75. This difference has grown since the early

1980s, from 4.7 years to 6.2 years, in favour of those who have spent longer in education. For women, the corresponding difference has increased from 2.7 years to 3.6 years (Valkonen et al. 2007).

Figure 6.3 Differences in mortality per income group in Finland 1991–1996, men and women over 30 years of age.



Source: Martikainen et al. (2001).

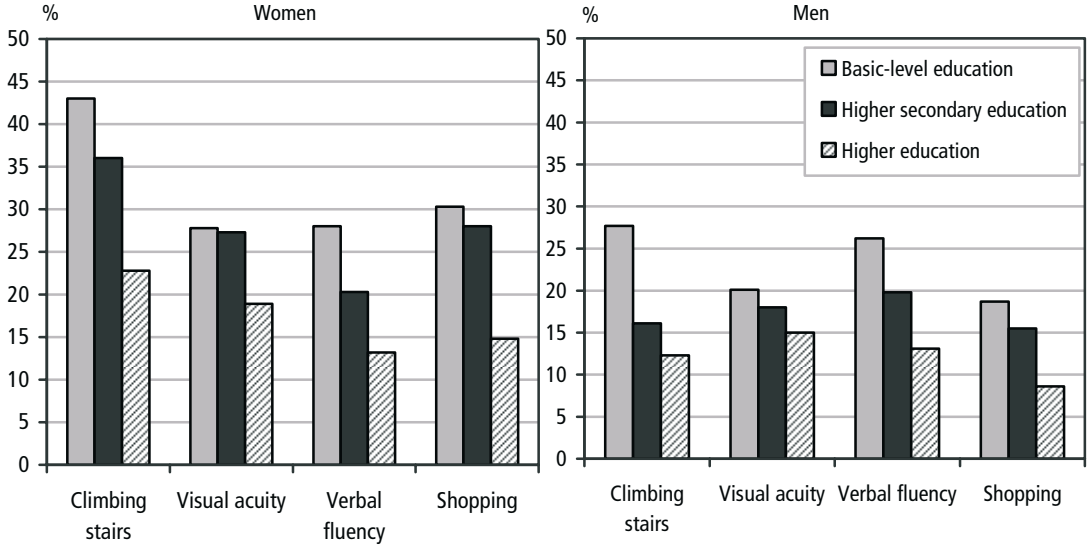
Differences between socio-economic groups are also sharp in terms of the prevalence of diseases and the frequency of disabilities. For instance, among young adults with a basic-level education at most, health is experienced as mediocre or worse approximately three times more commonly than among university students or those with a degree. Among older people, problems with functional ability (figure 6.4) are clearly more common among those with a primary education at a maximum, than those with higher education (Koskinen et al. 2007, Martelin et al. 2007).

The duration of a healthy life varies by educational group even more than life expectancy. When health experienced as mediocre or worse is used as the criterion, the difference in the duration of a healthy life between people with a higher education and those with a basic-level education only is as high as 13 years for men and women alike (Sihvonen et al. 2007).

Health inequality is an ethical problem, because the phenomenon in question has a negative impact, both in terms of individuals and population groups, as well as at the level of the entire population, and its manifestation is not inevitable. Inequality entails a large number of premature deaths, onset of illnesses or loss of functional ability. Poor health in large population groups

undermines the average health level of the entire population, while jeopardising the sufficiency of workforce and services. Moreover, health problems are reflected in the form of social exclusion, and are thus expensive for society (Ministry of Social Affairs and Health 2008).

Figure 6.4 Frequency (%) of certain disabilities by educational group in the population over 65 years of age, 2000–2001.



Source: Koskinen et al. (2007).

In Finland, the highly educated enjoy health of the highest international standard, even with respect to Finns' most characteristic health problem, cardiovascular diseases (Koskinen & Valkonen 1998). A significant proportion of public health problems would be eliminated were the health of other population groups improved to the level already attained by those in the most educated group: e.g. up to 80 per cent of toothlessness, 50 per cent of the need for daily help due to disabilities, and 30 to 50 per cent of deaths due to ischaemic heart disease (table 6.2).

Socio-economic position is connected to health in complex ways. For instance, a person's education shapes his/her health-related knowledge and values as well as his/her professional career. Moreover, a person's profession regulates both working and living conditions, while influencing behaviour and helping to determine his/her livelihood, whereas a person's financial situation regulates e.g. his/her consumption opportunities and living conditions.

Table 6.2 Share (%) of certain, key public health problems that would be eliminated were the problem in question as rare throughout the population as it is amongst the highly educated.

Health problem	Avoided cases as a share (%) of all cases
Toothlessness	ca. 80
Diseases of the respiratory system: deaths	ca. 50–75
Alcohol-related deaths	ca. 50–60
Need for daily help due to restricted functional ability	ca. 50
Deaths due to ischaemic heart disease	ca. 30–50
Accidental and violent deaths	ca. 20–45
Diabetes	ca. 30
Dorsopathies	ca. 30
Arthrosis	ca. 30
Deaths due to cerebrovascular diseases	ca. 20–40
Cancer-related deaths	ca. 20–40
Visual impairments and hearing loss	ca. 20

Source: Koskinen and Martelin (2007).

Lifestyle plays a significant role in the emergence of health inequalities. For men, alcohol-related deaths explain approximately one quarter of the six-year difference in remaining life years between blue-collar and white-collar employees, and for women, one tenth (Mäkelä et al. 1997). Smoking plays an approximately equal role. In fact, in Finland smoking and excessive alcohol consumption cause an estimated one half of mortality differences between men based on socio-economic mortality differences, and around one quarter of such differences between women. Diet and exercise habits also explain part of the prevailing socio-economic health inequalities (Laaksonen et al. 2008). A good social position forges better knowledge-based and financial preconditions, thereby enhancing one's motivation to select a healthy lifestyle. Factors influencing lifestyles include financial opportunities, traditions, fashion, values and standards as well as advertising and markets. Childhood living conditions and parents' lifestyles also have a fundamental impact on the formation of adulthood lifestyles (Kestilä 2008). Therefore, lifestyles cannot be regarded as the result of personal free choice only, nor are they solely the responsibility of the individual.

Health care reduces health inequalities between population groups in a variety of ways. For instance, the comprehensive high-standard maternity and child health clinic system reaches all population groups, creating the preconditions for good health in children regardless of their social background. However, certain features of health care functions are prone to enhancing health inequalities. The scope of occupational health care is unsatisfactory among those employed by small employers and working in temporary employment, often on a low income. Due to the high share of deductible/customer's responsibility, those with a high income use private medical services most. Some surgical services, e.g. coronary

artery bypass surgery, are not targeted fairly at various population groups, since people in a good socio-economic position have a greater probability of receiving the required treatment, whereas the poor and less educated remain without treatment more often than others.

Socio-economic differences in mortality have increased and will probably continue to do so, unless this development is addressed. Many factors causing health inequality appear to remain unchanged or to be gathering in strength: income differences are increasing, resourcing for maternity and child health clinics, school health care and other preventive services are insufficient; the easy availability and low price of alcohol are increasing consumption and enhancing its adverse effects, particularly in the most socially marginalised groups; differences in smoking increase by population group; obesity is rapidly becoming more common, particularly in the lowest socio-economic groups, and new, effective but expensive health care methods do not suffice to cover all of those in need (Palosuo et al. 2007). Furthermore, the differences between population groups in terms of health and its defining factors are most drastic for young adults, which portends more radical health inequalities when the current younger generations grow older (Koskinen et al. 2005).

Observations and conclusions

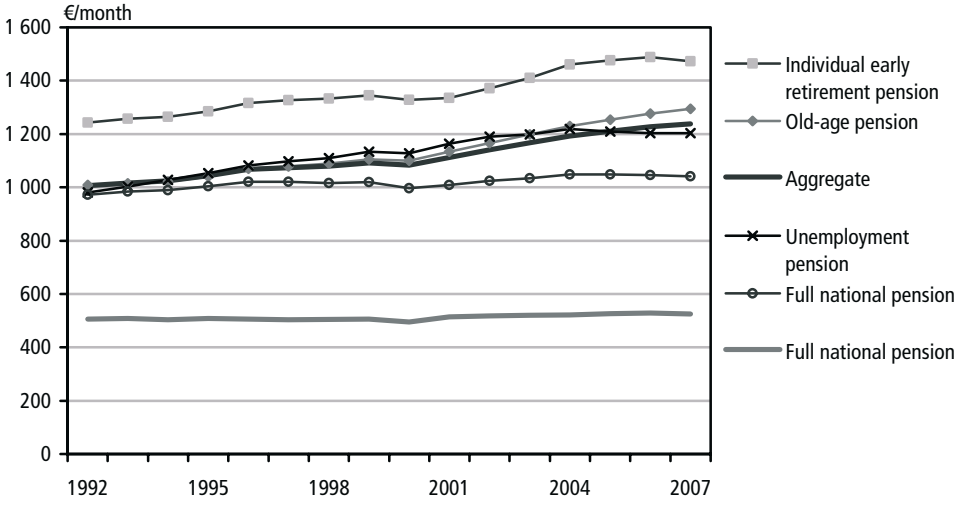
- Finland's relative level of poverty is among the lowest in the EU countries, and in international comparisons, Finland remains a nation with lower than average income inequalities.
- The increasing poverty risk has most affected the long-term unemployed, students, pensioners, single parents and people living alone.
- Although, over the last few years, people in Finland have spent longer periods in the low-income group, those experiencing long-term poverty occupy a low share of the population in international comparisons.
- Inter-generational income mobility is also on an internationally high level.
- Well-educated, high-income, white collar professionals are much healthier than less well-educated, low-income blue-collar workers.
- Health inequalities between socio-economic groups have remained unchanged, or even increased, in the past few decades.
- Narrowing health inequalities is important for a number of reasons: for ethical, public-health related and labour market policy reasons, in order to prevent social exclusion, and to ensure a sufficient supply of services.
- The vast majority of health inequalities are a consequence of living-condition and lifestyle-related factors, the majority of which can be altered.
- The severity of health inequalities varies considerably at different times and in different societies, proving that such inequalities can be ameliorated.

- Health and other social policies have proven effective in reducing health inequalities between population groups, even in Finland, such as in narrowing the health inequalities between north-eastern and south-western Finland, and the reduction, or elimination, of children's regional and socio-economic health inequalities.

6.3 Pension trends

Although the real value of pensions has increased on average, different types of pension have seen disparate development. For years, the real level of disability pensions and national pensions has remained the same (figure 6.5), weakening the position of those on the national pension and the pensions of disability pensioners in relation to the general income level. (Statistical Department of the Finnish Centre for Pensions, 2008)

Figure 6.5 Average total pension of persons receiving a pension in their own right, by type of pension from 1992–2007, € per month, based on 2007 monetary values, (excl. special pensions for farmers and part-time pension).



In light of the records of the Finnish Centre for Pensions, the real value of the pension has remained fairly stable over the last 10 years. However, while pension received has retained its value, in relation to the average income of the rest of the population, its value has slowly declined. In particular, the positive trend in wage earners' income underlies this development. For instance, for those who retired in 1996, the real value of their pensions has slightly increased in retirement, but in relation to general income development, pensions have fallen behind by 4 to 8 percentage points.

The average pension is less than 50 per cent of the average earnings of wage earners, and in comparison with the person's own, previous income, the replacement rate of pensions comes to some 70 per cent. Opinion polls indicate that citizens unanimously aspire to a replacement rate of almost 70 per cent, when the pension is proportioned to wages. Some 95 per cent of respondents to a survey conducted by KELA and the Labour Institute for Economic Research hoped for a replacement rate between 66 and 71 per cent (Forma et al. 2007). However, in proportion to the average income, the pension percentage guaranteed by a pension is not this high. Moreover, the replacement rate degrades gradually during retirement.

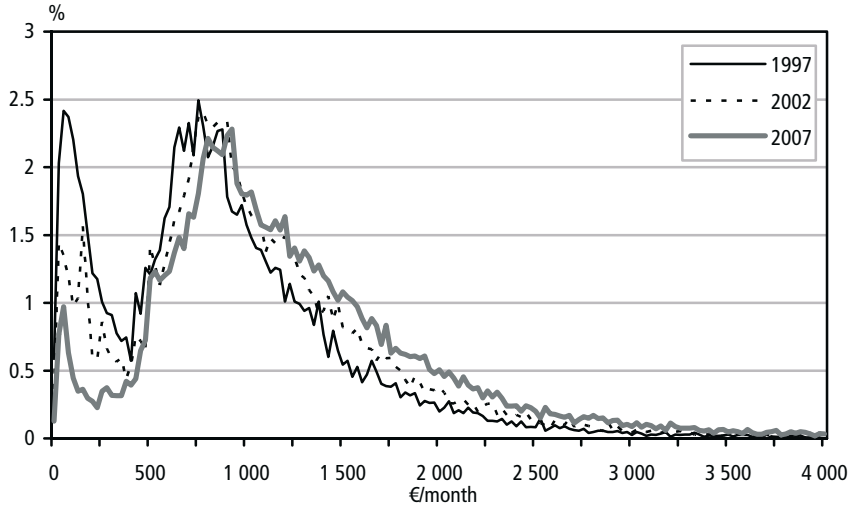
In European comparisons, Finnish pensioners seem very average. For instance, the median income of people over 65 years of age in relation to 50–59-year-olds or 0–64-year-olds is slightly below the EU average. Moreover, measured in terms of the risk of poverty, Finland lies slightly below average. In all countries, women face a higher risk of poverty than men, which is true for Finland as well, women over the age of 75 having one of the highest risks of poverty. (Ahonen 2006.)

On the other hand, in Finland the income distribution of old-age pensioners is among the most even in EU countries. Were the poverty line at 50 per cent of median income, the poverty risk of old-age pensioners in Finland would be among the lowest of all. This indicates that the income of many pensioners lies very close to the poverty line used.

Figure 6.6 shows the distribution of started old-age pensions during the past 10 years, indicating a shift to the right in the distribution. The number of people receiving a small pension has declined and the number receiving an average pension income has grown, without any major changes occurring in the upper section of the distribution. Statutory pensions have developed fairly evenly across different income groups.

In Finland, in international comparisons, wage distribution and income distribution remained even from the 1970s until the 1990s. The distribution of pensions has also been even, due to the abovementioned reason and the late development of pension systems. As earned income has grown and the pension system matures, it can be predicted that the distribution of pension income will continue shifting, as it already has, to the right.

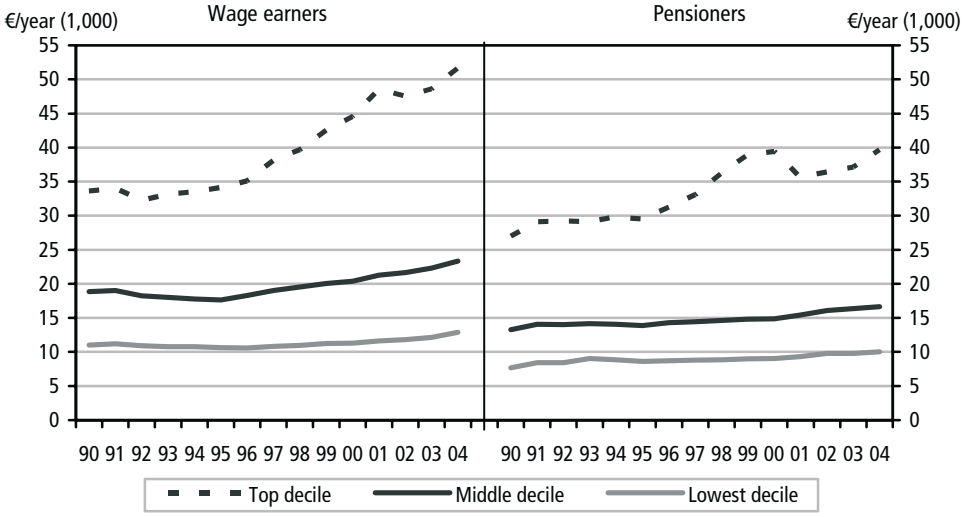
Figure 6.6 Started old-age pension based on 2007 monetary values.



As wage differentials have increased, in future the number of pensioners will include more people on a high pension income. For the time being, the highest percentage pensions have followed the median, and at present, the number of people receiving over 5,000 euros per month in earnings-related pension is marginal. In 2005, pensions paid to the highest per cent (12 thousand pensioners) accounted for 5 per cent of pension expenditure, with an equal share of expenditure for the lowest decile.

A more important indicator than the level of wages and pensions, and the ratio thereof, is probably income, when assessed on a wider basis. In 2004, the income of a middle-income pensioner (available income per consumption unit) totalled 16,600 euros per year, which accounted for approximately 70 per cent of the income of a middle-income wage earner. In real terms, income has increased by a quarter over the year 1990. However, in relation to middle-income wage earners, pensioners have fallen behind, because after the recession, the income of wage earners has increased faster than that of pensioners. On the other hand, during the recession, the position of pensioners in relation to wage earners was exceptionally good. Pensioners' income level accounted for some 70 per cent of the income level of employed professionals, and some 80 per cent of that of the entire population.

Figure 6.7 Pensioners' and wage earners' income development in the lowest, middle and top deciles in 1990–2004.



According to surveys, pensioners' financial situation has improved since 1995, but at a slower pace than that of the entire population. In 1996, old-age pensioners deemed their income sufficient considerably more often than the working-age population on average. In 2006, people over 65 years of age felt that they could manage financially just as well or poorly as the population on average (Kautto 2007).

On the basis of income distribution source material, in comparison with other population groups, pensioner households experience few problems in terms of sufficient income, dwelling costs and paying bills. Focussing solely on households defined as low-income, pensioner households report such problems less frequently than other households. (Statistics Finland, income distribution statistics annual, 2008.)

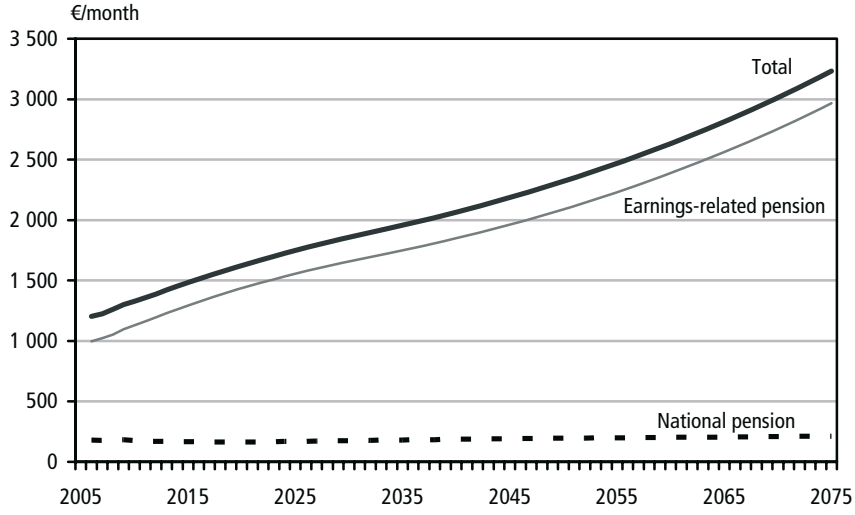
The savings ratio is high among old-age pensioners. As households' financial situation has developed favourably on average, at least, the number of pensioners stating they are able to save has also grown. In fact, their share has grown in phase with the population on average, although growth slowed down for pensioners in the 2000s. The share of those who have to use up their savings or live on debt in order to manage, has decreased both for the entire population and for pensioners. In fact, this share is equal for the entire population and pensioners. (Statistics Finland, Consumer Surveys)

Pension levels in the future

The latest long-term projection by the Finnish Centre for Pensions (Statutory Pensions in Finland. Long-term projections 2007) indicates how the earnings-related and national pension will develop in accordance with the current legislation, and taking account of the change in age composition.

Results indicate that, over the projection period, the purchasing power of the earnings-related pension component will triple from one thousand (in 2006, the average total pension was 1,200 euros per month) to three thousand euros (figure 6.8). The purchasing power of earnings-related pensions will grow because their initial amount is calculated in relation to income level. The earnings-related pension component will increase by an average 1.6 per cent a year, with the income level growing at an annual pace of 1.75 per cent. However, the purchasing power of the national pension component will see no fundamental change from the 2006 initial level. According to the projection, national pensions paid will be increased annually by less than 0.9 per cent in real terms, in compliance with the halfway index. However, because starting national pensions are lower than ending ones, the amount of average national pension will not be affected. At present, the national pension accounts for 15 per cent of an average pensioner's pension income, while at the end of the projection period, the share will have contracted to 7 per cent.

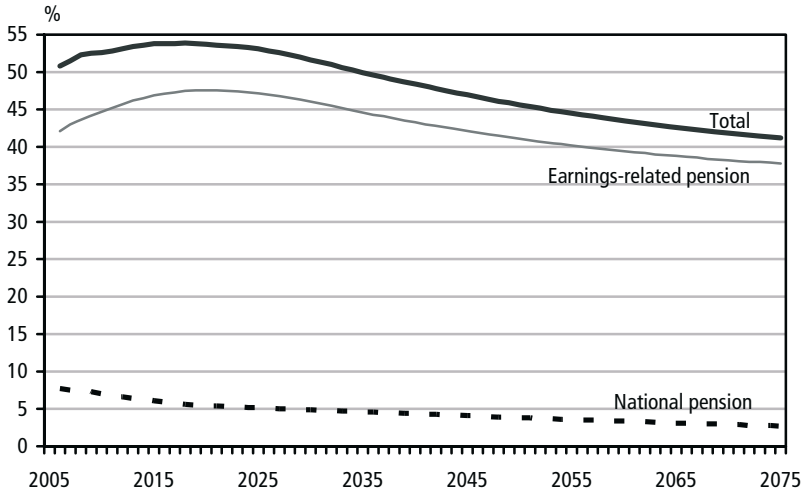
Figure 6.8 Average pension, euros per month at 2006 prices, all pensioners living in Finland, excl. part-time pensioners.



All pensioners living in Finland, excl. part-time pensioners. Pensions payable under motor insurance and employment accident plans and under the Military Injuries Act and the Act Concerning Injuries Sustained in Military Service (referred to collectively by the Finnish acronym SOLITA) are included in the total figures.

In figure 6.9, the average pension is proportioned to the average income of employed people (€2,370 per month in 2006).[83] The earnings-related pension component will continue growing at a faster pace than the income level until the 2020s, due to the earnings-related pension acts entering into force. Older age groups still contain a relatively high number of pensioners on low earnings-related pensions, and people who receive no earnings-related pension at all. From the 2020s, the reduction of the average earnings-related pension in relation to income level is mainly a consequence of the life expectancy coefficient.

Figure 6.9 Average pension, per cent of the average salary.



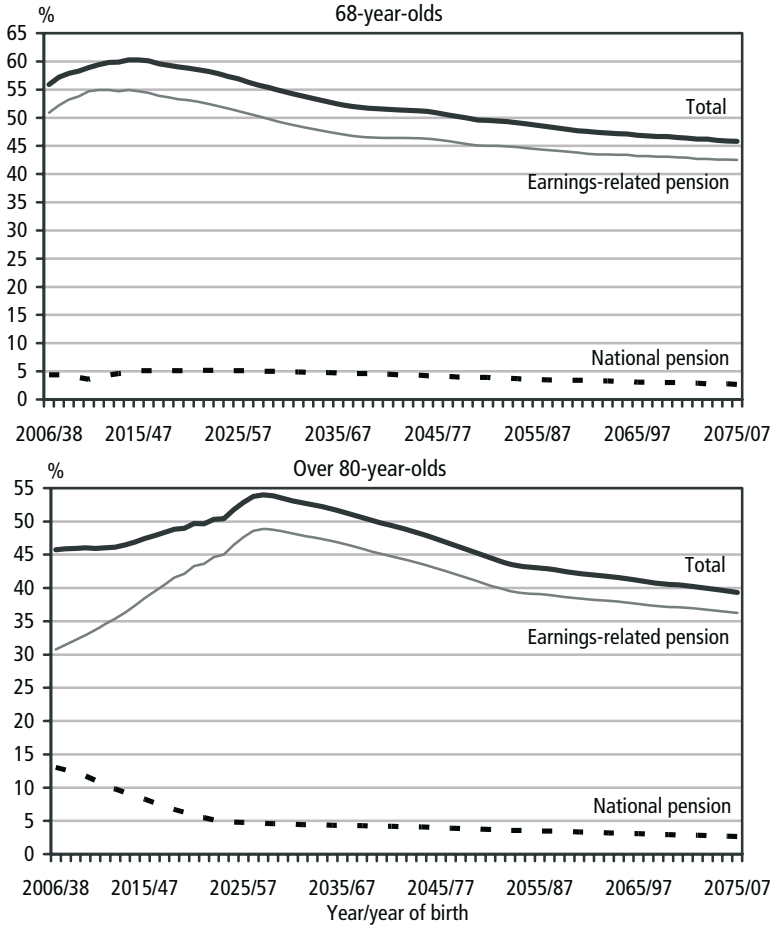
The size of the national pension component in proportion to income level will decrease rapidly in the early part of the projection period, due to earnings-related pensions taking effect, and at a slower pace later, due to the index. Indeed, the average total pension will continue increasing slightly until it begins to decrease in the early 2020s. In the mid-2030s, the ratio of average pension to income level has returned to the current level, and from there on, the average pension level will continue to decrease primarily due to the life expectancy coefficient (earnings-related pension) and insufficient indexing (national pension).

Entry into old-age pensions will develop in tandem with figure 6.9, but the level will remain somewhat higher. The relative pension level is highest for age groups born in the mid-1940s (figure 6.10). From their viewpoint, the earnings-related pension acts have become fully effective, but amendments to legislation lowering pension levels (harmonisation of accruals in the public and private

[83] The amount in question is the ratio of gross pension to gross salary. Considering the differences in the size of households, and income transfers, in 2004 the income available for pensioner households accounted for 70 per cent of the income of employed persons and over 80 per cent of that of the entire population.

sectors, and life expectancy coefficient) do not have a weighty impact. The postponement of the retirement age, included in the projection, will not suffice to maintain the current level of relative benefits. Moreover, the significance of the national pension will remain relatively stable for 68-year-olds in the early part of the projection period. With respect to the old-age pension, the compensation rate will rise to 60 per cent at the highest. Figure 6.10 also reveals the development of the pension levels of pensioners already enjoying an old-age pension (over 80 years of age) in relation to wages.

Figure 6.10 Average pension of 68-year-olds (upper figure) and over 80-year-olds (lower figure) as percentage of average salary.

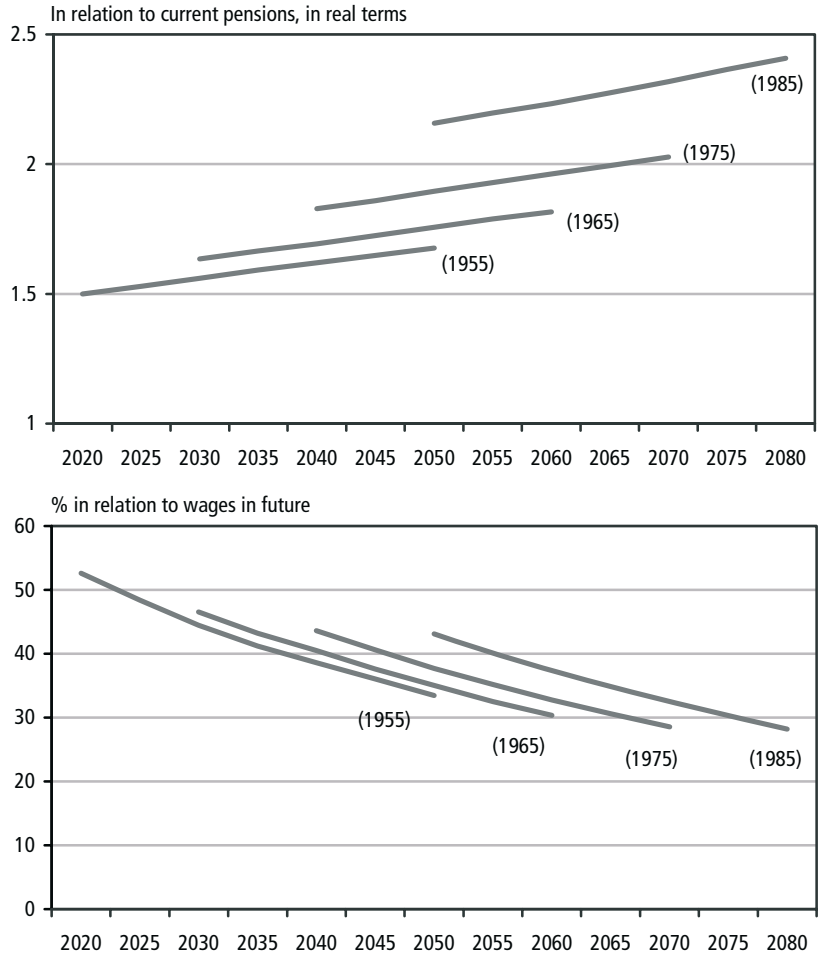


The upper part of figure 6.11 compares future earnings-related pensions to current ones. The level of earnings-related pensions of the cohort born in 1940–1944 for 2005, when this cohort is 65–69 years old, is indexed to 1/unity. The figures for future pensions describe the real value of pensions. On the basis of this projection, *in the future, earnings-related pensions will be markedly higher*

than today. Hence, the earnings-related pensions of the cohort born in 1985 will be over double the current ones in real terms by the 2050s. The pensions of future cohorts in relation to the current level will increase while they are pensioned, due to the pension index.

In the lower part of figure 6.11, the comparison is with the average salary of the same group of employees during their years of retirement. The figure shows that during the first years of old-age pension, earnings-related pensions are less than one half of wages. *While in retirement, the pension in relation to average wages decrease,* due to the pension index, i.e. the so-called adjusted index.

Figure 6.11 Future earnings-related pensions. Cohorts born in 1955, 1965, 1975 and 1985.



In real terms, pensions increase, but at a slower pace than real wages. *The faster life expectancy rises in the future, the more commonly people will face a situation in life in which their statutory pension in relation to the wage level will remain low.*

Since pension rights accrued in the public sector are higher than those in the private sector, entry onto a pension, for instance in the 2020s, will be higher in relation to wages than pensions started later. The difference between the public and private sector will disappear for rights accrued after the 2005 pension reform. This, combined with the impact of the life expectancy coefficient, is evident in the figure as a gradual decrease in pensions started (Lassila et al. 2007).

Hence, the notion of the size of future earnings-related pensions depends completely on what they are compared with. From the perspective of the current level, pensions are high, but in view of future wages, they are not so. In retirement, the increase in real earnings enhances the purchasing power of pensions, but reduces pensions in relation to wages. Which of these viewpoints, the absolute or the relative, is more important?

In the future, pensions will presumably seldom be compared with current pensions, but with future earned income and the income of other pensioners. This latter comparison is hard to avoid because other people are present every day and images of their consumption level and income will be formed without any conscious comparison. Such natural conditions do not often emerge for comparing income and purchasing power with income of the past.

The generation perspective and the returns of the earnings-related pension scheme on the pension contribution

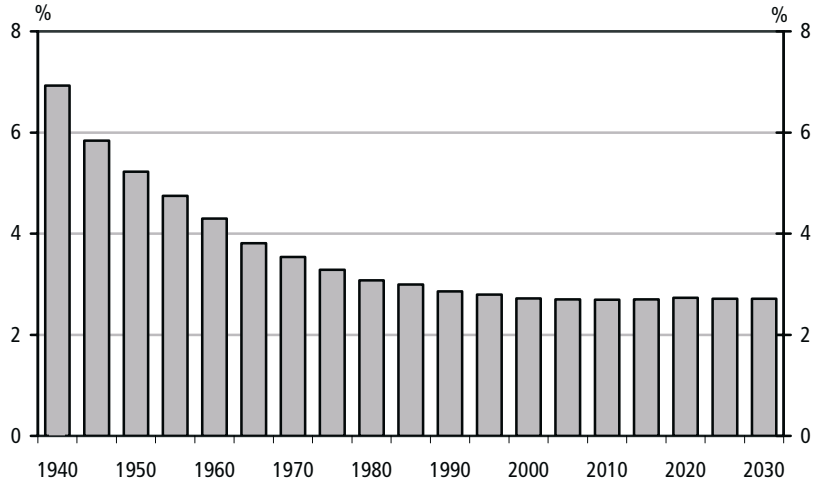
Solutions related to the financing of pension security entail various consequences for different generations, whenever there are major differences in size between generations or population groups. Intergenerational equity has been researched in many countries, including Finland. Perspectives vary as concerns the benefit or financing systems selected for review, and the time span of the review. Basically, studying intergenerational equity requires an extremely long-span approach.

In light of historical statistics, the pensions paid and received by various age groups in Finland have been examined (Gröhn 2007). As a result of statistics-based assessments, it has been found that, so far, the generations preceding the baby-boomer generations have benefited most, from the viewpoint of pension scheme financing. When calculations take account of pensions paid in the future, and their financing, the baby-boomer generations benefit more from

financing than the subsequent cohorts born later. However, calculations indicate that the basic situation is positive for all cohorts, since they will gain more from the scheme than they have contributed to it financially.

A study by the Research Institute of the Finnish Economy ETLA (Korkman et al. 2007) approaches the issue from the viewpoint of the future development of the pension scheme, attempting to measure the returns of the Finnish earnings-related pension scheme on pension contributions. Figure 6.12 shows an estimate of the returns of private sector earnings-related pension contributions, over the entire lifecycle, to different generations.

Figure 6.12 Earnings-related pension return by generation. Each column describes one cohort's average real return on the earnings-related pension contribution (% per year).



The private sector earnings-related pension scheme became effective in 1962. Generations that embarked on their working careers prior to that have received extremely high returns, which are excluded from the figure. Cohorts born in the early 1940s are the first with paid earnings-related pension contributions more or less throughout their working lives. They receive fairly good returns on their contributions, because during their working lives, their contributions were remarkably low in relation to the pensions they now receive. The same is true even for the baby-boomer generations born towards the end of the decade. Neither have they had to finance full pensions for previous generations. The real return decreases over time: the return for people born in the 1950s is slightly higher than that for those born in the 1960s, which, in turn, is somewhat higher than for people born in the 1970s. According to this forecast, the real return for future generations will stabilise between two and three per cent, based on rising income levels and returns on the contribution share placed in reserve funds.

Regardless of the vast horizon of the forecast, the trend indicated by this calculation is reliable. The first generations received a pension without having to pay a great deal for it (cf. also Gröhn 2006). Their pensions are being paid for by subsequent generations, who, therefore, will receive lower returns. The position of later generations depends on the development of the population's age contribution and finances.

Observations and conclusions

- Pensions received have retained their real value over the last ten years, but in proportion to the average income of the rest of the population, the value of the pension has slowly decreased.
- In Finland, the income distribution of old-age pensioners is among the most even in EU countries.
- In comparison with other population groups, pensioner households experience few problems in terms of sufficient income, dwelling costs and paying bills.
- The average pension will rise in future, too.
- In proportion to income, the average pension will continue increasing until the 2020s, after which a gradual decrease will begin. The initial rise is due to the maturing of the pension scheme, and the decrease primarily to the life expectancy coefficient of earnings-related pensions.
- Future-oriented calculations indicate that all cohorts will receive more than the total of their financial contributions from the pension scheme.
- The baby-boomer generations will benefit more from pension funding than younger generations.

6.4 Development of the welfare of older people and the nursing issue

In light of various indicators, the welfare of older people has developed positively: problems in the availability and accessibility of dwelling and local services have become fewer, the subjective financial situation has improved, and perceived health and daily functional ability have improved. However, living alone, another risk factor affecting the need for nursing, has become more frequent and the oldest women in particular, usually also on a low income, live alone. Those living alone experience more problems in everyday functional ability, and as this is largely related to functions outside the home and to moving around outdoors, issues related to the accessibility of living environments are at stake, at least partly. Furthermore, the share of people with major deficiencies in functional ability has increased slightly, and this is related to more very old people living at home. At any rate, publicly financed home-help/home care has proven unable to keep pace with developments, its use having decreased according to statistics (Official Statistics of Finland 2007) and

actual reported use (Vaarama et al. 2006, Vaarama 2008). The intensity of these reductions is characterised by the related development between 1998 and 2004, when the coverage of home-help/home care decreased from approximately 21 per cent of over 60 year olds to 5 per cent. Concurrently, even help from families has decreased, although it is more common than municipal help, but in any case, the quantity of help acquired from the third sector by older people themselves has increased. This indicates that the relinquishment of public responsibility has not only transferred responsibility to relatives but also to the third sector. Since, at the same time, the experienced service deficit has tripled over five years, it seems that, in part, the need for help experienced by people living at home has remained completely unsatisfied. Moreover, every fifth person entitled to home care feels that they do not obtain sufficient help (table 6.3). This would seem to justify claims that the service deficit has become chronic in terms of home nursing for elderly people.

Although the number of older people living at home has grown and continues to do so, the relative coverage of almost all services they need has decreased over the past 20 years (table 6.3). Only the coverage of sheltered housing and support for informal care have grown. Home help for older people and traditional long-term care in particular have undergone intense cuts, while the coverage of regular home care has also fallen.

The structure of help provided at home has changed significantly in such a way that the public sector now plays a smaller role than families and the third sector, and the experienced insufficiency of help has multiplied. Every third - fifth person feels they are left without the help they need, or that they receive too little of it. The additional need for services is targeted at municipal home care support services and home care in particular.

Hence, older people have increasingly resorted to their next of kin and relatives and the third and private sector, but the experienced service deficit has continued to grow as, perhaps, have the economic differences in how and where people gain help. By the end of the 1990s, the polarisation of older people into two groups was apparent as concerns institutional care and sheltered housing, with the better off using private services, and people on a low income and with the greatest need for help using public services.

The following are typical of users of private services: the possession of a higher education, and, consequently, a better income and functional ability than users of municipal services, the high availability of such services in urban municipalities alongside the fact that many of these people arrange help for themselves, without the intervention of local authorities. Although this decreases the pressure on public services and will become more common due to the higher standard of living of older people in future, the risk of polarisation is imminent,

with municipal services remaining services for those with limited means, while others seek services through the private markets. This is more probable the weaker the quality of public services, and the stricter the criteria for being eligible for them, become.

Table 6.3 Finnish older people's self-reported functional ability and access to help in 1998–2007.

Parameter	60+ 1998 (n=1 036)	60+ 2004 (n=1 059)	80+ 2004 (n=391)	
Age, average	70	73	N/A	
minimum-maximum	60–94	60–96	80–84 (64 %)	
Living alone %	36 17 (M) 46 (F)	42 24 (M) 54 (F)	34 (M 80–84) 40 (M 85+)	74 (N 80–84) 88 (F 85+)
Problems: kitchen, bathroom, toilet %	11	8 (M) 10 (F)	9–13 (M)	12–16 (F)
Physical obstacles for moving outdoors (at home/outdoors) %	13—28	15 (M) 19 (F)	23 (M)	30 (F)
Problems in service accessibility %	44	N/A	19–35*	
Insufficient finances to meet personal needs %	17	10	10	
No problems in I/ADL %	46	48	20 (M 80–84) 16 (M 85+)	17 (F 80–84) 3 (F 85+)
Only problems in IADL %	29	36	51 (M 80–84) 37 (M 85+)	55 (F 80–84) 43 (F 85+)
Problems in IADL + minor problems in ADL %	19	8	20 (M 80–84) 21 (M 85+)	15 (F 80–84) 20 (F 85+)
Problems in IADL + severe problems in ADL %	7	8	9 (M 80–84) 26 (M 85+)	13 (F 80–84) 33 (F 85+)
Content with personal health %	44	63	57 (M)	57 (F)
Receives public home-help (care) %	21 17 (M) 23 (N)	5	8 (M 80–84) 19 (M 85+)	14 (F 80–84) 19 (F 85+)
Receives help from family/close friends %	17 13 (M) 19 (N)	6	11 (M 80–84) 21 (M 85+)	14 (F 80–84) 20 (F 85+)
Experiences service deficit	7	22	30 (80–84) 20 (85+)	

* Over 80 year-olds felt that all services essential for daily living were too far away.

Source: Vaarama (2008).

However, there are major differences between regions in the usage of services, both as concerns service structures and the scope of services. Rural regions have succeeded better than urban regions in adapting their nursing provision in the direction of light service structures. Testimony to this can be found in the lower number of residents in residential homes as a proportion of the population of the corresponding age in urban areas. However, the number of beds in health-centre inpatient wards is relatively high in rural regions, too, and the share of institutional care (care in residential homes and health-centre inpatient wards on aggregate) is clearly above the recommended level. In part, these differences indicate that, for historical reasons, the focus of nursing is different.

For instance, where municipalities have constructed institutional care, its withdrawal would require the modernisation of buildings and other investments that municipalities have been unwilling to undertake. Particularly major differences can be found in support for informal care, which is extremely scarce in some regions, while some rural regions exploit it to a significant degree. In all, the level of divergence seems to be greater in rural regions, i.e. the figures for the dimensioning of nursing, and those indicating scarce dimensioning, vary. (Volk & Vaarama 2008, table 6.4)

Table 6.4 Use of services by region and in the entire country, and differences from the quality recommendation.

Customers over 75 years of age, % of population of the corresponding age 31 Dec 2006	1 Metro-politan area	2 Diverse university regions	3 Regional centres	4 Industrial centres	5 Rural regions	6 Sparsely populated regions	7 All of Finland regional average	8 Target according to quality recommendation	9 Deficit /excess re the recommendation
Support for informal care	3.1	3.4	3.5	3.5	4.2	5.1	4.0	5–6	-20–33
Regular home care (30 Nov 2005)	10.9	11.6	11.2	12.1	12.7	14.5	12.5	13–14	-4–11
Customer of ordinary sheltered housing for older people	2.1	1.9	1.7	1.0	2.4	2.0	1.9		
Customer of sheltered housing for older people with 24-hour assistance	3.4	3.1	3.9	3.9	3.9	4.3	3.9	5-6	-22–35
Residential home customer	4.6	4.0	3.8	4.3	4.3	3.2	4.0		
Long-term customers of health centres	2.1	2.6	2.8	2.1	1.9	2.6	2.3		
Living at home	89.8	90.1	89.4	89.7	89.7	89.9	89.7	91–92	-2–2,5
Long-term institutional care in residential homes or health centres	6.6	6.5	6.6	6.4	6.3	5.8	6.3	3	+48

Support for informal care, regular home care and, additionally, sheltered housing with 24-hour assistance, is more common in rural regions than in urban areas. Better coverage can also reflect conditions and higher-than-average needs, since, for instance, poorly equipped dwellings and morbidity increase service needs. Average figures on the scope of nursing indicate that, regardless of the increasing need for nursing in urban areas, and the Helsinki region in particular, institutional care-based nursing is more emphasised.

A review of the regional level reveals different nursing coverage in different types of areas. However, a common feature is that almost throughout, coverage is lower than that proposed in the Ministry of Health and Social Affairs' quality recommendation for care and services for older people, and the service structure emphasises institutional care. Rural regions have succeeded better than urban regions in adapting nursing structures towards light service structures. This is indicated by the lower number of residents in residential homes in proportion to the population of the corresponding age in urban areas. However, the number of beds in health-centre inpatient wards is relatively high in rural regions too, and the share of institutional care (care in residential homes and health-centre inpatient wards on aggregate) is clearly above the recommended level.

The previously detected decrease in self-reported use of public nursing (table 6.3) corresponds with the impression given by statistics (table 6.4). Only every fifth person over 85 years of age reports having received municipal home care, whereas double that number have received help from their families and third sector organisations. The service deficit was experienced expressly in terms of municipal home-help and home nursing services (Vaarama et al. 2006).

Assessments of the experienced service need described above can be criticised insofar as the need is limitless but the resources for meeting it are restricted. Therefore, prioritisation of those with the highest need for help is emphasised. However, levels of help which are too low constitute a problem for the oldest in particular, since approximately every third woman over 80–84 years of age, and every fifth person over 85 years of age, regardless of gender, consider the help they received as insufficient in 2004 (Vaarama et al. 2006). The success of prioritisation can also be assessed by comparing the coverage of municipal home care with the number of elderly facing major problems in coping both with everyday chores and personal daily living, and by assessing the service deficit they experience (table 6.5). This comparison, too, refers to a deficit both in terms of the coverage and intensity of home care.

Table 6.5 Major problems in functional ability, coverage of home care and experienced service deficit, % of age group in 2004

Age group	Major problems in functional ability	Documented use of home care	Self-reported use	Help received from family	Experienced deficit in 2004	Experienced deficit in 1998
60+	8	6,5	5	6	22	7
80–84	11	N/A	10	13	30	N/A
85+	30	21	19	20	20	N/A

Sources: Vaarama and Kaitsaari (2002), Vaarama et al. (2006).

Privatisation and commercialisation are likely to continue in the market for services for older people, while private and third sector services will complement public services more than before. However, it is essential in terms of political and social sustainability that decision-making be open as regards the kind of private and public partnership striven for, the way in which the position of service users, who are often incompetent, is protected and whether the development based on which public services increasingly constitute qualitatively deteriorating services for low-income people should continue, whereas those with a higher income acquire help on the private markets. This is related to the kind of nursing commitment society wishes to provide. It will probably also prove possible to develop the private and public partnership without exacerbating the differences between social classes. On one hand, support for the purchasing power of those on a low-income via the service voucher system is related to this, while on the other, as the markets expand, their control is necessary in order to protect the position of often incompetent customers. The solution to this might be to extend national quality certification to nursing services for older people, because if certification were applied to public and private services alike, it would reduce the quality gap between them while not only securing service quality, but also the position of customers and service providers. Certification would also produce standards for improving the position of municipalities in competitive tendering related to the purchaser-provider model, since municipalities could make the price-quality ratio the basis for decision-making, rather than mere price.

In all, the public nursing commitment should be subjected to detailed scrutiny while reconsidering the content and status of quality recommendations within the public steering system. In comparison with the need for help, as experienced by older people, and forecasts on the development of their functional ability, calculatory dimensionings should be 18–20 per cent based on home care and 12 per cent on one-tier long-term care, for the population over the age of 75. However, the problem of sufficiency is not only about how many receive service, but also about whether they receive adequate service. Studies indicate that this is not the case. Instead, in home care, some 20–30 per cent feel they receive too little help. On the other hand, however, service quality can exceed its reputation. Therefore, a thorough investigation of the current status of services for older people in municipalities should be conducted, and a nursing policy programme drawn up to remedy the situation and prepare for the future. Because the nursing issue is intergenerational, the nursing commitment should also be agreed on between generations. One possibility would be to establish a national nursing forum to discuss the care commitment and establish a consensus on it.

Observations and conclusions

- In light of various indicators, the welfare of older people has developed positively.
- The coverage of services provided in the person's home has decreased in the last 20 years, although the number of older people living at home has increased.
- Older people have resorted increasingly to their next of kin and relatives and the third and private sectors.
- However, there are major differences between regions in the usage of services, both as concerns service structures and coverage.
- Almost throughout, the coverage of services for older people is lower at regional level than that proposed in the Ministry of Health and Social Affairs' quality recommendation for care and services for older people, and the service structure emphasises institutional care.

6.5 Perspectives on political sustainability

The economic consequences of an ageing population are often discussed with the help of public finances sustainability calculations. In most cases, the baseline scenarios for these calculations are based on the assumption that 'the current policy' will continue in future. However, the ageing of the population may itself create pressure to change policy. This chapter considers some potential changes and their probable consequences. A good example would be a situation in which pensioners succeed in increasing their pension benefits through their increasing political power, for instance by restoring the half-way index to earnings-related pensions. As a result, pension expenditure would grow by more than estimated according to the baseline scenario, and its financing would become more difficult.

The baseline scenario does not necessarily describe a continuation of the current policy, but may also involve changes to the welfare system, considered essential if the development scenario does not seem financially sustainable without changes. In such a case, there is a risk of older people preventing such changes through their voting power. The possibility of a negative development, 'a vicious circle' as presented below, describes such a situation.

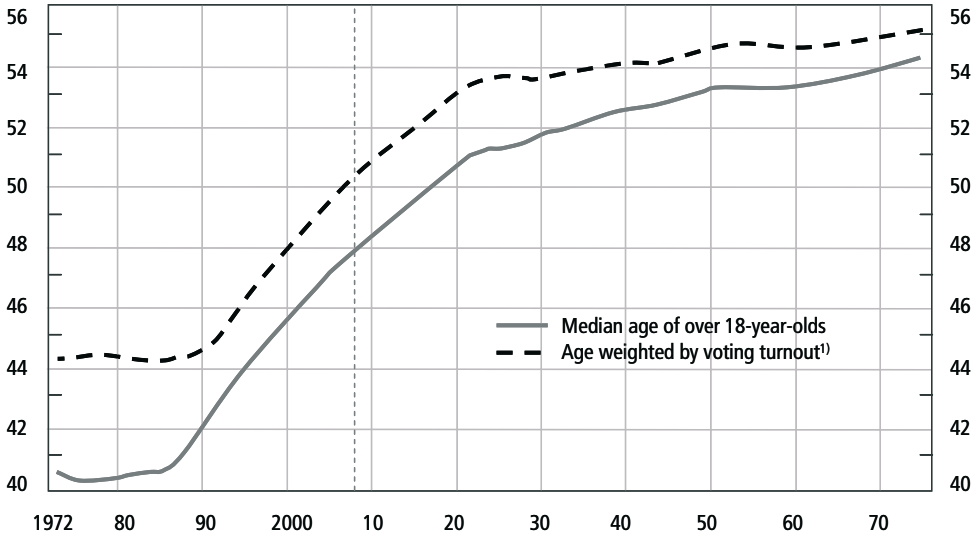
Pressure on political decisions may also originate in other environments, for reasons unrelated to ageing but which would still change the hypotheses underlying the basic calculation. For instance, relationships between labour market organisations may change in a way that leads to the fundamental revision of the earnings-related pension scheme. Moreover, in some respects, social sustainability is mainly a political issue – if social security is considered too low, benefits may be revised via the political process.

The political risks reviewed herein are based on various studies, which do not form a uniform outlook. The issues and development scenarios considered are possible, but by no means inevitable. However, it is clear that political risks contribute to increasing the uncertainty related to ageing scenarios. This uncertainty is extreme even without political risks, as indicated by several recent studies (e.g. articles in the volume Alho et al. 2008).

Ageing voter base

The voter base in Finland has aged and continues to do so. Figure 6.13 describes this trend: the median age of those entitled to vote has increased from 40 in the early 1970s to the present 48 years. According to Statistics Finland's population projection, the median age of voters will increase to 51 in the early 2020s. Thereafter, the rise will continue, but at a slower pace.

Figure 6.13 Median age of voters.



1) Voting turnout of men and women by age group in the 1999 parliamentary elections. Weightings based on the study by Martikainen, T-Wass, H: Dormant partners. Statistics Finland, Elections 2002:1.

Source: Research Institute of the Finnish Economy ETLA.

The average age of those who exercised their right to vote is higher than that of all citizens of voting age. Meanwhile, in the 1999 parliamentary election the median age of persons entitled to vote, weighted by voting activity by age group, just exceeded 50 years. In ten years' time, this age will rise by two years, exceeding 54 years in the 2030s and, thereafter, the rise will slow down.

The period of a rapid increase in the median age of the voter base began in the late 1980s, having now lasted for 20 years, and is predicted to continue for around another 15 years. Hence, we have just passed the midpoint of the period of rapid change.

Aged voters preventing reform

In order to convert the aging of the population into an economic success story, reforms in both working life and public sector activities are called for. However, these reforms may be torpedoed by decisions taken under the political system – in other words, aged voters (more apt than young voters to avoid risks) may prevent reform. They could maintain the high level of income transfers they receive, while the necessary tax revenue lowers the returns on the human capital of young people.

Boeri et al. (2006) and Bovenberg (2008) describe the vicious circle in financial and population development which would be caused were an ageing voter base to take selfish decisions. This vicious circle includes the following: high public expenditure related to ageing of the population will maintain high taxation; detracting from the financial motivation of work, which in turn will result in the prevalence of early retirement. Furthermore, human capital gained via education may generate returns for a short time only. Short working lives do not allow time for having children, which results in a low birth rate, which, in turn, would lead to further deteriorations in the population's age structure. The tax burden of the working-age population will grow and incentives weaken. Indeed, the probable features of such a society would include low innovation levels and political instability.

Surveys conducted in EU countries, such as the Eurobarometer (2004), indicate that some potential ways of managing rising pension expenditure in future are highly unpopular. For instance, four respondents out of four, both in Finland and the EU countries on average, oppose raising the retirement age. This opposition seems to bear no significant relationship to the respondent's age.

Rises in pension contributions are considerably more popular, with two out of three EU respondents accepting them. In Finland, four out of five were in favour. Being in favour of such a measure increases systematically with age: more than one half of EU citizens under the age of 25 are in favour of raising contributions, but the figure for over-55s is as many as three out of four. Avoiding rises in pension contributions, by cutting benefits if necessary, is unpopular, with only 30 per cent of EU citizens, but marginally more Finns, in favour of this. Among over-55s, the opposition is slightly higher than among younger people, but otherwise there is no obvious dependency on age.

Reducing unemployment and the resulting increase in the number of pension contributors would be a highly popular method of managing the financing problem, alongside raising degrees of participation. Almost as popular is the vague 'cutting of other public expenditure'. However, in Finland only 74 per cent are in favour, while the EU average is 82 per cent.

The possibility of partial retirement, i.e. some form of part-time pension, was generally considered good.

Support for various pension reforms has been studied via median voter models (e.g. Lassila & Valkonen 2001). According to these models, cutting pensions is often unpopular, the more aged the population becomes. On the basis of models, for instance, the life expectancy coefficient soon to be introduced in Finland is unpopular. However, its success with the working-age population is clearly higher than among the entire adult population, which may partly explain the acceptance of this decision.

Aged voters and regulation of the economy

Galasso (2006, 2008) has studied the political risks involved in the ageing of the population on a broader basis than in the vicious circle depicted above. The baseline is as follows:

1. Democratically elected decision-makers manage economic policy in order to enhance their possibilities of re-election.
2. The ageing of the population transforms the voter base.
3. Politicians react to changes in the voter base.

In addition to public expenditure and taxes, Galasso also examines control of the economy, in particular legislation concerning the labour market and the position of workers, and other forms of control. He also examines the control of commodities markets, finding a positive correlation between the level of social expenditure in various countries, and employee protection.

Galasso examines four models of the welfare state. In a liberal welfare state (United Kingdom and the USA) employees enjoy little protection and poor social security. The labour market is flexible, control of the commodities market low, social security low and preparation for risks remain the individual's responsibility to a significant degree.

In family model countries (Spain, Portugal, Greece and Italy) both the commodities and labour markets are intensely controlled. Public spending on measures to activate the workforce is low, and social security focuses on pensions. Therefore, seniors (heads of the family) in permanent employment, and pensioners, are particularly protected.

Social-democratic welfare states, i.e. the Nordic countries: in these countries, regulation is higher both in the commodities market and labour market than in liberal countries, but clearly lower than in the family model countries. Social security is high, and a number of measures are taken in order to decrease the risks of unemployment.

Corporate welfare states (France, Germany, Austria and Belgium) resemble the social democratic ones, but the degree of regulation is generally higher in the labour market and in the commodities markets.

According to Galasso, policies enacted under the circumstances of an ageing voter base would be as follows:

- Incentives for extending working lives have been improved, and will be improved even further.
- Regulation of the commodities market has been decreased, and this trend may continue because it is in line with the interests of the aged.
- There are no discernible signs of deregulation the labour market, and this is probably not in prospect.

Decision-making concerning earnings-related pensions

The earnings-related pension system in Finland's private sector is created through cooperation between employee and employer organisations, which still remain key decision-makers. The actual role of the Parliament and Government has been relatively minor, even though the system in question is a compulsory and statutory one. One might ask whether this distribution of power will change once the relations and operating forms of labour market organisations do so.

The Confederation of Finnish Industries, EK, has decided that centralised income policy agreements will no longer be made. This is exerting pressure to change the cooperation between central organisations and may even lead to a stronger role for the Government in tripartite cooperation, with a correspondingly minor role for organisations.

The private sector's earnings-related pension system is different from other forms of social security and policies, due to the sizeable fortune amassed in employment pension funds and foundations. Naturally, labour market organisations are hardly likely to be willing to transfer decision-making power over these funds to parliamentary decision-makers.

However, if changes in the cooperation between organisations result in the earnings-relation pension scheme being unable to make the required decisions in future, a window of opportunity may open for transferring power. The

earnings-related pension system and the national pension system may become a single system, decisions on which will be made by the Parliament. Korkman (2008) ponders the consequences of such a change.

Were decision-making concerning the earnings-related pension system transferred more clearly to Parliament, the voter base influencing decision-making would become distinctly older. Labour market organisations represent the working age population in particular, while Parliament represents everyone of voting age. Lassila and Valkonen (1996) use the median voter model to analyse a situation in which majority decisions hold sway on the earnings-related pension level. If the voter base were of working age, the resulting pension level would be lower than if the entire adult population was entitled to decide. According to this analysis, decisions taken by voters would take far-sighted account of all the financial impacts of the pension level, including the impacts of pension costs on taxes, and further on investments, and through that on the productivity of work. These impacts are significant to voters of working age, but less important to old-age pensioners. It can be assumed that bolstering the position of Parliament would increase the probability of changing pension indexes or increasing benefits in other ways. From the viewpoint of the sustainability of public finances, this would be a problematic development path, if other aspects remain unchanged.

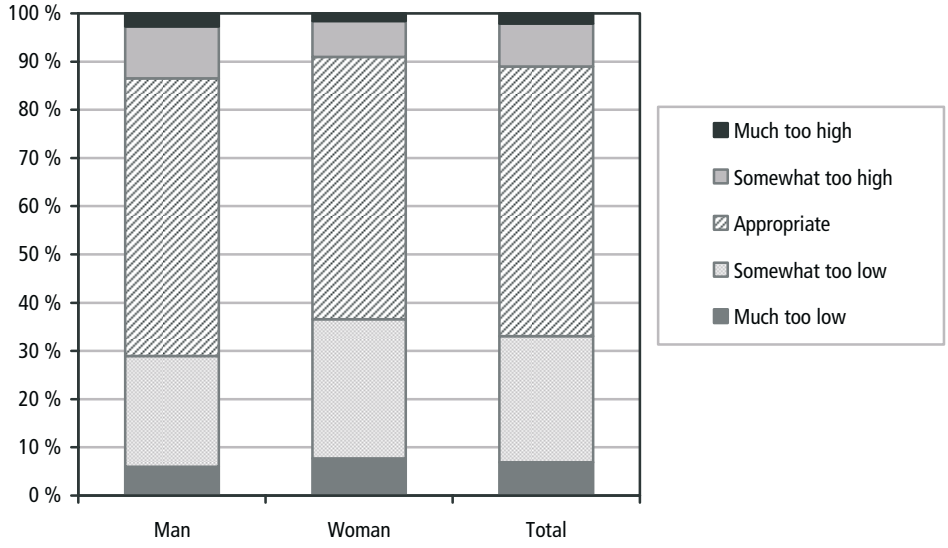
6.6 Confidence and faith in the future

Without exception, Finland and other Nordic countries rank among the countries where citizens' confidence in societal actors is solid, Finns trusting the police even more than people in other Nordic countries. At the same time, the welfare state can be considered to have upheld this general confidence - and to contribute to upholding it further. Confidence in officials and the social security system has been increasing in Finland in the 2000s, while that in health care has been decreasing. However, the majority of Finns still have at least a fair amount of trust in these actors. (Borg 2007). As concerns various institutions, Finns are most satisfied at present with the responsibility that non-governmental organisations bear for the welfare of Finns. In fact, almost one half wish that the responsibility borne by such organisations for our welfare would remain at the current level.

Several studies indicate that Finns consider the level of social security in Finland either appropriate (56%) or too low (33%) (figure 6.14).

Women, more often than men, find the level of social security too low, whereas more highly educated and high-income people more often consider the level of social security too high in Finland, and too low less frequently than others. Differences are minor by age group and region, even if people in southern Finland consider the level of social security slightly more often too high and slightly less frequently too low than other Finns.

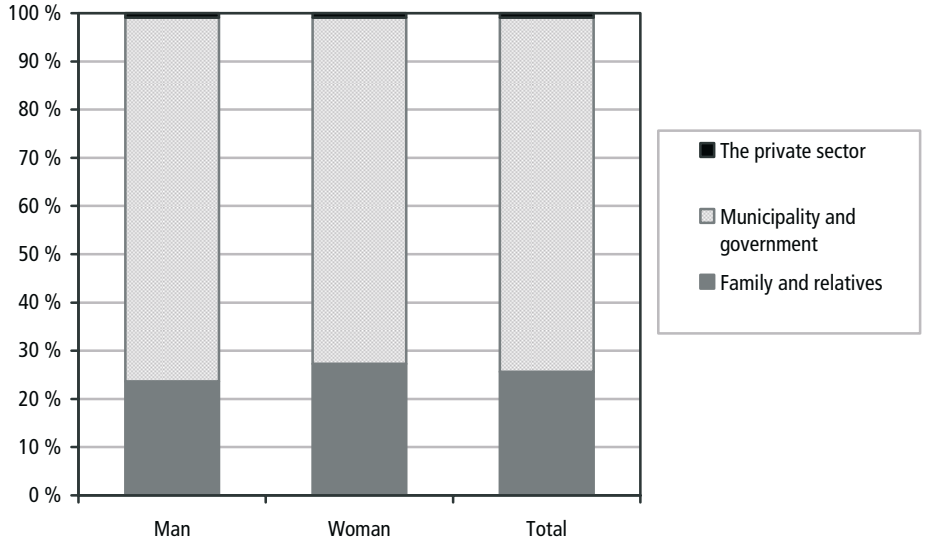
Figure 6.14 The level of social security in Finland (N=4444).



Finns are in favour of the state and municipalities playing a strong role in producing social and health services for citizens, because nine out of ten are at least to some extent of the opinion that the state and municipalities should produce the major part of social and health services.

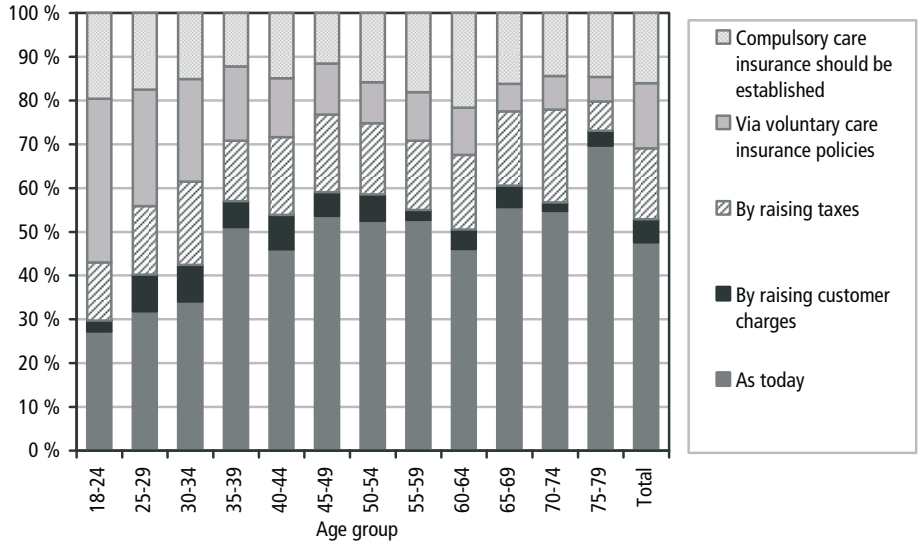
However, support for service provision by the state and municipalities decreases slightly, as the educational level and income bracket rises, and among younger age groups. Support is lowest in the south, but regional differences are minor. Finns also consider the public sector as being primarily responsible for elderly care, because almost three out of four find the municipality and state to be the most important party in charge of this. One quarter supports the idea that primary responsibility should rest with relatives and families, while only one per cent of respondents favour the private sector (figure 6.15).

Figure 6.15 The key party in bearing responsibility for elderly care (N=4674).



The difference between genders is clear in that women consider the family and relatives to be the key responsible party more often than men, whereas men would vest this responsibility in municipalities and the government. Reviewed by age group, younger age groups considered the family and relatives as the key party bearing responsibility for elderly care, while 60–74-year-olds emphasised the responsibility of family and relatives least. The support of family and relatives as the key party in bearing responsibility for care is low up to the second-highest income bracket, where it increases slightly, while support for the private sector and 'another party' is most common in the highest income bracket. However, the differences are small by income bracket, and all income brackets find the government and municipality the key party in bearing responsibility for elderly care. There are no significant regional differences and differences between educational levels . Less than one half of Finns favour the present financing model as the best way of ensuring financing for long-term elderly care, and some 20 per cent were even prepared to raise taxes in order to secure financing (figure 6.16).

Figure 6.16 The best way to secure the financing of long-term elderly care (N=2210).



Support for the current financing model increases with age, whereas younger age groups more often support care insurance. Support for voluntary care insurance is highest among 18–24-year-olds (almost 40%), which might indicate an intergenerational conflict, but this is probably at least partly due to their having, or continuing, private care insurance taken out by their parents earlier. Furthermore, support is also continuously solid among 35–59-year-olds, which probably renders the notion more natural that the youngest do not yet experience the issue as personal, the middle group faces the issue through their own parents and grandparents, while the oldest age group is on the verge of commencing the use of these services. Comparison with earlier surveys indicates that, in particular, support for compulsory care insurance increases among older people, such support being most intense among under 75-year-olds, who are also better educated and have a higher income than aged people older than them. Support for care insurance has tripled from 1994 to 2004 among people over 60 years of age.

Hence, Finns are satisfied with public social and health services, and in the main the level of social security, even though every third person finds it too low. However, less than half are in favour of the current way of financing services for the elderly. On the basis of these results, no intergenerational conflict is apparent in Finland as regards social security, since the present system has solid support across all age groups. However, differences are also discernible in terms of hope for a change in the level of social security (to be improved) and the financing of elderly care (increasing support for care insurances, voluntarily in younger age groups, and on a compulsory basis among older ones). Therefore,

ensuring the functionality of the public service system, and maintaining social security at the present level at a minimum, are important issues for Finns.

Discrimination against the aged

According to surveys, nine out of ten people are of the opinion that older people are discriminated against in Finland, at least to some extent (Vaarama & Moisio 2008). This opinion was most common among 45–74-year-olds, and over one fifth of the 55–69-year-olds think discrimination is frequent. Even among the youngest, only 20 per cent thought that there was no discrimination, and in the opinion of every tenth person older people are highly discriminated against. In comparison with previous studies, over 60-year-olds find that discrimination against older people has increased considerably. Factors creating exposure to ageism seem to include a higher education, living in the region of Uusimaa in southern Finland, and general discontent with life. Politicians and the media in particular were thought to discriminate against older people, and poor treatment was encountered in municipal services too. On the other hand, only a few persons had personally experienced discrimination, for instance among third age people in northern cities. (Koskinen et al. (2007). A special dimension in the discussion of discrimination is societal discrimination, evident for instance in undersized public services for the aged. (Jyrkämä & Nikander 2007, Vaarama 2007).

Since, according to various agendas and age strategies, the intent is to decrease ageism, it would be justifiable to study the factors related to this phenomenon in more detail, in terms of how the experience of discrimination arises, after which determined efforts to decrease it would be possible.

Citizens' assistance for each other vs. public and private help

Finns, even young people, are quite active in helping others. In particular, Finns rely on the support of their nearest and dearest, taking personal responsibility for themselves and - albeit to a clearly lesser degree - their fellow citizens bearing such responsibility. Less than half have at least fairly high confidence in municipalities, one fourth in organisations, while confidence in government assistance is lowest. Finns are also vociferous in demanding an increase in taking individual responsibility for one's own welfare. Moreover, the majority (80–90%) hope that the public sector will play a stronger role, and on the other that circles of acquaintances and other members of society will do so, with respect to the welfare of Finns. Two out of three Finns would also wish for a more central role for neighbourly assistance and for the social responsibility and service provision of businesses, in creating welfare. (Pessi 2009)

Confidence in one's nearest and dearest is also well founded, since the help and support of friends and family is the most important source of assistance for Finns whenever problems occur. In particular, the youngest and oldest respondents gain support from their unofficial social network. Surveys indicate that one's own family and friends are the most important source of help and support for Finns whenever they need financial assistance, someone to talk to, or help in the form of work. Mainly, people expect the public sector to provide health services, while close family and friends are the primary source of help in everyday life. The greater the need for help, the more important official services become in addition to one's family (own child and spouse) (Vaarama & Moisio 2008).

Finns have a fairly gloomy outlook on the future of mutual assistance: over one half of Finns think that the willingness to support people outside one's closest circle of family and friends is declining, and similarly, over one third think that people are less eager to support their own nearest and dearest. Women are particularly concerned about weakening mutual support.

Surveys indicate that Finns both want a strong public sector, and on the other find that the public sector decreases initiative and personal responsibility. Hence, people rely on their own help most, and least on the government and municipalities, while wanting the government and municipalities to accept more responsibility. The fact that there are high expectations with respect to public sector actors can be taken as an expression of confidence in the ability of such actors to adapt. It is hard to assess whether trust in various institutions in modern Finland is heading in a socially sustainable – or more sustainable – direction. However, strong expectations would seem to indicate that Finns have high hopes, a positive future outlook and faith in the future, in relation to security provided by the public sector.

Confidence in the pension system

Since 1986, the Finnish Pension Alliance TELA has conducted opinion polls and attitude surveys on the Finnish pension system, analysing for instance confidence in the level of pension security (cf. e.g. Attitudes on earnings-related pension 2007). Respondents represent over 15-year-olds in the population.

Approximately 84 per cent of the population are in favour of the pension being earnings-related, and 64 per cent find the current pension system fair.

The share of those expecting the level of pensions to decrease has dropped from over 60 per cent during the years of recession in the 1990s, to 45 per cent in 2007. What was expected during the recession has come true, with the implementation of two major and a few minor pension reforms lowering the

expected level of pensions. In a survey carried out by Forma et al. (2007), 70 per cent of citizens think that the level of pensions should not be lowered any further.

While pensions are expected to comprise 49 per cent of wages, 65 percent was considered a suitable level (TELA 2007). The idea of a suitable level of pensions has remained relatively stable for well over 10 years at least. Moreover, the gap between what is expected and what is deemed suitable seems fairly wide, which indicates that respondents probably considered the replacement rate at the time of retirement when responding. On average, the expected replacement rate is lower, the younger the respondent is. For instance, on average under 25-year-olds expect a replacement rate of 44 per cent. According to Forma et al. (2007), the future pension should account for 69 per cent of previous pay.

Citizens' conceptions of their future level of pension is surprisingly realistic. As concerns levels at the time of retirement, assessments are even too low in comparison with 'expert assessments', based on the present regulations. On the other hand, the number of people expecting changes is higher than that of those expecting raises.

Approximately one third expect to face income difficulties during retirement. The number of such people has subtly increased during a period of over ten years. Some 57 per cent of the population thinks that an earnings-related pension reform will be implemented in the future, resulting in a substantial decrease in pensions over the current level. *Approximately one half think that it will be impossible to maintain the current levels of earnings-related pensions in the future*, and the share of these people has grown slightly in the past few years. The majority of citizens do not support attempts to raise the retirement age, and respondents find 62 years a suitable age for retirement.

Observations and conclusions

- Finns rely on the support of their own nearest and dearest, taking personal responsibility for themselves and responsibility being borne by their fellow citizens.
- They also have firm confidence in societal actors.
- Finns are satisfied with public social and health services and, primarily, the level of social security.
- No more than under half are in favour of the current form of financing for services for the elderly.
- No intergenerational conflict concerning social security is evident in Finland.
- According to surveys, ageism is common, even though few older people have personally faced discrimination.
- Citizens' conceptions of their future level of pension are realistic.

- Over one half think that maintaining the current level of earnings-related pension will be impossible in the future, and approximately one third expect to face income-related difficulties during retirement.
- The majority of citizens would not be in favour of attempts at raising the retirement age.

7 POLICY OUTLINES

7.1 Problems posed by the expected developments

For years, Finland has been attempting to prepare for the challenges posed by population ageing, through various measures and focusing on the reinforcement of the sustainability of public finances. This policy has yielded results and, in many respects, decisions already taken can be expected to further improve the situation in the future.[84] However, this preparation cannot be deemed sufficient. Indeed, the problems that would arise from an unchanged policy approach might be summarised as follows.

- Finland's public finances are not on a fully sustainable footing

  With the expenditure rules and overall tax ratio left unchanged, the public finances will sooner or later drift into a permanent deficit. According to the baseline scenario, which ignores the financial crisis' impact on the balance of public finances in the forthcoming years, the sustainability gap will amount to slightly under one per cent of GDP. In practice, this means that either taxation must be increased or expenditure reduced. If such measures are carried out immediately and permanently, a change corresponding to the above-mentioned almost one per cent of GDP will be sufficient to bring public finances onto a sustainable footing, provided that the prevailing conditions adhere to the baseline scenario.

  The sustainability gap, i.e. the permanent need to either reduce expenditure or increase taxation, would not be very large by international standards. Indeed, according to the baseline scenario, it would be somewhat narrower than generally estimated during recent years. However, the short-term decline in public finances – whose extent remains difficult to assess – will increase the sustainability gap; under certain assumptions, the gap could attain almost 2.5 per cent of GDP. The baseline scenario also requires higher age specific employment rates, in particular for older people, and this cannot be expected to occur without new policy measures. Furthermore, since the sustainability gap estimate is highly sensitive to a range of factors independent of policy, such as demographic development and the volume of returns on investments from pension assets, the gap's size is thus highly uncertain. There is a reasonably high possibility that the sustainability gap would amount to several percentage points of GDP.

[84] Some of the conducted reforms, however, also act against the declared objectives of the ageing policy. For instance, the pension income allowance which entered into force as of the beginning of 2008 undermines incentives to continue in working life, although it does improve pensioners' income level.

- Social sustainability also presents problems

  The public pension system is capable of securing pensions, which are clearly increasing in real terms, for all population groups. On average, it can also be assumed that the level of pensions will develop very reasonably in proportion to salary levels.

  Nevertheless, pensions for some population groups are in danger of remaining very small, which will often entail a very small total income. Small pensions mainly constitute a threat to three groups: (1) persons whose sole pension income is, or is almost, the national pension, (2) persons who will have to rely on a disability pension at a young age and (3) long-living persons whose starting pension is low for some reason.

  Social sustainability is also threatened by the fact that some citizens are in danger of being deprived of reasonable nursing and care services. Above all, this threat concerns indigent old people living in municipalities which are incapable of providing such public services to a sufficient extent. In practice, the greatest threat of this nature will be posed to old people on low incomes who live in sparsely populated municipalities with a weak tax base. Additionally, poor service quality and, for instance, loneliness, constitute a threat to many old people, in particular elderly women. In large population centres, the challenge lies in the rapid absolute growth of service needs, whose satisfaction may prove impossible based on the current systems. Another issue worth considering is whether all aged citizens have sufficient opportunities to be active citizens.

- Political sustainability is under no immediate threat, but neither is it free of challenges

  The Nordic model of broad-based public responsibility for welfare is widely appreciated by Finns, regardless of their age. In Finland, no major intergenerational conflicts have occurred so far, nor are they expected in the near future. Some discussion has arisen, however, on the significant political power wielded by the baby-boom generation, enabling them to secure their own interests, for instance in the context of implementing pension reforms.

  Risks in this respect primarily concern scenarios in which the sustainability of public finances develops in such a manner that adhering to the pension and service promises would require sharp increases in taxation at some stage. Eroding services, with income transfers possibly lagging somewhat behind general trends, and the ensuing growth in inequality, may create pressures to increase taxation. On the other hand, a stronger emphasis on incentives as productivity growth drivers, as well as the younger generations' greater international mobility, may increase the macroeconomic costs arising from high taxation (losses of production). Once the political power of ageing

people grows, a situation may arise in which they attempt to achieve clear increases in the taxation of the working generation, to which the latter would respond to by lowering their labour input and possibly even through greater emigration. Increasing the tax burden would also affect Finland's opportunities to attract foreign workforce.

7.2 Policy development needs in various sectors

The above-stated challenges mean that the implemented reforms, which are in some respects significant, will not prove sufficient to solve the anticipated problems. If our aim in the future is to pay into citizens' pensions complying with the current rules, while providing them with publicly financed welfare services adhering to current expenditure rules, public finances will, in the circumstances likely to prevail and under the current overall tax ratio, derail and slide into an unsustainable path of increasing indebtedness. Furthermore, under the current benefit rules, some citizens' pension levels and/or welfare services remain very modest. Correcting this by improving benefits would further increase the challenge posed to public finances.

In principle, the sustainability of public finances can be secured in three ways: (1) by increasing the overall tax ratio, (2) by reducing pension and other benefits or (3) by narrowing the sustainability gap through various structural measures i.e. by alleviating the restrictions set by fiscal sustainability on taxation and spending policy. Attaining the third option can be pursued especially by raising the employment rate (e.g. by lengthening working lives), by enhancing the provision of publicly financed services and by improving the population's health and functional ability. A higher birth rate and increased work-related immigration would also curb population ageing, thus supporting fiscal sustainability. Sensitivity analyses indicate that if we succeed in loosening the sustainability restriction, pension and other benefits can be secured under the current tax ratio and, possibly, benefits even improved.

In many respects, reducing the sustainability gap through structural measures would be the most natural approach. However, since it is far from self-evident that we can succeed in this to a sufficient extent, we need to discuss issues related to the level of taxation and the pension and service promises. It is crucial that we bear in mind that the sustainability issue should not be thought of as a certain precise sustainability gap figure. Above, we have expounded on the high level of uncertainty associated with the gap. This implies that the policy does not have one specific goal in this respect, such as bridging a gap of 0.9 per cent as per the baseline scenario. Instead, the policy must take account of the possibility of larger gaps.

All of the above-mentioned types of solution involve the issue of timing. To what extent would it be reasonable to amend the tax and expenditure rules and other policy orientations immediately, and to what extent should amendments be applied gradually or, perhaps in addition, to what extent should the precise content of any amendments be defined according to the circumstances prevailing in the future?

In the following, we will briefly examine the timing of policy (7.2.1), the level and structure of taxation (7.2.2) and discuss issues related to realising welfare promises (7.2.3). The subsequent sections in this chapter assess various structural measures for reducing the sustainability gap in the public finances, without increasing taxation and without lowering the level of pension security itself or that of welfare services.

7.2.1 Timing of measures and balance of public finances in the forthcoming years

Basically, preparing for the expenditure pressures which will keep growing alongside ageing means that decisions to be taken now must take future developments into account. However, some fundamental questions remain open. How specifically should we now define the measures to be applied at various junctures in the future? In particular, to what extent should the public sector save, i.e. create surpluses, during the forthcoming years, when the age structure remains more favourable than in the future?

The uncertainty associated with estimates concerning future developments and, thus, the sustainability gap in the public finances and policy measures' effectiveness, signifies that outlining a specific policy fitting all future circumstances would be unrealistic. The best we can do is to implement measures whose impact can be expected to contribute to a desirable trend and, to some extent, define rules on how to proceed under certain circumstances.

The measures intended for alleviating the restrictions set by fiscal sustainability should not be postponed without special reasons. Various structural measures capable of raising the employment rate, enhancing the productivity of the public sector's activities and, for instance, promoting health will, in the main, yield results very slowly. For this reason, decisions on policy measures with such objectives should be taken as soon as possible and should also enter into force rapidly, although in some respects transition periods are necessary.

By contrast, it is more unclear how measures pertaining to taxation and welfare expenditure should be timed and what should be the target surplus for the public finances in the forthcoming years. This is critically dependent on the value attached to future taxpayer generations' welfare in comparison to current

payers' welfare and on estimated future economic developments and the associated risks.

The welfare economic analysis (Chapter 5, Appendix 1) suggests that if future generations are much wealthier than the current population, or if intergenerational income differences are given little emphasis, it would be reasonable to wait and allow future generations to pay much higher taxes than currently. If, by contrast, very poor average economic growth is expected (for instance, due to an economic depression) and the aim is to level out income differences, it would be necessary to respond immediately, by increasing the public sector surplus.[85]

According to the established view, public finances should be kept in clear surplus during the relatively favourable demographic situation of the forthcoming years. This approach, also a policy recommendation by the EU, has formed a key part of the Finnish ageing policy during the last decade. It was also entered into the Government report on the future 2004 and Stability programme updates prepared by Finland for the EU.

The main underlying idea is that distortions due to taxation and the ensuing harm to economic activity tend to increase rapidly as the tax ratio rises. Therefore, the optimal approach would be to aim at as stable a tax ratio as possible (Barro 1979). The tax ratio should thus be immediately set at the level required to ensure long-term sustainability. If such a tax ratio is perceived as being too high, then expenditure should be cut immediately. Since the GNP share of expenditure is increasing due to ageing, this actually means ensuring a clear surplus before the serious impacts of ageing begin to manifest themselves.[86]

The size of the sustainability gap is also very sensitive to the initial balance of public finances used in any assessment. This is due to debt dynamics: a deficit in the public finances would raise interest expenses over a long period in the future.

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[85] A factor which has drawn a great deal of recent attention, and which increases the likelihood of a very poor long-term growth outlook, is climate change. At worst, this may lead to irreversible natural processes which radically weaken living conditions. Even the slight probability of such an option may have a major influence on the future economic outlook.

[86] The beneficial effect of an immediate increase in taxation is not self-evident. If higher taxation strongly reduces labour supply (and simultaneously raises salary levels and, moreover, pension benefits), increasing the taxation of labour during a period of intense ageing may weaken long-term sustainability. Kinnunen (2008) presents calculations which support such suggestions, obtained using computable general equilibrium models. However, it remains unclear how prevalent the conditions are which would produce such outcomes.

Since the public finances under the current overall tax ratio and expenditure bases are not on a sustainable footing, should taxation be immediately increased or expenditure immediately reduced? At the moment, this would not be a good idea since the current economic cycle speaks strongly against a stricter fiscal policy. Exceptional negative growth due to the financial crisis is leading to a decrease in employment. The obvious danger is that the originally cyclical decline in employment would slow down the rise in the employment rate and, in particular, the process of lengthening working lives, perhaps even reversing this process for a long time to come. Such a situation would have a highly unfavourable impact from the perspective of long-term objectives in ageing policy. This favours the use of fiscal policy to maintain growth and employment. At a minimum, this means that so-called automatic stabilisers will be allowed to function under these circumstances. However, good reasons also exist for a thoroughly considered easing of discretionary fiscal policy.[87]

It is evident that the surplus in public finances will be clearly smaller in forthcoming years than during recent years. Although, in principle, this is attributable to a cyclical decline, under an unchanged policy the long-term sustainability gap will become larger than suggested by the baseline scenario. This is due to the fact that a poorer balance in public finances will decrease the public sector's net income from assets. If the balance of public finances in the forthcoming years follows the most recent Stability programme update, the sustainability gap could amount to nearly 2.5 per cent, instead of 0.9 per cent of the baseline scenario.

Such a decline in the balance of public finances during the forthcoming years emphasises the necessity of reinforcing the balance as soon as we are enabled to do so by the economic growth outlook. Consequently, any permanent increases in expenditure or any tax changes leading to a permanent decrease in the overall tax ratio should be avoided during the current term of government. Structural measures capable of reducing the sustainability gap are also urgent. They should be more ambitious, the more public finances are allowed to weaken in the forthcoming years, in order to enable a stimulus effect through fiscal policy.

However, it would not be realistic or even reasonable to attempt to solve long-term fiscal sustainability merely by ensuring a high surplus in public finances in the forthcoming years. Opportunities for loosening the sustainability restriction through structural measures should be seized on as far as possible. Such a

[87] The State Budget for 2009 already includes a substantial alleviation of discretionary fiscal policy, most of all as a result of reducing the taxation of earned income. At the general EU level, recent recommendations now encourage steps to be taken towards a significant revival through fiscal policy. At the moment of writing this report, the Government is preparing new discretionary stimulus measures.

loosening, in particular by postponing retirement, can be deemed part of an optimal ageing policy in a situation where ageing is caused by a longer life span rather than a decline in the birth rate (Andersen 2008).

Conclusions and measures for consideration

- It would be justifiable to allow public finances, strong in international terms, to weaken as a counter-cyclical policy in order to curb the decline in employment and support the objective to lengthen working lives.
- Meanwhile, attempts should be made to reinforce the structural surplus of public finances during the period in which the population's age structure has not yet seen an extensive decline. This would require the avoiding any decisions leading to permanent increases in expenditure or any permanent decreases in the overall tax ratio – notwithstanding that a certain deterioration of the balance of public finances will be permitted during the forthcoming years, for counter-cyclical reasons.
- In the long term, structural measures reducing the sustainability gap should be conducted in as frontloaded a manner as possible, while avoiding direct negative impacts on aggregate demand. The level of ambition with which such measures are undertaken should, on the other hand, be higher, the more public finances are allowed to decline in the forthcoming years in order to achieve a stimulus effect through fiscal policy.

7.2.2 Level of taxation and non-welfare expenditure

The above-stated benefits of a stable tax ratio, and of the aim of creating a surplus in the public finances, are insufficient to determine the optimal target levels of taxation and public expenditure. Ultimately, these will be political decisions influenced by economic efficiency perspectives and society's objectives in terms of income redistribution.

A raise – at least a major one – of the overall tax ratio, would in any case present a very challenging option for attempting to solve the fiscal sustainability problem. Although the Finnish overall tax ratio is not as high as in Sweden or Denmark, it is among the highest in the developed countries. Economic theory suggests that, as noted above, taxation-related disincentives for economic activity tends to increase in proportion to rises in the tax ratio or even faster. However, the evidence is weak on the relationship between the overall tax ratio on the one hand and the level of production and, in particular, the growth rate of production, on the other. At any rate, many high-tax countries have attempted to decrease taxation in recent years. In particular, reducing the taxation of labour has been deemed important for employment. Furthermore, lowering the taxation of corporate and capital income has been considered necessary in many countries due to tax base mobility i.e. tax competition.

Due to globalisation and the related capital mobility and, increasingly, higher labour mobility, maintaining high tax levels will probably become more difficult than previously. The resulting pressures will mainly concern the taxation of corporate and capital income but, to an increasing extent, also some aspects of labour income taxation. However, such pressure will be somewhat alleviated by the fact that many other countries will also face increasing pressures to apply stricter taxation due to ageing. Nevertheless, this would only pertain to countries in which the public authorities have assumed broad-based responsibility for welfare. While it is very difficult to define the highest possible tax level, and that which would be best for the economy in question, it is hard to believe that the sustainability problem can be solved through higher taxation alone.

Naturally, by replacing taxes with the most distortive effect on economic activity with ones causing less distortion, the problem of a high overall tax ratio can be alleviated. Such reforms have been conducted in many countries. The best opportunities for increasing taxation lie in immobile production factors, such as real estate. Taxation of consumption and, in particular, environmental damage are also natural targets for higher taxation.

Indeed, the development of the tax structure towards supporting growth and employment would be a highly justified, albeit challenging task. First of all, defining an efficient tax structure is far from easy. Secondly, higher taxes are naturally unpopular. Indeed, a special challenge lies in the Finnish system, whose pension expenditure is chiefly financed through earnings-related pension contributions paid in relation to labour income, earmarked for the purpose. In other words, the attempt to ensure the capability to pay growing pension expenditure by increasing pension contributions will, without any compensating tax cuts, increase the labour tax burden and thus undermine opportunities for raising the employment rate.

One idea, in principle, would be to set a ceiling for the taxes which most hinder economic activity and a higher employment rate and – where such measures alone would not be sufficient for securing fiscal sustainability – to commit to adapting to the situation by addressing other taxes and benefits in a separately considered manner. The ceiling on pension contributions presented by Korkman et al. (2007) is a limited form of this idea. Nevertheless, it is not obvious that such a ceiling would gain credibility.

The fact that raising the overall tax ratio is not a promising option for solving the fiscal sustainability problem does not, however, mean that no attention should be paid to the general level of taxation. Since increasing any tax is unpopular, pressures to lower taxes with the greatest distortive effect will easily transform into pressures to decrease the overall tax ratio. However, this would further

complicate the situation, unless expenditure was correspondingly reduced, or if the reducing impact of structural measures on the sustainability gap remained unsupported by firm evidence. Thus, it would be hard to consider a decrease of the overall tax ratio as responsible policy without a readiness to cut spending or before evidence emerged indicating a narrowing sustainable gap.

Every once in a while, statements are made claiming that fiscal sustainability challenges can be met by reducing non-welfare expenditure i.e. the use of funds for general government, defence, law and order, environmental protection, the maintenance of the basic infrastructure and business subsidies. However, the opportunities to do this are limited. Non-welfare expenditure accounts for over 15 per cent of GDP in Finland, representing the typical EU level and being a couple of percentage points less than in Sweden (Andersen et al. 2007). In addition, many estimates consider Finland's general government efficient by international standards. Nevertheless, this is far from providing an argument against the continuous assessment of the appropriateness of non-welfare expenditure or the enhancement of the related activities' efficiency. Ultimately, the importance of non-welfare expenditure is a question of political discretion. It is unlikely that the GDP share of non-welfare expenditure could be lowered to the extent that it would close the sustainability gap.

Conclusions and measures for consideration

- As long as there is no evidence indicating that the sustainability gap in public finances is reducing, measures leading to a lower overall tax ratio should be avoided. Where cutting certain taxes is considered necessary, for instance in order to support employment or due to tax competition, attempts should be made to compensate for the ensuing tax losses by increasing other taxes.
- The already established procedure for assessing the outlook of the public finances in the medium and long term, and for updating the Stability programme accordingly, should include a thorough assessment of pressures on the level of taxation. Preparing an analysis framework for this type of assessment could be assigned to the working group investigating the development of the tax structure. The working group could also consider the rationality and feasibility of a ceiling imposed on those taxes which are the most harmful to economic activity.
- Based on the above-mentioned preparation, a report on policy options concerning a medium-term surplus in the public finances should be prepared before the 2011 elections, so that the new Government can commit to a credible and internally consistent government programme which includes the necessary measures.

7.2.3 Adhering to welfare promises under conditions of uncertainty

The 'welfare promises' made by society are not a specific or unconditional matter. They are based on current legislation and established practices, both of which have evolved over time. During the last 15 years, as a result of the slump of the early nineties and the growing understanding of the consequences of the ageing phenomena, many promises have been pared down so that there is a realistic chance of honouring them. Such changes were included, for instance, in the pension reform of 2005. On the other hand, some welfare benefits have been improved alongside the favourable economic trends prevailing until quite recently.

As stated in the introduction, this report is based on the objective of retaining the Finnish system based on universal benefits. The report's sustainability calculations are specifically based on current, defined benefits and index adjustments in accordance with legislation or established practices. As indicated above, the promises based on these expenditure rules probably cannot be honoured in full, assuming the given overall tax ratio and under plausible future economic conditions, unless certain key factors related to the sustainability gap, such as the employment rate and productivity of public service production, show favourable developments. In addition, even if these promises could be honoured, some citizens would have to acquiesce in a very modest standard of living.

Later in this chapter, we will examine what could be done in various policy areas, in order to avoid the need to compromise on the welfare society's promises in the future. We cannot, however, realistically expect that any feasible immediate measures would completely guarantee the fulfilment of promises under all circumstances for decades to come. One of the key conclusions of the assessments discussed is that major uncertainty characterises many of the determinants affecting the public finances – beginning with demographic trends. This is why it would also be crucial to evaluate how below-average or worse-than-expected economic development might impact on the ability to fulfil these promises and, moreover, possible needs for a change in policy in the future.

The welfare promise consists of two main elements, the pension promise and publicly financed services. Fulfilling the pension promise clearly seems more certain than fulfilling the service commitment, due to many factors. First, pension rights are specifically defined under legislation. Second, accrued pension rights benefit from fairly strong constitutional protection of property. Third, major funds have been accumulated for financing pension benefits, although this partial funding will not cover the totality of future pension expenditure. In addition, the earnings-related pension scheme is backed by strong interest

groups which have significant power over decisions concerning the pension system.

With certain exceptions, publicly financed welfare services do not have a strong legislative base defining the availability, level and price of services (when charges are levied). Moreover, no dedicated funds have been collected for financing services, for instance through nursing insurance. In fact, the supply of services is highly dependent on the financing possibilities and political priorities of the municipalities which are directly responsible for providing the services. Furthermore, the users of a plethora of services do not together comprise a lobby comparable to that constituted by the interest groups formed by those accruing pension benefits.

This difference is also reflected in typical sustainability calculations. Calculations – including those presented in this report – are based on the assumption that pension contributions will be raised, if necessary, in order to ensure that pensions complying with the system currently valid can be paid under all circumstances. If, on the other hand, the overall tax ratio remains unchanged, an assumption common to most calculations, bearing the burden of the eventual sustainability gap will become the responsibility of the rest of the public sector. In practice, this means that if the tax ratio in such a situation cannot be raised, public welfare services must be cut.

Sound reasons exist for the strong protection of pension benefits. Pensions form the main income source for people who have retired from working life and it is therefore important that citizens can rely on this income. Proper pensions in line with expectations enable ageing people to purchase welfare services in cases where public provision does not meet expectations, for whatever reason. In addition, earnings-related pensions can be deemed part of wage and salary earners' total compensation for their labour input, for which reason their financing has influenced pay claims in collective bargaining agreement negotiations. Wage and salary earners have explicitly renounced part of their take-home-pay, and in return receive compensation for this in the form of pension benefits.

Notwithstanding the above, one can question whether risk is currently shared as it should be. Some citizens can be highly dependent on public welfare services. This includes some pensioners, if their pension remains modest or their service needs are substantial. Additionally, shortcomings in the availability and quality of services may affect citizens in a very random manner, depending first and foremost on where they live. Citizens do not have the genuine opportunity to prepare for such variations.

In principle, public services could be granted greater protection (i.e. subjective rights might be increased), without interfering with the pension system. However, this is not a preferred option, at least as a main rule, due to the sustainability gap in the public finances and, moreover, the major probability of a large gap. A better option would be to contemplate whether the pension system's risk factors might be modified in some respects.

In Sweden, a very radical change was implemented years ago to the way in which the risks of the pension system are shared. Under the current system, pension levels directly depend on the accrual of pension contributions, based on given contribution percentages ("notional defined contribution"). In Finland, based on the life expectancy coefficient, the level of pensions is adjusted in accordance with changes in life expectancy. With this exception, the defined benefit pension system is strictly observed, meaning that pension contributions are raised, if necessary, so that predefined pensions can always be paid.

Since the change in the population's age structure is greater in Finland, and many other basic income benefits are weaker than in Sweden, opting for a contribution-based system like the Swedish model would not necessarily constitute a good solution. Its implementation would probably also prove challenging given that an agreement was made on a broad-based pension reform only a few years ago. After all, one of the key features of a good pension system is predictability. Nonetheless, less far-reaching amendments, which would in some way tie the old-age pension's age limits to developments in pension expenditure and the pension contributions base, should be considered. One, albeit limited solution, would be to tie the onset of the old-age pension to life expectancy, in a similar manner to the way in which the pension level is currently linked to life expectancy.[88]

Finally, it should remembered that the social security system does more than provide direct support for the welfare of citizens, it is also an important factor, particularly for people of working age, enabling citizens to take various risks related to working life and investing in education. Such risk-taking is essential, especially in a dynamic, rapidly changing economy.

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[88] Andersen (2008) argues for explicitly linking the retirement age to life expectancy. More specifically, Andersen's model of overlapping generations assesses the optimal aspect of advance saving and the retirement age being tied to life expectancy, as a response to a weakening dependency ratio. The main finding is that, where the dependency ratio is weakening due to longer life spans, adapting to the situation by lengthening working lives would prove more beneficial in terms of welfare. If, however, the dependency ratio is rising due to a lower birth rate, optimal preparation would only require advance saving i.e. a public finances surplus prior to the decline in the dependency ratio.

Conclusions and measures for consideration

- The Finnish welfare model includes statutory pension security, while various welfare services enjoy broad-based support and form a key foundation for citizens' planning of their working careers etc. Therefore, fulfilling these welfare promises forms an important starting point with respect to policy.
- If, however, future circumstances render the fulfilment of welfare promises difficult in their totality, any changes concerning pension and service benefits should be conducted in a manner which allows sufficiently early adaptation by citizens. For this reason, it would be important to commit to regular assessments of long-term objectives, based on systematic preparation, and the ensuing decision-making.
- One option might be to draw up a comprehensive, anticipatory report of the realisation of social sustainability regarding pension and service promises for citizens in various situations. This report could be prepared once during each parliamentary term and well in advance of parliamentary elections. The report should be based on the same assumptions concerning population and economic development as the corresponding assessment of fiscal sustainability, and these should be published simultaneously. This would enable the political process to take a simultaneous stand on both the level of welfare promises and their financing, based on thorough and forward-looking preparations.[89] However, this does not mean that, during each electoral term, it would be reasonable to make major changes to factors influencing long-term behaviour, such as pension systems.
- In certain respects, consideration should be given to the adoption of stronger rules pertaining to future decision making. One option might be to tie the retirement age limits for the old-age pension to life expectancy. The demographic trend, unfavourable from the perspective of public finances, would then influence the moment of retirement, not only the pension level as it currently does.
- In order to reduce the level of uncertainty concerning the service promise, a certain reinforcement of normative controls regarding the availability and volume of services should be contemplated. In addition, financing incentives could be created in order to better achieve the related objectives, for instance in the system of central government transfers to local government.

7.2.4 Influencing demographic trends

The weakening of the demographic dependency ratio in the forthcoming decades is inevitable. Indeed, the most frequently used old-age dependency ratio, i.e. the number of people aged 64 in proportion to the working-age population, will climb from its current level of 25 per cent to clearly over

[89] Any useful analysis of social sustainability would require the ability to estimate future developments. This would require the development of analysis frameworks, with a genuinely dynamic microsimulation model at their core. Such an approach is taken, for instance, in Sweden (Flood et al. 2005) and the UK (Brewer et al. 2007).

40 per cent by 2030. If the increase in life expectancy accelerates, the birth rate declines or net immigration shows weaker figures than expected, the old age dependency ratio will rise more sharply and may even reach 50 per cent.

Although the basic trend is evident, the magnitude of the change can be influenced through well-directed measures. To curb the weakening of the old-age dependency ratio, in principle policy can seek to maintain as high a birth rate as possible and to promote work-related immigration in particular. Since the dependency ratio forms the basis for laying down the prerequisites for economic subsistence, it would be important to ensure that as large a part of the population as possible is in good health and has high functional ability, regardless of age. The importance of functional ability is highlighted by the observation that the number of over-74s in proportion to the size of the population aged 15–74 will not, over the next 30 years, even attain the current ratio of those aged 64 years in proportion to those aged 15–64.

While policy measures aimed at reducing mortality will not slow down the ageing of the population but rather the opposite, they are important in terms of welfare. Preventive measures targeted at the working-age population will, in particular, improve health and functional ability, thus enabling the extension of the concept of the working-age population beyond the traditional age range. With respect to determinants of general welfare, special attention should be paid to the mortality of young Finnish men – high by international standards – which is maintained through binge drinking, accidents, suicides and violent deaths.

Supporting high birth rate

The birth rate is under pressure for two reasons. On the one hand, the number of women of fertile age will decline during the forthcoming years, which is bound to reduce the birth rate. On the other, total fertility i.e. the number of births per woman of fertile age, is in danger of lowering due, for instance, to the fact that women tend to have their first child at a later age than before.

Currently, Finland's total fertility rate of 1.84 is fairly high by international standards, and a substantial rise therein is unlikely.

Considering global demographic development and the prevalent problem of overpopulation, a focus on promoting a higher birth rate, even in limited areas of the globe, would raise ethical questions. On the other hand, if requirements and restrictions related, for instance, to studies and working life, are preventing individuals from having the number of children they would wish for, this constitutes a decline in welfare at individual level. From the welfare perspective,

reducing such restrictions might be deemed justified regardless of the demographic outlook.

Studies indicate that Finns would like to bring forward having a family by two to three years. In recent years, a substantial proportion of women have postponed having children due to studying and for work-related reasons. According to studies, self-perception of one's health as weak also reduces fertility. Meanwhile, fathers of small children work a high number of hours of overtime, making only minor use of their right to parental leave. Arrangements would therefore be justified in support of having a family at the age when women are most fertile and enabling the realisation of the desired number of children. The attainment of this goal could be promoted, at the very least through solutions related to studying, working and family life as well as health and housing policy.

The evidence suggesting that the fertility level can be influenced through a public support policy is not very strong. However, recent research underpins the view that a long-term child-friendly policy could permanently raise the birth rate. During recent years, several reforms reinforcing the position of families with children have been conducted in Finland, and these may have a positive impact on the average number of children. For instance, the minimum maternity allowance was markedly increased as of the beginning of 2009 (to some 170 euros per month), to the level of the labour market subsidy. Government programme also pays attention to the use of parental leave by fathers, extending paternity leave by two weeks as of 2010.

On the other hand, a decline can be observed in the quality of certain public services which are important to families with children. This seems to be the case with respect to school health care and child health clinics. While these services do not necessarily have a rapid or major impact on the birth rate, their deterioration increases the threat of exclusion and creates a growing need for various other social services.

Sufficient and proficient information should be disseminated concerning the risk factors related to conception and pregnancy, to ensure that potential parturients' awareness of these issues is as realistic as possible. Views based on misinformation may be causing some people to decide at too young an age that they will never have children.

Promotion of work-related immigration

Among the factors influencing the demographic outlook, immigration is considered the most straightforward way of achieving a policy-based impact. Finnish immigration policy has traditionally been subdued, and work-related immigration in particular has been scarce. At the very least, Finland's

attractiveness as a target country is affected by its rare language and small foreign population. As labour supply problems have increased during recent years, Finland has begun paying attention to the promotion of work-related immigration, and net immigration has increased markedly.

Since the level of immigration and the proportion of foreigners in Finland's population still remain low by international standards, there is room for increasing immigration. However, the level of immigration in proportion to the population is so low that any such changes considered realistic would not have a significant impact on demographic development.

Migration – work-related immigration in particular – is often closely related to economic developments. Thus, the increase in net migration gain observed in Finland during recent years can partly be credited to economic trends and employment growth, which were very positive in comparison with many other countries. Consequently, declining economic growth may also cause a downturn in immigration in the near future. Demographic and economic developments in the countries of departure from which the majority of immigrants move to Finland may also diminish the growth potential of immigration to Finland. The number of people coming to Finland from Russia and Estonia will most probably fall in the future.

In addition to immigration proper, attention should be paid to temporary work-related stays in the country, allowing adaptation to fluctuations in labour demand. Promoting the international mobility of such a workforce would require the development of a common Nordic or pan-European labour market and the removal of barriers to mobility. In order to attract jobseekers from third countries, it will be important to promote the progress and development of the Blue Card project within the EU area, to enable sufficiently frictionless movement from one Member State to another.

A recent study suggests that cultural and institutional barriers to mobility provide an even better explanation of observed immigration than economic factors. Cultural barriers are related to language and values (religion), while institutional barriers involve the transferability of pension rights and the housing market. A major share of immigration – including work-related immigration – is related to family reunions. Furthermore, in terms of promoting work-related immigration, it is crucial that the integration of the population with a foreign background already living in Finland, and the improvement of their living conditions and labour market position, also be improved. In this respect, supporting language training and other integration activities is crucial.

Authorities can support work-related immigration and the international mobility of workforce, for instance, by facilitating the granting of work permits and

accelerating their processing. They can also assist companies' foreign recruitment by participating in the dissemination of information, for instance through embassies and in the organisation of joint recruitment events. Moreover, the creation of a positive image of Finland and marketing in potential countries of departure is important in this respect.

In order to maintain a positive general attitude towards immigration, it is important that any criminality and abuse related to the use of foreign workforce be prevented as effectively as possible. This will require the sufficient development of official supervision and resources allocated to social security and labour legislation. Sufficiently effective supervision is a prerequisite for the adoption of flexible immigration practices.

Conclusions and measures for consideration

- Existing research results on factors preventing families at the best fertility age from having children must be assessed and measures to reduce such barriers implemented.
- Parental leave should be divided more evenly between mothers and fathers. This would even out the risks caused by parenting to employment and employers.
- Reconciliation of work and family should be improved through the development of working life by, for instance, identifying the characteristics of a family-friendly workplace and campaigning for family friendly practices in workplaces and in supervision. Moreover, the flexibility of working time and remote work could be developed from this perspective, as one of companies' competitive factors in the conditions of scarcer workforce.
- Long-term efforts to maintain and develop a child-friendly atmosphere and a policy in favour of families with children must be ensured. In addition to supporting the subsistence of families with children, basic services providing help in everyday problems are important. For instance, reinforcing municipal home care assistance may be highly justified. Families must be able to trust in the predictability of family policy.
- Work-related immigration should be promoted in a controlled manner, using it as a means to ease labour bottlenecks arising from the ageing of the native population.
- In order to maintain a positive atmosphere and balanced development, it is important to ensure the improvement of the living conditions and labour market position of the population with a foreign background already living in Finland. Since, in the future, immigrants will most probably originate from culturally more 'distant' countries, a stronger focus must be placed on integration than currently. Integration measures should also be offered to those moving to Finland for work-related reasons.
- To facilitate immigration, its supervision should ease the granting of work permits and accelerate the processing of permits, while also enhancing controls in order to prevent abuse.

- To attract skilled workforce to the country, facilitating the granting of work permits for highly educated people from third countries should be considered. In this respect, it may be necessary to investigate the factors underlying the high average education level of immigrants moving to Sweden.
- Other countries' citizens who have completed a higher education in Finland should be encouraged to remain and work in the country after their graduation, and any remaining barriers to this should be removed.
- In addition to proper immigration, the prerequisites for temporary work-related stays should be promoted by continuing to dismantle barriers to labour mobility.
- In order to attract jobseekers from third countries, it would be important to promote the progress and development of the Blue Card project within the EU area, so as to enable sufficiently fluent mobility from one Member State to another.

7.2.5 Promotion of health and functional ability

The improvement of public health as such is of great value in terms of welfare. Additionally, better health reduces direct costs caused by disease. Good health and functional ability are essential prerequisites to participation in working life and, particularly for many older people, functional ability may be a crucial determinant in this respect. Similarly, health and high functional ability as well as psychosocial welfare are vital preconditions for any other type of activity undertaken by citizens.

It is estimated that the direct costs of all diseases amount to some 5.5 billion euros in Finland. Approximately half of these costs arise from four of the most expensive disease groups, namely cardiovascular diseases, mental disorders, respiratory disorders and musculoskeletal diseases. One-fourth of these costs arise from mental disorders and one-fifth from musculoskeletal diseases. (Kiiskinen et al. 2005)

Thus, there is considerable potential for a reduction in health expenditure alone. A significant proportion of various problems and diseases might be prevented if health promotion and preventive measures can have a sufficient influence on lifestyles and health choices. According to studies by WHO, for instance, at least 80 per cent of ischaemic heart disease and more than 90 per cent of adult onset diabetes cases could be prevented through healthy lifestyles.

The limited resources available should be allocated and used where they generate the greatest health and welfare benefits. It would be important to focus on activities whose alternative costs and effectiveness provide the greatest advantages, wherever reliable information is available on such factors. For instance, while medication for a person suffering from dementia is relatively

expensive, the related costs are only a fraction of those arising from permanent institutional care.

However, defining the most effective measures is not easy. With respect to many health-promoting policy measures, it has not yet proven possible to assess cost-effectiveness in a sufficient manner. This remains the case, despite the fact that evidence exists on such measures' effectiveness and that, in general, policy level measures seem to be more cost-efficient than those targeted at individuals (National Public Health Institute 2007, Kiiskinen et al. 2008). The scientific knowledge on the cost-effectiveness of health promotion provides insufficient support for practical decision-making, since conducting assessments is difficult. Moreover, health impacts and savings in treatment costs are often achieved over the course of several years.

The best information on the impact of measures which influence health in advance pertains to relatively restricted measures only. For instance, evidence exists on the effectiveness of nicotine withdrawal treatment in reducing smoking, which remains a key factor undermining public health. On the other hand, reliable information is often lacking on the effectiveness of measures targeted at a large population base and which potentially have major, long-term health impacts. Although it is well known that healthy nutrition and exercise are important to health, it is difficult to state what measures would prove most cost-efficient in promoting healthy nutrition habits.

Timing is of great importance. The prevention of health and functional ability problems – by detecting them as soon as possible and initiating early treatment – may curb treatment and nursing expenditure. For instance, the prevention of smoking is most cost-effective when targeted at the youngest age groups. For similar reasons, it would be sensible to focus on social welfare, health and education policy measures safeguarding child and adolescent development.

Social welfare and health services expenditure would not necessarily decrease should better health be achieved through new treatment technologies and expensive special treatments. Furthermore, prevention will not render care and nursing services redundant in the future. Preventive action and treatment will, however, generate additional life years of good health as well as welfare and, for the working-age population, it will enable participation in productive work and thus contribute to a rise in productivity. Decreases in the frequency of sickness absences, incapacity for work and premature retirement would also alleviate future problems related to the sufficiency of workforce.

A fundamental public health phenomenon lies in the strong focus of health problems in a section of the population which might be considered disadvantaged for various reasons. Low levels of education, and income and

unemployment significantly increase the probability of ill health. In spite of the diversity of causal relationships, the weak health of disadvantaged groups can, to a large extent, be attributed to extensive alcohol consumption and smoking, unhealthy eating habits, infrequent physical exercise and, associated with these, obesity, as well as the social, cultural and material living conditions underlying these lifestyle factors (Palosuo et al. 2007). Moreover, disadvantaged citizens seem to be obtaining a scarcer volume of, and lower-quality, health services in proportion to their needs than those who are better off. This is partly due to the fact that some of the disadvantaged do not have access to occupational health care.

The greatest public health benefits would most probably be achieved if measures promoting the population's health and functional ability were implemented by paying particular attention to the needs of the disadvantaged. This would simultaneously reduce health inequalities, which constitutes an objective from the viewpoint of equality. Many of the leading public health problems could be reduced to even half of their current level, if the overall population's situation was as good as that of those with a tertiary level education.

However, influencing disadvantaged groups through, for instance, education and the dissemination of information is much more challenging than influencing people who are well integrated into working life and who are on higher incomes.

A major proportion of social welfare and health care expenditure is used for elderly care. The majority of elderly care expenditure, in turn, arises from institutional care. Thus, the costs of institutional care have a crucial impact on total expenditure. Providing care and treatment to an old person who is mainly living at home is economical in comparison to institutional care. In older people's groups covering all physical conditions, evidence exists on interventions (prevention of falling and fractures, early medication of patients with dementia, vaccinations against infections, lifestyle changes) which can maintain functional ability, prevent complications and postpone institutional care (Pitkälä & Strandberg 2003).

Rendering the care and nursing of older people more preventative would improve opportunities to plan individually tailored services in the long term, and increase the methodical nature and appropriateness of care and nursing. This would provide significant opportunities for enhancing the use of resources in elderly care and nursing, and improving the quality of services.

Providing support for health and functional ability maintains citizens' independence and enables living longer at home. It postpones reliance on long-term institutional care which, in turn, curbs the rise of nursing expenditure.

Besides curbing care expenditure, money spent on supporting health can thus also reduce nursing expenditure.

The fact that health promotion measures only have an effect in the long term poses a challenge to health promotion, particularly within a decentralised decision-making system. For instance, the benefits of an individual municipality's measures for promoting children's and adolescents' health will only manifest themselves after many years, when a majority of the children targeted may already be living elsewhere. In such cases, activities with a beneficial overall effect will not necessarily entail a reduction in the municipality's expenditure on hospitals, health care and social welfare. In other words, financial incentives for health promotion are not necessarily sufficient.

Conclusions and measures for consideration

- The promotion of the population's health and functional ability requires the very broad-based linkage of the health perspective to various policies, at all levels: "health in all policies".
- A larger share of health care resources must be allocated to health promoting measures, focusing on measures for which evidence of cost-effectiveness can be provided. Regardless of the difficulty of effectiveness assessments, it can be assumed that measures targeted at population level are generally more cost-efficient than those targeted at individuals. However, more attention needs to be paid to assessing the cost-effectiveness of health promotion measures at various levels.
- In the promotion of health and functional ability, municipalities form the key operating environment. In order to ensure the sufficiency of health promoting activities, stricter normative controls should be considered. An example of this approach is offered by the new Decree on child welfare clinic services, entering into force in the summer of 2009. As an optional or complementary approach to normative controls, financing incentives should be considered. A natural opportunity for this is provided within the currently ongoing preparation of the system of central government transfers to local government.
- A special emphasis should be placed on supporting healthy lifestyles among the socially disadvantaged. This would require strong cooperation between social and health administrations, including with respect to health promotion.
- Alcohol and tobacco are the leading individual health risk factors. In reducing their use, key measures include not only education activities but also taxation and pricing policies and influencing availability.
- Support can be provided helping people to take the initiative in terms of maintaining their health and functional ability, by ensuring that the surrounding conditions and environment promote lifestyles which foster health and functional ability. Exploiting new technology in this regard is important. A priority should be set on providing a more barrier-free environment and safety in older people's housing.

- Since the dissemination of best practices is essential, public information on the success of health promotion measures must be augmented.

7.2.6 Raising the employment rate

From the viewpoint of the national economy, the key challenge of population ageing is related to the fact that the proportion of workforce of the total population will reduce. The 'purely demographic' impact that the anticipated population development will have on labour supply is negative and significant. Based on the current age specific participation rates, the labour supply would reduce by some 190,000 persons by 2050. This reduction would remain at only 20,000 if the age specific participation rates attained the level currently prevailing in the other Nordic countries, as suggested by the baseline scenario. Furthermore, a longer life expectancy and improved health and functional ability would enable even higher participation rates. If the time spent in working life increased in proportion to the increase in life expectancy, by 2050 the workforce would include 140,000 people more than currently.

The greatest potential for a higher participation rate and labour supply exists amongst those aged 55–64 years, particularly among men of that age. At the moment, a significant proportion of the persons within this age group have already permanently retired from the labour market: on disability pension, the so-called unemployment tunnel to retirement, part-time pension or, for the oldest people in the age group, old-age pension.

Furthermore, increasing labour market participation among the over-55s is a natural goal, among other reasons since a longer life span and improved health and functional ability are continuously improving the possibility to participate in working life, namely within this age group.[90]

Another target group in which participation in the labour market is low by international standards is the youngest working-age group. The low participation rate of this group is partly related to high participation in education, which should not be compromised as such. However, the identification of better solutions for eliminating inefficiencies and unnecessarily long absences from the labour market, which can be related to studies and child care, would seem justified.

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[90] If, in the future, workforce participation expectancy remained constant in proportion to life expectancy, the relationship between the period of retirement and workforce participation would also remain nearly the same. Thus, the retirement expectancy would rise by 4.5 years by 2050, whereas in the baseline scenario it rises by 3.0 years. Since the life expectancy of a person aged 25 will increase by 7.5 years according to Statistics Finland's population projection, three of these additional life years, or 40 per cent, would be spent in retirement.

Raising the participation rate among older people clearly requires addressing several issues simultaneously. There is strong evidence that, for older people, factors related to pension systems and other social security systems, such as age limits and benefit levels, have a fundamental impact on labour market participation. Additionally, it would be important to improve health and functional ability and develop the rules of working life to correspond to older employees' needs and characteristics. Naturally, general labour demand is also of fundamental importance – even the very best labour supply incentives will not help if demand for labour is weak. When there is an excess supply of labour, employers are also unlikely to have a major interest in developing working conditions in order to render them more attractive to older employees.

Among the potential reforms of the social security system, examined in a simulation study (Hakola & Määttänen 2008) conducted for the purposes of this report, the greatest effect on the employment rate would be achieved by eliminating the unemployment tunnel to retirement. Removal of the unemployment tunnel would also improve the sustainability of public finances. However, this would also further weaken the income level of many people on low incomes. The reform's negative impacts on income distribution could be alleviated – although at the expense of fiscal sustainability gains – if older unemployed people retained their right to claim labour market subsidy when they find employment. The effects on the employment rate of such a softer reform would be almost as powerful as those resulting from abolishing the unemployment tunnel.

Eliminating part-time pensions would also increase the employment rate, but clearly by less than the removal of the unemployment tunnel. Slightly surprisingly, the analysis suggests that raising the minimum age of the old-age pension is, as such, an ineffective way of increasing employment. This is because a higher minimum age for the old-age pension would encourage people to use the unemployment tunnel and part-time pensions more than presently. However, this finding does not mean that raising the minimum age would not be justified as life expectancy increases, but such a reform would bear fruit only if the routes to early retirement were unattractive.

In addition to the unemployment tunnel to retirement, the disability pension is the other main exit route from working life used by older people, before they attain retirement age. Incapacity for work naturally depends greatly on people's health and functional ability. Thus, over time, all measures capable of promoting health and functional ability will reduce the overall need to claim disability pension. In this case, rehabilitation measures improving reduced ability to work will play a key role.

However, non-medical factors also influence retirement on a disability pension. The ability to work is not an absolute concept, but is determined in relation to the nature of the person's duties. In working life, taking sufficient account of people's limitations in respect of the ability to work would enable the labour market participation of many disabled people and those who would otherwise end up on a disability pension.

Another fundamentally important issue lies in financial incentives. These should encourage employees to participate in the labour market even when their functional ability is weakening. For employers, these incentives should entice them, on the one hand, to recruit persons with various performance levels and, on the other, to take care of employees' ability to work. An international comparison would seem to suggest that differences in the frequency of disability pensions are largely explained, at least among EU Member States, by the structures of disability pension systems – including the generosity of pension benefits – rather than differences in health or functional ability (Börsch-Supan 2007).

A recent comparative analysis refers to numerous opportunities to improve the Finnish systems in order to better support partially disabled people's participation in the labour market (OECD 2008). The report refers to the development of rehabilitation systems, emphasising the active labour market measures targeted at those with a reduced ability to work (including the development of pay subsidy systems), specification of the employer's responsibilities and a set of measures which might be used to increase the financial attractiveness of remaining in working life and returning to it, even partially, for those with weakened ability to work.

According to survey findings, lengthening the careers of older people greatly depends on factors related to working life, particularly meaningfulness and appropriate treatment in the workplace. Researchers of working life have paid particular attention to age management, i.e. taking account of employee age in the daily management, planning and organisation of work in order to provide older employees with opportunities to achieve their individual and the organisation's targets. Age management practices are not necessarily adopted or developed actively. While various kinds of age management training is available, participation is infrequent.

An entirely separate issue relates to the way in which the increasing demand for leisure time entailed by greater wealth could be satisfied more flexibly during the various stages of the lifecycle and working life. Such flexibility would result in greater freedom of choice, thereby increasing wellbeing and possibly easing the pressures for early withdrawal from working life. In general, we should ask whether the long-term goal should be to redefine the "working-age population"

and the associated retirement age, so that a permanent withdrawal from work through pension systems would only be possible at an age where health and functional ability decline substantially on average.

In terms of meaningfulness of work as well as with respect to demand for older workforce, it would also be important to support the development and maintenance of the skills of older working-age people. Due to the relatively short 'payback time' of investments in education, businesses and individuals themselves may have weak incentives for investing in developing human capital. Therefore, the importance of public support would be greater than average in renewing the intellectual capital of older people. The development of skills is also important in preventing the deceleration of productivity growth.

In addition to people of working-age, attention should be paid to the labour market participation of people already past working-age, particularly as a reserve contributing to the balancing of supply and demand. Work performed by pensioners has become more common in Finland during recent years, although this input remains modest compared with the potential. Based on an expert assessment, at least one third of old-age pensioners are capable of work. The financial incentives for the participation of people claiming an old-age pension in the labour market are generally very good, and there is no urgent need to improve them, for instance by alleviating taxation. However, consideration should be given to whether a widely used combination of old-age pension and work would be appropriate, or whether this is in fact an indication of the need to adjust the age limits of the old-age pension.

At the younger end of the population, with regard to increasing the participation rate and extending working lives during the early years, key issues include decreasing the gap years between school and the next stage of education, as well as reducing study years spent completing a degree. In this regard, Finland's performance is relatively poor by international standards, and the ameliorative measures conducted so far have not led to satisfactory results. Practical measures worth considering include a reform of the entrance examination system used in higher education and further development of student financial aid, in order to incentivise and reward students for completing their studies within a reasonable time.

Regarding adult education and continuous professional training destined for those with a high educational background, separating these more clearly into a distinct entity would probably free up places of study for younger students and thus reduce the amount of 'idle time' spent prior to beginning to study.

When growth in the working-age population decelerates and begins to turn downwards, it will become more important to make better use of the resources offered by all age groups. In addition to older and younger people, attention should be paid to the underutilisation of potential workforce amongst the middle-aged population. The focus should be set on lowering structural

unemployment, reducing premature claiming of the disability pension and improving employment opportunities for those partially capable of work.

In addition to devising measures to promote older people's working conditions and the meaningfulness of work, preventative action should also be taken to support younger age groups' wellbeing at work. In particular, it should be ensured that the mounting demands of working life do not lead to premature deterioration in the functional ability of those who are of the best working age. Warning signals exist: for instance, volumes of sick leave for mental health reasons have risen steeply.

Regarding unemployment, a special focus should be set on the population with a foreign background, since its unemployment rate is clearly higher for both men and women than among the native population. For women in this group, labour market participation is generally low in comparison to Finnish women. This may be associated with a high number of children and large amounts of domestic work, but other cultural differences may also be involved.

Since taking care of children at home and benefiting from the related care allowance is common, the participation rate of young, working-age women in the labour market is lower in comparison with the other Nordic countries. This system, however, increases the day care options available to families with children and, in this respect, increases flexibility and welfare. In addition, it seems that Finnish women tend, at least partly, to compensate for their below Nordic average participation during early working life by showing a higher participation rate at a later stage. Notwithstanding this, it should be ensured that a long absence does not cause problems for young women when they seek to reintegrate themselves into the labour market and advance their careers.

The qualitative equivalency between education and labour market needs is emphasised in conditions of increasingly scarce labour resources: the market cannot afford to train people and only keep them in reserve. This situation presents even greater challenges for predicting educational needs. On the one hand, since predictions are always uncertain, preparing for this development should be ensured through a sufficiently generalist basic educational focus on learning capabilities which would be complemented, in the spirit of lifelong learning, with postgraduate education, continued professional education or retraining where necessary.

Conclusions and measures for consideration

- The unemployment tunnel should be substantially restricted. One option would be to raise the minimum age limit for the tunnel from 57 to 60 years, at which age the person would have the right to claim an early pre-retirement pension following a 2-year period of unemployment.

- The conditions of the part-time pension should be tightened so as to reduce its attractiveness.
- Increasing the minimum age of the old-age pension should be considered once the decision to implement the pre-retirement pension reform has been taken. The same reform package includes the possible linkage of old-age pension age limits with life expectancy.
- Options for developing the disability pension system should be investigated separately. In particular, means of reducing people's premature transfer to a disability pension should be assessed and persons who already claim disability pension should be given more opportunities to return to working life without permanently losing their pension benefit. The recent OECD analysis offers an excellent basis for this kind of assessment.
- In improving the quality of working life, particular attention should be paid to older employees' circumstances. Essential issues include employers' attitudes, the flexibility of duties and working hours and preventive rehabilitation. A related practical measure would be the extension of the utilisation of the ageing and work training programme by the Finnish Institute of Occupational Health.
- With respect to improving skills, the reform of adult education currently under preparation is playing a key role and, thus, the level of ambition of the reform must be set accordingly. The regrettable decline in economic growth and gloomy employment trends due to the international financial crisis provide a prime opportunity to use the time newly vacated to opt for training and further study. This opportunity must be seized by quickly creating programmes increasing the provision of training for the older workforce in particular.
- In order to accelerate entry into the labour market, measures should be further reinforced for lowering the internationally high average age of those graduating from higher education institutions. The key role in this respect would involve developing student benefits and higher education institutions' entry practices so as to encourage rapid graduation. The separation of adult education and continuous professional training as a distinct entity would free up places of study for younger students, thus reducing 'idle time' prior to beginning studies.
- In addition to those participating in higher education, means must be identified within upper secondary professional education of reducing student drop-out rates, unnecessary changes of the field of study and the completion of multiple degrees. In this respect, the focus should be set on enhancing vocational guidance, improving the forecasting of educational needs and increasing work-oriented education.
- An evaluation should be carried out on whether the parental leave reforms already conducted are sufficient for levelling out the burden incurred by young women in taking care of small children. Similarly, opportunities for the child part-time home care allowance should be assessed in order to support the labour market participation of parents who would like to remain at home and provide care for their children.

- It should also be ensured that mounting demands in working life do not lead to a premature deterioration in the functional ability of those of the best working age.
- In order to increase the labour supply and reduce structural unemployment, a well thought through alleviation of the taxation of labour as well as enhancing measures to activate the unemployed should be continued. In parallel, means of increasing the working opportunities of those partially capable of work must be sought.
- In terms of reducing structural unemployment, it would be important to ensure that younger members of the population seek as comprehensive a vocational education as possible and that early intervention is carried out in the case of young people with a high risk of social exclusion. In this respect, a special focus should be placed on young people of immigrant origin.
- For immigrants, in addition to language training and integration, other important issues include employment services and sufficient work induction. For the latter, an investigation should be conducted on whether special support measures targeted at employers are required.
- Women of immigrant origin who are completely outside the workforce constitute a potential labour reserve, and the opportunities for its activation should be examined.

7.2.7 Improving the economy's productivity

The ultimate source of any increase in material welfare lies in productivity growth. Therefore, raising productivity is a key objective of economic policy. This will only be further highlighted as the population ages, since labour supply per capita will reduce. Thus, the growth of both the economy and welfare is becoming increasingly reliant on the positive development of productivity.

A related key question is that of how the higher average age of the workforce will impact on productivity growth. Although some studies indicate that labour productivity is lower among older employees than among younger ones, no strong evidence exists on the negative influence of age on productivity and this interrelationship is dependent on the nature of the work in question (Börsch-Supan, Düzgün & Weiss 2005). The impact of ageing on productivity could be curbed if the characteristics of older employees are given the appropriate recognition in working conditions.

Productivity growth across the economy also has a positive influence on the balance of public finances. However, it seems that this would not play a crucial role in terms of fiscal sustainability problems arising from ageing nor social or political sustainability. These problems do not essentially relate to GDP per capita but, rather, to how large a proportion of the population is participating in the production process and is thus receiving factor income. Another major factor relates to the amount of expenditure financed using tax revenues levied from

these factor incomes. The magnitude of expenditure naturally depends on the level of welfare benefits and the productivity of publicly financed service provision.

The relatively modest impact of the whole economy's productivity on fiscal sustainability is due to the fact that any improvement in productivity will, over time, entail a corresponding rise in the real wage level in the public sector. A rise in the wage level, in turn, will have a powerful impact in terms of raising public sector expenditure, unless corresponding productivity increases are achieved in public sector activities. Similarly, such a wage level rise will increase pension rights and, with less impact, pensions currently being paid. Higher productivity across the economy could, notwithstanding, have a major impact on public finances if the levels of various income transfers do not react to higher productivity and the ensuing higher earnings level, but this is highly unlikely.

Instead, a productivity rise in publicly financed service provision would strongly affect fiscal sustainability. Already, a 0.3 per cent permanent annual rise in labour productivity in public services would suffice to remove the sustainability gap in public finances defined according to the baseline scenario. Although this figure seems small in comparison with the productivity growth of 1.5–2.5 per cent observed across the economy, attaining it would require the determined pursuit of the related policy. This is due to the nature of public services.

Even at their best, policy measures influence productivity very slowly and often through complex processes. This sets particular requirements on the planning of productivity-enhancing measures and emphasises the importance of the thorough and evidence-based evaluation of policy measures.

Conclusions and measures for consideration

- Productivity growth across the economy is the most important source of material welfare, and it also contributes to better fiscal sustainability. High productivity in the private sector cannot, however, close the sustainability gap in the public finances.
- Measures aimed at productivity enhancement should focus on the development of technologies and operating practices. In addition to the fact that improving productivity in service provision is important to the entire economy due to its high share of employment, improved operating practices in service provision in general would also contribute to the enhancement of publicly financed service provision.
- In promoting higher productivity, particular attention should be paid to the development of work environments and practices which support the utilisation of older employees' competence input and help overcome restrictions arising due to physical fitness weakening with age.

7.2.8 Improving productivity and cost-effectiveness in public service provision

Publicly financed service production differs from other types of production, in that the quality and utility of services as perceived by users are often very difficult to measure, since no market price exists for such services. Consequently, creating performance-based incentive systems is difficult. It is partly for this very reason that many services are the responsibility of the public sector (Andersen et al. 2007). In the case of many services, enhancing the use of technology is clearly a limited option: human labour is difficult to replace with information technology or other capital. For these reasons, there are fewer opportunities for productivity growth in the public sector than in the economy on average, and public services are tending to become more expensive in proportion to general price level.

In Finland, in many welfare services productivity (outputs/inputs) in service provision has declined since the recovery from the depression but, since 2005, this productivity decline has shown signs of deceleration. Although such productivity is not a measure of effectiveness, it remains vital to the public finances since the costs arising from services must, after all, be met. Naturally, in addition to higher productivity, it is important that cost-effectiveness – i.e. effectiveness per input – of service provision is also improved.

The challenges in improving Finnish welfare services' productivity and cost-effectiveness are augmented by the fact that, in many areas, operations are already efficient and effective in international comparisons. Comparisons between educational sectors are the most reliable due to the use of the PISA survey. Pupils in Finland show excellent learning results even though basic education expenditure is at the average level of the OECD countries. More problems exist in efficiency comparisons between health care services, but calculations conducted in various ways clearly show that Finnish health care is also organised efficiently. For instance, Finnish hospitals have been able to provide services much more efficiently than those of other Nordic countries (Häkkinen & Linna 2007). However, less information is available on the efficiency of social welfare services, and it is important that this situation be improved.

In spite of these positive factors, the potential to enhance these services remains, since wide variation has been detected in productivity by unit. Such differences exist throughout Finnish public services, but particularly in health care. The analyses conducted for this report suggest that high productivity is not inconsistent with high quality or, therefore, with effectiveness. Bearing this in mind, the dissemination of best practices can simultaneously improve both efficiency and effectiveness.

Various studies suggest that if, in key welfare services (health care, social welfare and education services), unit efficiencies rose to the level of the best units, productivity could increase by 5–20 per cent (Aaltonen & Kangasharju 2008). Assuming that such potential equals 10 per cent and that the universal adoption of best practices would require as long as 40 years, the annual rise in productivity would amount to some 0.25 per cent. This alone would cover most of the sustainability gap, as determined in the baseline scenario, and would remove half of the requirement for additional staff in these services (80,000 -> 40,000).

In addition to productivity differences, another reason for investing faith in productivity improvement opportunities in service provision lies in the fact that the processing and utilisation of information is a core element in many public welfare services. However, several studies indicate that, in many service operations, the utilisation of information technology remains highly undeveloped due to outdated practices and the incompatibility of IT solutions. According to productivity researchers (e.g. Pohjola 2008), the more effective application of information technology will provide extremely high potential for productivity improvements in service operations in the forthcoming decades.

When these deficiencies in the application of technology, and the enhancement opportunities provided by continuous technological advances, are added to the effect of the above-mentioned adoption of best practices, an annual productivity rise of 0.25–0.5 per cent in service provision should be achievable. However, productivity will not improve by itself. Seizing the opportunities presented will require simultaneous measures on several fronts.

Unit size in service provision

In recent years, particularly within the framework of the Municipalities and Service Structure Project (PARAS), a key trend in enhancing welfare services has seen increasing unit sizes in service provision. This has been achieved by encouraging municipal mergers and the formation of various cooperation districts. In most cases, increasing the average unit size is a highly justified approach. Observation shows that the population base has a cost-reducing effect up to 25,000 inhabitants in primary health care and, in basic education, up to some 24,000–37,000 inhabitants (Aaltonen et al. 2006). On the other hand, in day care for instance, no link can be demonstrated between municipality size and unit costs.

Municipal mergers and intermunicipal cooperation can also generate benefits other than those related to direct productivity improvements. Increasing municipality size reduces the volatility of total expenditure and levels out municipalities' tax base differences, further reducing the need to redistribute tax

revenue. Municipal mergers also reduce municipalities' administrative expenses, at least in the long term. Larger municipalities find it easier to recruit skilled workforce and make better use of specialisation opportunities. Compared to a small municipality, a larger one is better able to allocate adequate resources to competitive tendering, while size gives it greater negotiating power when placing orders.

It is important that administrative structures be clear. Complex structures blur responsibilities while tying down the inevitably limited capacity of municipal decision-makers in administrative tasks.

When organised by bases clearly larger than individual municipalities, specialised health care can achieve substantial cost-savings through the centralisation of operations and specialisation by hospital – while rendering service provision more effective. Centralising more challenging forms of care in a very few hospitals would prove particularly cost-effective.

The smooth operation of service chains is a critical issue. In the light of international examples, substantially higher productivity gains can be achieved in the health care sector through the well organised, vertical integration of services (i.e. the creation of functioning service chains) than from horizontal integration (i.e. extending the dimensions of particular service operations at a certain level). Linking primary health care and specialised health care presents a particular challenge in ensuring a functioning service chain. Another notable challenge lies in forming a seamless service chain between social welfare and health care services when a client uses multiple services. There is thus a clear need to plan the provision of services within an integrated, regional whole. The new Health Care Act entering into force during 2009 will provide a good starting point for such an approach.

Information systems

The development of information systems and their exploitation offers great potential for enhancing welfare services. Several assessments have indicated that existing IT capability cannot be utilised efficiently in spite of the numerous development projects which have been underway for years. A key reason for this lies in the poor compatibility of the information systems selected by a range of players. This constitutes a fundamental limitation to enhancing the service chain, for instance between primary health care and specialised health care.

Moreover, the adaptation of practices furthering the effective utilisation of efficient information systems is just as important as system compatibility. In this respect, various evaluations have identified a range of shortcomings. Productivity improvement requires reform efforts throughout the service system,

the related priorities including the more effective utilisation of technologies and the development of common operating models.

Information system support for efficient operations plays a key role, particularly in health care, due to the importance of securing the above-mentioned treatment chains. Efforts are therefore underway to ensure the compatibility of health care information systems used for client information management. Likewise, the adoption of a widely applicable electronic prescription is under preparation. The new national health care information system should be adopted in 2011, after which there will be no need to enter patient information in several information systems, data being automatically transmitted from one system to another. Thus, it will be possible to allocate resources to other operations. However, efficient utilisation of this system requires the modification of operating practices in hospitals and health centres so that their common knowledge base can be fully exploited. For instance, it is crucial that information arising during care periods be recorded in the system in a consistent manner, promoting ease of use for everyone involved. Consistent practices would also facilitate the specification of various service packages.

Patient information systems can also be used to assess the efficiency of operations. Under the current legislation, information held on the new national patient information system can only be used for direct patient care. However, it should be possible to safeguard confidentiality requirements while forming patient information pools for utilisation in the enhancement of processes, peer evaluation and, more generally, in research into costs and effectiveness.

There is also a major need for the development of social service information systems.

Dissemination of best practices

Almost throughout the various services provided by the public sector, great variation exists in unit efficiency in every size category, suggesting that various actors are far from applying best practices. To solve this problem, a range of measures is required.

An evident development target is the enhancement of information steering i.e. the dissemination of information on best practices. The new National Institute for Health and Welfare offers a good opportunity for this. However, since the related decision-making is dispersed among many service organisers, mere information on best practices would not necessarily be sufficient. A broader-based and more detailed public comparison of the various providers of services should be considered, to give decision-makers a clearer view of when their own operations are not competitive. So-called 'naming and shaming' practices could

create, at least to some extent, strong incentives to increase efficiency. However, in publishing such comparisons, any negative impacts must be taken into account, particularly where the comparisons cannot take due consideration of all of the relevant factors affecting costs, performance and outcomes.

Purchaser–provider models and competitive tendering

A natural way of disseminating and developing the best existing practices, and of creating new ones, would be to utilise market mechanisms where possible – entailing, in practice, the purchaser–provider model and competitive tendering. Use of the purchaser–provider model has clearly spread through the public sector during recent years. In particular, various technical services, such as waste management, public transport and diverse servicing, have increasingly been purchased through competitive tendering processes from private and/or public providers. Competitive tendering for various nursing services and even health care service provision has also become more common.

Experiences of the utilisation of the purchaser–provider model are in many respects positive, although problems have not been completely avoided, particularly in health care and social welfare services. In general, costs have decreased (Mikkola 2008). However, with respect to competitive tendering, the fundamental problem lies in the ability to measure quality of service. In most cases, problems in competitive tendering have arisen from the perception that quality of service is poor. Competitive tendering capable of fulfilling the related objectives therefore requires the development of quality and effectiveness indicators.

On the other hand, studies indicate that in many services a large share of changes in productivity result from reasons other than variations in service quality or patient structure. For instance, significant rises in the productivity of health centres have been attained by altering management practices and organisational structures and through the development of work and patient counselling (Alho 2004, Lillrank et al. 2004 and Peltokorpi et al. 2004). A key emerging factor seems to lie in identifying those who need the service most and efficiently referring them for treatment.

Using the purchaser–provider model and competitive tendering when contracting services out requires certain skills of the party inviting tenders. This is necessary to ensuring that the related disadvantages – such as greater bureaucracy, quality control challenges and higher transaction costs – do not exceed the benefits. Indeed, a more desirable goal for competitive tendering would consist of trying to establish longer-term strategic partnerships rather than conducting laborious processes on a frequent basis. Other important issues include the sound management of larger entities and meticulous definition of

service products. Competitive tendering is most difficult in rural municipalities, where the number of service provision candidates is low. It should also be acknowledged that difficulties can be encountered in combining competitive tendering with efforts to form comprehensive service chains.

Although the productivity of service provision depends solely on inputs and service processes, the service's final impact at client level (e.g. on patients or students) also depends on the incentive systems of the service's users. For instance, in education time limits for student financial aid encourage students to graduate earlier and service fees in health care curb the number of unnecessary visits to the doctor, thus freeing up the provider's resources to provide care for those who truly need it.

Financing

The financing system underlying services also largely determines the incentives affecting the system's various actors and clients. For this reason, incentives or the lack of them is an important issue, for instance with respect to the system of central government transfers to local government and in the compensation system for municipalities' tax revenues.

As regards welfare services, several studies and accounts have paid attention to multi-channel financing, particularly in health care (Pekurinen, 2008). A very commonly accepted conclusion is that financial responsibility between the financiers of services should be clarified and the number of financing channels reduced. This would decrease the problems arising from multi-channel financing and improve the effectiveness of financing in general. Municipalities should be rendered equal in terms of public financing for health care, when determining the criteria for central government transfers, by taking due consideration of the public financing allocated, through health insurance, to municipal residents' service use.

As mentioned above, financial responsibility between the institutional financiers of health care (State, municipalities, the Social Insurance Institution of Finland (Kela)), should be clarified and the number of financing channels reduced in order to decrease the problems arising from multi-channel financing and to improve the effectiveness of financing. Solutions to this problem should be based on careful evaluation focusing on the impact of the multi-channel financing system on the organisation of services, service provision, division of tasks, availability of services, regional distribution and total health care expenditure.

Technological advancement in health care

The rapid advancement of health care technologies is continuously creating new prevention and treatment opportunities. Still, medicine usually advances in fairly small steps and treatment methods are not being revolutionised to the extent that forecasts on future resource needs have become completely obsolete. However, examples to the contrary exist. Tuberculosis, for instance, transformed due to the development of effective medication in the mid-1950s, from a fatal disease to one which was generally curable. The adoption of new, effective vaccines has also contributed to dramatic changes in terms of the prevention of such diseases.

In the future, key issues will include the impacts of genetic engineering, communication technologies, various screening methods and new medical treatments. Among the potential steps in the advancement of technology highlighted in expert interviews, key issues include the prevention of Alzheimer's disease and allergies by vaccination.

At its best, new technology may radically improve the health care system's ability to treat difficult diseases. On the other hand, new technology is typically expensive and may also lead to more conditions being interpreted as diseases or injuries requiring treatment. Thus, the overall impacts of technological advancement are very difficult to assess.

The majority of new health care technologies are naturally developed outside Finland. However, it is important that Finland has a sufficient basis of expertise in order to apply such technologies rapidly and to develop our own, albeit narrow strengths. The development opportunities presented by health care technology, in terms of innovation policy, the planning of health care organisations and the education and training of health care staff, should be taken into account.

Conclusions and measures for consideration

- Significant potential exists in terms of the improvement of the productivity and cost-effectiveness of public services, and this must remain at the core of ageing policy in the future.
- Since the efficiency and quality of service provision do not, on the whole, seem to be mutually incompatible, justifications for enhancement programmes should focus on opportunities to safeguard quality and improve the actual availability of services.
- In the Restructuring of Local Government and Services Project (PARAS), the focus should be shifted towards enhancing practices instead of increasing unit size which, however, is also a justified end as such. In administration solutions, particular attention must be paid to the clarity of new structures.

- Increasing the comparability of operational results at provider and organiser level would enhance incentives to operate more efficiently. This could be promoted, for instance, through a national website including provider/organiser specific information on the availability, cost and effectiveness of public services. Such a website is indeed under development under the service innovation project of the Ministry of Social Affairs and Health, coordinated by the National Institute for Welfare and Health.
- Good operating models for using the purchaser–provider model and competitive tendering must be disseminated more efficiently; larger population bases within the entities responsible for organising the necessary services will offer greater capabilities to establish a functioning purchaser–provider structure and develop purchasing expertise. This opportunity must be seized.
- More attention should be paid to the development of quality and effectiveness indicators for welfare services. This is a critical prerequisite e.g. for the rational definition of service products and, further, for the profitable utilisation of the purchaser–provider model and competitive tendering.
- The reform of health care legislation focuses very much on the functioning of the entity formed by primary health care and specialised health care. Utilisation of the opportunities provided by the new Health Care Act must be set as a health care development priority for the forthcoming years.
- The development of seamless cooperation between social welfare and health care is also important, particularly in services for older people and those targeted at people in a difficult life situation.
- Rapid implementation of national projects for mutually compatible information systems (electronic patient records and prescriptions in health care and an electronic client information system in social welfare) must be ensured. The adoption of new information systems should always include an assessment of operating practices. Preparing such an assessment and an implementation plan for the required reforms should be defined as a condition for project financing by central government. It should also be ensured that patient information can, under the appropriate information security arrangements, be largely utilised for the assessment and research of operational efficiency.
- Meanwhile, preparations should be made to extend electronic public services for citizens. International requirements for information systems should also be acknowledged.
- Health care financing should be rendered markedly simpler in order to reduce problems arising from multi-channel financing. In parallel, it should be recognised that the financing burden of municipalities is also influenced by public financing, which is allocated through health insurance to services used by municipal residents.

- In reforming the system of central government transfers to local government, attention should be paid not only to promoting efficiency but also to the system's ability to steer municipalities' operations in the right direction in terms of its overall effect. This is why opportunities should be assessed for the inclusion in the system of carefully considered steering elements, for instance with respect to health promotion, in addition to straightforward imputed criteria encouraging efficiency.

7.2.9 Improving social security

An analysis of social sustainability suggests that the major subsistence problems closely related to population ageing concern, in particular, persons who live for a long time and whose pension income consists solely of the national pension, small earnings-related pension or early-onset disability pension. On one hand, this is due to the pension's low initial level, whose rise the life expectancy coefficient will reduce in the future, and on the other, to the effect of indexing for those who live for a very long time.

In principle, subsistence problems due to longevity should be easy to rectify by increasing the weight of the earnings level in the indexing of pension benefits. In terms of costs, however, this would be a very expensive solution which would substantially increase the sustainability gap in the public finances. On the other hand, reducing the difference between future pensions and the earnings level prevailing at that time, for all pensioners, is not critical to avoiding poverty. For these reasons, it would scarcely be possible or even necessary to introduce radical changes to the indexing rules.

Indirectly, ageing could, at least to some extent, increase the relative proportion of the low-income population if social security for the unemployed or those outside the workforce were to be weakened in proportion to the general earnings level in order to promote labour market participation, or if labour taxes were cut in order to improve incentives for participation. The end result would, of course, depend on the impact of such enhanced incentives on employment.

However, the problems related to measures attempting to incentivise people to work are mitigated by several factors. First of all, the greatest incentive problems for the unemployed seem not to pertain to those receiving the labour market subsidy or basic unemployment allowance but, rather, to those benefiting from a clearly higher earnings-related unemployment allowance (Honkanen et al. 2007). Similarly, although the child home care allowance does encourage the parents of small children to remain out of the labour market, women's participation rates during their later life stages indicate that the allowance's impact on the life-cycle labour supply is minor. Furthermore, reducing prolonged studies by increasing the preconditions for student financial

aid cannot be considered highly problematic from the income distribution perspective since, at any rate, study years represent a temporary life stage and the Finnish level of student financial aid is good by international standards.

The level of social benefits, their functioning as incentives and their financial sustainability is currently being considered by the SATA committee, which is expected to issue overall guidelines for reforming the social security system in January 2009. It will also issue more specific guidelines concerning the economic and employment effects in February 2009. This committee must present its proposals for legislative amendments by the end of April 2009.

The underlying premise of this reform is that social security should encourage students to move faster from their studies into working life; shorten periods of unemployment; render the acceptance of temporary employment profitable; facilitate access to employment for the partially disabled; defer retirement and encourage pensioners to participate in working life to a greater extent than currently; and improve labour productivity. The reform process also assesses how well the purchasing power of income transfers intended to cover living costs can be maintained. Particular attention is paid to the fact that the national pension is a long-term form of social security.

Since the development needs related to social security benefits are being comprehensively examined by the SATA committee, this report's assessments on these issues will be confined to the above-mentioned aspects as related to labour supply.

The availability of health care and social welfare services and the quality of care or nursing are subject to regional differences, with clear indications that neither quality nor availability reach satisfactory levels in every case. For elderly services, problems occur both in sparsely populated and urban areas. The service deficit seems largest in home care and, in general, services provided at home. The deficient organisation of home help services is often also associated with low cost-efficiency. As a main rule, well-organised home help services seem to entail lower costs than institutional care arrangements. In addition, nursing at home for as long as possible often corresponds to old people's own desires.

As the population ages, the population's age structures will see further and further diversification across regions. In terms of financing services, sparsely populated remote areas present most challenges: while the tax base per inhabitant is weakening, service needs are tending to increase. Although the availability of workforce may be above average in such areas, the special skills required for service tasks may be lacking. Furthermore, in practice such areas often offer no alternative to publicly provided services. In sparsely populated

rural regions, geographical distance represents another particular challenge affecting the availability of services.

In large population centres, however, service needs will see the highest absolute growth, imposing great adaptation requirements on service provision. Furthermore, competition over workforce will generally be fiercest in these areas.

In any case, there is a prominent danger that in some municipalities, care and nursing services for the elderly, in particular, will remain weak. In order to safeguard the level of services, quality recommendations have been issued but compliance has been left to the discretion of the municipalities themselves. In addition to elderly services, problems have also been detected in other services, such as pupil and student welfare services, immigrant services and substance abuse and mental health services.

In principle, a solution to ensuring the availability and quality of services would lie in intervention through normative controls. However, the resumption of comprehensive and strict normative controls is not possible since, to some extent, this would require a return to earmarked appropriations, whose effects as financial incentives are often very weak.

A less dramatic option might consist in systematically monitoring compliance with quality recommendations. While this may prove difficult in terms of the monitoring of all aspects, the realisation of some recommendations may well be monitored in a fairly comparable manner. Furthermore, the publication of monitoring data could create incentives for municipalities to perform as well as possible.

In order to ensure the fulfilment of the service promise under all circumstances, the possibility of a nursing fund has been introduced. Larger municipalities would allocate reserves required for future nursing and smaller municipalities could do likewise through consortiums. Regarding nursing funds, the outcomes of the ongoing PARAS project should be considered. PARAS will reinforce, to some extent, the financial base of certain municipalities, since a larger population base will guarantee more even municipal self-financing. However, PARAS will not solve the financing problems of many small and remote municipalities located far from central areas.

Improving the functioning of service chains by shifting to an integrated service system may contribute to the partial solution of problems. Judicious steering based on administrative resource allocation can also be employed in rectifying the worst problem areas.

Conclusions and measures for consideration

- Consideration should be given to increasing the smallest pensions (most of all the national pension) and committing to adjusting their levels at regular intervals, for instance at the beginning of each new term of government (and linked with the social sustainability assessment suggested earlier in this report, should such a practice be adopted).
- A special emphasis should be set on rectifying the application of the life expectancy coefficient in cases where a person moves from a disability pension onto the old-age pension, since this may cause an unreasonably low level of old-age pension for the disabled.
- Since municipalities' population structures will inevitably see further differentiation, so will the financing opportunities of services through the municipality's own tax revenues. Thus, the equal availability of municipal basic services requires greater income transfers between municipalities. Enabling this must be taken into account in developing the system for central government transfers to local government.
- The realisation of quality recommendations pertaining to services should be monitored more systematically. (For instance, indicators for monitoring the realisation of quality recommendations for care and services for older people have already been created and are also being followed). Publishing monitoring data could, to some extent, create incentives for municipalities to adhere to the recommendations.
- For welfare services, the creation of national quality certification would be beneficial. Applied to public and private services alike, such certification would reduce the quality gap prevailing between them. In addition to securing service quality, it would also improve the position of the client and the provider of the service.
- Establishing a 'national nursing forum' should be considered. Such a forum would discuss the public nursing promise and assess its realisation.

7.2.10 Utilisation of citizens' own resources and supporting their own preparation

The ultimate purpose of the public pension system, alongside many other income transfer systems and publicly financed welfare services, is to safeguard security which private actors either cannot ensure at all, or to the required extent. Efforts to improve fiscal, social and political sustainability entail implementing measures which enable the public systems involved to realise the related objectives in the forthcoming years and in the long term.

If we succeed in extending working lives, enhancing productivity and effectiveness in public service provision and in promoting health, pension levels under the current rules and public welfare service levels and availability can, with a high degree of probability, be maintained. Furthermore, important security elements in terms of social sustainability could even be reinforced.

Substantial uncertainty, however, is related both to the success of policy measures and to many other factors affecting these developments. It is for this reason that we cannot, with entire certainty, state that all security that citizens expect under current rules can be realised under all circumstances. On the other hand, general pension levels, and other social security and services will not necessarily prove sufficient to enable the kind of welfare that all citizens consider important.

Therefore, citizens' own, private contribution in facing the changes arising from population ageing will also be important. This includes two main elements: first, preparing for one's own pension and further old age security during earlier stages of the life cycle and, second, the support that citizens can provide to their kith and kin and others in need of support. In both respects, the general trend of increasing income levels and wealth, as well as continuous improvements in health and functional ability, are providing great opportunities. It is therefore critical that the public authorities ensure that no undue barriers prevent people from taking the initiative in this respect, but that adequate measures provide support for them. It is also very important that citizens have as realistic a view as possible of precisely what public security systems will actually safeguard.

Private consolidation of pension and nursing security

Private preparation for old age security involves accruing various forms of assets. The leading asset category for households approaching retirement age is owner-occupied accommodation (approximately 60%), while other real property (holiday homes and cars) and deposits are also important. Other financial assets account for some 15 per cent (Määttänen & Valkonen 2008). Private pension saving is included in other financial assets and has, during recent years, represented some 2 per cent of all assets.

Accruing wealth for the purposes of old age security seems to have become a more common motive for saving, according to various surveys. This is unquestionably a result of the improved saving opportunities during the last 15 years under favourable economic conditions, as well as the diversified and extended range of savings products on offer. In parallel, particularly among younger age groups, the ability of the public pension and other security systems to guarantee a level of livelihood perceived as sufficient after retirement is being met with more general scepticism (Ahonen 2008).

In Finland, public support for private preparation is concentrated on tax relief granted on private pension insurance policies offered by insurance companies. These tax subsidies were reduced as of the beginning of 2004 and, on the same occasion, the age limit for policyholders in using their pension savings was

increased to 62 years. However, tax subsidies still render pension saving (up to 5,000 euros per year) economically more attractive than other types of financial assets. Although the popularity of pension insurances saw a downswing alongside the 2004 reform, their number of savings plans has begun to recover rapidly during recent years.

An important policy issue concerning private preparation concerns the way in which the taxation of private pension saving should be developed in the future. Naturally, the basic question to emerge concerns how useful it really is to subsidise private saving through taxation. Evidence from various countries suggests that such tax subsidies, targeted at certain saving instruments, increase demand for that particular product but do not increase overall saving by much (Lassila et al. 2007). Furthermore, since Finland is a small economy operating in an integrated financial market, its investments are not extremely dependent on domestic saving and, thus, only weak macroeconomic justification exists for granting tax subsidies on pension insurances.

Therefore, the utility of these tax subsidies fundamentally depends on whether they support the kind of preparation that is in some respects deemed 'better' than other types of private preparation. Such benefits are indeed targeted through subjecting tax subsidies to the following preconditions: that usage of the voluntarily saved pension can only begin after a certain age and that the usage period must be of a minimum length. These preconditions ensure that the saving activity will support subsistence after retirement.

The current conditions for tax subsidies, however, do not well serve the overall goals of ageing policy. Both the age limit of 62 years and the short 2-year minimum period for using the savings signify that the tax subsidies do not support the objective of extending the average working life but, rather, may encourage people to retire early. For prolonging working lives, raising the minimum age to, say, 65 years would be a well-founded solution.

Another issue lies in group pension insurance policies purchased by employers for their employees. These also represent a preparation complementing public pension security, although individual citizens cannot independently opt for them. Currently, businesses can obtain a full tax deduction for such insurance expenses, even though these policies apply a low retirement age of 55 years. Few good reasons can be found for providing tax support for the opportunity included under such policies to move onto an old-age pension before the related, minimum retirement age. In particular, if the taxation of individual private pension insurance plans is going to be changed, it would be reasonable to re-evaluate the preconditions for group pension insurance plans as well.

A more fundamental question related to the pertinence of tax subsidies lies in whether, instead of fixed-term pensions, they should be granted for life-long pensions only, or at least entitle holders of the latter to higher subsidies. The indexing rule applied since 2005 and the life expectancy coefficient entering into force in 2010 will mean that the pension level of those who live very long will remain very modest in comparison with the general income level in the future. The number of long-living persons will also grow markedly. This would favour encouraging the kind of private preparation which provides income security for the entire remaining lifetime. Such an outcome could be achieved by requiring that the pension be paid, either entirely or in a major part (e.g. 50%) as annuities during the policyholder's entire life, as a precondition for receiving tax subsidies.

Certainly, restricting tax subsidies on pension insurance policies through annuity rules will reduce savers' freedom of choice and, in this sense, welfare. However, favouring annuity in taxation may be justified since the involved security and risk-sharing benefits will, most probably, be underestimated due to various market imperfections and/or psychological reasons. Both in Finland and elsewhere, life-long pensions are not purchased in nearly as high a number as economic analysis would suggest is rational (Brown 2007). Boosting the annuities market through tax subsidies would, among other benefits, reduce the problem of so-called reverse selection, i.e. pensions being purchased only by persons who have good reason to believe that they will live a long life. Such a selection phenomenon would increase the price of pension policies, making them less economical. An extended market would increase competition, which might contribute to making life-long pensions more attractively priced.

In developing the tax incentives of pension savings, overall competition should also be promoted. Thus, while stricter limitations on the use of pension savings subsidised through taxation should be set for the above-mentioned reasons, consideration should be given to extending the scope of saving forms eligible for subsidies. A key factor influencing competition would be the ability to compare insurance product prices. This would set major requirements on information concerning the related preconditions, and raise the question of whether tax-subsidised products should be highly standardised.

The level of tax subsidies can also be criticised. The observation that the reduction of tax subsidies in 2004 has not entailed a permanent decrease in pension savings indicates that lesser subsidies could also produce the desired results.

Regardless of the taxation of pension insurance policies, it is probable that, in the future too, most assets belonging to people approaching retirement age will remain in forms other than pension insurance savings. Therefore, it would be

important that these other forms of asset are used flexibly in the provision of old age security. In theory, many means of doing this exist. An owner can sell his/her own flat or house and then purchase a smaller one or opt for rented accommodation. However, values other than financial ones may often be associated with living in one's own, established home. Thus, so-called reverse mortgages and home reversion schemes enabling the owner to begin to use his/her housing asset for consumption, without moving away from home, represent important opportunities. However, this market is fairly small and undeveloped, and means of supporting its expansion should be examined.

A key restriction in using wealth as old age security lies in pension policies paid for in one instalment being subject to high taxation in Finland. This is due to the fact that pensions paid under such pension policies are taxed on the basis of their totality, i.e. on the savings capital as well as the return. This evident defect should be remedied.

In improving the prerequisites for private preparation, it should be remembered that people's opportunities for private preparation vary, both in terms of earning capacity and awareness level. Therefore, it is important that in the development of incentives, particular attention be paid to those population groups with the weakest prerequisites for preparation. This pertains to the dissemination of information, limits related to actual incentives and other parameters.

Conclusions and measures for consideration

- The need for subsidies on pension saving at their current dimensions should be reconsidered, the alternative including a reduction of their intensity through, for instance, limiting the tax deduction to only part of the savings accrued.
- The minimum age for beginning to receive payments from a private pension policy qualifying for tax subsidies should be raised, to 65 years for instance. At the same time, the minimum age for group pension insurances paid by employers should also be increased.
- Tax subsidies for pension insurances must encourage, in particular, the purchase of life-long pensions. Moreover, serious consideration should be given to financing subsidies for only this type of pension.
- Taxation of pension policies paid for in one instalment should be rendered more moderate. Means should also be investigated of supporting the more efficient utilisation of housing assets as old age income security.
- Dissemination of information to citizens on the level of public pension security, including all pension types, must be further improved.
- Competition in the private pension insurance market must be promoted, with particular attention paid to easy comparability for the customers between the prices of various products.

Older people's own contribution to nursing and other proactive behaviour

The majority of old-age pensioners enjoy good health and functional activity, and they lead an active and fulfilling life, even at an advanced age. 'Old age' is currently defined as beginning at around 80 years of age, while the period occurring after retiring from the labour market and before the onset of actual old age is now been termed the 'third age'. During this phase of life, lasting some 20 years, in many ways people are still actively engaged in civil, cultural and social activities. This proactive behaviour should be supported in various manners in order to retain the positive aspect of the third age and the related functional ability for as long as possible. Studies suggest that versatile leisure-time, cultural and other services improve older people's quality of life. The European Union, for instance, has defined the ability of older people to participate in public, social and cultural life as actively as possible, as an ageing policy priority.

One key form of activity lies in helping one's nearest and dearest. Indeed, the help and support of friends and family is the most important source of assistance for Finns whenever problems occur. While social networks represent the leading source of assistance for older people, the elderly are also very active in helping others. Some 40 per cent of people aged 60–79 regularly provide help to their family members and more than one fourth help their other relatives and friends. A third of such people function as the main support for persons needing assistance. Even amongst over-80s, one in five helps a person close to them, most often their spouse, children or grandchildren. It is thought that spouse caregiving will become more common in the future. While this will most probably reduce the need for public nursing, it is also likely to increase the need to develop support and opportunities for spouse caregiving.

Informal care has been included within the scope of public support since 1993, and this support has been regulated under the Act on Support for Informal Care since 2006. In 2007, municipal support for informal care was granted to some 33,000 care givers, this support involving approximately the same number of care receivers. Nevertheless, not everybody providing informal care for their next of kin uses or benefits from this support. It is estimated that, in Finland, care givers over 60 years old number over 150,000, at least. Informal care plays a critical role in ensuring the welfare, and the ability to live at home, of older people who require someone's assistance. This is both in line with older people's own wishes and cost-efficient. It is therefore important that the prerequisites for informal care be further developed. Key development challenges relate to improving the quality of life of informal care givers and receivers (e.g. various recreational and rehabilitation services and flexible options for arranging substitute care), assessing the functional ability and resources of care receivers

and care givers in order to enable the accurate targeting of support, as well as combining informal care with the rest of the service structure. In particular, solutions customised to various care giver/care receiver pairs, and providing flexibility according to life situations, are required.

Older people's opportunities to cope independently, be active citizens and also provide support to each other depend in many ways on the physical environment. The accessibility of one's home and living environment also increases the probability of a high quality of life for the elderly, both at the younger and older end of the age group. It is important that a person with poorer physical ability can exit his/her home and move about in the vicinity. The lack of lifts in blocks of flats may constitute a critical barrier to this. Correspondingly, sufficiently extensive and flexible public transport services are very important to the elderly. Poor living conditions and barriers to mobility in one's home and living environment form a serious risk of creating a premature need for assistance or long-term institutional care.

Even under optimal conditions, older people's prerequisites for physical mobility inevitably reduce as functional ability declines with age. People in this phase of life need support to remain active, while their ability to communicate in other ways is emphasised. Within the framework of voluntary work, older people may be assigned support persons who help them to go out and engage in hobbies either in- or outside home. In addition, modern information technology offers excellent opportunities, both in terms of communication and otherwise, with respect to assisting persons with poorer functional ability. However, older people often have low capabilities in using information technology, a situation which is exacerbated by non-intuitive equipment and systems. There is a manifest need to render information technology applications easier to use and adopt by older people. User-oriented research and development projects are required, in which research institutes and businesses develop and test these applications together with older people. People in the third age, in particular, are open-minded about using technological solutions.

During the third age in particular, older people have various resources and strengths which should be harnessed for their own utility, their kith and kin as well as society. A proactive age policy would encompass a multi-faceted mix, including cultural policy, physical activity policy, land use planning and environmental policy, health and welfare policy and the related services, supporting the provision of assistance to one's kith and kin as well as voluntary work.

Conclusions and measures for consideration

- Old-age pensioners are mainly in good health and generally capable of taking care of themselves until an advanced age. They are also able to provide help to their kith and kin. Moreover, the elderly are highly willing to help other people and participate as otherwise active citizens. This opportunity and willingness must be supported.
- The development of support for informal care must be continued. Particular development targets include the flexible organisation of substitute care and various recreational and rehabilitation services.
- A barrier-free environment is a key prerequisite for older people's independent living, as well as their proactive behaviour outside home. Therefore, more attention should be paid to housing refurbishment, the construction of lifts and, in general, the development of living environments suitable for older people. The same applies to traffic environments and transport services.
- Information technology applications must be proactively developed to render them easier to learn for older people.

7.3 Conclusions on the overall ageing policy

The ultimate goal of the policy of preparing for population ageing is to ensure that Finnish society is able to secure the fundamentals of citizens' welfare, also under circumstances in which the population is significantly more aged than currently. These fundamentals include subsistence – which for older people essentially depends on pensions – and various welfare services. Additionally, society must also be capable of otherwise supporting the formation of such circumstances in which a population of a higher average age can lead a versatile and rich life. The Government 2004 report on the future termed this goal: 'Finland for people of all ages'.

Unsurprisingly, it is the conclusion of this report that new measures are required. In spite of its many achievements, the implemented policy is not yet sufficient. More precisely, we conclude that, under an unchanged policy, the attempt to maintain the determined pension levels and fulfil the 'promises' concerning welfare services and social transfers will, assuming the current overall tax ratio, result in unsustainable public finances. Spiralling indebtedness will force a change in policy in one way or another. However, the size of the sustainability gap is highly uncertain, both due to reasons wholly independent of policy and the level of uncertainty related to the impacts of policy measures.

The policy challenge lies in deciding what should be changed, how and when. At the general level, answers can be sought in terms of three courses of action: (1) raising the overall tax ratio, (2) paring down the promises concerning pensions, other income transfers and publicly financed welfare services (3) loosening the

constraint on the public finances by sustainability through various structural measures, primarily through raising the employment rate, increasing the efficiency of public service provision and promoting citizens' health and functional ability.

The mere listing of these basic courses of action indicates that the ageing policy concerns the whole of social policy. It is equally evident that this is not only a question of economic optimisation, but also of making value choices between various issues and the interests of various population groups.

Using various structural measures for reducing the sustainability gap would seem possible to the extent that raising the overall tax ratio or weakening the levels of pension benefits or services would not be required, under probable circumstances, while some social security deficiencies could even be improved. Therefore, the ageing policy's main guideline should continue to be based on using various structural measures for narrowing the sustainability gap.

In this regard, the largest and the best verifiable opportunities are related to raising the employment rate, especially by extending working lives, and improving the productivity and cost-effectiveness of publicly financed welfare services. Lengthening working lives can also be deemed a natural solution, since it will have the most direct impact on the core of the problem of an ageing population: the declining ratio between working life expectancy and life expectancy. While improved health and functional ability is a prerequisite for longer working lives, it can, at best, also significantly decrease health care expenditure. The promotion of health and functional ability presents high potential, but less evidence exists on various measures' cost-effectiveness. Further contributors, which would enable a looser sustainability restriction, include a rise in the birth rate (occurring slowly) and increased work-related immigration (more rapidly).

The impacts of many measures are difficult to assess in detail. Clearly, more attention should be paid to effectiveness assessments of policy measures. However, uncertainty over effectiveness could never justify a 'sit and wait' approach, since such uncertainty can never be entirely eliminated. Obtaining sufficient political acceptance of the required measures will prove much more challenging, since they are often in conflict with some citizens' real, or at least perceived, short-term benefits.

Such political problems are manifestly associated with the very issues which would have the greatest impact on loosening the sustainability restriction: extending working lives and measures generally aimed at raising the employment rate and enhancing publicly financed services. Although longer working lives can, to some extent, be supported through 'positive' measures,

such as by improving education and working life practices, research evidence strongly suggests that the right financial incentives (including age limits related to benefits) will prove crucial. In practice, this means rendering early retirement, late entry into the labour market and delayed entry into employment less attractive to those concerned. Due to the public finance implications, this will be difficult to achieve purely by increasing the benefits associated with working (by e.g. reducing labour taxation). If true change is desired, it will also be necessary to reduce the benefits related to remaining outside the labour market.

Providing incentives to work is particularly challenging when the income level of the persons and families affected by such measures is low. For instance, many people who receive the basic unemployment allowance or labour market subsidy, as well as single parents, find themselves in such a situation. Identifying functioning and reasonable solutions for such incentive problems is a key task of the comprehensive social security reform under preparation.

Correspondingly, enhancing publicly financed service provision will necessitate making changes in organisations and operating practices, which will require adaptation and which may act contrary to some people's interests. Due to the restrictions in the public finances, tax reforms promoting employment will probably involve increases in certain taxes in the future in order to compensate for tax losses. Naturally, this is not in the direct interests of those liable to pay the increased taxes in question. In the same way, some pension savers would probably regard the restriction or reallocation of tax subsidies on pension saving as against their interests.

In health promotion terms, other types of acceptance problems arise. Many of the leading diseases undermining public health are due to unwise lifestyle choices, such as excessive alcohol consumption, smoking, poor diet and neglecting physical exercise. Intervening in these issues is easily viewed as an attempt to restrict the rights of individuals or as unfairly blaming the persons concerned.

An additional decision-making challenge lies in the uncertainty related to the impacts of development and policy measures. It is not possible to promise that, if certain measures are implemented, no further policy changes will be required in the future. However, in order to mitigate the inevitable level of uncertainty involved, practices and certain general measures could be defined which will be followed in conducting any policy changes required in the future.

In order to assess the need for such reforms which prove necessary in the future, a regular social sustainability assessment procedure should be established for examining the impacts of various development scenarios on income distribution, poverty and the availability of services. If such a forward-

looking assessment applies the same criteria and benefits on an equal basis to the fiscal sustainability assessments already conducted, it might ensure that sufficient account is taken of social aspects in assessing the need for policy changes.

In cases where the above-mentioned structural measures fail to loosen the fiscal sustainability constraint, sooner or later the remaining options will be increasing taxation and/or weakening benefits. This would unavoidably lead to difficult intergenerational confrontations. Indeed, neither of these courses of action presents an attractive option.

Strict taxation, particularly where it affects labour input, is liable to weaken economic activity. Under circumstances of tax competition, even retaining the current overall tax ratio may prove challenging. However, determining the precise level of a possible and rational overall tax ratio will prove difficult. In any event, relying on the option of increased taxation in the future, sufficient to resolving the sustainability problem in the public finances, would be risky. Furthermore, as long as there is a risk of a large sustainability gap, measures leading to a lower overall tax ratio would be equally hard to justify unless accompanied by a readiness to cut expenditure.

The safety net created by public pension security, other social income transfers and various welfare services is widely appreciated. Moreover, the social security system is central to the provision of support for citizens in diverse risk-taking activities, and thus as a driver of economic growth. In addition, a social sustainability analysis suggests that, in certain respects, the social security of the long lived may remain modest and access to nursing and care services may be uncertain. For these reasons, paring down the promise concerning pension and welfare services would also constitute an unattractive option. Rather, the focus should be on mending the shortcomings in the safety net.

In sum, it is difficult to envisage any feasible alternatives to a strategy based on loosening the constraint set to public finances by sustainability through various structural measures. Thus, the main effort should be focused on creating comprehensive policies which take due account of various conflicts of interest, especially the position of the most deprived citizens, without compromising the main strategic objectives.

The economic recession caused by the international financial crisis highlights the importance of structural solutions. Sound arguments exist for supporting healthy employment trends by using a stimulative fiscal policy but, implemented alone, such a policy would weaken the balance of public finances in the short term and increase the long-term sustainability challenge. Therefore, the more ambitious short-term stimulus policy objectives are, the more ambitious the accompanying

structural solutions must be. While this would not necessarily require the immediate implementation of reforms, rapid decision-making and effective contents are an imperative.

As part of the overall ageing policy strategy, influencing attitudes will also prove important. Although the public debate has seen the emergence of concepts emphasising older people's resources, such as the 'third age' and 'active ageing', citizens entitled to begin claiming old-age pension are still primarily viewed as a dependent population requiring care. Under circumstances of improving health and functional ability, this viewpoint is becoming less and less justified.

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APPENDIX 1 Profitability of preparation from the perspective of welfare economics

Previously, the extent of the sustainability gap has been described in terms of the extent to which the tax ratio should be immediately and permanently elevated in order for sustainable public finances to be maintained in the future. An alternative to an immediate tax increase would be to maintain a low tax ratio and then, when economic problems are imminent, to increase it in order to finance expenditure. Thus, in principle, two available options emerge: maintaining a tax ratio that is slightly higher than at the moment (e.g. 42%) or maintaining a period of unchanged tax ratio (e.g. 40%) and, after twenty years, increasing it to 45 per cent. Which of these options would be preferable based on realistic criteria? Since the sustainability gap calculation does not provide such information, we must look to welfare economics for the answers.

At the core of welfare economics lies the idea that public authorities set out to achieve genuine welfare of citizens rather than any random indicators, such as GDP or a constant tax rate. Calculations attempting to map out the future must comment on two points in particular:

1) How is the consumption level compared between future generations and the current generation, i.e. which discount rate is applied?
2) How is the uncertainty inherent in the calculations in areas such as the development of economic growth taken into consideration?[91]

In inter-generational comparisons, there are grounds for maintaining the "pure" discount rate (point 1) at a fairly low level, i.e. lower than the market rates. But why then would we value the welfare of children less, who will be adults in the future, simply because they were born later than today's adults? One reason for this might be that, in conditions of economic growth, children will be fundamentally wealthier than the current generation. This becomes apparent in point 2, where risk aversion and that of income inequalities between generations are shown to be closely entwined.

In simple terms, the idea can be described as follows: if future economic development is poor, and risk or income inequalities are averted to a sufficient degree, preparation based on maintaining a high tax ratio today is likely to pay off. Correspondingly, if future generations will be much wealthier than us, or economic development is poor but inter-generational income inequalities are not

[91] This is a standard approach in the applied welfare economic theory, recently and widely debated in relation to the Stern Review, which discussed whether preparation for climate change will pay off.

considered of great importance, waiting and allowing future generations to pay higher taxes may prove a more sensible option.

The idea of welfare economics is illustrated by two examples. Firstly, an assessment is conducted on whether it would be justified to prepare for the poor economic scenario from the perspective of the sustainability of public finances by immediately elevating the tax ratio by 3.2 percentage points (the extent of the sustainability gap) or whether it would be better to maintain the same tax ratio and then gradually increase it over the years.[92] Consequently, in later years the tax ratio would have to be increased to a level 4.3 percentage points higher in total than the current level. Such a calculation assumes that the pure discount rate and an approach averse to inequalities would prevail over a certain period, and various parameter values are applied to them.[93] Using credible parameter values,[94] the results of this calculation seem to indicate that preparation would not be profitable: since GDP would continue to grow, future generations would have a higher income after tax, even if the tax ratio were to increase by the assumed 4.3 percentage points. In such a case, even a social policy averse to risk or inequalities would not favour preparation through increasing the tax ratio. However, it may be that the tax rate cannot be raised in the future, for instance due to increased tax competition, thus rendering other means of preparation necessary.

The second example describes a more dramatic situation, where the development follows the above scenario but an economic slump, similar to that experienced in the 1990s, will emerge in 2020. GDP would decrease for a few years, just as in the recession of the 1990s, recovering by 2035. This alternative is compared to a situation where the tax ratio is elevated immediately and permanently in order to collect as much tax over time as in the case of a rising tax ratio. The figure below shows the available annual income per capita for both alternatives. It illustrates that available income during the recession will drop below the current level, as the tax ratio increases while GDP decreases. Avoiding this situation by immediately increasing the tax ratio would be

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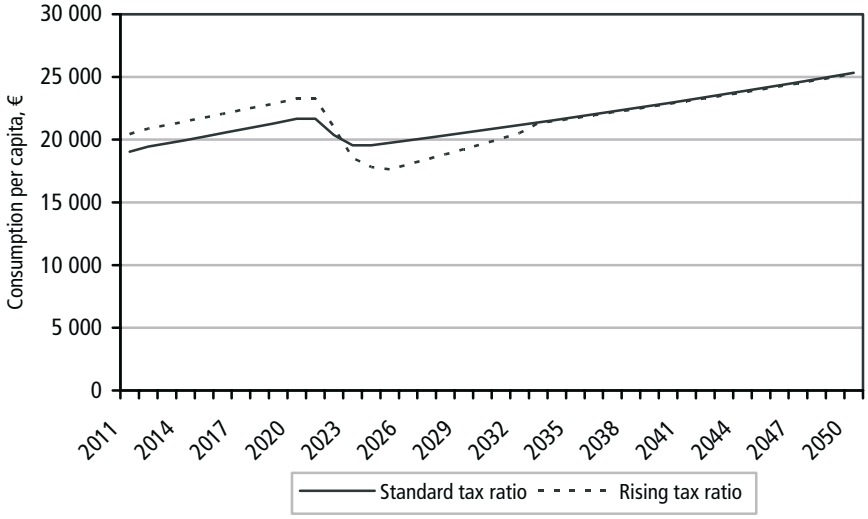
92 The poor scenario has been chosen because it provides greater changes in tax ratios. If required, the calculation could include various scenarios weighted by their respective probabilities.

93 The social benefit function used is $\sum_{2010}^{2050} \delta^t \frac{c_t^{1-\eta}}{1-\eta}$, where δ is the discount factor, c_t is available (=after tax) income in year *t,* and η is the parameter for avoiding inequalities or risk. Welfare from 2010–2050 consumption is included. In principle, the time horizon could be infinite but here the perspective is maintained the same as in descriptions of sustainability gap calculations (even though the sustainability gap itself has been calculated using a model that extends over 200 years).

94 Pure time preference 0–2, relative risk aversion 0–5

profitable if sufficient aversion to generational inequality is allowed. For example, if the inequality aversion parameter is 2[95] and the pure discount rate is 0, preparation will be worthwhile. Raising the discount parameter to 1 would raise the necessary inequity aversion parameter to 3 because, in the present value calculation, discounting the future would lower the significance of the welfare of the future generation experiencing a recession.

As in the previous example, the threat of increased tax competition would make preparation more profitable; a similar effect would be achieved by a focus on avoiding a decline in consumption below a certain reference value[96].



[95] Two is a fairly low figure for relative risk aversion (see Barsky et al, Quarterly Journal of Economics 1997) but somewhat high for an inequality aversion parameter (see e.g. Pirttilä & Uusitalo, Economica, forthcoming).

[96] The concept of loss aversion (Kahneman-Tversky, Econometrica 1979) is considered a crucial factor, especially in the so-called psychological economic theory which has received so much attention recently.

APPENDIX 2 Calculation formula for the S2 sustainability gap indicator

The S2 sustainability gap indicator is calculated as follows:

$$S_2 = \underbrace{\frac{D_{t_0}}{\sum_{i=t_0+1}^{2050} \frac{1}{\alpha_{t_0+1,i}} + \frac{1}{r_{2050}\alpha_{t_0+1,2050}}}}_{C} - PB_{t_0} - \underbrace{\frac{\sum_{i=t_0+1}^{2050} \frac{\Delta PB_i}{\alpha_{t_0+1,i}} + \frac{\Delta PB_\infty}{r_\infty \alpha_{t_0+1,2050}}}{\sum_{i=t_0+1}^{2050} \frac{1}{\alpha_{t_0+1,i}} + \frac{1}{r_\infty \alpha_{t_0+1,2050}}}}_{D}$$

, where

D_t: general government gross debt ratio to GDP at a time t.

PB_t: structural primary balance ratio to GDP at a time t (i.e. cyclically adjusted primary balance less non-recurring and temporary items)

ΔPB: change in the structural primary balance

r difference between the nominal interest rate level and nominal GDP growth

$\alpha_{ij} = (1+r_i)(1+ri+1)... (1+r_{i+j})$, if $i \leq j$, otherwise $\alpha_{ij} = 1$

Calculating S2 requires assumptions on developments following the projection. The calculations assume that the ratio of structural primary balance to GDP will remain unchanged post 2050. Therefore, ageing would cease to affect the general government financial balance after the projection period.

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