

The pension system in Finland: Adequacy, sustainability and system design

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Professor of Public Economics, London School of Economics



EVALUATION OF THE FINNISH PENSION SYSTEM / PART 1

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PREFACE

Finland has a pension system that, in a unique way, combines a compulsory legislative basis, similar benefits for all, partial funding and private organization of the pension provision. It is a hybrid, fulfilling the functions of first and second pillar pensions within the same scheme. The main pension scheme is a legislated and compulsory earnings-related scheme, which is supplemented by the residence-based, flat-rate pension scheme.

In order to get a fresh international view of the Finnish pension system, the Finnish Centre for Pensions decided in 2011 to commission an independent evaluation study of the Finnish pension scheme. The purpose of the evaluation was to get a forward-looking external view of the Finnish pension system from an international perspective, including recommendations.

The evaluation focuses on the following issues:

1. The adequacy of pensions and the financial sustainability of the system:
 - the roles of the earnings-related pension and the residence-based flat-rate pension, and the interplay of these
 - the functioning of the economic and actuarial incentives of the pension system.
2. The policy design of the Finnish earnings-related pension scheme:
 - how does the Finnish pension system look from the point of view of risk-sharing and social insurance?
 - the impact of the pension system on the economy, the labour markets (incentives to work and to retire), and society in general
 - the roles of the state, labour market organizations and other interest groups in the decision-making (pension legislation).
3. Governance issues in the earnings-related pension scheme:
 - the functioning of the organization of pension provision (the roles and relations of various actors in pension provision, including the administrative structures of these organizations)
 - the roles of co-operation and competition between pension providers
 - the administrative efficiency and cost-efficiency of the earnings-related pension system.

We were very lucky that two distinguished experts agreed to undertake this ambitious task. Professor **Nicholas Barr** from the London School of Economics agreed to evaluate the first two sets of issues outlined above (adequacy and sustainability issues and policy design), and Professor **Keith Ambachtsheer**, who is Director of the Rotman International Centre for Pension Management, Rotman School of Management, University of Toronto, to evaluate the governance issues. Both Barr and Ambachtsheer are internationally well-known and highly regarded experts in the pension field, and their services are frequently utilized internationally.

These two evaluations are the first ones of their kind made of the Finnish pension system. They comprise sharp analyses, which deserve broad attention in the public debate as well as among politicians and decision-makers. They emphasize that Finland has a pension system with many strengths deserving appreciation. They also provide suggestions for possibly making the system even better. The Finnish Centre for Pensions wishes to extend very warm thanks to Keith Ambachtsheer and Nicholas Barr for accepting our invitation, and for having provided thoughtful and fresh ideas to fertilize the pension policy discussion in Finland.

In connection with the evaluation reports by Keith Ambachtsheer and Nicholas Barr, three background papers will also be published. The key results of these three studies are utilized in Ambachtsheer's evaluation, and we wanted to make the results of the studies available in greater detail and hence decided to publish them.

Two of the studies are based on reports provided by CEM Benchmarking Inc. CEM is specialized in providing benchmarking information for pension investment and administration operations. Its clients are pension providers all over the world, who want to benchmark their own performance to the best pension providers in the world. The Finnish Centre for Pensions asked CEM to conduct a comparison of the Finnish pension providers with pension providers using CEM's databases and services. These studies focus on administrative costs and service levels, as well as investment costs.

We wish to thank Mike Heale from CEM Benchmarking Inc. for managing this assignment for us with high professional expertise. Eight Finnish pension

providers participated in these studies, and we wish to thank them for being part of the project.

In CEM's analysis, eight Finnish pension providers were combined into a single entity, 'the Finnish Pension Fund', which is compared to individual pension providers. This analysis gives insight into the costs and service levels in Finland compared with those of the peer group chosen from the database of CEM. The report is not meant to describe the costs at the national level, including all first and second pillar pension providers. In order to achieve this broader view, the Finnish Centre for Pensions conducted a comparative study of the administrative costs of first and second pillar pensions in Denmark, Germany, Finland, the Netherlands, Norway, Sweden and Switzerland. This study, based mainly on publicly available information, was carried out by Antti Mielonen, Eeva Puuperä, Hannu Ramberg and Mika Vidlund from the Finnish Centre for Pensions. We wish to thank them for this essential contribution to the evaluation.

Jukka Rantala
Managing Director

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EXECUTIVE SUMMARY

1. This report evaluates the design of the pension system in Finland; a parallel report discusses institutional structure and governance. After introductory discussion (section 1), section 2 summarises the analytical approach. Subsequent sections assess the system: objectives (section 3), the argument for a non-contributory pension (section 4), adequacy (section 5), the role of choice for workers (section 6), labour markets (section 7), risk sharing (section 8) and sustainability (section 9). Section 10 briefly discusses disability pensions, and section 11 voluntary pensions. Section 12 considers the way pensions policy is formulated and offers some broad conclusions.
2. The primary objective of a pension system is to provide income security in old age. That objective has at least four elements: consumption smoothing, insurance, poverty relief and redistribution. Successive reforms in Finland have (a) contributed to the achievement of those objectives, (b) been timely and (c) commanded consensus. Partly as a result, discussion of improvements can be reflective rather than crisis response. In the light of that broad conclusion, much of this report sets out areas for discussion in the continuing dialogue between the social partners and government rather than specific recommendations for change.

Strengths and weaknesses

3. The strengths of the system can be summarised as follows:
 - Consensual: the system involves all interested parties and is run consensually.
 - Unified: though the earnings-related pensions of workers in private firms are private and competing, they operate within a unified national framework.
 - Constrained choice: the system constrains workers' choices, both over how much to save and over pension provider. These features comply with lessons from information and behavioural economics.
 - Compatible with labour mobility because the pension systems of workers in the private, public and municipal systems are all basically the same.
 - Adequacy: the system scores well for most people.
 - Coverage is high because (a) the national pension and guarantee pension

are based on residence, (b) employment rates in Finland are high for both men and women, and (c) the earnings-related pension system covers almost all earnings.

4. Though the system is not in crisis, a number of features create pressures that over time will compromise its ability to achieve its objectives.
5. TUNNEL VISION, i.e. a tendency to consider adequacy and sustainability separately. In many countries the Ministry of Finance worries about sustainability and the Ministry of Social Security about adequacy, with little dialogue between the two. Though institutional arrangements in Finland are different, the outcome is similar. Life expectancy has been rising, which is great good news. However, there is a large 'spike' in retirements at age 63 (Figure 3). Thus if the present system remains unchanged, benefits will become inadequate, or the system will become unsustainable, or a mix of the two:
 - Diminishing adequacy (section 5): if nothing changes, people will retire at 63 with a lower and lower earnings-related pension via the longevity factor. Rolling out that scenario for (say) 25 years leads to a system where more and more people receive the national pension but little earnings-related pension. If the national pension plus guarantee pension is high enough the system will still provide poverty relief, but over time will provide less and less effective consumption smoothing.
 - Declining sustainability (section 9): alternatively, contributions could rise as life expectancy increases; but contributions are already fairly high by international standards, so the scope for increase is limited. Sustainability matters to protect the long-run stability of the Finnish economy. But it also matters to protect workers and pensioners. It is important that any pension system should protect people – particularly pensioners and older workers – from sharp, short-run shocks. Declining sustainability is undesirable because it threatens the ability of the system to provide old-age security. As discussed, adequate poverty relief and consumption smoothing are primary objectives; sustainability is not *per se* a primary objective, but a necessary condition for achieving the primary objectives.
6. Two of the recommendations below directly address these issues. More flexible retirement is desirable for its own sake. It also facilitates a second policy direction – later retirement – whose purpose is to promote adequacy and sustainability simultaneously.

7. **INADEQUATE ADJUSTMENT FOR A DELAYED START TO PENSION** is a second problem area. Either benefits should start at a given age without requiring an end to work, or they should increase significantly for a delayed start. The way earnings-related pensions are adjusted for a delayed start is faulty in a number of ways (section 7.2.1).
8. **INADEQUATE ACCOUNT OF CHANGES IN FAMILY STRUCTURE.** Social policy in Finland, as in many other countries, was based on an assumption that people got married and stayed married. As discussed in section 4, neither is as true today as in the past, so that family structures are more fluid. In addition, as discussed in section 5, the individual basis of pension benefits is a partial cause of the fact that the incidence of poverty among single pensioners is strikingly higher than among pensioner couples.

Recommendations

Features to preserve

9. **MAINTAIN THE CONSENSUAL APPROACH.** A central purpose of pension systems is as a long-run institution to allow people to plan over their life course. Long-run stability is therefore important, and policy should avoid shocks to the system, particularly for workers close to retirement and for pensioners. Thus the principal recommendation is to preserve the way that pensions policy has been successfully (though not necessarily easily) managed by the social partners and government. Since the pension system in Finland is not in crisis, it is better to reform somewhat later on the basis of wide and continuing consensus between the social partners and government, even though difficult problems may arise, rather than reform sooner at risk of destabilising long-run political support for the system.
10. **OBJECTIVES OF THE SYSTEM** (section 3). As part of the process of building and preserving consensus, it would be useful to encourage additional public discussion of (a) all the objectives of the system and (b) the relative weights that should be accorded to each. What matters is to achieve the primary objectives, i.e. poverty relief, insurance and consumption smoothing. A narrow concentration on instrumental objectives, e.g. the status of pension funds, may blur the focus.

11. **CONSTRAINED CHOICE.** It is necessary to consider two aspects of choice: the desirability or otherwise of competition between pension providers (discussed in the parallel report); and the role of choice for individual workers. On the latter, the analysis in section 6 lends support to two aspects of limited choice for workers in Finland:
 - Choice over how much to save: the system is mandatory; thus workers do not have the choice to save less.
 - Choice over pension provider: workers, *de facto*, have no choice of pension provider, and employers' choice is limited.

These features are useful and should be protected from naïve arguments that increased choice necessarily increases welfare.

Suggested changes

12. The recommendations in paragraphs 13–15 seek to protect adequacy in ways that preserve sustainability.
13. **LATER RETIREMENT BUT MORE FLEXIBLE RETIREMENT** (section 7.2.2). The need for additional life expectancy to be divided in some sensible way between extra years of work and longer retirement is increasingly well-understood. There is less understanding internationally of the gains from more flexible retirement, which is desirable for its own sake, quite separate from its role in extending working life:
 - It would be desirable if the pension system allowed partial deferral, e.g. the option to draw 25%, 50% or 75% of a person's pension, while the deferred element continues to grow.
 - It would be useful to check that the fixed cost of employing a worker is small, to avoid creating an incentive against part-time employment.
 - It would be useful to review employment law with the aim of reducing transactions costs and legal uncertainty where a worker wishes to downshift at his/her existing employer.
 - Access to training is central to extending working life.
 - Public discussion would be useful (a) on the empirical facts about the productivity of older workers and (b) of the implications for labour law, e.g. the terms on which less productive workers could be paid less. It might be useful for the social partners to develop some sample contracts.

- Policies to change attitudes: gradually increasing the earliest eligibility age (discussed below) is important not only for fiscal reasons but because of the signal it gives, which will help to change attitudes.
- Extending working life may also involve increasing labour-force participation rates among younger people. Maternity leave (section 7.3) raises the question of the balance between (a) the cost of reduced labour supply that results from long maternity leave, including home care benefit, and (b) potential gains through improved parenting.

14. ADJUSTING FOR CHANGES IN LIFE EXPECTANCY (section 8.3.3):

- Terminology: instead of talking about the standard retirement age and later retirement, it would be useful to talk about the earliest eligibility age and normal retirement age, i.e. choosing language that makes the later age the norm.
- There are in principle two ways of adjusting pensions in the face of rising life expectancy: by reducing monthly benefits actuarially to reflect longer life; or by gradually increasing (a) the earliest age at which a person can draw pension and (b) what is regarded as the normal retirement age. The latter approach can be implemented in different ways. Perhaps the simplest is if policy makers regard it as appropriate that people on average should have a period of retirement that is (say) half of their working life. This would be achieved by raising pensionable age by two-thirds of any increase in life expectancy, e.g. by 4 months for an increase in life expectancy of 6 months. Thus pensionable age is adjusted to relate the number of expected years receiving benefit to the number of accrual years.

15. ADJUSTING FOR A DELAYED START TO PENSION (section 7.2.1):

- It is important that the national pension continues to be increased broadly actuarially for a delayed start to benefit.
- Adjustment of earnings-related pensions for a delayed start should be applied to the pension a person has accumulated till age 63 rather than as a higher accrual rate of 4.5 per cent on the flow of earnings after age 63. The current system may be roughly actuarial for an average case but takes no account of the variance around the average, for example, over-compensating a delayed start to pension for someone whose post-63 earnings are high relative to the earnings-related pension the person has accumulated at age 63.

16. ADJUSTING THE RELATIVE TREATMENT OF INDIVIDUALS AND FAMILIES:
- Over 30 per cent of single pensioners in Finland were poor in 2009, compared with 4.3 per cent of couples. Such a high incidence of poverty among single pensioners suggests a need to review benefits for that group, including the relative size of the national pension and guarantee pension for single people and couples (section 5.1), and whether it might be desirable to encourage or mandate joint-life annuitisation to improve pension benefits for a surviving spouse (section 5.3).
 - Given the frequency of divorce, there is a good case for an option to transfer earnings-related pension rights between partners at divorce or retirement (section 5.3).

Topics for discussion

17. AGE-RELATED ACCRUAL RATES. The higher accrual rate of 1.9 per cent for workers aged 53–62 gives greater weight to earnings in later years, which benefits people whose earnings rise faster later in their careers, typically higher earners. If a higher accrual rate at some ages is retained, thought should be given to transferring it to earnings in earlier years. Such a move would benefit lower earners (who have high labour-force participation in early years) relative to higher earners (who are more often in education or training when young and, at least in the past, have had more options to continue working at older ages). The move might be a useful political balance to raising eligibility age over time.
18. THE DESIGN OF THE NATIONAL PENSION (section 7.1.3):
- Does the 50 per cent taper of the pensions test in the national pension cause adverse labour-supply incentives? If so, should the design of the taper be adjusted?
 - Should the national pension face an affluence test to screen out those with the highest incomes?
19. THE CONTRIBUTIONS REGIME:
- The size of the mandate (section 5.2): contributions and benefits from the earnings-related pension are based on all earnings, without a ceiling. Although the absence of a ceiling is an outlier internationally, there is a

robust consensus in Finland about the arrangement. While that consensus remains, the case for change is limited.

- What contribution rate? It is a matter for discussion what headroom, if any, there is for a higher percentage contribution rate. Given current rates of tax and contributions, the scope for increase is probably limited (section 8.2).
- What years count for pensions? Should risk sharing be widened by offering protection for a small number of low-earning years (e.g. by attributing the person's career average income), in addition to periods of study, child caring, etc. (section 8.3.2)?
- Contribution densities (section 5.2): though there is no significant concern about coverage currently, it is important to monitor contribution densities to make sure that more varied forms of labour-market attachment do not compromise consumption smoothing.

20. INVESTMENT DECISIONS (section 6.2). One of the arguments in favour of decentralising investment decisions is to avoid giving a single entity too much market power and to diminish the risk of political interference with investment decisions. The approach in Finland is one way to do this, but not the only way; the approach used in the US Thrift Savings Plan is discussed in section 6.2. The topic is discussed in more detail in the parallel report.

21. DISABILITY PENSIONS (section 10):

- More jobs for the partly-abled: suitable jobs are scarce, making it difficult to move the partly-abled into paid work. The issue is important, both because of the cost of benefits and because having a suitable job generally improves a person's welfare considerably.
- It would also be useful to review the structure for premiums for disability pensions to double check that there is no unintended disincentive against employing older workers.

22. VOLUNTARY PENSIONS should be kept under review to ensure that (a) there is suitable quality assurance and (b) arrangements keep administrative costs low (section 11). Since the mandatory system applies to all earnings without a ceiling, any tax advantages for voluntary pension saving should be limited.

THE PENSION SYSTEM IN FINLAND: DESIGN REPORT FOR THE FINNISH CENTRE FOR PENSIONS¹

Nicholas Barr²

Part 1: Preliminaries

1 Introduction

1.1 Organisation of the Report

1. PURPOSE AND REMIT.

'The world economy has become less predictable. The operating environment is complex, and the importance of national borders has diminished. Industrial production continues to migrate to Asia, and the world is becoming multipolar. European integration is becoming deeper and more extensive, and cross-border mobility and multiculturalism are increasing...

'Finland's population will age faster than that of most other countries in the near future' (Finland Ministry of Social Affairs and Health 2010, p. 5).

2. Against that backdrop, this report evaluates the design of the pension system in Finland. Since the system is not in crisis, the report is not primarily a series of recommendations, but suggestions (in bold) of topics which the social partners and government could usefully discuss, in each case framed within

1 The analytical framework in this paper draws heavily on Barr and Diamond (2008). I am grateful to participants in meetings in Helsinki on 9 May and 31 October 2012, including Jukka Ahtela, Outi Antila, Nikolas Elomaa, Tuulia Hakola-Uusitalo, Pasi Holm, Seija Ilmakunnas, Mikko Kautto, Kaija Kallinen, Eugen Koev, Olli Koski, Jukka Lassila, Jarmo Pätäri, Jukka Pekkarinen, Paavo Pitkänen, Kari Puro, Heli Puura, Vesa Rantahalvari, Ismo Risku, Markku Salomaa, Mikko Sankala, Antti Tanskanen, Jaakko Tuomikoski, Risto Vaittinen, Tarmo Valkonen, Kari Välimäki, Reijo Vanne and Vesa Vihriälä. I have benefitted also from written comments on earlier versions from Peter Diamond, Jukka Lassila, Ismo Risku, Heikki Tikanmäki, Jaakko Tuomikoski and Risto Vaittinen. Particular thanks are due to Jukka Rantala and Hannu Uusitalo, who have been my mentors throughout.

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the relevant analysis. The parallel report considers the institutional structure and governance of the pension system.

3. **ORGANISATION OF THE REPORT.** The early sections discuss necessary preliminaries. After introductory discussion (section 1), section 2 summarises the analytical approach. Subsequent sections assess the system starting with the objectives of pension systems (section 3), including consumption smoothing, insurance (i.e. risk sharing), poverty relief and redistribution. Discussion then considers the arguments for a non-contributory pension (section 4), adequacy (section 5), the role of choice (section 6), labour markets (section 7), risk sharing (section 8) and sustainability (section 9, though parts of this topic are covered in the parallel report). Section 10 briefly discusses disability pensions, and section 11 voluntary pensions. Section 12 considers the way pensions policy is formulated, offers some broad conclusions and makes the link to the parallel report, which discusses institutional structure and governance.

1.2 Description of the Finnish pension system

4. The pension system in Finland since reform in 2005 can be thought of as comprising three elements:³
 - Mandatory, partially-funded earnings-related pensions are intended mainly to provide consumption smoothing.
 - A non-contributory national pension and guarantee pension (the latter introduced in 2011) provide poverty relief for individuals whose earnings-related pension is low.
 - These two mandatory elements may be accompanied by pensions which are voluntary at the level of the firm or individual.

The Ministry of Social Affairs and Health is responsible for policy relating to both elements of the mandatory system.

3 For assessment of the 2005 reforms, see Börsch-Supan, (2005) and Lassila and Valkonen 2007; for institutional description, see http://www.etk.fi/en/service/pension_benefits/1424/pension_benefits. On the historical development of the system, see Kautto (2012a) and for a list of key developments http://www.etk.fi/en/service/pension_coverage_and_insurance/1423/pension_coverage_and_insurance.

1.2.1 Consumption smoothing: The earnings-related pension

5. The compulsory earnings-related pension for private-sector workers is a partially-funded and privately-organised defined-benefit system. The details of the system are set out in law, based on negotiation between the social partners. Though the system has a common accrual rate and benefit structure for all workers, there are multiple private providers (29 in 2012), co-ordinated by the Finnish Centre for Pensions and supervised by the Ministry of Social Affairs and Health and the Financial Supervisory Authority. This element has much in common with a partially-funded defined-benefit state scheme, with investment decisions and management outsourced to the private sector. Pensions for public sector workers have essentially the same benefit structure, but different pension providers.
6. Over the years, accrual rates have been standardised across the private and public sectors. The rates in Table 1 apply to all employees, including workers in the private sector and state and municipal employees.

Table 1. Accrual rates by age.

Age	Accrual rate
18–52	1.5%
53–62	1.9%
63–67	4.5%/1.5% ^a

^aThe accrual rate for a person who has reached the age of 63 is 1.5 per cent, if he or she draws an old-age pension.

7. Workers accumulate a 'slice' of pension each year, the pension being the sum of the slices, as follows:
 - Earnings from all employment are taken into consideration separately for each year between 18 and the take-up of old age pension.
 - Each year's earnings are indexed 80 per cent to changes in earnings and 20 per cent to changes in prices from the year in question to the year when pension starts.
 - The percentage corresponding to the employee pension contribution for the year of these earnings is subtracted from these earnings.
 - Each year's earnings, indexed as above, are multiplied by the relevant accrual rate in Table 1. Thus a worker aged 18–52 accrues a 'slice' of pension each year of 1.5 per cent of relevant earnings that year. The desirability, or

otherwise, of the 1.9 per cent accrual rate after age 52 is discussed in section 5.3.⁴

- The annual accruals are summed and divided by 12 to get the monthly benefit.
 - The total pension thus calculated is adjusted for changes in life expectancy by applying the life expectancy coefficient (discussed below).
8. From 2014, the earliest eligibility age for an earnings-related pension will be 63, with increases for a later start as shown in Table 1. The only exception is a worker receiving long-term unemployment benefit, who in certain circumstances may be able to retire at age 62 until 2017. There is no upper age at which a person can first draw pension, which continues to increase actuarially after age 68, though the option is currently seldom used.
 9. **BENEFITS.** Starting with initial benefits at retirement, since 2005⁵, a person's benefit is based on (a) the accrual rates in Table 1, (b) earnings in each year of his or her career, indexed 80 per cent to wages and 20 per cent to prices from the year in question to the year of taking the pension, and (c) adjustment for changes in life expectancy.
 10. Adjustment for life expectancy: when a person first draws an old-age pension, his or her accrual is multiplied by a life expectancy coefficient, based on birth year. The coefficient is 1.00 for the cohort born in 1947, and is lower for subsequent cohorts based on the national life table of the preceding five years. The intention is that if life expectancy increases, the monthly pension at a given age will be actuarially reduced, i.e. adjustment is via the level of pension, not the earliest eligibility age.
 11. Adjustment for a delayed start to pension: two aspects require discussion: adjustment of pension rights accrued up to age 63; and accrual of additional pension for work from age 63 onwards. It assists exposition to discuss the latter first.

4 If the accrual rate changes during the year (e.g. for a worker who turns 53 during the year), the relevant accrual rates are applied pro rata.

5 Pension benefits accrued before 2005, are based on the rules then in force. Until 1996, benefits were based on earnings over the last four years, the calculation being made separately for each employment; thereafter the period was extended gradually to 10 last years. Before 2005 it was possible to leave some low-earning years out of the pension calculation.

12. A worker who takes his pension at age 63 and continues to work earns additional slices of pension based on an accrual rate of 1.5 per cent of his post-63 earnings. Since 2005, where someone continues to work after age 63 but does not take pension, additional slices of pension are based on an accrual rate of 4.5 per cent of post-63 earnings. Based on that accrual rate, a person can offset the reduction due to the life-expectancy coefficient by working for about half of the additional life expectancy of his/her cohort.
13. The pension a person has accrued on earnings up to age 63 can be taken at age 63 or later. If later, two issues are relevant: the indexation of the person's earnings record, and compensation for a delayed start to pension.
 - Indexation rules are the same as for people taking pension at 63, i.e. each year's earnings are indexed 80 per cent to changes in earnings and 20 per cent to changes in prices from the year in question to the year when pension starts.
 - Compensation for a delayed start: if pension is first taken after a person's 63rd birthday but before age 68, there is no adjustment to the *stock* of pension wealth accumulated till age 63; instead, there is a higher accrual rate of 4.5 per cent on the *flow* of new earnings post-63. For delay beyond that, the earnings-related pension is increased by 0.4% for each month of delay after the person's 68th birthday. Thus between the ages of 63 and 68 there is no compensation for a delayed start for someone who does not take pension but does not work.

The desirability or otherwise of these arrangements is discussed in section 7.2.1.

14. Adjustment for family structure: earnings-related benefits are structured on an individual basis. Each spouse receives the pension to which he or she is entitled on the basis of his/her individual work and earnings record. There is no option to transfer balances between partners. Full annuitisation is mandatory. The arrangement for survivors' pensions is different. The survivor receives a pension related to the pension of the deceased, but reduced by the survivor's own actual or expected pension (see http://www.etk.fi/en/service/survivors%27_pension/1442/survivors%27_pension).
15. Adjustment for years outside the labour force: these cases include people on parental leave (for a maximum of 11 months after the birth of a child), or

receiving unemployment benefits, sickness benefits, rehabilitation benefits or benefits for adult education. Each benefit calculates the relevant slice of pension entitlement differently. With the exception of parental leave, accrual is generally lower than if the person had been working. These unpaid periods are financed by pension contributions, i.e. risk sharing within the pension system. In contrast, taxpayers finance the accrual for child home care allowance (paid for parents who care for a child at home between the end of entitlement to parental benefits and the child's third birthday) and vocational studies (which lead to a degree). In the case of the latter two benefits, each year's slice of pension is calculated by applying an accrual rate of 1.5 per cent to a fixed earnings base (€676 in 2012).

16. The tax treatment of contributions and benefits: like many systems internationally, contributions are tax deductible, the income of pension funds generally not taxed, and pensions in payment are subject to personal income tax. Unusually, the system in Finland has no ceiling either for contributions or benefits.
17. Indexation of benefits in payment: earnings-related pensions in payment are increased each year in line with the earnings-related pension index, which is a weighted average of price change (80 per cent) and wage change (20 per cent). The national pension is indexed to changes in prices, but in practice its relativity to wages has been broadly maintained by discretionary increases.
18. Survivors' pensions: in the simplest case, e.g. where both spouses have retired and there are no dependent children, the surviving spouse receives 50 per cent of his or her deceased partner's earnings-related pension, but subject to a pensions test, whereby the surviving spouse's pension faces a taper of 50 per cent of any pension above a fairly low limit (€645.50 per month in 2012).
19. Since the mid-1990s, the rules for public-sector workers have been almost identical, though with a significant transition period because the rules for public-sector pensions accrued before 2005 are more generous than in the private sector, and are preserved for workers who remain in the public sector. Thus public-sector workers with pre-2005 earnings will have larger pensions than otherwise identical private-sector workers, the difference becoming smaller as workers have fewer pre-2005 earning years.

20. FINANCE AND FUNDING. Earnings-related pensions for private-sector employers are managed by private insurance companies. There are seven providers who are licenced to run statutory earnings-related pension insurance (and only statutory earnings-related pension insurance), and 22 company or industry pension funds. Employers can choose which fund to join or, for employers of more than 300 workers, may establish their own pension fund. Pensions for workers in the public sector are managed by monopoly-type institutions.
21. Earnings-related pensions are financed by employers and workers. In 2011 the contribution for old-age and disability pensions for employees in the private sector was 22.1 per cent of wages, the worker's share being 4.7 per cent (for 18–52-year-olds) or 6 per cent (for 53–67-year-olds). The state participates in the financing of pensions for self-employed people, farmers and sailors.⁶
22. The funding rules for private-sector schemes are based on actuarial principles set out in legislation, including the requirement that funded liabilities are adjusted on the basis of realised rather than expected returns on assets. Each provider has to comply with the rules. The PAYG element is basically a collective arrangement, with costs distributed across employers through a pooling mechanism. The Finnish Centre for Pensions manages the pooling and determines the share of each pension provider for the net costs of the PAYG system and coordinates the related payments traffic.
23. Pensions for public-sector workers (civil servants, municipal workers) work similarly, though the rules are less stringent, the funded element being more like a buffer fund.

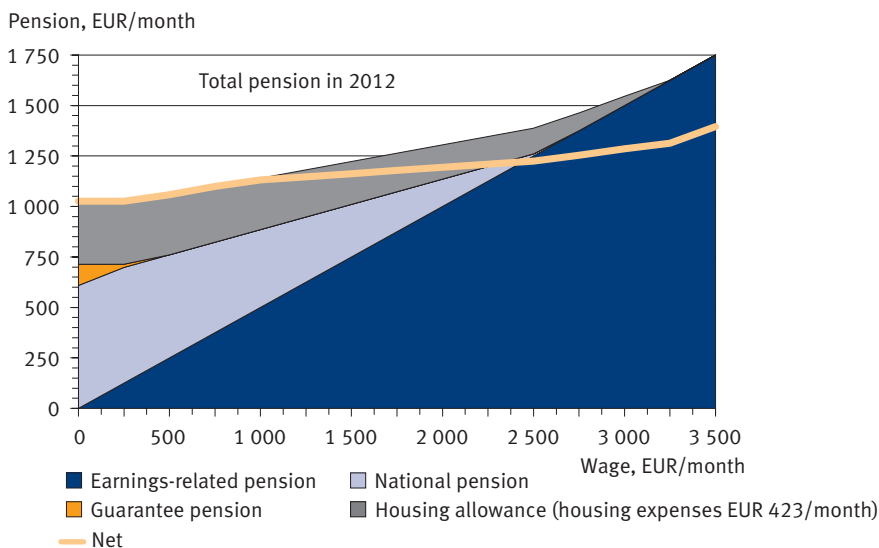
1.2.2 Poverty relief: The national pension and guarantee pension

24. The earnings-related pension will fail to keep some people out of poverty, including someone with low career earnings, or with significant uncredited periods outside the labour force, or immigrants. The system therefore offers non-contributory benefits with the aim that nobody's income in old age should fall below a minimum.

⁶ Both systems are run on a PAYG basis, with the taxpayer underwriting any deficit in outgoings over contributions. Self-employed people pay the sum of worker and employer contributions, with a 25 per cent reduction for new self-employed for four years.

25. THE NATIONAL PENSION AND GUARANTEE PENSION are financed from general taxation. The national pension is based on residence in Finland or other EU member states: a full pension requires 40 years of residence, pro-rated for less. Because the national pension is below the poverty line established by the guarantee level of income, since 2011, it has been topped up by the guarantee pension for people with only a small earnings-related pension and with at least three years residence since the age of 16. Both pensions are subject to a pensions test, i.e. are reduced in respect of any earnings-related pension (but not in respect of any earned income, capital income or wealth). As Figure 1 shows, the guarantee pension is subject to a 100 per cent taper and the National pension to a 50 per cent taper. Tables 2 and 3 show the level of benefits and tapers for the two pensions in 2012. Averaged across pensioners of all ages, 10 per cent of pension income comes from the national pension, 90 per cent from the earnings-related pension.
26. The earliest eligibility age for the national pension and guarantee pension is 65. The national pension is increased by 0.6 per cent for each month of delay after a person's 65th birthday. The additional accrual is applied to the rate in force at the time the person first draws pension. There is no maximum limit to the amount by which the pension can be increased.

Figure 1. Composition of pension benefits at different levels of income, 2012.



Source: http://www.etk.fi/en/service/pension_benefits/1424/pension_benefits

Table 2. Full rate of national pension and income threshold, 2012, EUR per month.

	Full national pension	Maximum earnings-related pension for full national pension	No pension if earnings-related pension exceeds
Single recipient	608.63	53.70	1,257.96
Couple	539.85	53.70	1,120.46

Source: The Social Insurance Institution of Finland.

Table 3. Guarantee pension payable to persons living alone, 2012, EUR per month.

Earnings-related pension	Total national pension	Guarantee pension	Total pension
0	0	713.73	713.73
0	608.63	105.10	713.73
40.00	608.63	65.10	713.73
100.00	585.46	28.27	713.73
143.59	563.67	6.47	713.73
200.00	535.46	0	735.46
300.00	485.46	0	785.46

Source: The Social Insurance Institution of Finland.

27. **TERMINOLOGY.** In conventional terminology, the first-tier pension has the primary purpose of poverty relief and the second-tier that of consumption smoothing. In those terms, the national pension/guarantee pension is the first tier and the mandatory earnings-related pension the second tier. Finnish, usage, however, includes the earnings-related pension as part of what in the EU framework is regarded as Pillar I. To avoid confusion, this Report will avoid terminology such as tiers or pillars.

1.2.3 Voluntary pensions

28. Alongside the mandatory system are pension arrangements which are voluntary at the level of the individual, company or industry. Such arrangements are only small part of the picture,⁷ since (a) it is not possible to opt out of the mandatory system, which (b) has no ceiling on contributions or benefits.

⁷ In 2010, the mandatory earnings-related pension comprised 86 per cent of pension wealth.

2 Analytical approach

29. The analysis underpinning this report draws on Barr and Diamond (2008). This section summarises key elements.
30. **SYSTEMIC ANALYSIS.** Analysis should consider the pension system as a whole, avoiding 'tunnel vision'. Pension systems have multiple objectives, discussed in more detail in section 3. In addition, pension systems face the multiple risks set out in Box 1. A central element in pension design is how risks are shared, discussed in section 8.

Box 1. Multiple risks and uncertainties

The risks to which pension systems are exposed can loosely be divided into systemic risks, market risks, and risks connected with individual behaviour. Systemic risks include macroeconomic risk, demographic risk and political risk.

Market risks include:

- Earnings risk: a worker's earnings profile has both deterministic elements (e.g. the decision to invest in human capital) and stochastic elements, relating to labour-market and health risks.
- Investment risk: accumulations held in the stock market are vulnerable to market fluctuations. Accumulations in nominal bonds face the inflation risk.
- Annuities market risk: for a given accumulation, a person's annuity at a given age will be affected by the life expectancy of his birth cohort and by the discount rate used by the annuity provider.

Risks connected with individual behaviour:

- Principal risk arises through bad decisions by participants, for example about when to retire. Poor choices can arise from imperfect information, e.g. investing too heavily in equities too close to retirement, or failing to understand the importance of administrative charges. Poor choices can arise also for reasons which behavioural economics explains.
- Agency risk can arise through incompetent or fraudulent fund management.

Many of these issues face policy makers not only with risk (where the probability distribution of outcomes can be estimated with a small variance), but also with uncertainty, where the probability distribution of outcomes is not well known. Actuarial insurance can in principle deal with risk, but faces problems with uncertainty.

31. **SECOND-BEST ANALYSIS.** Simple theory assumes that individuals make optimal choices and that labour markets, savings institutions, and insurance markets exist and function ideally. Formulating policy within that first-best framework is a useful analytical benchmark but a bad guide to pension design in a world with market imperfections such as imperfect information, non-rational behaviour, incomplete markets, and progressive taxation.
32. Analysis should be framed in second-best terms. It is mistaken, for example, to try to design a pension system that creates no labour-market distortions. Any system that provides poverty-relief creates distortions. Thus minimising distortions would imply little or no poverty relief: the cure would be worse than the disease. The objective is to balance the costs of unavoidable distortions with the welfare gains from improved poverty relief.
33. **NO SINGLE BEST SYSTEM.** Pension systems have multiple objectives, whose relative weights can change over time and across countries. Similarly, pension design faces multiple constraints, the relative importance of which can change. If objectives differ and constraints differ, what is optimal will generally differ. A central conclusion in Barr and Diamond (2008) is that there is no single best pension system for all countries. Thus it is mistaken to talk about a best pension system, rather than the best pension system for Finland today.

Part 2: Assessment

3 Objectives of the pension system

3.1 Objectives and constraints

34. The primary objective of a pension system is to provide income security in old age. That objective has at least four elements.
35. CONSUMPTION SMOOTHING. Old-age pensions should enable a person to transfer consumption from her younger to her older self, thus allowing her to improve the time path of consumption over working and retired life. The extent to which a pension provides such smoothing is reflected in the replacement rate, which measures the size of a person's pension relative to previous earnings.
36. INSURANCE. A pension based on individual saving means that an individual either risks outliving his or her retirement savings, or consumes very little throughout old age to prevent that from happening. Insurance, i.e. pooling risks, offers individuals protection against the life expectancy risk. This is the essence of annuities.
37. Consumption smoothing and insurance are relevant not only to individuals but also to the family. People are concerned about their children and their partners. Pension systems commonly include life insurance benefits for workers with young children and the option or the requirement of benefits for a surviving elderly spouse, commonly as an annuity. Pension systems can also insure against disability. A further risk is that of marriage breakup, with potential implications for sharing pension capital.
38. POVERTY RELIEF. Programmes which provide poverty relief can target all the elderly or can concentrate on those who have contributed to the pension system. Many countries have both types of arrangement.
39. REDISTRIBUTION. Pension systems can redistribute incomes on a lifetime basis, complementing the role of progressive taxes on annual income. Lifetime redistribution can be achieved by paying pensions to low earners that are a higher percentage of their previous earnings (i.e. a higher replacement rate),

thus subsidising the consumption smoothing of people who are less well-off, but not necessarily poor. There can also be redistribution towards families, for example paying a higher pension to a married couple than to a single person, even though both households have paid the same contributions.

40. Pension systems can also redistribute across generations. For example, a government may reduce the contribution rate or increase the benefits of the present generation. Such a policy requires future generations to pay higher contributions or to have lower pensions, thus redistributing from those later generations to the earlier elderly generation.
41. OTHER OBJECTIVES. Alongside these primary objectives, policy may have secondary goals that are not direct purposes of the pension system but are related, for example economic growth. Though important, these are not the *primary* objectives of a pension system. There is debate about the relative weights accorded to old age security and to these secondary objectives.
42. CONSTRAINTS. Sustainability of a pension system is highly desirable but is more usefully thought of as a constraint on policy design. Sustainability is desirable not for its own sake, but because it is necessary to the achievement of the primary objectives: a system that is not sustainable will fail to provide efficient consumption smoothing, insurance and/or poverty relief.

3.2 Objectives of the pension system in Finland

43. The 2005 pension strategy (Finland Ministry of Social Affairs and Health, 2005, p. 2) set out the aims of the system as follows:

'Target 1: Ensure that older people are not placed at risk of poverty and can enjoy a decent standard of living; that they share in the economic well-being of their country and can accordingly participate actively in public, social and cultural life.'

'Target 2: Provide access for all individuals to appropriate pension arrangements, public and/or private, which allow them to earn pension entitlements enabling them to maintain, to a reasonable degree, their living standard after retirement.'

'Target 3: Promote solidarity within and between generations.'

44. In 2008, the objectives were set out as follows (Finland Ministry of Social Affairs and Health, 2008, p. 46):

'The main objective of the Finnish pension system is to ensure that the population is covered against the economic risks caused by old age, disability or death of a family provider. The statutory pension provision for all residents in Finland consists of an earnings-related pension scheme and a national pension scheme. The earnings-related pension scheme provides insurance-based pensions, which ensure to a reasonable degree that all wage and salary earners and self-employed persons retain their level of consumption after retirement, and the national pension scheme provides the whole population with a residence-based minimum pension which complements the earnings-related pension.'

45. These statements bring out clearly the primary objectives. Target 1 concerns poverty relief. Target 2 mainly addresses consumption smoothing. The second statement includes consumption smoothing ('economic risks caused by old age') and insurance ('...disability or death of a family provider...').
46. Discussion of objectives might be extended. First, it would be helpful to expand discussion of insurance to include risks such as divorce and the death of a spouse or cohabitee after retirement (the second quote talks only about 'death of a family provider', i.e. death during a person's working life). These risks have implications for sharing pension capital and for the design of annuitisation, discussed in section 5.3.
47. Second, it is helpful to distinguish between the primary objectives, secondary objectives and constraints. Making that distinction more explicitly opens up discussion of the relative weight each should be accorded, with implications for issues such as:
- How high should the guarantee pension be?
 - What should be the relative size of the national pension and/or guarantee pension for single people and couples?
 - Should the national pension be restricted to people with low earnings-related pensions or offered without a pensions or income test (as in New

Zealand) or with an affluence test that screens out people with the highest incomes (as in Canada)?^{8,9}

- Should the replacement rate provided by the earnings-related pension be higher (or lower) than currently?
- How should the costs of demographic change be shared between workers, pensioners and taxpayers?

48. None of these questions has a definitive answer, which will depend on the weights given to different objectives. However, **it would be useful to introduce periodic discussion of (a) the objectives of the system and (b) their relative weights**, including the distinction between primary and secondary objectives. As an example, there is discussion in Finland about the portfolio mix of pension fund investment domestically or abroad. The answer will depend in part on the relative weights given to old age security as opposed to broader objectives of national economic development.

49. Explicit discussion of objectives has two sets of benefits: agreement assists policy design; and it makes it possible to evaluate the system in terms of how well it achieves its stated objectives. The fact that creative ambiguity may sometimes be useful does not invalidate this conclusion.

8 An affluence test is designed to screen out only people with the highest incomes, in contrast with an income test, which screens out all except the poor. In 2010, 95 per cent of Canadian pensioners received the full non-contributory Old Age Security pension, and only the top 2 per cent of income recipients received no Old Age Security pension at all. Until the mid-1990s the national pension in Finland had a (fairly low) universal element, with the rest subject to a pensions test. The pensions test was extended to cover the entire national pension to help contain public spending.

9 At one time Finland applied a wealth test to the national pension. The test was abolished, not least because of political pressure from farmers who typically had property but often a low earnings-related pension. The affluence test discussed in the text is based not on wealth but on income.

4 The case for non-contributory pensions

50. The contributory principle assumed that workers would have a long history of stable employment, so that coverage would grow. There are various reasons why history did not bear out this prediction:
- The changing nature of work: people are not necessarily in full time employment for the whole of their career: as well as spells in full-time employment, they may have periods in education and training, self-employment, part-time work, and periods outside the labour force, for example caring for young children. In Finland such periods are largely covered by the earnings-related pension. In many other countries, however, the growing diversity of labour market attachment has led to a situation where the contributory principle no longer provides the coverage it once did.¹⁰
 - Family structures have become more fluid: the association between marriage and children is weaker and divorce more common than previously.
 - Rising women's labour-force participation: over the postwar period women in increasing numbers have taken on paid work.

The first driver of change means that on average workers will have less complete contributions records. The second and third emphasise the need for a pension system that fully recognises a woman's contribution record and takes account of marriage breakup.

51. Thus the argument for a non-contributory pension like the combination of national pension and guarantee pension is that it strengthens poverty relief: it can cover everybody irrespective of their employment history, and can pay a pension high enough to provide genuine poverty relief. It also has advantages in terms of gender balance, since women on average have more fragmented labour-market histories. There are other advantages: the incentives to work effort from a non-contributory pension can be better than those of income-tested poverty relief; the benefit is fairly well targeted, because age is a useful indicator of poverty; and pensions can be made internationally portable on a pro-rata basis.

¹⁰ The UK example is illustrative. Until 2010 workers needed over forty years of contributions to get a full basic state pension. As a result, only 80 per cent of men had a full contributions record and only 35 per cent of women. This problem was caused not by inability to collect contributions but by the lack of fit of the contributory principle to today's labour markets and family structures.

52. There is a range of instruments for making non-contributory benefits affordable, notably (a) the size of the monthly pension and (b) the age at which benefit is first paid. It is possible also (c) to subject the pension to an income test (i.e. a test designed to restrict benefit to those with the lowest incomes), a pensions test (i.e. a test against pension income), or an affluence test (whereby those with the highest incomes receive less benefit or no benefit).
53. Several other OECD countries have non-contributory pensions, including Australia, Canada, Chile, the Netherlands and New Zealand. Chile introduced a non-contributory pension in 2008 explicitly to address elderly poverty. And there is evidence that non-contributory benefits have wider gains.¹¹ The system in the Netherlands has interesting characteristics, summarised in Box 2.

Box 2. The citizen's pension in the Netherlands

The Netherlands has a non-contributory pension, payable at 70 per cent of the net minimum wage. A person with insufficient years of residence receives a partial pension and is eligible for social assistance if his or her income from all sources is below subsistence.

The system differs in two respects from conventional systems of social security. First, the benefit is based on residence, not contributions. Second, the benefit is financed through an earmarked tax, the AOW premium, which is additional to, but integrated with, the income tax. The tax base for the AOW premium is income (i.e. including capital income), not earnings, and the premium is paid only by people under 65.

It is interesting to reflect on the nature of the arrangement. From one perspective the benefit is non-contributory, hence addressing problems of coverage. On the other hand, it is financed from the AOW premium and so can be regarded as contributory, although there is no requirement to have had any taxable income. Each of these views is valid, and each has support from a different political perspective. The trick is to require contributions, but not to make benefits conditional on a person's contribution record.

54. These arguments serve as a justification of the idea behind the national pension and guarantee pension.

¹¹ For example, Fishback *et al.* (2007) show the improved health outcomes which followed surprisingly rapidly after the introduction of a federal safety net in the USA as part of the New Deal.

5 Adequacy

55. One measure of adequacy is the replacement rate, i.e. the ratio of pension benefits to monthly earnings (after taxes and transfers) during work. The replacement rate can be defined in two ways.
- Defined as the average person's pension benefit as a per cent of the average wage, the replacement rate is a measure of the living standards of the elderly relative to those of the working population, i.e. measures the extent to which pensions provide poverty relief. Section 5.1 discusses this aspect.
 - Defined as an individual pensioner's benefit as a per cent of his or her previous wage, the replacement rate is a measure of the effectiveness of consumption smoothing (section 5.2) and insurance (section 5.3).

5.1 Poverty relief

56. This section discusses the data and then turns to possible implications for policy.
57. WHAT THE DATA SHOW. Table 4 shows that in the mid-2000s the replacement rate of an average person over 65 in Finland was 74.9 per cent of that of the average for the population as a whole, somewhat below the OECD average of 82.4 per cent. For people aged 66–75, the figure was 78.4 per cent, and for people over 75, 69.6 per cent. The table also shows replacement rates for selected other countries with non-contributory pensions.
58. Defining poverty as income of less than 50 per cent of median household disposable income, Table 5 shows that in the mid-2000s (i.e. before the introduction of the guarantee pension in 2011) these figures translated into a poverty rate in Finland of 12.7 per cent of people over 65, 8.2 per cent of people aged 66–75 and nearly one-fifth of people over 75.

Table 4. *Incomes of older people, mid-2000s, selected countries.*

	Incomes of people aged over 65, per cent of population incomes			Incomes of single over 65s relative to other over 65s	Average incomes of over 65s (USD, PPP)
	All aged over 65	Age 66–75	Aged over 75		
Canada	90.8	94.8	85.4	73.7	26,510
Finland	74.9	78.4	69.6	73.7	17,387
Netherlands	87.0	89.3	83.8	86.9	26,538
New Zealand	68.0	69.7	64.5	75.8	14,921
OECD30	82.4	85.9	77.9	73.1	18,271

Note: PPP exchange rates are based on cross-national comparisons of actual consumption.

Source: OECD (2011, p. 147).

59. On the face of it, these data suggest that in Finland

- average pensioner income is below the OECD average, and below that in Canada and the Netherlands, but higher than that in New Zealand
- the incidence of elderly poverty (12.7 per cent) is slightly below the OECD average (13.5 per cent), but significantly higher than in the Netherlands (2.1 per cent) and New Zealand (1.5 per cent) which also have a residence-based element in their pension system
- the risk of poverty is sharply higher for single pensioners
- the risk of income poverty rises with age: pensioners face a higher risk of poverty than younger people, and older pensioners face a higher risk of poverty than younger pensioners. This outcome has different possible causes: it may be a cohort effect, since the earnings-related scheme is still immature; or it may be because men generally die earlier, and women with lower pensions persist.

Table 5. *Income poverty rates by age, sex and household type, selected countries, percentage with incomes less than 50% of median household disposable income.*

	Older people (aged over 65)							Whole population (all ages)
	All 65+	By age		By sex		By household type		
		66–75	75+	Men	Women	Single	Couple	
Canada	5.9	5.2	6.8	3.1	8.1	16.2	3.9	12.0
Finland	12.7	8.2	19.5	6.5	16.9	28.0	3.9	7.3
Netherlands	2.1	2.2	2.0	1.7	2.4	2.6	2.3	7.7
New Zealand	1.5	1.6	1.4	2.1	0.9	3.2	1.1	10.8
OECD30	13.5	11.7	16.1	11.1	15.2	25.0	9.5	10.6

Source: OECD (2011, p. 149).

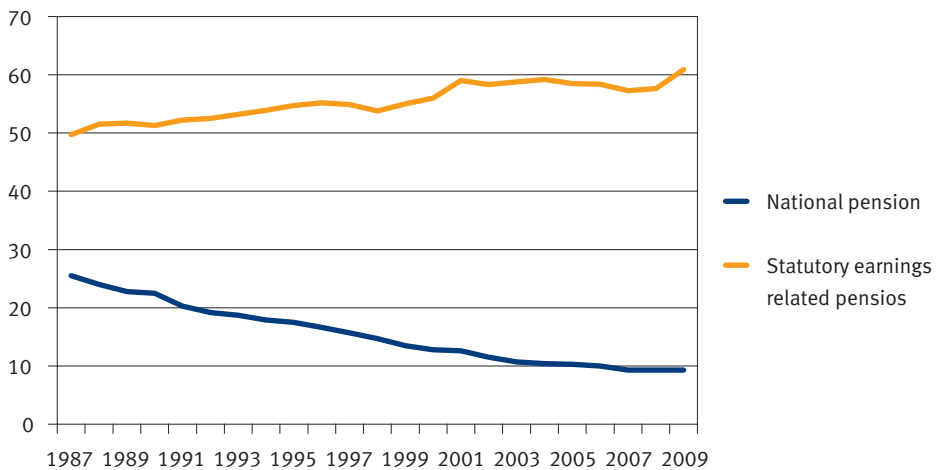
60. A range of factors, however, some statistical, some related to the economy and society in Finland, suggest a somewhat more optimistic picture.¹²
61. *The measurement of income.* Comparative statistics such as OECD data are based on money income, omitting income such as the receipt of benefits in kind and imputed rent. In Finland, pensioners have access to wide-ranging health care and other social services; and, 80 per cent of pensioners live in owner-occupied housing, so that the difference in pensioner consumption is likely to be smaller than the difference in pensioner income. Finnish data suggest that in 2009 over 20 per cent of pensioners were poor in terms of money income, compared with 14 per cent for a broader definition of income (Kautto 2012b, Table 2).
62. *Sensitivity of results to the poverty threshold.* The distribution of pensioners' income in Finland shows significant concentration between 50 and 60 per cent of median income. In 2009, 14 per cent of pensioner households were poor relative to the 60 per cent line, but only 4.3 per cent relative to the 50 per cent line (Kautto 2012b, Table 1). Thus measured poverty risk is sensitive to the level of income chosen and, given the concentration, can show volatility in the face of economic fluctuations.
63. *Differences in household structures.* Internationally, people living alone are generally at higher risk of poverty. Finland has more pensioners living alone, rather than with their children, than many other countries, so that the average size of pensioner households is among the smallest in the EU15. Most pensioners living alone are women because of their longer life expectancy, on average. The effect is particularly strong in Finland, which has one of the largest differences in the EU15 between male and female life expectancy.
64. *The current picture.* Kautto (2012b, Table 4, drawing on Kautto 2011) finds the following patterns in 2009:
- The poverty rate for pensioner households was 14 per cent, based on a poverty line of 60 per cent of median equivalent disposable income. Disposable income includes measures of imputed rent and benefits in kind.
 - The risk of poverty rises with age: the poverty rate was 7.9 per cent for pensioners aged 65–74, and 17.3 per cent for those aged 75 and older.
 - The poverty risk is higher for lone pensioners: in 2009, 30.5 per cent

12 See Kautto 2012b and, for broader discussion, see Riihelä-Vaittinen-Vanne 2011 and Vaittinen-Vanne in Lee-Mason (ed.) 2011.

of pensioners living alone were poor, compared with 4.3 per cent for households of two or more.

65. *Trends over time.* These figures, a snapshot for 2009, should be seen against trends over time. First, it is reasonable to predict that the guarantee pension, introduced in 2011 and hence playing no part in the figures just discussed, will reduce the extent of poverty.
66. A second trend is the maturing of the pension system as the earnings-related pension continues to grow in importance. In 2000, the national pension was about 20 per cent of pension income and the earnings-related pension about 80 per cent. By 2010, the share of the national pension was about 10 per cent. In the past, many pensioners received both pensions. Over time, the share of pensioners receiving only the national pension has declined and the share of those receiving only the earnings-related pension has increased.
67. A third trend is an increase over time of income from sources other than pensions. In 1990, pensions comprised 74 per cent of the income of pensioners; by 2009 that figure had fallen to 70 per cent. The latter two trends are shown in Figure 2.

Figure 2. *The share of national pension and earnings-related pensions to gross income.*



Source: Rantala and Suoniemi (2007).

68. Several questions for policy stand out.
69. ARE THE RESIDENCE REQUIREMENTS APPROPRIATE? Residence requirements for non-contributory pensions vary considerably across countries. The most stringent, the Netherlands, requires 50 years of residence for a full non-contributory pension. In contrast, New Zealand Superannuation is subject to ten years' residence since the age of 20 and at least five since the age of 50. In Canada, the residence requirement for Old Age Security (OAS) is 10 years since the age of 18 for pensioners living in Canada, and 20 years for a person who wishes to receive an OAS pension while living outside Canada. The 40-year residence requirement introduced when Finland joined the EU in 1995. The requirement may have had some implications for the incidence of poverty in the past, but has become largely irrelevant since the introduction of the guarantee pension in 2011.
70. IS THE TREATMENT OF COUPLES CORRECT? Single pensioners fare dramatically less well than pensioner couples: as noted, over 30 per cent of single pensioners were poor in 2009, compared with 4.3 per cent of couples, both the absolute and relative difference being much higher than in the Netherlands and New Zealand. Many single pensioners are women whose husbands have died; women on average outlive their husbands and women, on average, have smaller pensions in their own right.
71. Table 6 illustrates different dimensions of the problem in 2008:
- The risk of poverty is lower among younger pensioners, illustrating the continuing maturation of the system. The introduction of the guarantee pension in 2011 will lead to further improvement.
 - Women widows are at least twice as likely as men widows to be poor using a poverty line of 50 per cent of median income, and at least 50 per cent more likely with a poverty line of 60 per cent of median income.
 - With one exception, poverty among single pensioners who are not widows is higher than for widows at all ages and whatever the poverty line used.
 - The standout result is that the poverty risk is considerably higher for single pensioners than for pensioner couples and for women than for men. Those findings are true at all ages and whatever the poverty line used.
72. **These findings show that poverty relief for single people is not working as it should, and raise a number of questions.**

- Concerning poverty relief:
 - Is the relative size of the national pension for single people (in 2012, €608.63 per month) and couples (€538.85 per person) the right one?
 - Is the relative size of the guarantee pension for single people and couples the right one?
- Concerning consumption smoothing and insurance:
 - Are the arrangements for sharing entitlements to earnings-related pensions between spouses or cohabiting couples the right ones?
 - Are the arrangements for joint-life annuities the right ones?

The latter two questions are discussed in section 5.3.

Table 6. Poverty risk by gender, age and household status, 2008.

	Poverty line 50% of median income		Poverty line 60% of median income	
	Women Per cent	Men Per cent	Women Per cent	Men Per cent
Single, widow, 65–74 year	10	4	29	17
Single, non-widow, 65–74 year	13	16	42	40
Couple, 65–74 year	1	1	6	5
Single, widow, 75–84 year	19	10	48	34
Single, non-widow, 75–84 year	23	19	57	51
Couple, 75–84 year	2	3	13	13
Single, widow, 85+ year	23	3	54	26
Single, non-widow, 85+ year	23	10	52	44
Couple, 85+ year	1	1	13	13

Source: Rantala and Kautto (2012).

5.2 Consumption smoothing

73. INDEXATION. Indexing is well specified (a) for accruals during working life and (b) of benefits in payment, as discussed in sections 8.3.1 and 8.4, respectively.
74. COVERAGE is high. The national pension is based on residence in Finland or another EU member state. As discussed, however, high coverage does not necessarily mean low rates of poverty. As far as the contributory element is concerned, the arguments in section 4 are potentially relevant, in particular the trend towards greater varieties of labour market attachment. The 2005 reforms

introduced a single set of accrual rates for all types of work, including full-time, part-time, employment and self-employment; and the system covers periods in education, unemployment, and caring activities. Thus in principle workers should have a high contribution density. It may be that the income-base for contributions is lower for self-employed people, who have more flexibility over how much income they draw from their business; and there are indications that some employers are outsourcing some tasks to self-employed people. **Though there is no significant concern about coverage today, it is important to continue to monitor contribution densities to make sure that more varied forms of labour-market attachment do not compromise consumption smoothing.**

75. THE SIZE OF THE MANDATE: ARE MANDATORY PENSIONS TOO LARGE FOR HIGH EARNERS? In common with most other countries in the EU, and more widely, taxes operate on what is known as the EET system (i.e. Exempt contributions, Exempt investment income and capital gains of the pension funds, Taxed benefits). Where Finland is an outlier is that contributions to the mandatory system are levied on all earnings, without a ceiling, and benefits are paid without ceiling. The discussion below is initially general and then considers the specifics of Finland.
76. The well-known failings of relying on voluntary pension choices create a strong argument for making contributions mandatory (Barr, 2012, section 6.2.1). However, a uniform mandate takes no account of different preferences across individuals and different constraints, including
- different preferences about the time path of saving for retirement and about the balance of living standards in old age compared with working years
 - differences in the timing of key events, e.g. whether children are born earlier or later
 - different degrees of risk aversion
 - different working conditions so that industries in which people work in harsh conditions, or where working life is short for other reasons, can provide for earlier retirement.

These differences matter. The well-known problems with undue reliance on voluntarism make a mandate that is too small sub-optimal. But a mandate that is too large is also sub-optimal. A person may want or need to consume more during working years, so that too high a savings mandate is sub-optimal. Or

he may want to keep some pension wealth as capital, for example as a buffer against the need to finance long-term care, in which case too high a mandate to annuitise is sub-optimal.¹³

77. In principle, therefore, the mix of mandatory and voluntary pensions should strike a balance between (a) inefficiencies that arise from a uniform mandate that takes incomplete account of differences in preferences and constraints and (b) inadequate benefits and/or gaps in coverage that arise if the mandatory system is small. The inefficiency is greater:
- The greater the variation in individual preferences and circumstances; and
 - The larger the mandate in terms of (a) a high ceiling, or no ceiling, on contributions and benefits and/or (b) a high percentage contribution rate which finances a high replacement rate.

The reverse is also true: the inefficiency from a well-chosen uniform mandate is smaller where preferences are homogeneous and where the mandate is smaller in terms of (a) a ceiling on contributions and benefits and/or (b) the replacement rate the system provides.

78. The arguments in Finland in support of the current arrangements include the following:
- The system is simple, cheap to administer, and transparent, and is not politically contentious.
 - A system without ceiling rules out the need for additional voluntary third-tier private pensions (discussed in section 11). This is seen as an advantage.
 - A ceiling might be subject to fiscal pressures to lower it. If the process went too far, the system could fragment in the sense that even middle-income earners might have to take out voluntary third-tier pensions.
 - Introducing a ceiling would have transition costs, since the contributions on higher earnings could no longer be part of PAYG finance of today's pensions.
 - The size of the mandate needs to take account both of the ceiling and the replacement rate which the system offers. The latter is not excessive.

Arguments against the absence of a ceiling include:

- The system is rooted in the relatively flat income distribution of the 1960s and 1970s.

13 On the problems of financing long-term care, see Barr (2010).

- The absence of a ceiling may have been appropriate when the system was immature, but becomes a less good fit in a mature system.
 - The lack of a ceiling reduces the space for diversity of preferences and circumstances.
 - The system ignores the argument that pensions have a social purpose in ensuring consumption smoothing only up to €X per month.
79. What is optimal in any country will depend on preferences, which may involve path dependencies. The absence of an upper limit on contributions and benefits causes no significant problem for labour mobility or sustainability (though noting the point about transition costs). That such an arrangement is an outlier internationally, is not *per se* an argument against it. The main argument against change centre on political support for the current system, suggesting that preferences are fairly homogeneous, and the size of the replacement rate.
80. **Theory notwithstanding, a robust consensus for a uniform mandate with no upper limit suggests no need for change. At some point in the future, it might be appropriate to discuss the size of the mandate, taking into account both (a) the pros and cons of an upper limit and (b) the replacement rate the system provides. Separately, as discussed in section 11, it would in any case be useful to discuss the design of voluntary pensions.**
81. CONSUMPTION SMOOTHING: PAYG OR FUNDED PENSIONS? It is sometimes argued (in Finland and elsewhere) (a) that the return to financial assets (relevant to funded pensions) exceeds the rate of wage growth (relevant to PAYG pensions), and therefore (b) that funded pensions are superior. There are three analytical flaws in that argument (for fuller discussion, see Barr and Diamond, 2008, section 6.4 and Box 6.4):
- It makes inappropriate use of steady state analysis. It can be shown that in a frictionless world, the lower return to PAYG pensions is entirely the result of the 'gift' to the first generation, who receive a pension when they have paid little or no contributions. The fundamental point is that the first generation of pensioners and subsequent generations face a zero-sum game. In any move from PAYG towards funding, the cost of the gift to the first generation A has to be paid. It can be paid entirely by the transition generation (generation B) if generation B receives no pension, or entirely by the generation of workers at the time of transition (generation C) by financing generation B's pension out of higher current taxes, or the cost can

be spread over succeeding generations by financing the transition through borrowing. It is possible to alter the time path of the cost, but not to avoid the cost itself. Box 3 explains why the analytical error is serious.

- It takes no account of differences in risk.
- It takes no account of differences in administrative costs.

Box 3. Why inappropriate use of steady-state analysis is a major error?

The errors that result from inappropriate use of steady-state analysis are more profound than is immediately apparent. The argument that a move towards funding is necessarily beneficial makes a claim for Pareto superiority that is invalid.

The point is most obvious if policymakers are establishing a pension system in a brand new country. If they introduce a PAYG system, the first generation of retirees receives a pension, but returns to subsequent generations are lower; if they introduce funding, later generations benefit from higher returns, but the first generation receives no pension. Thus it is mistaken to present the gain to pensioners in later generations as a Pareto improvement, since it comes at the expense of the first generation. The same argument applies in a country that already has a PAYG system: a decision to move toward funding redistributes from the current generation to future generations. The claim that a move to funding is a Pareto improvement is invalid.

5.3 Insurance

82. As noted in section 1.2, earnings-related benefits are structured on an individual basis. Each spouse receives the pension to which he or she is entitled on the basis of his/her individual record of work and earnings; and full annuitisation is mandatory. These features give insufficient weight to arrangements within a family and to marriage breakup. A separate question is whether the protection the pension system provides against adverse labour-market outcomes could be improved.
83. **MANDATORY FULL ANNUITISATION.** Annuitisation insures the individual against the life-expectancy risk. There is a strong case against leaving the decision to voluntary individual choice: though insurance is generally welfare-enhancing,

behavioural economics gives insights into why a voluntary system leads to people not annuitising, spending too much too soon, and later regretting it (sometimes referred to as the 'red truck' syndrome, whereby a person retires, takes his lump sum and buys a red truck (or sailing boat, or similar), and subsequently regrets the choice). Such tendencies, however, do not imply that mandatory full annuitisation is optimal. As noted in the previous section, people differ in their preferences, constraints and the timing of lifetime events, so that full annuitisation would be sub-optimal for some. In many countries (including the UK) there is a requirement to annuitise, but also an option for a worker to take part of his or her accumulation as a lump sum when first drawing pension.¹⁴

84. One reason to retain discretionary pension capital is precautionary, to guard against high medical spending or the costs of long-term care. To the extent that those are well covered in Finland, the case for liberalising the requirement to annuitise in full is weaker.
85. **DIVORCE: TRANSFERRING BALANCES BETWEEN PARTNERS.** Consider a couple where the husband has a record of continuous high earning employment, and the wife one of low earnings and a low contributions density. Thus the husband has a high earnings-related pension and the wife a low one. Where a couple (a) stays married throughout working life and retirement, (b) do not differ greatly in age, and (c) share income amicably, this arrangement might be a workable rule of thumb. However, in many countries (e.g. Canada) couples have some leeway over the division of pension capital. The issue is particularly relevant where a couple divorce during working life, and hence is more salient today than in the past.
86. **The social partners and, given broader issues of social policy, also government might wish to consider whether the option to transfer pension capital between partners at divorce or retirement would be desirable.** If so, the design of such transfers would require detailed study.
87. **SURVIVORS' BENEFITS: JOINT-LIFE ANNUITISATION.** A single survivor of a couple typically needs about 65–70 per cent of the couple's income to maintain a broadly constant standard of living. Thus, in the absence of other resources,

14 In the UK workers used to be required to convert at least 75 per cent of their accumulation into an annuity, so could take up to 25 per cent as a (tax free) lump sum. Recently the rules have been relaxed.

if two spouses are the same age and have identical earnings histories and identical pension benefits, the death of one may lower the living standard of the other. This is part of the reason why poverty (in Finland, and elsewhere) is more frequent among widows than among married elderly women. Survivor pensions are therefore an important element in preserving the living standards of the elderly.¹⁵

88. There are several ways of organising survivor pensions. In a defined-benefit system, a worker's accumulation could be used to buy a joint-life annuity with a suitable fraction (50 per cent is common) for the survivor, based on the actuarial conversion of a single-life annuity into the relevant joint-life annuity. In a two-earner couple this could be done by both partners.
89. Any such arrangement could be mandatory or voluntary. With mandatory joint-life annuitisation there might be winners and losers: for example, in many countries life expectancy at a given age is lower among lower earners than higher earners, in which case a failure to adjust annuities for differences in income could redistribute from poorer to richer people. In some systems, survivor benefits take no account of the age difference between spouses (this is the case with the pension for university teachers in the UK), thus redistributing from couples with a small age difference to ones with a large difference. If joint-life annuitisation is voluntary, the potential issue is one of adverse selection, in that couples who think that, even having adjusted for the age difference between spouses, one will live considerably longer than the other are more likely to purchase such annuities.
90. Different designs give different degrees of 'nudge'. Joint-life annuitisation could be voluntary (on balance, an undesirable arrangement), or could be the default, or could be a stronger default by requiring both partners to agree in writing that the default should be replaced by a single-life annuity for the worker. Alternatively, joint-life annuitisation could be mandatory. In the context of Finland, with no ceiling for contributions or benefits, another option would be to make joint-life annuitisation compulsory up to some level of income, and voluntary beyond that.

15 More broadly, survivor benefits in a well-designed system should also cover young survivors, in particular children.

91. Under present arrangements, a surviving spouse of a pensioner couple (i.e. where there are no dependent children) receives 50 per cent of the deceased partner's earnings-related pension, subject to a pensions test with a 50 per cent taper on pension above €645.50 in 2012.
92. **Given the extent of poverty among single pensioners, there is a good case for making the taper in the withdrawal of earnings-related pension more generous, or otherwise ensuring that the pension of a surviving spouse or partner is adequate.**
93. **INSURANCE AGAINST ADVERSE LABOUR-MARKET OUTCOMES.** Under present arrangements, there is a higher accrual rate of 1.9 per cent for workers between 53 and 62 years old. The result is to give greater weight to earnings in later years, which benefits workers whose earnings rise faster later in their careers. Such workers tend to be those with higher pay.
94. A move to a higher accrual rate for younger workers has two aspects:
 - The system would give greater weight (via the wage indexation element) to earnings in earlier years; such a move would tend to benefit lower earners (who have high labour-force participation in early years) relative to higher earners (who are more likely to be in education or training), thus strengthening insurance against adverse labour-market outcomes. Thus the change would be progressive.
 - Lower earners tend to have a shorter life expectancy. Giving greater weight to early-career earnings could be a political balance to increasing the eligibility age for pensions.
95. **It would be useful to discuss whether any higher accrual rate should apply to early-career earnings.**

6 Choice and competition

Section 6.1 considers how much choice is appropriate (a) for workers and (b) for employers. Section 6.2 discusses the implications for pension design. Much of the discussion is general, to set the context for the conclusion – that the system in Finland, which gives individual workers very little choice – has significant advantages.

6.1 How much choice?

96. Workers must join their employer's pension scheme. There is a single contribution regime for all schemes, and all schemes calculate benefits on the same basis, i.e. there is a single benefit structure. Thus workers have no choice and face little or no risk.
97. Employers in the private sector choose from 29 authorised pension providers. At the end of 2009, 91 per cent of the pension investment portfolio in the private sector was managed by seven pension insurance companies. Pensions for workers in the public sector (plus farmers and seamen) are managed by monopoly-type institutions. Self-employed workers face the same range of choice of pension insurance companies as employers, but do not have the choice of company pension schemes.
98. There is a strong case for an arrangement like Finland's, which limits choice for workers, given (a) the costs of choice, (b) information problems and (c) behavioural problems. The text here summarises arguments set out more fully in Barr (2012, section 7.3.1).
99. THE COSTS OF CHOICE. Choice is beneficial only where the resulting welfare gain outweighs the cost. With individual pension accounts these costs can be considerable. Over a full career an annual management charge of 1 per cent of a person's accumulation reduces the accumulation (and hence his or her pension) by about 20 per cent (Barr and Diamond, 2008, Box 9.4). In addition, the administrative costs of individual accounts are close to a fixed cost, and thus bear more heavily on small accounts and in small countries with no economies of scale. Given those costs, does choice make workers better off?

100. **INFORMATION PROBLEMS.** Many people have little awareness of the risks they face; many do not understand probability well; and many do not understand basic concepts in finance. Orszag and Stiglitz (2001, p. 37) quote the chairman of the U.S. Securities and Exchange Commission as stating that over 50 per cent of Americans did not know the difference between a stock and a bond. The problem has distributional implications, since information poverty and financial poverty are highly correlated.
101. Even if someone has the knowledge to choose well, the gain from choosing more effectively in any particular month is small, whereas the transactions costs in terms of time are significant. Thus workers, particularly low earners, for whom the gain in any month is smallest, have little incentive to keep up with the changing details of different investments and charges.
102. The fact that information is frequently asymmetric aggravates the problem, creating space for mis-selling. One of the roots of the financial crisis was that sellers of financial products often had a better idea of their riskiness than buyers.
103. **BEHAVIOURAL PROBLEMS** arise in two ways: people may do a bad job of working out their optimal pension strategy (bounded rationality), or may know the right strategy but fail to carry it out (bounded will power).
104. Bounded rationality arises where a problem is too complex for a person to make good decisions, even when provided with the necessary information. Such problems are more likely where the time horizon is long, the outcome involves complex probabilities, or the details are complex, all of which characterise most pension products. Bounded rationality leads to poor choices in a variety of ways. A particular problem for pensions is immobilisation: complexity and conflicting information can lead to passive behaviour, where people act like rabbits in a car headlight. More options can result in lower participation. A large fraction of new workers in Sweden, able to choose from over 700 pension funds, make no choice at all.
105. Bounded will-power: though many people know that they should be saving more, they often fail to do so. Experimental evidence supports a tendency in some circumstances for people to have a higher discount rate (that is, a tendency to instant gratification) in the short run and a lower one in the

medium term. Thus people are more rational for the future than for the present. The problem is that when the future arrives, it becomes the present; hence short-term gratification continues, leading to time-inconsistency.

6.2 Implications for pension design

106. These information and behavioural problems help to explain the considerable divergence between what first-best economic theory predicts (optimal voluntary savings and voluntary purchase of annuities) and what is seen in practice, including procrastination, inertia and immobilization.
107. These literatures suggest a number of lessons:
- Voluntarism plus public education are insufficient. Automatic enrolment or mandatory contributions are generally beneficial.
 - In sharp contrast with simple first-best theory, keep choices simple. Constrained choice is a deliberate and welfare enhancing design feature.
 - In a system with automatic enrolment, design a good default option for people who make no choice. That option should include life-cycle profiling, whereby young people's savings are mainly in the stock market, with assets moved into government bonds as the person moves towards retirement.¹⁶
 - There are cost savings if administration decouples account management, which should be centralised, from investment decisions.
 - Similar arguments apply to the decumulation phase, suggesting mandatory annuitisation of at least part of a worker's accumulation.
108. There are different ways of implementing these principles so as to simplify the choice for workers and keep administrative costs low. The system in Finland is one approach; others are discussed here to provide context.
109. SIMPLE, LOW-COST INDIVIDUAL SAVING SCHEMES. The US Thrift Savings Plan (TSP) is organised by the U.S. government for federal civil servants (www.tsp.gov). The plan has the following characteristics:
- Workers are auto-enrolled and choose from six funds, e.g. an equities fund, a government bonds fund, etc. There is also a life-cycle option.
 - A government agency keeps centralised records to keep costs low. Fund

¹⁶ The fact that this principle has not worked well during the Euro crisis is not an argument against the general principle. During a time of economic crisis all pension schemes are vulnerable, whatever their design.

management is on a wholesale basis. Investment in private sector assets is handled by private financial firms, which bid for the opportunity and which have to manage an identical portfolio for their private clients, providing some insulation against political interference.

- As a result, administrative costs are astonishingly low: as little as 6 basis points annually, or 60 cents per \$1,000 of account balance.

110. In 2012, the UK introduced a similar system, the National Employment Savings Trust (NEST), established under the UK Pensions Act 2008, to provide a low-costs savings vehicle, particularly for low-to-moderate earners (<http://www.nestpensions.org.uk/>).
111. Kiwisaver individual accounts in New Zealand, introduced in 2007, are a variant of this approach, and the first example of automatic enrolment on a national scale, reinforced by a government match for contributions up to a ceiling, plus a one-off payment when the account is first opened. The combined effect of these factors was considerable. In 2007, 13 per cent of workers belonged to an occupational scheme and 5.5 per cent to a personal scheme. KiwiSaver achieved coverage of 44 per cent within its first year, about three-quarters of which was through occupational provision, the rest through personal plans – see Rashbrooke (2009).
112. COLLECTIVE DEFINED-CONTRIBUTION SCHEMES. Alongside the non-contributory pension described in Box 2, the Netherlands has a system of *de facto* mandatory membership of occupational pensions. The system has evolved over the years in the face of financial pressures:
 - In 1998 about two-thirds of workers were in final-salary defined-benefit schemes, and most of the rest in career-average schemes.
 - In the early 2000s there was a move from final pay to career average, which reached three-quarters of the work force by 2004, and a smaller move to defined-contribution arrangements.
 - As a response to stricter funding requirements and declining financial returns, there was a restructuring of pensions, with a reduction in the accrual rate and of the indexation of benefits in payment if funding fell below a threshold, and with some increase in contributions, depending on the solvency of each fund.

113. These reforms were not sufficient to bring the system back into balance. The Pension Accord of Spring 2010 recommended further reforms, of which two stand out:
- A formula for increasing the earliest eligibility age as life expectancy increases, both for the non-contributory pension and occupational pensions, with an actuarial increase for a delayed start to benefit.
 - A maximum percentage contribution rate, thus moving the system from a career-average defined-benefit arrangement more towards a defined-contribution scheme.
114. **MANDATORY DEFINED-BENEFIT SCHEMES.** As discussed in section 7, industry or firm schemes can create labour immobility unless, as in Finland, the government imposes a common structure.
115. **These arguments lend support to two aspects of limited choice in the system in Finland:**
- **Choice over how much to save: the system is mandatory; thus workers do not have the choice to save less.**¹⁷
 - **Choice over pension provider: workers, *de facto*, have no choice of pension provider, and employers limited choice.**

These features are useful, and should be protected from naïve arguments that increased choice necessarily increases welfare.

116. **One of the arguments in favour of decentralising investment decisions is to avoid giving a single entity too much market power and to diminish the risk of political interference with investment decisions. The approach in Finland is one way to do this, but not the only way, for example, the approach in the US Thrift Savings Plan, discussed above.**

17 The separate question of whether the mandate is the right size is discussed in section 5.2.

7 Labour markets

117. As discussed in section 2, an implication of second-best analysis is the recognition that any pension that provides poverty relief will create labour-market distortions. Thus the right objective is not to minimise distortions but to contain them, i.e. to avoid distortions that make little contribution to the objectives of the pension system. Section 7.1 considers this aspect of pension design. Section 7.2 discusses labour supply among older workers, and section 7.3 looks briefly at maternity benefits.

7.1 Containing labour market distortions

7.1.1 *Strategic aspects of pension design*

118. Since 2005, the accrual rates in Table 1 apply to a person's annual earnings over his or her entire career, with earnings each year indexed 80 per cent to earnings and 20 per cent to prices. The choice of accrual rates and earnings base each requires discussion.

119. FINAL-SALARY PENSIONS HAVE WELL-KNOWN PROBLEMS (Barr and Diamond, 2008, pp. 57–59):

- Regressive distributional effects: benefits are based on final salary but contributions are broadly on the basis of career average. At its extreme, if a person's salary doubles in his final year, his pension will double. Thus there is a cross-subsidy from people whose earnings grow more slowly to those whose earnings grow rapidly later in their career. The former group tends to be those with lower earnings, the latter the high flyers. Thus on average, final-salary schemes redistribute from low-paid workers to senior managers. Many regard this as unfair.
- Distorted work incentives: final salary schemes weaken the incentive to work extra hours or take on a harder job early in a person's career and, correspondingly, create undue incentives to work extra hours towards the end of a person's career. Such incentives are inefficient.
- Labour immobility: except in national schemes, final-salary pensions create incentives that lock a worker into his or her current job. Historically, that

was one of the purposes of that benefit design. In a modern economy, labour mobility is important for national economic performance.

- Final-salary schemes encourage mischief in the form of spurious promotions late in a person's career, favouring the well-connected.

120. **Pensions based on an entire career, as in Finland, avoid these problems.** With proper indexation of deferred benefits for workers who have moved to another employer and of benefits in payment and a suitable accrual rate, there is little or no cross-subsidy to workers with rapid earnings growth, fewer distortions to work effort, little or no impediment to labour mobility, and little incentive to manipulate promotions.

121. **ADJUSTING ACCRUAL RATES.** Finland has moved from a system based on earnings in a worker's later years to accruals based on earnings each year for a worker's whole career. A critical element in such a change is how the translation is calibrated. The point is best illustrated by comparing a final-salary scheme with a career-average scheme. Consider someone with 40 years' service whose final salary is 200 and career-average earnings 100, with an accrual rate of 1/80 per year of service. His final-salary pension would be 40/80 of 200, i.e. 100.

- If the accrual rate remains unchanged, his career-average pension would be 40/80 of 100, i.e. 50, or half of his final-salary pension.
- In contrast, if the accrual rate were raised to 1/40 of career-average earnings per year of service, his pension would be 40/40 of 100, i.e. 100, fully protecting his pension.

122. The calibration question is whether a move to career-average pensions should be accompanied by a change in the accrual rate from 1/80 to 1/40, or to somewhere in between. Though there is a strong case for increasing the accrual rate, it does not follow that full adjustment is the best option. The new formula should optimise across a range of variables, including (a) the size of the pension, including choice of accrual rate, (b) the age at which pension is first paid, and (c) the level of contributions and their division between worker and employer.

123. Thus changes could include (examples chosen for arithmetic simplicity)
- a move to an accrual rate of 1/60, with full pension after 40 years of service, i.e. partial compensation but at an unchanged retirement age
 - a move to an accrual rate of 1/45, with full pension after 45 years' service. This move would give an average worker a career-average pension at about the same monthly level as his or her previous final-salary pension, but five years later.
 - an increase in contributions from workers, employers and/or taxpayers.
124. Prior to 1996, a worker's pension was based on earnings over the last four years in each job, and between 1996 and 2005 over the last 10 years in each job, with an accrual rate of 1.5 per cent for workers up to 60 years old and 2.5 per cent thereafter. For workers who changed jobs frequently, this arrangement approximates a career-average system. However, consider the case of a worker who stays with one employer for an entire career and who retires at age 60. Under the pre-2005 system his pension was based on his salary over the last 10 years of work, indexed 50–50 to wages and prices.
125. Since 2005, pensions are based on a worker's earnings each year, indexed as described in section 1.2.1, with the accrual rates shown in Table 1. Thus replacement rates from 2005 differ in two respects from the previous system: the accrual rate is less generous; but indexation of a worker's contribution record is more generous because the wage element rises from 50 per cent under the old system to 80 per cent for accruals after 2005.
126. An additional issue, discussed in section 5.3, is whether (a) there should be a higher accrual rate at some ages and, if so, (b) whether the 1.9 per cent accrual rate should apply to earnings early in a person's career, encouraging labour supply by younger people
127. Any review of accrual rates, earliest eligibility age and contribution rates should
- take the conversion to earnings over a full career into account
 - consider whether accrual rates should vary by age, and if so, how.

7.1.2 Assisting labour mobility

128. A multiplicity of pension arrangements can easily create labour immobility. The system in Finland largely avoids this problem. The multiple employer earnings-related schemes have a common contribution and benefit structure; and private, public and municipal pension systems now all have basically the same design.
129. PORTABILITY. When a worker moves from firm A to firm B in the private sector, his pension does not move with him but rights accrued in firm A are fully preserved, i.e. are indexed in the same way as his rights in firm B. Thus pension arrangements are neutral with respect to labour mobility. Upon retirement, a worker, whether working the private or the public sector, submits one application for pension through his final employer. Arrangements are similar for someone who moves across sectors, e.g. from public to private.
130. LEGACY EFFECTS. Workers who entered the public service before 1993 have extra benefits (both in terms of pension level and retirement age) compared with younger public-sector workers, but keep those benefits only if they stay in the public services. Thus for the time being, the incentives for some older public-sector workers could discourage movement to the private sector.

7.1.3 Incentive effects during working life

131. THE NATIONAL PENSION AND GUARANTEE PENSION. Suppose, that the poverty line is 100: regime A has a pension of 80 that is non-contributory and not income tested, topped up by an income-tested guarantee of up to 20; regime B has an income-tested guarantee of 100. In regime A, a pensioner faces an income test only over the first 20 of his income from earnings or savings; in regime B he faces an income test over the first 100 of income. If the objective is to reduce work and savings disincentive among lower earners (for whom the guarantee is relevant), regime A is better.
132. However, with less income testing, a given benefit costs more, and hence requires higher taxation, potentially affecting the labour supply of workers. Thus the larger is the non-contributory pension relative to the guarantee the less the disincentive for older workers and pensioners, but the greater the potential disincentive for younger workers. In theory, the optimal design will

depend on (a) technical factors such as the labour supply elasticities of younger and older workers, and (b) policy objectives, such as the importance policy makers give to the labour-supply of low-earning older workers.

133. In Finland, the national pension and guarantee pension are reduced in respect of any mandatory earnings-related pension to which the person is entitled. The guarantee pension faces a taper of 100 per cent and the national pension of 50 per cent, as shown in Table 3. The incentive effects are different for different groups of workers:

- In principle, workers (i.e. anyone who is continuing to accrue pension rights) face a labour-supply disincentive, since higher earnings lead to a higher earnings-related pension and hence a lower non-contributory pension, but not a disincentive against saving (since the non-contributory pension faces a pensions test, not an income test). In Finland, however, the coverage and accrual rate of the earnings-related pension is such that most workers build an entitlement that takes them above the level of the guarantee pension and for many also above any entitlement to the national pension.¹⁸ Thus the potential disincentive applies mainly to a person starting a career late or who has been out of the labour force for many years.
- The pension test applies only to the earnings-related pension a person accrues before age 63, but excludes any increase from continued work from age 63, and thus avoids what would otherwise be an incentive against continuing work after age 63.
- People drawing pension and no longer accruing additional pension rights face no such disincentives against work or saving.

134. These considerations pose the following questions:

- Does the 50 per cent taper of the pensions test in the national pension have a significant effect on labour supply and, if so, should the taper be adjusted?
- Should the national pension include an affluence test which screens out only those with the highest incomes?

135. A zero taper for at least part of the national pension would be beneficial if the gains in labour supply for people of working age outweighed any disincentives from the higher taxation necessary to finance a more expensive system. The

¹⁸ In September 2012, about half of all pensioners received at least some national pension; about 8 per cent of pensioners also received at least some guarantee pension.

affluence test (i.e. withdrawing pension for people with high income) would apply only to people with a large pension, hence people who had high earnings during working years. Two benefits result: an affluence test for the national pension would be unlikely to have a substantial effect on labour supply during working years for high-earning workers and, by reducing the fiscal cost of the national pension, would have less of a disincentive lower down the earnings distribution.

136. Given the fiscal cost of such changes, however, it might be better to leave discussion of such questions until the economic climate is less-stringent.

7.2 Labour-market participation of older workers and pensioners

7.2.1 *Adjusting pension benefits for earlier or later retirement*

137. Good design suggests two elements to the relation between the size of a person's monthly pension and the age at which pension is first received:
- a) The pension should be larger for a worker who is older when benefits begin, so as to preserve incentives to work until a suitable age for stopping work.
 - b) Either benefits should start at a given age without requiring an end to work, or they should increase significantly for a delayed start.
138. THE NATIONAL PENSION. Compensation for a delayed start to the national pension is 0.6 per cent for each month of delay after the person's 65th birthday, with no upper limit, thus complying with (a) and (b); and, as noted above, the pension test for the national pension applies only to the earnings-related pension a person accrues before age 63.
139. THE EARNINGS-RELATED PENSION. The system offers an accrual rate of 4.5 per cent from age 63 to people who delay taking their pension. Thus a person aged 62 who earns €30,000 accrues an additional 'slice' of pension of €570 (i.e. 1.9 per cent of €30,000); someone aged 63 accrues an additional €1,350 (i.e. 4.5 per cent of €30,000).
140. The rate of 4.5 per cent is intended to approximate a 1.5 per cent accrual rate plus actuarially fair deferral from the age of 63. In a typical case where a 63 year

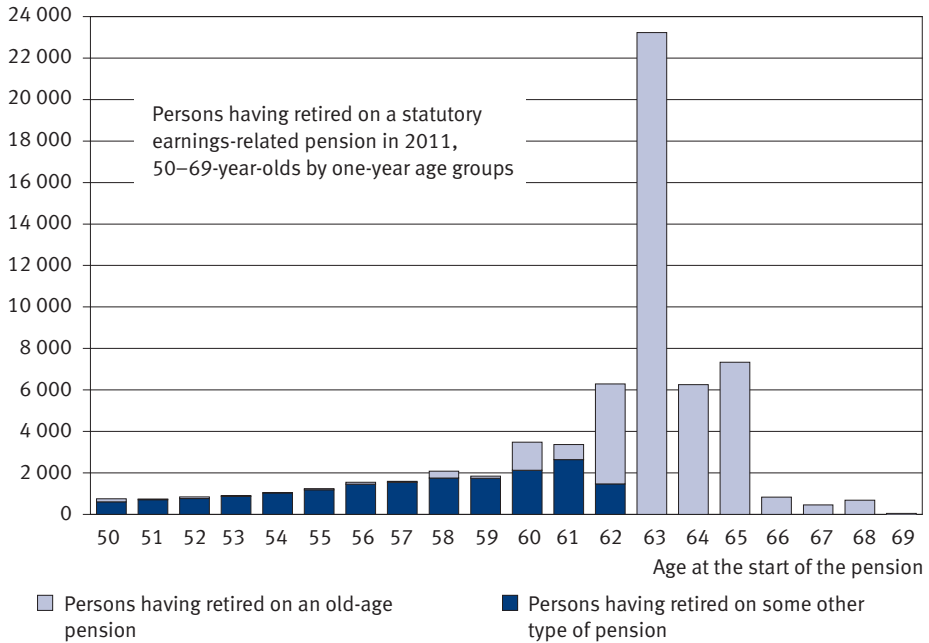
old person has accumulated a pension providing a 50 per cent replacement rate, the additional 3 per cent of earnings represents an increase in pension of 6 per cent per year of deferral, which is roughly actuarial. Thus compensation for a delayed start to pension is through a higher accrual rate on the flow of earnings from age 63 rather than actuarial adjustment of a person's stock of pension wealth at age 63, i.e. is based on current earnings rather than current benefits.

141. The argument for this approach is that at the time of the 2005 reforms it was thought that a single figure of 4.5 per cent on the flow of new earnings would be more easily understood than the combination of 1.5 per cent accrual for the flow of new earnings plus actuarial adjustment of pension accumulated till age 63. The counter-argument is that an annual statement showing what a person's pension would be at age 63, 64, 65, etc. is understood in Sweden.
142. The problem with this arrangement is that even if it is broadly fair for a representative individual, it takes no account of the variance around the average, and thus deviates from actuarial fairness in several ways:
 - The increase in pension is larger than actuarially fair for someone whose post-63 earnings are high relative to pension accumulated prior to age 63, either someone with high earnings after age 63 (on average, higher earners) or someone with a short career (hence low pension).
 - The increase is less than actuarially fair for someone whose post-63 earnings are low relative to the pension accumulated till age 63. This is particularly the case for someone who delays the start of pension but does not continue to work, who receives no compensation at all for a delayed start.
 - In addition, the increase in pension for a delayed start is smaller than actuarially fair as a person gets older, since remaining life expectancy is smaller at 68 than at 63.
143. In sum, the 4.5 per cent accrual rate can be criticised because a person's decisions should be based on the stock of pension wealth he or she has accumulated till age 63, which bears no relation to the flow of earnings after age 63. It would be better to have an arrangement with two elements:
 - A person's pension at age 63 should increase by $x\%$ for each month by which its start is delayed. This should be the case whether or not the person continues earning. In principle, x should increase with age.
 - Earnings post-63 should accrue additional slices of pension. The accrual

rate could be the same as for earlier earnings, e.g. 1.5 per cent, or slightly higher if policy makers wish to give stronger encouragement to longer working life.

144. **WHEN DO PEOPLE RETIRE?** Two questions stand out: at what age do people first draw pension; and how long do people continue to work after age 63, whether or not taking pension. As Figure 3 shows, there is a large spike in the number of people who draw their pension as soon as they are allowed to. Nor is there any evidence of any delay in taking pension since the 2005 reforms took effect. These outcomes are in line with international experience and consistent with the findings of behavioural economics. They also calls into question the incentive effects of the 4.5 per cent accrual rate on earnings from age 63.
145. Most people who draw pension also retire. In 2011 78.8 per cent of pensioners did no paid work, 8.5 per cent combined work and pension, and 12.7 per cent delayed the start of pension (Finnish Centre for Pensions, Memo, 5 November 2012). Most pensioners who continue in paid work are not forced to do because they have low pension income. The average old-age-pension of those continuing to work (approximately €2,000 per month in 2008) is higher than the average for all pensioners. There is also evidence that those pensioners have more opportunities to dictate their own terms than most people in working life (*ibid.*).

Figure 3. Age at first drawing earnings-related pension.



146. Given these findings, what policies could extend working life, not just for higher earners but across the earnings spectrum?

7.2.2 Extending working life

147. The arguments for later but more flexible retirement are discussed in section 8.3.3. The discussion here is not about the Why of such a move, but the How. Discussion looks in turn at the supply and demand sides of the labour market.

148. IMPEDIMENTS TO THE SUPPLY OF OLDER WORKERS. Choices about labour supply can be hampered by a range of factors.

149. *Rigidities in labour markets.* Labour markets in most countries are still heavily geared to a binary choice – no work or full-time work – affecting people’s attitudes. OECD data suggest that this is particularly true in Finland.

150. *Rigidities in pension design.* A pure final-salary scheme is death to downshifting – a problem which the system in Finland avoids. The fact that it is possible to

defer pension beyond age 68, with continuing accrual of benefits is also helpful, albeit the option is currently little used.

151. A problem, however, remains. Pensions in most countries, Finland included, offer a binary choice: full deferral or full pension. **It would be desirable if the pension system allowed partial deferral. e.g. the option to draw 25%, 50% or 75% of pension, while the deferred element continues to grow.**
152. *Loss of benefits on transfer from work to retirement.* If a move from full-time employment creates a step drop in fringe benefits, the disincentive to downshift is clear. In the USA, for example, the potential loss of health benefits creates a direct disincentive for a worker to change employer or to downshift. The system in Finland avoids this problem.
153. *Attitudes.* The reasons why most countries have (or had) a retirement age of 65 go back to times when fewer workers survived to retirement age and when, for those who did, life expectancy at retirement was much lower. With more public discussion, young people should enter the labour market with the attitude (a) that the default retirement age is older than 65 and (b) that it is not a constant, but a variable whose value will rise gradually if life expectancy continues to rise. **Gradually increasing the earliest eligibility age in Finland, the desirability of which is discussed in section 8.3.3, is important not only as an element in sustainability but also because of the signal it gives, which will help to change attitudes.**
154. A second set of helpful changes in attitude is a weaker expectation (a) that earnings will be highest just before retirement and (b) that full-time work is the norm. Conversations with stakeholders in Finland suggest that there is a need for further changes in attitudes. **It should not be regarded as unusual if earnings reach a peak and then fall as a person chooses to downshift to less stressful work and/or to part-time work as he or she moves into partial retirement. It would be useful to foster public discussion of this topic.**
155. Thirdly, additional flexibility over part-time work, downshifting and drawdown of pension would help to change attitudes to continuing work beyond earliest eligibility age and, indeed, beyond 70.

156. **IMPEDIMENTS TO THE DEMAND FOR OLDER WORKERS.** The supply side of the labour market – i.e. the willingness of older people to work – is important. But the demand side is equally important.
157. *Age discrimination* is an important problem and one that needs to be addressed. But it is mistaken to think that it is the whole problem. Imagine an enlightened employer who wants to employ older people but has also to pursue shareholder value. What factors would an employer rationally regard as impediments to employing older people? If policy takes insufficient account of these factors, the result will be indirect discrimination: regulation (i.e. against discrimination) and the incentives facing employers need to be aligned.
158. *Fixed costs of employment.* If an employer pays a fixed medical insurance premium for each worker, the incentive is to minimise the number of workers and maximise the hours of work of each. In that situation virtually no part-time jobs will be offered. Any non-proportional employer contribution has a similar effect. Employer social insurance contributions in Finland are proportional to wages. However, **it would be useful to check that other employer costs are as proportional as possible to pay and hours of work.**
159. *Higher insurance premiums for older workers* create a direct disincentive to hire them. Higher costs can arise in several different ways. Section 10 discusses, risk-rated disability insurance. In the case of statutory sick pay (i.e. shorter-term absence from work), some of the costs fall on employers and, to the extent that health-related absence has an age gradient (whether this is true in reality or only in the minds of employers), there will be a disincentive against employing older workers.
160. *Contractual issues.* There are also indirect costs:
- Transactions costs: if a worker wants to downshift at his/her existing employer, time is needed to negotiate the deal. This is true where downshifting involves a move to part-time work, and even more where it involves a move to a different type of work.
 - Uncertainty: legal uncertainties can add to transactions costs, e.g. whether it is legitimate to reduce the wage of a worker who has become less productive or wishes to reduce stress by moving to a lower productivity job.

It may be that employment law in Finland should be reviewed to mitigate any such problems. It might be useful for the social partners to develop some sample contracts.

161. *Rigidities in labour markets.* Employers wish to hire people at a wage that reflects their productivity, which in turn depends, inter alia, on their skills and health. To the extent that rigidities interfere (e.g. agreements that prevent a worker being offered a job at a lower wage by his existing employer) there is a clear disincentive against employing older workers. It might be argued that there is an implicit contract between worker and employer such that wages should not fall as a worker gets older. Whatever the efficiency of such arrangements when jobs were long term, the argument is weaker in an era with greater labour mobility. Again, a review of labour law might be useful.
162. *Skills and training.* On the face of it, the payoff to training earlier in life is higher because the payoff period is longer. However, with technological advance, skills go out of date more quickly, reducing the payoff period and thus making it more worthwhile than previously to train older workers. **Access to training is central to extending working life. Thought needs to be given separately (a) to delivery, e.g. what training, decided by whom, delivered by whom?, and (b) to finance, i.e. who should pay for training?** These topics are the subject of the Ahtela Working Group.
163. *Health* at each age is improving on average over time. However, it remains the case that older workers might experience more health problems than younger workers. An empirical question is the relative productivity of younger and older workers. The latter group might have poorer health on average but less absenteeism for other reasons (e.g. binge drinking); and greater experience may partially offset health effects. **Public discussion would be useful (a) on the empirical facts and (b) of the implications for labour law, e.g. the terms on which less productive workers can be paid less.**

7.3 Maternity leave

164. Parental leave plus the child home care allowance together last for up to three years, which is long by international standards. The benefits encourage women to stay at home, particularly those with low earnings, for whom the home care allowance represents a higher replacement rate. Working in the opposite direction, municipal child care is free for low-income families, encouraging resumption of paid work. Notwithstanding the latter policy, many women take the full three years.

165. The question for policy is twofold. First what is the balance between (a) the cost of reduced labour supply that results from long maternity leave, including home care benefit, and (b) potential gains through improved parenting. Second, since the issue is politically controversial, is whether the time for that discussion is now.

8 Risk sharing

166. Pensions can be adjusted on different margins, with major implications for the distribution of contributions and benefits, both for a given cohort of workers and pensioners and across cohorts. Adjustment also has considerable relevance to sustainability. Thus there is a close connection between the discussion in this section and the next.
167. Section 8.1 discusses the principles of risk sharing in pension design. Sections 8.2, 8.3 and 8.4 discuss in turn adjusting the income of pension funds, adjustments during working life to current contributions and future benefits, and adjusting benefits in payment. Section 8.5 briefly discusses how the pension system in Finland coped with the economic crisis.

8.1 Principles

8.1.1 Risk-sharing in pure defined-contribution and defined-benefit systems

168. In a defined-contribution system, each member's contributions are used to buy assets; the accumulation of assets in a person's account finances his or her post-retirement consumption through an annuity or in some other way. In a pure defined-contribution system, a person's consumption in retirement, given life expectancy and the rate of interest, is determined by the size of his or her lifetime pension accumulation; though annuities offer protection against the risks associated with longevity, the individual faces the wide range of risks associated with varying real rates of return to pension assets, the risks of higher or lower future earnings and the future pricing of annuities.
169. In a defined-benefit system, the plan sponsor promises to pay an annuity which is related to the worker's wage history and length of service, and hence is, in effect, wage indexed until retirement. The employee contribution is generally a fraction of her salary. Thus, the employer's contribution becomes the endogenous variable. In a pure defined-benefit scheme, unless the firm goes bankrupt, the firm or industry bears the risk of unanticipated changes in the

real rate of return to pension assets. Thus defined-benefit systems share risks more broadly than defined-contribution schemes.

8.1.2 *Guidance from economic theory*

170. RISK-SHARING GENERALLY RAISES WELFARE (hence the amount that people are prepared to spend voluntarily buying insurance). Facing the individual with the entire risk (as in a pure defined-contribution scheme) is sub-optimal.
171. OPTIMAL RISK-SHARING SHOULD TAKE ACCOUNT OF AGE. Adjustment should avoid sudden large shocks, particularly for pensioners and for workers close to retirement. This argument applies even if the underlying utility function of an older person is no more risk averse than that of a younger person, because the welfare loss from a given adjustment will be larger for an older person, who has less time to adjust. Among current workers, those closer to retirement have more constrained options for adjustment than younger workers. Adjustments to pension systems should accommodate age-related differences in the ability to accommodate shocks.
172. PARTIAL FUNDING ALLOWS WIDER RISK SHARING. The previous two conclusions apply whether or not a pension scheme is fully funded. Partial funding makes it possible to share risks more widely. Three design issues have strategic implications:
 - a) Is the funding ratio set by rules, or is the accumulation a buffer fund, allowing discretion over the extent of funding?
 - b) If the target funding ratio (say 25 per cent) is rules based, how quickly does any shortfall have to be made up?
 - c) Do shortfalls have to be made up by the plan sponsor or is there some tax finance?
173. If (a) the target funding ratio is a binding rule, (b) any shortfall has to be made up immediately, (c) there is no taxpayer support, and (d) the pension plan continues to pay the benefits it promised, the risks in an employer-sponsored scheme fall wholly on the employer and hence on current workers, current shareholders and current customers to the extent that additional employer contributions fall on wages or profits, or are passed on in higher prices of the firm's products. If the firm borrows to finance the deficit (e.g. by selling

corporate bonds), the costs can be shared with future workers, shareholders and customers.

174. If legislation allows flexibility about timing, i.e. where a pension scheme is allowed to accumulate a surplus or borrow to finance a deficit, it becomes possible to share risks more widely across cohorts. And if the system includes some tax finance, risk is shared widely across today's taxpayers and, if the government borrows, with future cohorts of taxpayers.

8.1.3 Political economy: Is partial funding beneficial?

175. Where discretion is used well, there is a potential welfare gain from wider risk sharing, for example the Norwegian Government Petroleum Fund is accumulating a buffer against demographic change, thus providing some tax smoothing. On the other hand, the political risks might be larger in a system which allows more discretion. Box 4 discusses the central counterpoint between (a) the potential welfare gains from wider risk sharing and (b) welfare losses if the discretion necessary to bring about such risk sharing encourages government failure. Thus the question is whether, as an empirical matter, political discretion is an additional risk or an additional insurance mechanism.
176. Depending on its design, risks in a defined-benefit system fall as follows:
- In a fully-funded system, the risk falls on some combination of current workers (through higher contributions or lower wages), current shareholders (through lower profits) or current customers (through higher prices).
 - In a partially-funded system where plan sponsors have some leeway over the timing of addressing shortfalls, risks can be shared also with future workers, shareholders and/or customers.
 - If the rules allow changes in benefits, some of the costs fall on current pensioners.
177. The rest of this section discusses these options in more detail, considering in turn three strategic forms of adjustment: adjusting the income of pensions funds; adjusting future benefits during working life; or adjusting benefits in payment.

Box 4. How much discretion is optimal?

Consider the following statements:

- A major advantage of fully-funded defined-contribution pensions is that they are transparent *ex ante* about how risks are shared between the different stakeholders and, partly for that reason, are less prone to interference.
- Partial funding in a public or occupational defined-benefit scheme plays two important roles. One is to buffer shocks, so that short-run perturbations can be accommodated through long-run adjustments rather than large immediate changes. Second is to spread the costs and benefits of the pension system across cohorts.

The first statement argues against discretion; the price is that all risk falls on current participants. The second argues that less-than-full funding makes it possible to share risks more widely. In principle, that is possible without discretion if the system incorporates automatic adjustments; as a practical matter, however, it is not possible to design an automatic system that works in a satisfactory way in all circumstances – at some stage discretionary action is likely.

The second statement describes a process of long-run optimisation. The empirical question is whether that model is a good description of the behaviour of government or other plan sponsors. If government failure is a significant risk, policy may be driven more by short-term political considerations than by long-run optimisation, e.g. postponing necessary adjustment or renegeing on past promises. If so, the potential benefits of wider risk sharing may be offset by the costs of sub-optimal behaviour, and hence be illusory.

The choice between (a) a more stringent defence against government failure but less risk sharing and (b) wider risk sharing, necessitating somewhat less defence against government failure is fundamental. The right answer depends, *inter alia*, on the weight policy makers give to wider risk sharing and an empirical view of the quality of government in the country in question. The implications for pension design, however, are not clear-cut. Fully-funded individual accounts are not immune from government interference such as changing their tax privileges, interfering with their investment decisions, or outright nationalisation (e.g. Argentina or *de facto* Hungary).

8.2 Adjusting the income of pension funds

178. There are several ways to increase the income of pension funds.
179. **A HIGHER PERCENTAGE CONTRIBUTION RATE.** In Finland, pensions are (a) defined-benefit and (b) calculated on a uniform basis so that, except in extreme cases, the investment performance of funds has little direct impact on pensioners. However, it is important to workers and employers. The better the investment performance of the employer's chosen pension provider, the smaller the necessary contribution. If a fund does badly, the resulting increase in contributions in principle can fall on wages, on profits, on the price of the firm's products, or a mixture. In practice, the law specifies that any increases in contribution rates must be divided equally between workers and employers.
180. **It is a matter for discussion what headroom, if any, there is for a higher contribution rate in Finland. Given current rates of tax and contributions, the scope for increase is probably limited. Given the arguments in section 8.3.3. for later retirement but also for gradually phasing in rising eligibility age, flexibility over contribution rates should be used to bridge the gap until actual eligibility age increases.**
181. **EXTENDING THE CONTRIBUTIONS BASE.** Adjustment through extending the range of earnings to which the contribution applies is not an option in Finland, since contributions are payable without an upper limit. The only potential margin for adjustment under this head would be to levy contributions on income rather than earnings.
182. **INCREASING TAXPAYER SUPPORT.** This could take place either as an *ad hoc* subsidy or through a tax-financed guarantee to pension funds. In such cases, the cost of adjustment falls on current and (if the government borrows) future taxpayers. Funding requirements in Finland are designed to avoid the need for taxpayer support for private-sector earnings-related pensions, and there is no state guarantee for these pensions.¹⁹
183. **MUTUAL INSURANCE ACROSS PENSION FUNDS.** Higher contribution rates, a wider tax base or taxpayer support all increase the total income of pension funds. Insurance offers an additional mechanism for sharing risk. Some

¹⁹ There would be political pressure on government to assist a failed scheme. Its ability to do so would depend on whether the failure was idiosyncratic (e.g. bad management) or systemic, i.e. a major economic crisis.

countries (e.g. the US and UK), pool the risk of employer pensions through mandatory insurance arrangements, and perhaps also share risks with taxpayers if the insurance requires public subsidy. If insurance covers less than 100 per cent of a worker's benefits, current and future beneficiaries also face some of the risk.

184. In Finland, if a pension provider goes bankrupt, the remaining providers are liable collectively for the pension benefit, emphasising the central role of solvency requirements. The system allows firms a measure of choice: schemes need to meet a target solvency margin, where the size of the margin reflects the riskiness of the underlying assets. A working group is currently studying potential reform of the solvency rule.

8.3 Adjusting future benefits during working life

185. The previous section discussed ways of adjusting the income of pension funds. Another margin is to adjust future benefits during working life.
186. A person's earnings-related pension depends on four sets of factors:
- His or her earnings record the value of this element in the pension formula depends on accrual rates and how earnings are indexed during working life.
 - The number of years that count towards pension entitlement. The value of this element depends on (a) the length of a person's career and (b) how years with no or low earnings enter the calculation.
 - Any adjustment of a person's initial pension to reflect increasing life expectancy, via (a) a lower initial pension and/or (b) the same initial pension starting at a later age.
 - How the system responds to economic turbulence.

These aspects are discussed in turn.

8.3.1 Calculating earnings over a person's career

187. Efficient consumption smoothing requires that a worker's earnings history is protected against the vagaries of inflation, i.e. that earnings are indexed during working life. There are different ways of doing so:
- Wage indexation bases a person's initial real benefit on the history of a

worker's earnings in each year relative to economy-wide average earnings in that year. Thus a person's initial real benefit depends on his or her earnings and on average earnings in each year.

- Price indexation: if a worker's past earnings are indexed to changes in prices, the initial real benefit will depend on his or her record of nominal earnings in each year, adjusted by the increase in the price level from each year up to the year when initial benefits are calculated.
- It is also possible to have a mix of price and wage indexation, provided that the mix is a proper weighted average of the price and wage indexes, i.e. with weights that add up to one.

188. The relationship between benefit levels and indexation method is not simple:

- Constant benefit formula: with a given benefit formula, wage indexation generally leads to a higher initial benefit, and tends to keep a broadly constant replacement rate across cohorts.
- Constant cost: with a given benefit formula, wage indexation will generally cost more than price indexation. Comparing two systems, one wage indexed, one price indexed, each with the same total cost, implies a lower initial benefit with wage indexation.
- Distributional effects: if two systems, one price indexed and one wage indexed, give equal benefits on average for a cohort, workers with relatively higher earnings early in their career will do better with wage indexing, which gives more weight to earlier years, and those with lower earnings will do better with price indexing.

189. Prior to 2005, the system in Finland indexed a worker's earnings history 50 per cent to earnings, 50 per cent to prices. Since 2005, indexation has been 80 per cent to earnings, 20 per cent to prices. As discussed, these proper weighted averages are sensible options, though not the only sensible options.

8.3.2 Number of years of pensionable service

190. As discussed in section 8.3.3, the number of years a person works and the date he/she first draws pension depend on his or her preferences and on constraints, including legislative constraints such as earliest eligibility age.

191. A second aspect is whether every year between age 18 and the earliest eligibility age should count. A longer period to determine a person's benefits penalises

workers with patchy earnings records, who are typically lower earners. Thus the duration of earnings that enters the calculation of a person's initial benefits has a clear bearing on the distribution of risks.

192. The system in Finland includes a person's entire career, with adjustment for periods studying, caring for young children and unemployed. A larger fraction of a worker's career included in the pension calculation leads to a stronger the relationship between pensions and a person's previous earnings, but less risk sharing. **A question for discussion is whether to widen risk sharing by offering protection for a small number of low-earning years (e.g. by attributing the person's career average income), in addition to periods of study, child care, etc.**

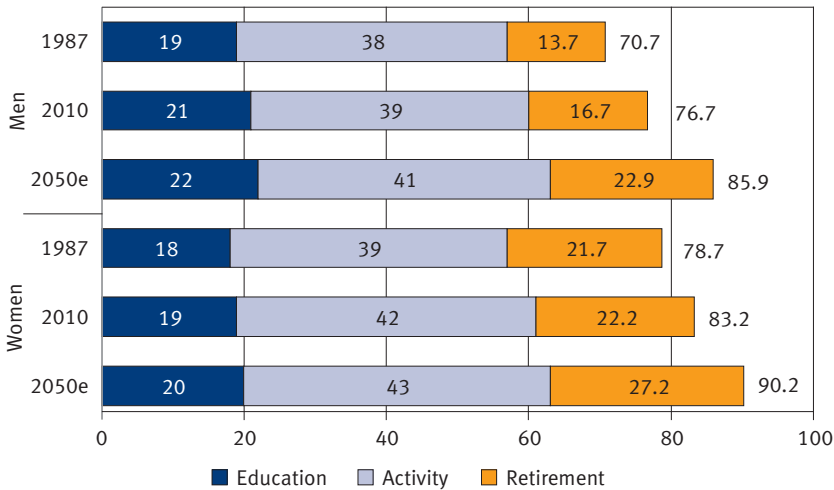
8.3.3 Adjusting a person's initial pension to reflect demographic change

193. **LATER AND MORE FLEXIBLE RETIREMENT.** The problem of paying for pensions is largely the result of rising life expectancy with a fixed retirement age. The obvious solution is that pensionable age should rise in a rational way as life expectancy increases.
194. In part because of policy changes, the average actual age of retirement in Finland has increased by almost two years over the past decade. Early retirement schemes were restricted or abolished. The unemployment pension (i.e. *de facto* retirement for older workers after an extended period of unemployment) was restricted and then abolished, the last new such pension having been granted in 2011. The unemployment pension was replaced by an 'unemployment tunnel' within the unemployment insurance scheme, whereby an elderly person who is long-term unemployed can receive unemployment compensation for an extended period up to eligibility age for old age pension. From 2005, the individual early retirement pension, i.e. liberal access to a form of disability pension was abolished (while retaining a slightly wider definition of disability for people over 60), and the incidence of disability pension, more generally, has declined as the health status of the population has improved.²⁰

20 For more detailed information, see http://www.etk.fi/fi/gateway/PTARGS_0_2712_459_440_3034_43/http%3B/content.etk.fi%3B7087/publishedcontent/publish/etkfi/fi/julkaisut/tilastojulkaisut/tilastoraportit/elakkeellesiirtymisika_suomen_tyoelakejarjestelmassa_2011_7.pdf

195. In parallel, labour-market participation by older workers has increased. The employment of workers aged 55–59 rose from 60 per cent in 1990 to 71 per cent in 2011. The comparable figures for workers aged 60–64 were 25 and 40 per cent. However, as discussed in section 7.2.2, participation by workers aged 63 or more remains low.

Figure 4. *The life course of men and women in Finland retiring in 1987, 2010 and 2050.*



Notes: Education = time from birth until the average age of entry to employment. Activity = employment rate in the age group $\geq 50\%$. Retirement = time after employment rate drops below 50% until life expectancy.

Source: Life expectancy from Population statistics, Statistics Finland. Employment rates from Employment registers database, Statistics Finland. Life expectancy and employment rates for 2050 from Statutory pensions in Finland – long-term projections 2011, FCP reports 2/2012.

196. Figure 4 shows how the duration of retirement has changed. The horizontal axis shows life expectancy at birth, and the bars the changing division between education, work and retirement, separately for men and women retiring in 1987 and 2010 and projected for 2050. Activity is defined per age group on the basis of employment rates of 50% or higher. Retirement is defined to start when employment rate falls below 50%. The figure suggests two conclusions. First, with sensible policy change it is possible for future cohorts to have a higher retirement age but still to enjoy more years of retirement than earlier cohorts. Second, even if retirement age continues to rise as projected, the duration of retirement in 2050 will be long, both in absolute terms and relative to the number of working years.

197. Alongside the argument for later retirement is a separate but increasingly important argument for more flexible retirement. When retirement was invented, its purpose was mainly to weed out unproductive older workers, so it made sense for retirement to be mandatory and complete. Since then, however, policy faces two opposing trends: people are living longer, which implies that on average they should work longer; and countries have become richer, so that we can afford to give people a period of leisure at the end of their working lives. The latter effect, however, means that the purpose of retirement has changed. Today, pensions have purposes other than weeding out unproductive workers, including recognition that individuals vary widely in their preferences and personal circumstances. Many people do not want to retire fully as soon as they are allowed, because of the extra earnings, because postponing retirement raises their pension, and/or because they continue to enjoy working in their current job or another one.
198. Pension design should seek to raise the average retirement age to accommodate aggregate resource pressures, but to accommodate differences across individuals by offering choice over how a person moves from full time work to full retirement. Facilitating such choice would be good policy even if there was no problem paying for pensions. Increasing the average pensionable age imposes the cost of adjustment on future pensioners, but flexible retirement options allow individuals to respond in the way that suits each best.
199. Specifically, any well-designed pension should have three elements:
- An initial eligibility age that makes it fiscally possible to provide a genuinely adequate pension.
 - A subsequent retirement age that rises in line with rising life expectancy in a way that is rational and transparent, so that people know well in advance broadly when they will be able to retire.
 - Labour-market institutions (section 7.2) that allow people to move from full-time work towards full retirement along a time path of their choosing.
200. ADJUSTING THE ACCRUAL RATE. A lower accrual rate reduces a worker's entitlement to pension in the future, i.e. the cost falls on future pensioners. One way of implementing a reduction is to increase the number of years necessary to qualify for a full pension. A given level of benefits payable (say) at age 70 rather than age 65 is equivalent to a reduction in benefits, but through a reduced duration of retirement, not a reduced monthly pension.

201. In Finland, a person's initial pension is based on earnings indexed over the worker's career and the accrual rates in Table 1, adjusted by a life expectancy coefficient which reduces the monthly pension at a given age as life expectancy rises. Workers can at least partly offset this decrease by working longer, and the higher accrual rate for people who delay drawing their pension beyond age 63 is intended to encourage longer working life.
202. **One question about the life expectancy coefficient is whether the mechanism is well specified. In particular, should the coefficient be based on (a) historic data, (b) projections based on current data, (c) projections that attempt to take account of future increases in life expectancy, or (d) incorporate ex post adjustment for actual increases in life expectancy?**
203. **AUTOMATIC ADJUSTMENT VIA THE LEVEL OF BENEFITS OR ELIGIBILITY AGE?** A more fundamental question about the life-expectancy coefficient is whether the mechanism will have the intended effect. The underlying assumption, that people will act rationally, is dubious. There is good evidence that many people retire as soon as they are allowed to do so, whether or not that is in their own long-run best interests or those of their dependants (see Figure 3 and surrounding text). Thus it can be argued that the life-expectancy coefficient is an effective instrument for sustainability but less so for adequacy.
204. There are in principle two ways to adjust pensions as life expectancy rises: by reducing monthly benefits actuarially to reflect longer life; or by increasing (a) the earliest age at which a person can draw pension and (b) what is regarded as the normal retirement age, i.e. the age bands in Table 1. This approach can be implemented in different ways:
- Suppose that (a) today's pension at age 63 is 100, (b) next year the longevity coefficient will pull the pension down to (say) 97, and (c) on average, working an extra 6 months would restore the pension to 100. Increasing the eligibility age to 63.5 achieves this.²¹ Other pensionable ages should be increased in parallel, e.g. the unemployment tunnel (if retained) and the higher (68) age.
 - Alternatively, suppose that policy makers regard it as appropriate that people on average should have a period of retirement that is half of their working life. This would be achieved by increasing the age bands in Table 1 by 8

²¹ I.e. the earliest age for collecting pension increases to 63.5 and any higher accrual rate (e.g. 4.5 per cent in the current system) does not start till age 63.5.

months for every increase in life expectancy of one year. Thus pensionable age is adjusted to relate the number of expected years receiving benefit to the number of accrual years.

205. Simple rules of this sort may be suboptimal in theoretical terms: people are living longer, adding to the cost of pensions, but that effect is partially offset by the fact that people are better off than in the past and so can afford to spend more on retirement. In addition, increases in life expectancy in many countries, including Finland, have a socioeconomic gradient, rising more slowly for people from poorer backgrounds. However, a simple rule has advantages in terms of transparency and, through predictability, also political advantages. The existence of a rule does not prevent governments making periodic discretionary adjustments; or a given change in life expectancy may be presumed to call for an adjustment, while still requiring legislation to enact it. If it is decided to increase pensionable age, either via a rule or through discretion, the decision should be implemented on the basis of the principles set out in Box 5.

206. Adjusting to demographic change by raising pensionable age, not just by reducing monthly benefits at the earliest eligibility age has several advantages. It addresses non-rational behaviour by reducing the range of choice for individuals; as discussed in section 6.1, it is mistaken to assume that more choice is necessarily better – the extent of choice requires thoughtful pension design. A second advantage is that a formula relating earliest eligibility age to life expectancy is easier to explain to the public (and hence politically easier) than the life-expectancy coefficient.

Box 5. Principles for adjusting pensionable age

Any automatic adjustment of pensionable age should be based on three principles:

- The rules should relate to date of birth, not to the date of retirement; otherwise there will be a wave of retirements just before any reduction in the generosity of benefits. Such an incentive to retire is inefficient.
- Changes should be made annually, to avoid large changes in benefit levels across nearby cohorts. Large changes are inequitable and politically difficult, since benefits could differ significantly between people born only days apart. The combination of large changes and rules determined by date of retirement would exacerbate the inefficient incentive to early retirement.
- Rules for changing benefits should be explicit. Automatic adjustment with explicit rules leads to greater predictability and decreased political pressure. Automatic adjustments may function better if based on actual mortality outcomes rather than projections. Nevertheless, as with the indexation of income tax brackets, there always remains the option of legislation to change whatever the automatic rules produce.

The increase in women's pensionable age in the United Kingdom, announced in 1991, illustrates all three principles. The key date is 6 April 1950. For women born before that, the state pensionable age continued to be 60. The pensionable age for a woman born on 6 May 1950 (one month after the key date) is 60 years and one month, which occurred in 2010, 19 years after the legislation, for a woman born on 6 June 1950, 60 years and two months, and so on. For women born on or after 6 April 1955, the pensionable age will be 65.

207. These arguments suggest that adjusting only via the life-expectancy coefficient is likely to be suboptimal. On the other hand, as countries get richer, people will choose more leisure at the end of their working lives, suggesting that adjustment only by raising the earliest eligibility age may also be sub-optimal. Given the backlog in raising the earliest eligibility age, however, there is a case for making the whole adjustment by raising the earliest eligibility age initially, perhaps with periodic review by an independent commission.
208. **The issue of how pensions should adjust to changes in life expectancy is an important agenda item for the social partners and government:**
- **It would be desirable to change terminology: instead of talking about the standard retirement age and later retirement, it would be better to talk**

about the earliest eligibility age and normal retirement age, i.e. choosing language that makes the later age the norm.

- Instead of reducing pensions at the earliest eligibility age as the only adjustment to rising life expectancy, there is a good case for making the adjustment at least in part by gradually increasing the earliest eligibility age without any compensating increase in pension.

8.3.4 Adjusting to economic turbulence

209. The economic crisis had no short-run impact on contributions or pensions in payment. The immediate effect of the crisis was to reduce the assets of Finnish pension providers from €122.4 billion at the end of 2007 to €105.1 billion at the end of 2009. By the end of 2009, however, losses had been made up, with assets of €124.1 billion.
210. If the value of assets in a pension fund declines, the costs of adjustment fall initially on pension providers, i.e. on the reserves of the pension funds. Each fund is required to hold a clearing reserve, which includes an EMU buffer, i.e. an additional reserve because membership of the Euro rules out devaluation as an adjustment to economic fluctuations. The clearing reserve must be at least 30 per cent of the following year's estimated PAYG benefit payments, but in practice has been higher.
211. If the reserves are insufficient to bear the full adjustment, costs then fall on contributors, through an increase in contributions by workers and/or employers large enough to make good the deficit. If that adjustment is insufficient, costs would be placed also on future pensions through an adjustment in accrual rates. Only in exceptional circumstances would any of the costs of adjustment fall on current pensioners, whose pension rights receive constitutional protection similar to property rights.

8.4 Adjusting benefits in payment

212. The previous section discussed adjustments during working life to a person's future pension benefit. Another margin is to adjust the way that pensions in payment are indexed. To provide efficient consumption smoothing the real value of a person's benefit should not vary erratically with the level of inflation, all the more because inflation rates can vary significantly. In addition, as discussed, with optimal risk sharing, protection should rise with a person's age. The implication is not that pensioners should necessarily be protected from all risk, but that they should be exposed to less risk than younger participants.
213. Full price indexation preserves the real purchasing power of pensions, but retirees will over time fall increasingly behind general living standards. If benefits are fully indexed to nominal wage growth, benefits will preserve the position of retirees relative to workers, but over time the system will be more expensive for a given level of initial benefits. Either of these indexation rules, or a proper weighted average, is reasonable, depending on the weights given to protecting absolute living standards versus relative living standards. What is not reasonable is to use improper weights when indexing for inflation (see the discussion in Barr and Diamond, 2008, p. 265). Nor is it good design to place a cap on the extent to which benefits adjust to inflation. Although this may assist the finances of the system, a cap undercuts the social purpose of indexing.

Indexation of benefits in payment in Finland complies with good design. Pensions in payment are indexed 20 per cent to wages and 80 per cent to prices. This proper weighted average avoids an erratic response to inflation and, while sharing risks with pensioners, exposes them to less risk than workers, since a fall in real wages affects pensions in payment, but with only 25 per cent of the effect on the rate of accrual of younger workers.²²

²² I.e. a worker's contribution record is indexed 80 per cent to wage change, benefits in payment, 20 per cent.

9 Sustainability

214. Sustainability matters for reasons much wider than prudent economic housekeeping. A central purpose of pensions is as a long-run institution to allow people to redistribute to themselves over their life cycle. Sustainability is thus an element in risk sharing, to avoid sharp, short-run shocks, and hence a concern for all the social partners. Thus discussion of sustainability should take place not in isolation but alongside considerations of adequacy (section 5) and of how risks are shared (section 8).
215. Section 9.1 pulls together earlier discussion by considering the margins for adjustment. Section 9.2 poses a series of questions which bear on the robustness of the system.
216. The biggest problem is the clash between the long-run needs of sustainability and the short-term pressures of politics. Political sustainability depends on agreement between the social partners and government, which depends on the level of pension benefits (section 5), the age from which they are paid (section 8.3.3), and on other ways in which risks are shared (section 8). Economic sustainability depends on political support for contributions sufficient to pay for those benefits and on whether timely adjustments are politically feasible.

9.1 Margins of adjustment²³

217. AUTOMATIC ADJUSTMENT. Earlier sections discussed three dimensions:
 - Indexing a person's earnings record (section 8.3.1) addresses the inflation risk and in part also labour-market risk.
 - Adjusting for changing life-expectancy (section 8.3.3) addresses demographic risk and assists efficient consumption smoothing.
 - Indexing benefits in payment (section 8.4) addresses the inflation risk, and may also share part of the labour-market risk with pensioners.
218. DISCRETIONARY ADJUSTMENT. Other potential margins of adjustment include
 - the definition of years that count as contribution years (section 8.3.2)
 - accrual rates, holding life expectancy constant (section 8.3.3)

23 For fuller discussion, see IMF Fiscal Affairs Department (2011).

- contribution rates (section 8.2)
- the contributions base, through policies to
 - extend the range and types of income on which contributions are payable (section 8.2)
 - increase total earnings by increasing labour force participation
 - increase the demand for and supply of older workers (section 7.2).
- the indexation of earnings and of pensions in payment.

219. **THE TIME SCALE FOR ADJUSTMENT.** The national pension and guarantee pension are tax financed, and mandatory earnings-related pensions are less-than-fully funded. The funded element in the system provides at least a partial buffer against short-run turbulence, and the tax-financed element makes it possible to spread risks widely across the current generation and, through borrowing, across future generations. These elements do not sidestep the need for adjustment to long-run change, but create a measure of freedom over the time scale. As discussed in Box 4, such flexibility can be an advantage or disadvantage depending on the quality of governance.

9.2 How robust is the system?

220. Table 7 shows that funding ratios are in the range 20–25 per cent. That ratio is a result of pragmatic evolution rather than an explicit optimisation process.
221. The cumulative real return to the investments of private-sector employees' pension funds since 1997 are above 4 per cent for most of the period since 1997 and, despite the economic crisis, were slightly above 3.5 per cent in 2011.

Table 7. Funding ratios, 2011.

	Private	Public	Total
Funding ratio, discount rate 3.5%	24.7	23.4	24.2
Funding ratio, discount rate 2.5%	20.8	20.0	20.5

Source: Data provided by the Finnish Centre for Pensions (for earlier years, see 2011, Tables A.3.1 and A.3.2).

222. The management of pension funds for private-sector workers is subject to a series of legal constraints, on actuarial principles (see Rantala 2011), on the

extent of risk taking, and on membership of Boards (e.g. at least 50 per cent proposed by workers and employers). Within that framework, insurance companies choose their own investment strategy, and companies that achieve a higher return can offer lower contribution rates. In the case of pensions for public-sector workers, the funded element is subject to less stringent rules and so is more like a buffer fund.

223. A number of strategic questions arise, discussed in the parallel report:
- Is the current funding ratio broadly appropriate, or would some other ratio have strategic advantages?
 - Does the current regime encourage optimum risk taking by the managers of pension funds, or does it encourage an inefficiently conservative approach?
 - Should managers of large pension funds be on the Boards of companies in which the funds invest? Is there a need for more sensitive rules to foster independence and greater transparency?
 - Should there be a maximum percentage contribution rate, which would imply a decision to move towards a defined-contribution arrangement?
 - What is the optimal balance between (a) rules versus discretion and (b) the size of the solvency margin? For example, should there be a larger buffer fund than the current funding ratio of about 25 per cent but with some discretion? The argument for flexibility is that a buffer fund makes it easier to accommodate short-run turbulence; the argument against, is that it might unduly delay the response to long-run changes, when it becomes necessary to share the costs of adjustment across the margins discussed in section 9.1.
224. The major cost driver is rising life expectancy, creating upward pressure on contributions. Without adjustment, the system in Finland, as in all countries with similar demographic pressures, will become unsustainable. Finland, however, is in the fortunate position that the 2005 reforms were well founded. Thus there is time to phase in adjustments, with no need for emergency measures.

10 Disability pensions

225. MEASURING DISABILITY. A central difference between old-age pensions and disability pensions is the ease of measuring whether or not the insured risk has occurred. Establishing whether a person has reached pensionable age is straightforward in any country with the capacity to run a system of birth certificates. With disability pensions, in contrast, the key variable is whether or not someone is disabled – an issue which raises inherent problems both of definition and of measurement.
226. The simplest system of disability pension awards benefit on the basis of a binary variable – a person has long-term health problems which prevent paid work, or he/she does not. Or a system might classify a person's disability as (say), 25 per cent, 50 per cent, 75 per cent, or total. In all these cases, policy is based on a scalar. However, the entire enterprise of boiling down different dimensions of ill-health into a unique, objective scalar is misconceived. Suppose that we have a vector of different attributes of health for a given individual:

$$[h_1, h_2, \dots, h_n]$$

The only way to convert this vector into a scalar is to multiply it by another vector,

$$[w_1, w_2, \dots, w_s],$$

where w_1 is the weight we attach to h_1 , etc.

Saying the same thing, we could express each element in the first vector as a score out of 100 and then calculate the average. A simple average implicitly assumes that we weight all elements equally. Alternatively, we could take a weighted average.

227. Measuring health thus faces strategic problems. Though government cannot duck the problem of deciding a scalar level of disability pension (i.e. €X) for an individual, any decision depends on both (a) the accuracy with which the h_i are measured and (b) the value judgement implicit in the choice of weights, w_i .

228. The problems of quantifying the h_i are intrinsic and insoluble. Even if there is an objective measure of the clinical facts:
- The effect of a given injury on productivity will vary by type of work. If I lose the little finger of my left hand in an accident, it will reduce my typing speed but not otherwise interfere with my academic capacities, hence no issue arises of paying disability pension. If I were a concert violinist, my playing career would be over.
 - The extent of a person's disability can vary on a day-by-day basis.

Even in principle, therefore, there is no unique answer. It is therefore not surprising that problems arise.

229. ADDRESSING DISABILITY. For any measure of disability, policy includes (a) paying a cash benefit and/or (b) helping to find a match between the person's abilities/disabilities and suitable paid work, the latter embracing questions both about the nature of the work and whether full-time or part-time.
230. **Issues that arise in Finland are a shortage of suitable jobs, hence problems about moving the partly-abled into paid work. These issues, part of the remit of the Ahtela Working Group, are important both because of the cost of benefits and, more importantly, because having a suitable job on average has a considerable beneficial effect on a person's welfare. Discussion needs to include people with the necessary clinical expertise and labour-market expertise.**
231. What is the right price for insurance? For larger employers (roughly 800 employees or more), disability pensions are based on experience rating, and for smaller employers (broadly between 50 and 800 workers) partially on experience rating.²⁴ If older people have a higher probability of disability, such a regime leads to higher premiums for firms or industries with more older workers hence, as discussed in section 7.2, might create a potential disincentive against hiring older workers. Since longer working life is a central element in sharing risks, such a disincentive would be unhelpful. Studies of experience rating (e.g. Kyyrä and Tuomala, 2012) suggest that the approach reduces the incidence of sickness and disability, but with no substantial effect on hiring older workers.

²⁴ The limits are determined by the firm's wage bill, with full experience rating for firms whose annual wage bill (2012 figures) is more than €29.5 million and no experience rating where it is below €1.84 million.

232. It is useful to distinguish (a) the average risk of disability in an industry (say mining), (b) the dispersion of that risk across mines and (c) age effects. There are good reasons for including (a) in the price of insurance, so that the cost of coal includes the costs of the risks in the industry, and (b), so that each coal mine has an incentive to improve safety at work. In practice, however, distinguishing the different elements is not always easy, not least because industry boundaries are not always precise. In addition, larger employers, in effect, self-insure and thus automatically face (a) and (b). Furthermore, the system in Finland takes the age structure of each firm's workforce into account in calculating its risk rating.

11 Voluntary pensions

233. Alongside the mandatory pension system, countries also have voluntary pensions. The term 'voluntary' has different meanings. A pension can be voluntary for the individual (e.g. 401(k) plans in the USA), or for the industry; in the latter case, workers may be obliged to belong to the employer scheme (as in the Netherlands), in which case the pension is voluntary for the worker only to the extent that he or she could choose to work in another industry.
234. In Finland, voluntary third-tier pensions based on private insurance are modest compared with many other European countries (in 2010, 4.4 per cent of total contributions were for voluntary earnings-related pensions and 2.7 per cent to voluntary individual pensions). The view in Finland is that there is little need for such provision, since the mandatory earnings-related pension covers practically all types of employment, with no upper limit on pensionable earnings or pension.
235. If voluntary pensions in Finland become more widely used their design becomes increasingly important. Specifically, earlier discussion about (a) the limited usefulness of choice for individuals (section 6.1), and (b) the implications of information and behavioural problems, together underpin the design of simple, cheaply-administered savings plans such as the US Thrift Savings Plan, the new National Employment Savings Trust (NEST) in the UK, and KiwiSaver in New Zealand (section 6.2). All are relevant to the design of voluntary pensions in Finland (for example, it would be possible for trades unions to organise NEST-type pensions). A further option in voluntary plans is to allow people to commit now to (reversible) action in the future, thus making use of procrastination to assist policy. People are happy to promise to save more in the future, as in the 'Save More Tomorrow' plan of Thaler and Benartzi (2004).
236. Voluntary pensions should be kept under review to ensure that (a) there is suitable quality assurance and (b) arrangements to ensure the availability of simple savings products with low administrative costs. This is particularly the case if a ceiling is introduced for contributions and benefits in the earnings-related pension, but is a desirable direction in any case. Since it is mainly better-off people who make use of voluntary pensions, any tax advantages should be limited.

12 Conclusion

12.1 Formulating pensions policy

237. **WHAT ROLE FOR DISCRETION?** The pension system in Finland shares risks widely, a desirable feature in principle for the reasons set out in section 8.1. As discussed, however, the greater the degree of risk sharing, the greater the potential role for discretion. For example, partial funding opens up the possibility of using taxpayer finance to cushion shocks. Used well, the mechanism makes it possible to share risks across current and future cohorts; used badly – for example failing to take action early enough to address threats to long-run sustainability – discretion can impose inefficiently high costs on future cohorts. To date, experience with discretion by the social partners and government in Finland gives grounds for optimism. But long-run stability requires continuing vigilance against unduly short-run behaviour.
238. **THE ROLES OF DIFFERENT POLICY MAKERS.** A strength of the process in Finland is that it involves all interested parties – including Government, Parliament, labour organisations, employers’ organisations and pension funds – rather than being established top-down by the government. The role of the Ministry to a significant extent is one of co-ordination and of translating agreement by the social partners into law.
239. There are potential weaknesses in this decentralised approach. First, policy might respond too slowly, e.g. to increase contributions and/or pension eligibility age in the future. The slow response would arise not because of government failure, but because the structures of governance lead to diffuse responsibility, attenuating leadership and strategic thinking. Second, the approach depends on attitudes that are (a) consensual and (b) have a capacity to take a long-run view. That both have been the case in Finland until now is not a guarantee that either will necessarily continue – both will need maintenance work. In addition, the approach is unsuitable in countries (e.g. the UK) where politics are more adversarial.

12.2 Broad conclusions

240. Recommendations and suggestions for discussion appear at relevant places in the text, and are discussed in the Executive summary. This section is therefore brief.

12.2.1 *Strengths and weaknesses*

241. The strengths of the system are the following:

- The system involves all interested parties and is run consensually.
- Though the earnings-related pensions of workers in private firms are private and competing, they operate within a unified national framework.
- The system allows labour mobility because the pensions of workers in the private, public and municipal systems are all basically the same.
- The system scores well in terms of adequacy for most people.
- The coverage of the system is high because (a) the national pension and guarantee pension are based on residence, (b) employment rates in Finland are high for both men and women, and (c) the earnings-related pension covers almost all earnings.

242. The system has several weaknesses:

- Tunnel vision, i.e. a tendency to consider adequacy and sustainability separately. Though life expectancy has been rising (good news), there is a large 'spike' in retirements at age 63 (Figure 3). Thus if the present system remains unchanged, either benefits will become inadequate or the system will become unsustainable.
- Inadequate adjustment for a delayed start to pension.
- Inadequate account of changes in family structure.

12.2.2 *Recommendations about design*

243. PRESERVE A CONSENSUAL APPROACH. The pension system in Finland is not in crisis. Thus it is better to reform somewhat later on the basis of wide and continuing consensus than to reform sooner at risk of destabilising long-run political support for the system. As discussed in section 8.1.3, discretion plus consensual politics is both the great strength of the system in Finland and its potential weakness. Used well, they make it possible to combine wide risk

sharing with sustainability; but they carry the risk of lack of strategic overview and, at worst, unsustainability caused by short-term politics.

244. OBJECTIVES OF THE SYSTEM (section 3). As part of the process of building and preserving consensus, it would be useful to encourage additional public discussion of (a) the objectives of the system and (b) the relative weights that should be accorded to each.
245. CONSTRAINED CHOICE (section 6.2). The analysis in section 6 lends support to two aspects of limited choice in the system in Finland. First, since the system is mandatory, there is no choice over how much to save. In addition, workers, *de facto*, have no choice of pension provider, and employers' choices are limited. These features are useful, and should be protected from naïve arguments that increased choice necessarily increases welfare.
246. LATER RETIREMENT BUT MORE FLEXIBLE RETIREMENT. There is – rightly – general agreement that additional life expectancy should be divided in some sensible way between extra years of work and longer retirement:
- It is important that the national pension continues to be increased broadly actuarially for a delayed start to benefit (section 7.2.1).
 - It would be desirable if the pension system allowed partial deferral. e.g. the option to draw 25%, 50% or 75% of a person's pension, while the deferred element continues to grow (section 7.2.2).
 - It would be useful (a) to check that the fixed cost of employing a worker is small, to avoid creating an incentive against part-time employment and (b) to review employment law with the aim of reducing transactions costs and legal uncertainty where a worker wishes to downshift at his/her existing employer (section 7.2.2).
 - Additional policy directions concern the productivity of older workers (section 7.2.2), and policies to change attitudes (section 7.2.2).
247. ADJUSTING FOR CHANGES IN LIFE EXPECTANCY (section 8.3.3). Instead of adjusting to rising life expectancy only by reducing pensions at the earliest eligibility age, there should also be a gradual increase in the earliest eligibility age. This policy direction raises the question of whether increases should be *ad hoc* or whether the earliest eligibility age and normal retirement age should be indexed to changes in life expectancy.

248. ADJUSTING FOR A DELAYED START TO PENSION (section 7.2.1):
- It is important that the national pension continues to be increased broadly actuarially for a delayed start to benefit.
 - Adjustment of earnings-related pensions for a delayed start should be applied to the pension a person has accumulated till age 63 rather than as a higher accrual rate on the flow of earnings after age 63.
249. ADJUSTING THE RELATIVE TREATMENT OF INDIVIDUALS AND FAMILIES:
- It would be useful to discuss whether the relative size of the national pension and/or the guarantee pension for single people and couples is the right one (section 5.1).
 - Given the high incidence of poverty among single pensioners (section 5.1), there is a good case for encouraging or mandating joint-life annuitisation to ensure adequate pension benefits for a surviving spouse (section 5.3).
 - Given changes in family structure over time, there is a good argument for encouraging or mandating joint-life annuitisation and for providing an option to transfer pension rights between partners at divorce (section 5.3).

12.2.3 Topics for discussion

250. THE DESIGN OF THE NATIONAL PENSION (section 7.1.3) Does the 50 per cent taper of the pensions test in the national pension cause significant adverse labour-supply incentives? If so, should the design of the taper be adjusted? Should the national pension face an affluence test to screen out those with the highest incomes?
251. THE CONTRIBUTIONS REGIME:
- What contribution rate? Given current rates of tax and contributions, the scope for increase is probably limited (section 8.2).
 - What years count for pensions? Should risk sharing be widened by offering protection for a small number of low-earning years (e.g. by attributing the person's career average income), in addition to periods of study, child caring, etc. (section 8.3.2)?
 - Contribution densities (section 5.2): though there is no significant concern about coverage currently, it is important to continue to monitor contribution densities to make sure that more varied forms of labour-market attachment do not compromise consumption smoothing.

252. MATERNITY LEAVE (section 7.3). What is the balance between (a) the cost of the reduction labour supply that results from long maternity leave and (b) potential gains through improvements in parenting? Given political sensitivities, is now the time for that discussion?
253. DISABILITY PENSIONS (section 10):
- More jobs for the partly-abled: suitable jobs are scarce, making it difficult to move the partly-abled into paid work. The issue is important, both because of the cost of benefits and because having a suitable job generally has a considerable beneficial effect on a person's welfare.
 - It would also be useful to review disability pensions to double check that there is no unintended disincentive against employing older workers.
254. VOLUNTARY PENSIONS should be kept under review to ensure that (a) there is suitable quality assurance and (b) arrangements keep administrative costs low (section 11). Since the mandatory system applies to all earnings without a ceiling, any tax advantages for voluntary pension saving should be limited.
255. MARKET STRUCTURE (section 6.2). One of the arguments in favour of decentralising investment decisions is to avoid giving a single entity too much market power and to diminish the risk of political interference with investment decisions. The approach in Finland is one way to do this, but not the only way; the approach used in the US Thrift Savings Plan is discussed in section 6.2.
256. The strategic question is whether decentralisation is a strength. Pension funds in aggregate are very large, with worries that they are too big to fail. Questions about how the funds should be run and how investment decisions can be disaggregated lead directly to Part 2.

REFERENCES

Barr, Nicholas (2010), 'Long-term Care: A Suitable Case for Social Insurance', *Social Policy and Administration*, Vol. 44, No. 4, August, pp. 359–374.

Barr, Nicholas (2012), *The Economics of the Welfare State*, 5th edition, Oxford and New York: Oxford University Press.

Barr, Nicholas, and Peter Diamond (2008). *Reforming pensions: Principles and Policy Choices*, New York and Oxford: Oxford University Press.

Börsch-Supan, Axel (2005), *The 2005 pension reform in Finland*. Working Paper, no. 2005:1. Helsinki: Finnish Centre for Pensions.

Diamond, Peter A. (2002), *Social security reform*. Oxford and New York: Oxford University Press.

Finnish Centre for Pensions (2011), *Statutory pensions in Finland – long-term projections 2011*, Finnish Centre for Pensions.

Finland Ministry of Social Affairs and Health (2010), *Socially Sustainable Finland 2020: Strategy for Social and Health Policy*, http://www.stm.fi/c/document_library/get_file?folderId=2765155&name=DLFE-15321.pdf

Finland Ministry of Social Affairs and Health (2005), *Finland's national Pension Strategy Report 2005*, Working Group Memorandums of the Ministry of Social Affairs and Health 2005:11eng, Helsinki, http://www.stm.fi/c/document_library/get_file?folderId=28707&name=DLFE-4197.pdf

Finland Ministry of Social Affairs and Health (2008), *National Strategy Report on Social Protection and Social Inclusion 2008–2011*, Reports of Ministry of Social Affairs and Health 2008:39, Helsinki, http://www.stm.fi/c/document_library/get_file?folderId=39503&name=DLFE-4604.pdf Fishback, PV, Haines, MR and Kantor, S (2007) 'Births, Deaths and New Deal Relief during the Great Depression', *Review of Economics and Statistics*, 89(1): 1–14.

IMF Fiscal Affairs Department (2011), *The Challenge of Public Pension Reform in Advanced and Emerging Economies*, International Monetary Fund, <http://www.imf.org/external/np/pp/eng/2011/122811.pdf>

Kautto, Mikko (2011), *Eläkkeet ja eläkkeensaajien toimeentulo 2000–2010*. Finnish Centre for Pension, Reports 2006:3 (in Finnish).

Kautto, Mikko (2012a), 'The pension puzzle: pension security for all without universal schemes?', in Anttonen, Anneli, Häikiö, Liisa and Stefánsson, Kolbeinn (eds), *Welfare State, Universalism and Diversity*, Cheltenham: Edward Elgar, pp. 144–161.

Kautto, Mikko (2012b), Comments referring to the role of national pensions in the overall pension protection and to poverty risks of pensioners, Mimeo.

Kyyrä T. and Tuomala J. (2012), The effects of experience rating on disability retirement. Unpublished manuscript. Conference paper available at <http://www.eea-esem.com/files/papers/eea-esem/2012/686/experience-rating.pdf>

Lassila, Jukka and Valkonen, Tarmo (2007), 'The Finnish Pension Reform of 2005', *Geneva Papers*, 32, (75–94).

OECD (2011), *Pensions at a Glance 2011*, Paris: OECD.

Orszag, Peter R. and Stiglitz, Joseph E. (2001), 'Rethinking pension reform: 10 myths about social security systems', in *New ideas about old age security: Toward sustainable pension systems in the 21st century*, eds. Robert Holzmann and Joseph E. Stiglitz, with Louise Fox, Estelle James, and Peter R. Orszag, pp. 17–62. Washington DC: The World Bank.

Rantala, Juha and Kautto, Mikko (2012), Memo, Finnish Centre for Pensions, Research Department, 16 November 2012.

Rantala, Juha and Suoniemi, Ilpo (2007). *Eläkeläisten toimeentulo tulonjaon kokonaisuudessa*. Finnish Centre for Pension, *Tutkimuksia* 2007:2 (in Finnish).

Rantala, Jukka (2011), 'Mathematics is needed also in earnings-related pension insurance', originally published in Finnish in Jussi Vauhkonen (ed.), 2011, *Virastosta tietotaloksi*. Juhlakirja Eläketurvakeskukselle. The Finnish Centre for Pensions, pp. 163–175.

Rashbrooke, G. (2009), 'Automatic Enrolment: KiwiSaver in New Zealand', *The Changing Pensions Landscape in Asia and the Pacific*, OECD, Paris.

Riihelä, Marja, Vaittinen, Risto and Vanne, Reijo (2011), *Changing Patterns of Intergenerational Resource Allocation in Finland*. Finnish Centre for Pensions, Reports 2011:1.

Thaler, Richard H., and Benartzi, Shlomo (2004), 'Save more tomorrow: Using behavioral economics to increase employee saving', *Journal of Political Economy* 112 (1, part 2): pp. 164–87.

Vaittinen, Risto and Vanne, Reijo (2011), 'National Transfer Accounts for Finland in 2004', on Lee Ronald and Andrew Mason (eds.) *Population Ageing and the Generational Economy*, Edgar Elgar, Cheltenham.

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