

Finnish Centre for Pensions
Working Papers 11

Funding and Portfolio
Management in the Finnish
Earnings-Related Pension
Scheme

Seija Ilmakunnas, Finnish Centre for Pensions*
Reijo Vanne, Finnish Pension Alliance**

* The Finnish Centre for Pensions
FI-00065 Eläketurvakeskus
FINLAND
seija.ilmakunnas@etk.fi
tel. +358-10-7512185

** The Finnish Pension Alliance
Lastenodinkuja 1
FI-00180 Helsinki
FINLAND
reijo.vanne@tela.fi
tel. +358-9-69556105

Helsinki 2004

Eläketurvakeskus

00065 ELÄKETURVAKESKUS

Puhelin 010 7511 • Faksi (09) 148 1172

Finnish Centre for Pensions

FI-00065 Eläketurvakeskus Finland

Tel. +358 10 7511, Fax +358 9 148 1172

Paino Edita Oy

Helsinki 2004

ISBN 951-691-030-0

ISSN 1795-2697

ABSTRACT

The main focus of this paper is on the Finnish application of pension pre-funding. The history of the Finnish statutory pension schemes is also briefly presented as well as the main features of the schemes after the major pension reform in 2005. This reform concerns mainly the benefit side of the system and introduces, for instance, a flexible old-age retirement age between the ages of 63 and 68 years.

In the 1930s a funded national pension with individual accounts was introduced. Due to war, inflation and political problems caused by low benefits, this scheme was changed to one with a collective basis. The main private sector earnings-related pension schemes were introduced in 1962, and partial pre-funding as well as the decentralized operation of the system by private insurance companies, company pension funds and industry-wide pension funds were important features from the very beginning. The employer chooses the pension provider, and the pension provider makes the investment decisions. The system is of the defined benefit type, and returns on the investments have an effect on the common contribution rate. The higher is the rate of return in the long run, the lower is the part of the benefits that is to be financed on a PAYG basis.

During the first 25 years of the pension system, the financial market was regulated and pension assets had to be guaranteed or invested in a risk-free way. The main part of the funded contributions was lent back to the employers at a regulated interest rate. The liabilities were shown as loans in the books of the employers. Buffer type funding was introduced into the public sector schemes in 1988 and 1990. In 1997 the rules were changed in the private sector also, and investment risk buffers as well as new solvency rules were introduced.

The Finnish statutory earnings-related pension system is classified as a public pension system and the institutions running the system are regarded as part of the public sector in national accounts. The Finnish public pension wealth is one of the largest in the world in relative terms, approximately 60 per cent of the annual GDP. The risk of the average portfolio is still rather low. The share of equity is 31 per cent of the total assets. The share of foreign investments is almost 70 per cent of the total assets. After the solvency reform in 1997 the average annual real rate of return has been 3.8 per cent.

Despite partial funding and benefit reforms, a contribution rate increase of nearly 6 percentage points is estimated to be necessary in 30 years in the private sector schemes. The present contribution rate is nearly 22 per cent on average. The contribution rates are even higher in the public sector schemes. The private sector contribution rate pressure is the main source of criticism concerning sustainability in a strict sense. Another future challenge is to maintain the exceptional system based both on solidarity principles and on decentralized administration and portfolio management in the regulatory environment of the EU.

Key words: pension funding, pension reform, public finance

ACKNOWLEDGEMENTS

This paper was prepared for the conference “Managing the Future through Pension’s Schemes – The Interaction of Public Sector Policies and Financial Market Performance in the Face of Future Pension Imbalances”, Rome 22th and 23th April 2004. We are grateful to Heikki Oksanen (DG ECFIN, European Commission), Tuulia Hakola and Ismo Risku (Finnish Centre for Pensions) for their valuable comments. The usual disclaimer applies.

CONTENTS

1	Introduction	7
2	The Pension System in a Political Economy and Macro Context	9
3	The pension system	14
	3.1 Some general features	14
	3.2 The benefits	15
	3.3 Funding rules	16
4	Portfolio management, investment statistics and solvency	20
	4.1 Portfolio management and investment statistics	20
	4.2 Solvency	23
5	Future projections and intergenerational effects.....	26
6	Future challenges	29
	References	32

1 Introduction

The main building block of the Finnish pension system is the earnings-related pension, which has some quite unique characteristics. Firstly, the administration of this first-pillar statutory scheme is entrusted to private pension providers. Thus, it is among those few first-pillar schemes where there is competition within the scheme. Secondly, it is partly funded. Since the creation of the scheme, in the early 1960s, it has collected funds to smooth contribution increases due to ageing of the population. Currently the funds amount to nearly 60% in relation to GDP. The size of the funds implies that the pressures to raise pension contributions remain essentially lower than the rise in pension expenditure.

Accordingly, the Finnish pension system offers a case where the amount of pre-funding is noticeable in a first-pillar statutory pension scheme. Furthermore, the funds are managed by numerous private pension providers. This system is then clearly different from the more common ways to pre-fund. These more common ways are funding in a central fund controlled by a government agency or in individual accounts controlled by individual workers.¹ The Finnish case offers an “intermediate alternative”, where portfolio diversification is obtained as an outcome of decentralized decisions made by pension providers operating the scheme.

From an economist point of view this particular scheme can be seen as an innovation that aims at bringing competition and market forces into a statutory social security system. During the last decades similar aims have been introduced e.g. in the production of health care services (so called quasi-markets etc.). The examples are much fewer in the area of social transfers. This, together with the fact that the above mentioned features have existed since the beginning of the scheme in the early 1960s, makes the Finnish pension system interesting also in an international context.

The aim of this paper is to introduce the main features of funding and portfolio management in the Finnish scheme. It is well above the limits of this paper to give a detailed analysis of the pros and cons of the scheme compared to alternative options. But hopefully we are able to convince the reader that a scheme of this kind can be viable and that it has its own merits. For instance, judged by the rate of return on the investments it seems to produce outcomes that are clearly satisfactory. On the other hand, we also refer to the areas that seem to be challenging in this kind of institutional setting. For instance, the best allocation between domestic and foreign assets is once again discussed as well as the desired combination of risks and returns.

The international trend of moving from defined benefit regimes to notional or funded defined contribution regimes is also reflected in the discussion. In addition to choosing the

¹ Diamond (2002) includes discussion on the multiple alternative ways in which funding can be carried out e.g. in DB schemes.

size of the pension system, the regime choice also includes the choice of types of risks that the pension system absorbs and, especially, the choice of the risk-bearer for all types of risks involved. Risks could be borne by the individual, pooled within a generation or pooled intergenerationally. Choosing between or combining these three risk management policies is related to the question, to what extent we want to and are able to bear risks in different phases of life.

We proceed in the following way. In Chapter 2 we shortly present the history of the scheme. There the position of the scheme as a part of general government is also described. In Chapter 3 we give the main features of the determination of benefits and the structure of financing in the pension scheme. Chapter 4 deals with the questions of actual portfolio management and solvency in this decentralised scheme. Investment statistics and the rates of return on the investments are presented there as well. Then we turn to its intergenerational effects in Chapter 5. In that chapter the future projections related to this pension scheme are also presented. Chapter 6 concludes by summing up some current discussions on the future challenges of the Finnish pension scheme.

2 The Pension System in a Political Economy and Macro Context

The first version of a statutory pension scheme was the national pension scheme that came into force in 1937 in Finland. The scheme was a defined-contribution funded scheme based on individual accounts. However, the savings based old-age pension was combined with social assistance type benefits for those who did not have any income and could not pay any contributions. Disability benefits were based on the contributions, but there a flat rate part based on PAYG financing was also included in the total benefit. Contributions into employees' accounts were paid by themselves and by the employers according to a fifty-fifty principle (Niemelä 1994).

After the Second World War an exceptionally rapid structural change was taking place in Finland. It converted the society based on multigenerational families and an agricultural economy into an industrialized economy and a society based on small families. It appeared that the 1937 national pension scheme was a disappointment, because the old-age benefits were low due to short saving and funding periods, and also the disability benefits were low. The inflation rate was high due to the war and its consequences. The rate of return on the savings accounts was negative. The topical problem that had to be tackled in the early 1960s was high poverty risk among the elderly and those suffering from disability when family networks could no longer be efficient enough. In 1956 the national pension scheme was changed into a scheme with pay-as-you-go financing and means-tested benefits. The real value of the savings in the accounts was already low, but the removal of the private wealth into the collective account is still a lesson of political risks in the minds of older Finnish citizens.

The general private-sector pension act (TEL) came into force in 1962 and the pension acts for local government and state employees followed during the same decade.² The former experiences were important motivating factors when the Finnish earnings-related pension schemes were developed. First, it was not politically possible to wait for decades until the first sufficiently high benefits could be paid, which was one of the main lessons of the funded national pension exercise. This fact referred to a PAYG solution. The designers emphasized also that the fundamental purpose of a pension plan is to guarantee a predictable living standard after retirement. This view recommended a defined-benefit scheme, and the only way to give credibility to the new scheme was to make it statutory.

² In Sweden the paradigmatic ATP reform was also implemented only a year earlier, in 1960. In that scheme, as in Finland, the earnings-related pension was considered as postponed salary. A substantial fund was also built up from 1960 (see Eriksen and Palmer 2004).

However, partial pre-funding was also introduced into the scheme right from the beginning in the early 1960s. The reasoning behind this decision was partly based on the aim to alleviate the future cost burden due to the ageing baby-boom generation born after the Second World War. On the other hand, there were other types of motivations as well. The employers' support for the new scheme was increased by creating a possibility for the firms to get the right to borrow back most of the funded part of the contributions. This was considered to be an important opportunity in a country poor in capital after the war and war reparations (see Kontio 2003). The tactical considerations also included the employers' assessment according to which the trade unions were considered to be more willing to defend the new pension scheme when there was money in the funds (Lassila and Valkonen 2002a). The aim to reduce political risks also played a role, and a scheme with private insurance providers and pension funds was seen as a tool to bring stability and predictability into the scheme.

The loans based on back-lended contributions are called TEL premium loans. These loans were included as assets in the books of insurance companies and as liabilities in the books of the employer. Thus the employer's liability was made explicit, instead of just implicit guarantees to finance the funded part of the pension benefit. Until the late 1980s the financial market was highly regulated compared to the present market conditions, and an overdemand for loans prevailed at the regulated interest rates. In these circumstances the premium lending system was regarded as a tool for supporting employment in the economy. High employment rates were regarded as favourable also for the financing of the pension scheme, although during certain periods the regulated interest on the premium loans was not even as high as the inflation rate. Finally, when the financial market was liberalised in the late 1980s, criticism was raised against the premium loans and the inefficiency embedded in the scheme. One source of inefficiency was the regulated interest rates, and another source was the fact that the right to borrow was based on the volume of liabilities accrued by the work force of the firm. This rule was working in favour of the established firms against the potential emerging undertakings.

The type of governance of the scheme is among the main characteristics that have existed since the creation of the scheme in the early 1960s. The scheme initiated a period of labour market-driven development of social policy in Finland. The scheme itself is an outcome of negotiations between trade unions and employers' organisations in the late 1950s and early 1960s. Even nowadays pension provision has remained an area with special interest for the labour market organisations: pension provision is based on law, but the main principles and also the pension reforms are mostly agreed on in negotiations between the labour market organisations. Accordingly, in the current situation the social partners can be considered as 'veto players' in pension reforms (see also Lassila 2004).

Those who designed the scheme over forty years ago made a very important and also innovative decision right at the beginning: the administration of the scheme was given to private insurance providers. This feature is still the basis for the actual management of the scheme: the administration is decentralised among several private pension providers. This basic choice can be contrasted e.g. with the choice made by two other Nordic countries, Sweden and Norway, where statutory pension provision is handled together with national pensions in the same regional insurance funds governed by public law. In Finland private insurance providers collect the contributions, pay the pensions and invest the retained funds. In this kind of decentralized institutional setting a liaison body is needed, and that body (The Finnish Centre for Pensions) was also established when the pension scheme was created.³ Labour market organisations are represented in the decision-making bodies of the pension companies and The Finnish Centre for Pensions.

The aim to alleviate the future cost burden due to the ageing baby-boom generation born after the Second World War was a major motivating factor to introduce partial pre-funding into the pension scheme at the beginning of the 1960s. However, the demographic challenges became even more challenging, when the birth rate dropped in the 1970s and life expectancy continued to increase rapidly. These demographic phenomena are reflected in the fact that, compared to the other EU(15) countries, the increase of the old-age dependency ratio in Finland is the most rapid until approximately the year 2025, and the slowest thereafter among the EU(15) countries. Pressures for pension reforms were also increased by the severe depression in the early 1990s. The deterioration in employment rates was unprecedentedly rapid. Correspondingly, the unemployment rate skyrocketed by 13 percentage points in four years, from 3.2% in 1990 to 16.6% in 1994. The level of unemployment was left permanently at a higher level than it was prior to the depression.

Accordingly, the pension reforms to keep the costs in check started relatively early in Finland compared to many other European countries. Major reforms aiming at cost control were introduced already at the beginning of the 1990s. The major pension reform in 2005 is a continuation of the same strategy. This pension reform is shortly described and evaluated e.g. in Börsch-Supan (2004).

The overall effect of this change in pension policy is noticeable, when measured by the effects on future pension costs in the economy. It is estimated that the measures taken in the pension reforms of the 1990s and the 2005 reform will reduce pension expenditure in relation to GDP by 5 percentage points by 2030. The pension reform in 2005 will itself

³ The Finnish Centre for Pensions handles responsibilities that are useful to handle centrally. One important task is to divide the pension costs between the pension providers. The pension provider which insured the employee's last employment contract calculates the total amount of pension accrued from all the employment contracts. It then handles the actual payment of the pension. The costs are levied also to other pension providers through the cost clearing carried out by the Finnish Centre for Pensions.

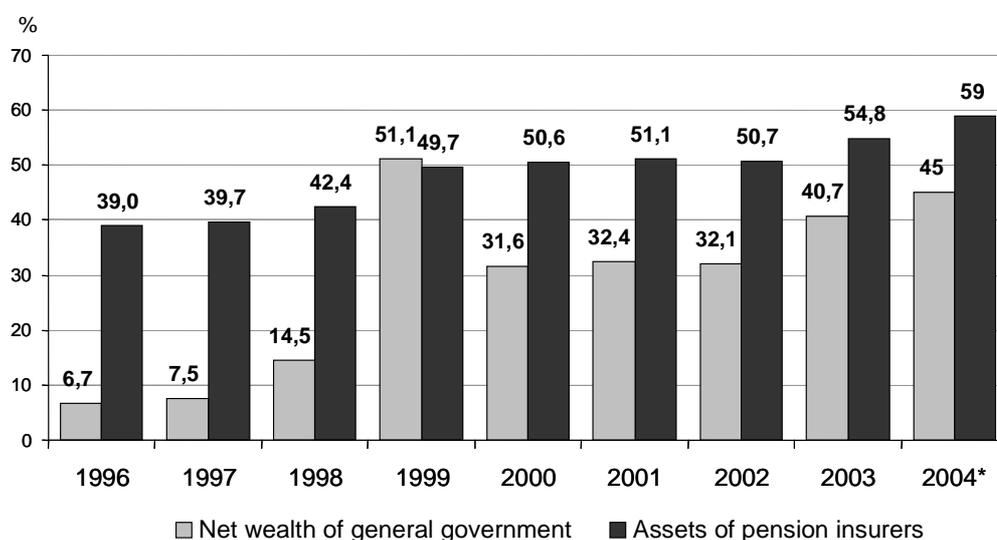
halve the required increase in contribution rate expected by 2050 in private sector schemes (Biström & al. 2003). One can conclude that the effects of the reform are noticeable. On the other hand, they can be classified as marginal reforms rather than radical reforms in the sense that the main building blocks of the scheme have not been affected. The principles for funding, for instance, have been largely preserved while the pension reform in 2005 introduced somewhat more pre-funding. It has also been argued that the latest reform takes the scheme closer to a NDC scheme (Börsch-Supan 2004). After the reform, benefits are more consistently linked to life-time earnings and the reform introduces a life expectancy coefficient that adjusts pension levels to increases in life expectancy.

The decision made by the Commission of the European Union defined the statutory earnings-related pension scheme as a part of the public sector in Finland in 1997 following the similar change of definition made by the OECD in the early 1990s. Prior to that decision the pension scheme was considered to be part of the private financial market sector and not of the general government. As the scheme is currently included in the general government in national accounts, it plays an important role also in the context of public-sector finances.

Due to the assets and surplus of the statutory earnings-related pension scheme, Finland has an exceptionally strong fiscal stance among the EU(15) countries. In contrast to the majority of the other EU(15) countries, the general government runs a surplus and the strong position is shown also in public net financial assets (Figure 1). The State of Finland holds a remarkable portfolio of quoted stocks which come in addition to the assets owned by the pension insurers, and the consolidated gross debt of 45 GDP percentage points held by the general government does not describe properly the true financial position of the public economy. With current funding principles, the annual financial surplus in the earnings-related pension sector will remain between 3.5 and 2.5 per cent by 2030. This clearly helps to keep general government finances at a surplus.

Making cross-country comparisons of pension expenditure and pension contributions is not typically that straightforward. Making simple classifications of the pensions schemes can be misleading. In many cases it would be desirable to analyse both Pillar I and Pillar II pensions jointly and not to restrict the analysis only to one or the other. Furthermore, in order to get a whole picture one should simultaneously look at the future paths in pension expenditure, assets of the pension system and the pension contributions. Unfortunately, in many cases the lack of data prevents that kind of broader analysis.⁴

⁴ Bach et al. (2003) is an example of a comparative study that considers not only the costs of the statutory schemes but also the costs of the occupational schemes as well.

Figure 1. Market value of public financial wealth in Finland in 1996–2004*, % of GDP.

* Estimate, made by TELA.

Source: Financial Statistics, Statistics Finland.

According to the OECD (2004a), the position of Finland may appear even too positive when the analysis is restricted only to public-sector finances. E.g. in Denmark and the Netherlands there are mandatory occupational schemes (recorded in the private sector) with strong net asset positions. The OECD points out that neglecting these schemes from the comparisons gives us a biased view on the sustainability of pension financing in different countries.

On the other hand, one could also argue that the current practices of measuring the costs of the pension schemes are not adequate. For instance, in Finland a major share of pension provision consists of statutory provision and this is naturally also reflected in relatively high pension contributions. This in turn is reflected in the size of the overall tax rate which is clearly above the EU average. The countries with quite similar levels of pension contributions, but the schemes classified outside the public sector, seem to have lower costs. The disincentive effects of these schemes are likely to be of the same magnitude, however.

3 The pension system

3.1 Some general features⁵

Finnish pension provision consists of the employment-based earnings-related pension and the residence-based national pension, which provides a minimum income guarantee. Since 1996 the national pension has been totally earnings-tested with regard to earnings-related pension benefits. Currently the national pension is of minor importance for most retired people.

The employment-based earnings-related pension and the national pension make up first-pillar pension provision. Compared to second-pillar and third-pillar pension provision the first pillar is very strong in Finland. In other words, second-pillar employer-specific pension provision or provision based on labour market agreements and third-pillar pension provision based on private insurance are relatively rare. In this paper we mainly concentrate on the earnings-related pension, which clearly is the main element of the pension system.⁶

The strong role of the earnings-related pension is related to some basic characteristics of the system. Firstly, almost all gainful employment is covered for earnings-related pension benefits and the target level for the pensions has been relatively high⁷. This target level has been 60 per cent of the recipient's prior earnings. That target level is high enough to enable pensioners to a large extent to maintain the same standard of living as prior to retirement. Furthermore, the earnings-related pension scheme has no upper limit for the pension. This feature has also diminished the need to use second and third-pillar schemes to supplement one's income when retired.

Originally the earnings-related pension acts covered only old-age and disability pensions. In later decades new early retirement schemes were created. The unemployment pension was introduced already at the beginning of the 1970s. The 1980s became the "golden era" of early exit policies, since several early exit routes were then added to the scheme: the part-time pension in 1987 and the individual early retirement pension and the early old-age pension in 1986 in the private sector and somewhat later in the public sector. In the 1980s these early retirement schemes were seen to have positive effects, when the

⁵ In this description the pension reform in 2005 is taken into account.

⁶ The national pension scheme guarantees a minimum pension if the person's own earnings-based pensions are small. Its benefits and the financing system are described e.g. in the publication *The Finnish Pension System*, Hietaniemi, Marjukka & Vidlund, Mika (eds.). This publication can be found on the Internet, address: http://www.etk.fi/Dynagen_attachments/Att17208/17208.pdf

⁷ The target level of the system has actually been increased. Originally the target level was 40 per cent and that level could be achieved by having a working career of 40 years and the accrual rate of 1 % per year. In 1975 the accrual rate was increased to 1.5 % and the target level rose to 60 %.

labour market needed restructuring and a large amount of young work force with relatively good educational qualifications was available.

But reliance on these early exit policies had its costs. The popularity of these schemes, together with longer life expectancy and an ageing population, implied long pension spells and heavy burdens for public-sector finances. The golden era of early retirement policies was actually quite short. From the beginning of the 1990s the Finnish pension system has witnessed a chain of successive reforms that have aimed to increase the effective age of retirement and to keep total pension costs in check. In recent pension reforms the age limits for the early retirement schemes have been raised, some schemes are totally being abolished and also the incentives have been modified so that the schemes have become less tempting both for the employees and the employers.

3.2 The benefits

The statutory earnings-related pension scheme covers risks related to old age, disability and death of the family provider.⁸ The scheme covers the entire working population and there are no health or other restrictions in order to be covered by the scheme. The wide coverage and the relatively high replacement rates make it understandable that the scheme indeed is the major element in the Finnish social security system. Currently statutory earnings-related pensions constitute just under half of all income transfers.

This scheme actually consists of several different pension acts. A majority of the private-sector work force is covered by the act called TEL. Separate schemes exist for the self-employed, seamen, farmers, and those with short-term employment. There are also separate acts for the state, local government and church pensions. While the legislation related to the determination of the pensions are more or less the same in these different acts, there is somewhat more variation in the way the pensions are financed. We will concentrate here on TEL, which is clearly the most important pension act.

The responsibilities of the scheme are changing in two ways that have opposite effects. Firstly, the responsibilities are diminishing because the unemployment pension will be abolished. Accordingly, the risk of long-term unemployment among ageing workers will not be covered by the pension scheme but by unemployment insurance. On the other hand, the pension scheme is given new obligations. It will be increasingly responsible for early rehabilitation and maintaining work capacity. From the beginning of 2004 insured persons

⁸ The survivors' pension is not discussed here. Its benefits are described e.g. in the publication *The Finnish Pension System*, Hietaniemi, Marjukka & Vidlund, Mika (eds.).

have a statutory right to vocational rehabilitation when illness, handicap or injury poses a threat to work capacity within the next five years.

The earnings-related pension is of a defined-benefit nature and it consists of all the pension rights an individual has accrued, including self-employment. Benefits from the earnings-related pension scheme are based on annual earnings and the accrual rate.⁹ At the end of the working career, the pension rights accrued are indexed to the current date and summed up. Pension rights accrue at a rate of 1.5 per cent a year after the person has reached the age of 18. After having reached the age of 53 the accrual rate is higher, 1.9%. From age 63 onwards, the accrual rate increases to 4.5% (until age 68).

The old scheme had a standard old-age retirement age of 65. The 2005 pension reform introduced a flexible old-age retirement age between the ages of 63 and 68 years. The accrued old-age pension is paid at the age of 63 without reduction. Early retirement will be possible at the age of 62 with an actuarial reduction. In case retirement is postponed past the age of 68, an actuarial increment is granted.

The effective retirement age is currently about 59, which indicates that there are other ways to stop working and collect a pension before age 65. Pension policy has aimed to reduce early retirement, but there are still four types of early exit arrangements (Gould and Saurama 2003). These are the voluntary early retirement path (mainly early old-age pension), the disability path (disability pension and individual early retirement pension), the unemployment path (unemployment pension) and the gradual retirement path (mainly part-time pension). The unemployment pension and the individual early retirement pension are being abolished as a part of the pension reform.

The early retirement schemes are widely used. The sharp increase in unemployment rates in the early 1990s was reflected in the use of the various early retirement schemes during the rest of the decade. Since the beginning of the 1990s the disability pathway has narrowed, whereas the unemployment pathway has widened. In recent years the popularity of gradual retirement has increased.

3.3 Funding rules

The earnings-related pension scheme is financed by employer contributions and currently (since 1993) also by employee contributions. The contributions are used both to pay for current pensions and to fund future pension payments. Thus, the scheme is partly financed

⁹ From 2010 onwards benefits will be indexed by life-expectancy: the life expectancy coefficient adjusts the benefits level so that the present value of benefits does not increase when the life expectancy is increasing (see Lindell 2004).

on a pay-as-you-go basis and partly funded.¹⁰ In aggregate, about three quarters of all current benefits are financed on the basis of PAYG. In the private sector scheme the contribution components that are to be funded are determined on the basis of actuarial principles laid down by law.¹¹

Table 1 gives some indicative summary measures for the funding rates in the Finnish pension scheme. Funding rates have been calculated first by summing up all the present discounted values of current pensions in payment and accrued pension rights up until now. The total value of the assets of the pension sector in question is then divided by this aggregate of accrued rights. In the private sector the funding rate is approximately 27%. In the public sector the funding rate is somewhat lower.

Table 1. Present value of accrued pension rights, and pension assets (EUR billion) and the funding rate in 2000.

	Private sector	Public sector	Total
Present value of pension rights	210	107	316
Pension assets	57	16	72
Funding rate	27%	15%	23%

Source: Biström et al. (2003).

In this defined-benefit scheme the yield of the funds has no effect on the amount of the pensions at the level of an individual. When she or he starts to receive a pension, the funds are used to pay that part of the pension benefit which was pre-funded. The rest is financed by the “pooled component” in the contribution rate (PAYG part).

Future contribution rates are clearly affected by funding. The pressures to raise pension contributions remain essentially smaller than they would without funding. Recent calculations indicate that while the expected rise in pension expenditure (in relation to the wage sum) is a generous 10 percentage points in three decades in the private sector scheme, the expected rise in pension contribution is clearly less, about 5 percentage points (Biström et al. 2003).¹² The motivations for funding are also related to experience-rating in the disability and unemployment pension schemes. There the idea has been to link the cost burden to the source where the cost was incurred.

The private sector employer can choose with which pension provider earnings-related pension insurance is arranged for the employees. Insurance can be taken out with one of the current six pension insurance companies, or a company pension fund or an industry-wide

¹⁰ In the private-sector employees’ pension schemes, funding began already in the 1960s. Funding of local government pensions began at the end of the 1980s and funding of state pensions in the 1990s.

¹¹ For a more detailed description see Lindell (2003).

¹² These figures refer to the pensions for private-sector employees.

pension fund. Insurance companies manage most private-sector pensions, but firms with more than 300 employees may set up special pension funds. About 85 per cent of individuals are in plans managed by pension insurance companies. Insurance companies handling earnings-related pension insurance cannot handle any other type of insurance.

Employers are obliged to make pension arrangements for all employees aged 18–67. The earnings-related pension contribution is determined and levied per insured. Contributions are collected from both employers (16.8% of wages in the private sector in 2004, average level) and employees (4.6%). The employee contribution was introduced in 1993, and before that the contribution was financed by employers only. Future changes have been agreed to be shared equally between employers and employees.

The employee contribution is the same for each employee, but the employer contribution varies. Small firms with fewer than 50 employees pay a fixed rate (currently 16.8 per cent of payroll), however. For large employers (with more than 50 employees) the contribution varies depending on the age of the employee and the costs of disability and unemployment pensions granted to their employees.

The main part of the contribution is used to pay PAYG costs of the unfunded pension benefits. Partial funding is applied to old-age pensions, disability pensions and the unemployment pension. Accordingly, the contribution is divided into two main components: the funded component and the pooled component. All pension components that have not been directly designated to be financed by a certain pension provider are financed by the pooled component.

Table 2. *Components of the pension contributions in the private sector scheme on average (2004), per cent.*

Funded old-age pension component	2.9%
Funded disability pension component	1.3%
Funded unemployment pension comp.	0.8%
Pooled component	15.5%
Administrative costs	1.1%
Refunds	-0.2%
Contribution, total	21.4%

The funding rules concerning the old-age pension are the following. Benefits accrued before age 54 are partially funded. Individuals accrue pensions rights during those years at 1.5 per cent per year, of which 0.5 per cent is funded (with a 3 per cent discount rate on liabilities). The corresponding (funded) component of the contribution is calculated on the basis of this funded pension accrual using actuarial principles.

Funding also applies to disability pensions. The disability pensions are not funded until the year of onset of the disability. The amount transferred to the fund is the amount that is

needed to cover the funded part of the new disability pension. The calculation is based on information on the discount rate (3%), the probability of recovery from the illness, mortality and the age of termination of the disability pension, which is 63 years after the 2005 reform. The last pension provider is responsible for this disability funding. If the insured employee was last employed by a large firm, the final payer is the firm in question. For firms with 51–799 employees partial experience-rating is applied. Small firms participate in the financing of disability pensions solely by paying a flat-rate contribution. From 2006 the experience-rating part of the disability pension funding will be based on tariff classes, and not on the net present values of the disability benefits as such.

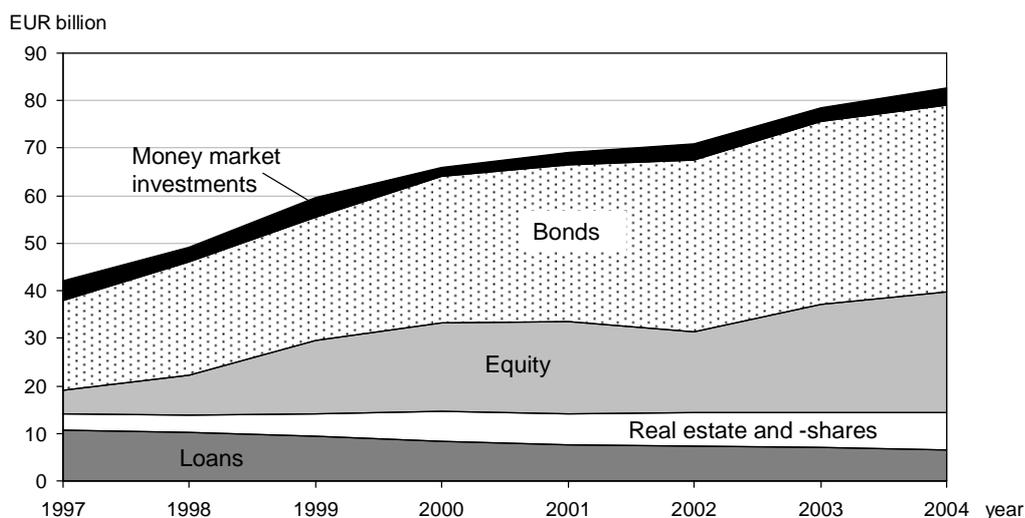
The employers' contribution rates are higher in the public sector scheme than in the private sector scheme. Funding was introduced in 1988 in the local civil servants' scheme and in 1990 in the state's civil servants' scheme. The contribution rate was set such that it can be kept constant in the future. In the first decades until approximately the year 2020, the funds will be accumulated. After 2020 the funds are expected to decline in relation to the corresponding wage-sum. The plan of fund accumulation-decline pattern is based on the fact that the baby-boomers are overrepresented in the public sector work force. The partial funding in the public sector scheme is thus not based on explicit funded parts of the accrued pension rights as in the private sector, but the funds are simply buffers against ageing.

4 Portfolio management, investment statistics and solvency

4.1 Portfolio management and investment statistics

The total market value of the assets of public-sector and private-sector pension schemes was approximately €85bn or 58 per cent of GDP at the end of September 2004 (www.tela.fi) (Figure 2). There were 55 private-sector and 5 public-sector statutory pension insurance providers. Private-sector insurers run a total portfolio of €62bn, and the rest €23bn is run by public-sector funds. The value of the three biggest portfolios was approximately €55bn.

Figure 2. Investment portfolio of the Finnish statutory earnings-related pension insurance providers 1997–2004.



Source: The Finnish Pension Alliance.

The risk of the total portfolio is rather low (Table 3). The share of bonds is almost 50 per cent and the share of stocks is approximately only 31 per cent. However, a change has taken place since 1997, when the share of stocks was 12 per cent.

Table 3. Average portfolio of a statutory earnings-related pension insurance provider in September 2004.

Assets	Per cent of total portfolio
Equity	31.4
domestic	8.9
foreign	22.5
Real estate	9.0
domestic	8.9
foreign	0.1
Bonds	48.2
domestic	6.3
foreign	41.9
Other fixed income instruments than bonds	11.4
domestic	10.2
foreign	1.2
Total	100
domestic	34.4
foreign	65.6

Source: The Finnish Pension Alliance.

The share of foreign investments has grown rapidly since the early 1990s, when there were not almost any foreign investments. Foreign investments started to increase after funding was introduced into the scheme for local civil servants. The increase was enforced after the investment and solvency rules for the private sector were changed in the beginning of 1997. The share of foreign investments was already 41 per cent of the total portfolio in the end of 2000. In September 2004 the share was 66 per cent (Table 3).

Pension providers run their portfolios and choose the allocation independently of each other, taking into account the structure of their liabilities, the solvency rules and the solvency position (see below) as well as target allocation and the respective return requirement set by their board. They, for example, formulate the criteria and policy with respect to socially responsible investments. Public sector pension providers have more freedom in choosing the allocation, because solvency rules are not applied to them.

The portfolios, especially foreign investments, are partly managed by asset managers who are chosen after a competition. Assets are partly invested in various types of funds, including hedge funds and funds of funds. The average annual administration cost of the portfolios is approximately 0.1 per cent of the value of assets.

The average investment performance from the beginning of 1998 until 2003 is presented in Table 4. The average annual rate of return has been 5.6 per cent, which is 3.8 per cent in real terms. The long-run expectation of a 3.5 per cent real rate of return has been met during the period under consideration. During the boom years 1998 and 1999 the rates of return were double-digit. The worst year was 2002, when the rate was -1.0 per cent.

Table 4. *The average annual rates of return on the investments of the pension institutions 1998 -2003.*

Assets	Rate of return
Equity	5.0
Real estate investments	6.5
Fixed income (bonds, loans and money market investments)	5.8
Total (nominal)	5.6
Total (real)	3.8

Source: The Finnish Pension Alliance.

The rates of return are calculated on the so-called money-weighted basis (MWR) for a particular calendar year as well as the average over the years. Because the contributions are now higher than the benefits paid, the funds are cumulated at a rate higher than just the returns. In these circumstances the MWR calculation means that later periods get higher weights than earlier periods when averaging the rates of return.

In the private sector the asset side of a pension provider corresponds to an actuarially well-defined liabilities side. The liabilities consist of the net present value of the funded future pension benefits as well as several buffers, including the solvency capital, which is a buffer against investment risks. Also a buffer for high-disability-risk years as well as a short-term buffer for variation in the PAYG part (liquidity) exist. Every one of the buffers has a minimum level requirement derived from the rules confirmed by the Ministry of Social Affairs and Health.

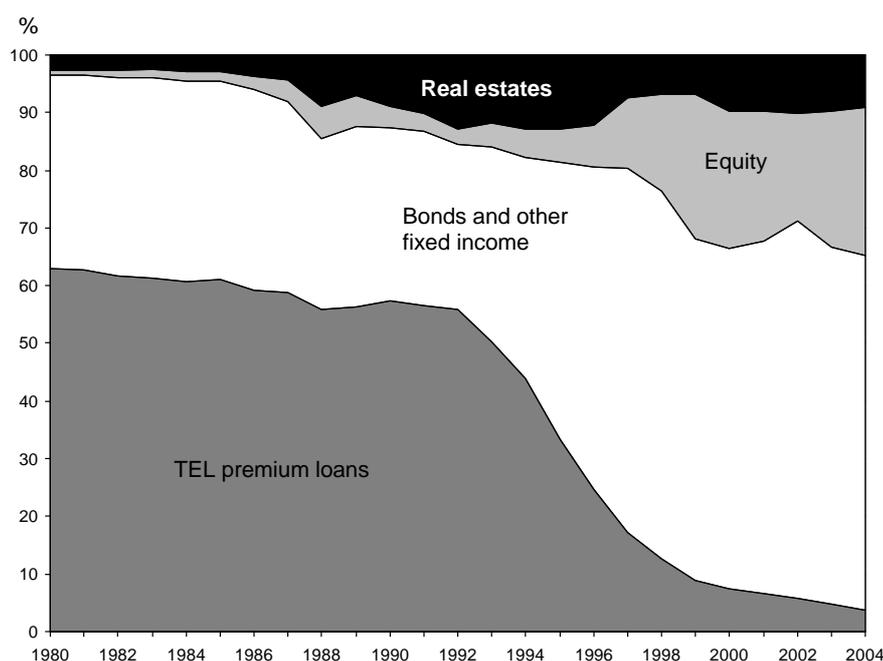
The private-sector pension insurance market is competitive in the sense that the short-term contribution rate of the client of a pension insurer depends on the investment performance of the insurer. The investment performance is reflected in the bonuses (refunds of the contributions) that are granted to the clients of mutual pension insurance companies. The opportunities of a pension insurance company to deliver bonuses is limited by its solvency margin requirement. The company funds grant the bonuses by lowering the contribution. In case of bad investment performance higher-than-average contributions have to be collected from the employer in order to make the company fund fulfill its solvency requirement.

In the private-sector schemes the liabilities (net present value of accrued funded pension rights) are adjusted according to a technical rate of interest confirmed semi-annually by the Ministry of Social Affairs and Health. The rate is common to all insurers, and it is accepted after hearing the contributors of the schemes, i.e. employers' associations and trade unions. The minimum adjustment rate is 3 per cent annually.

The private-sector insurance providers are monitored by the Insurance Supervisory Authority. The solvency capital rules were modernized at the beginning of 1997. The

central idea was to manage the risk at the portfolio level, and not at the asset level any more. The time before the amendment can be divided into two periods characterized by different strategies in asset allocation; from the very beginning, from 1962 until 1990, the assets were mainly TEL premium loans, and in the early 1990s there was a change in favour of Finnish government bonds (Figure 3).

Figure 3. Asset allocation of the pension insurance companies in 1980–2004/Q3 in Finland.



Note: Book values until 1996, mixed 1997–1998, market values from 1999.
Source: The Finnish Pension Alliance.

4.2 Solvency

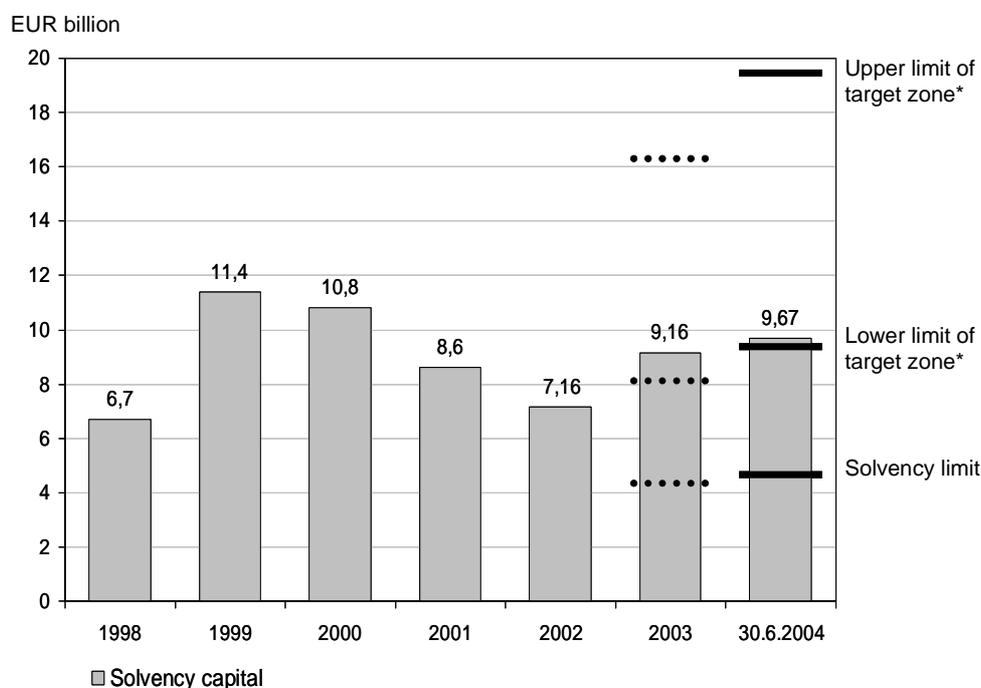
The solvency capital (buffer against investment risks) requirement is based on the volume of liabilities and the riskiness of the asset portfolio of the insurer. The riskiness of the portfolio defines the required minimum ratio between the market value of assets and the liabilities. The starting point is that the probability of bankruptcy during a year is 2.5 per cent when the ratio is at the minimum requirement level.

The assets are classified into 7 risk categories and a solvency capital requirement coefficient is set by the Ministry in every category. When setting the solvency capital requirement for a certain asset category, also the covariances between asset classes are taken into account. Higher coefficients and requirements are set for high-risk assets (Hilli et

al. 2003). Thus, a pension insurer is able to lower its solvency requirement by selling high-risk and buying low-risk assets. The solvency capital itself remains the same, because selling and buying does not have any effect on the pension liabilities or buffers.

A target zone is also defined for the solvency capital. The lower limit of the zone is the minimum requirement doubled. The higher limit is four times the minimum requirement. If the solvency capital is above the target zone, the insurer has to deliver more bonuses or take more risk so that the solvency requirement is increased. If the solvency capital is below the target zone, but not below the minimum requirement, the insurers' opportunities to deliver bonuses are limited. The average solvency position in recent years is presented in Figure 4.

Figure 4. Solvency of pension insurance companies, company pension funds and industry-wide pension foundations in 1998–2003 (31 Dec) and 2004 (30 June).



* Lower limit is double and upper limit four times solvency limit. Below lower limit rebates are limited and over upper limit surplus has to be distributed.

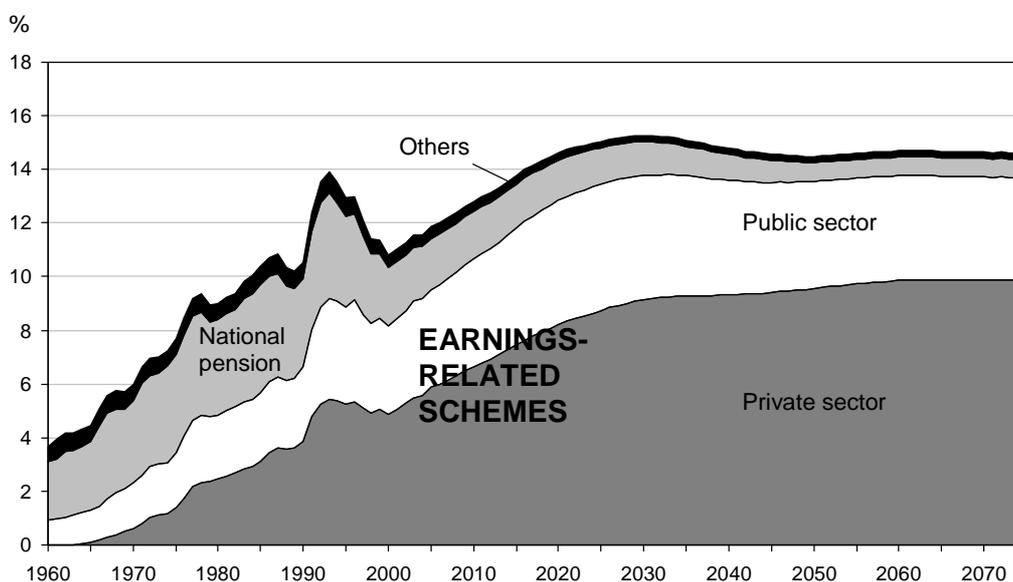
Despite their competition the private-sector pension providers are jointly liable for the funded part of the accrued pension rights. From this point of view, the solvency rules help to avoid moral hazard. The accrued pension rights, in the sense of their purchasing power, are regarded as private property according to the interpretation of the Finnish Constitution expressed by Parliament. In the private sector the pension insurer is in the first place liable for the funded part, but in case of bankruptcy the beneficiary is not losing his or her present or future pension, or part of it.

Funding in the public-sector schemes was not started until 1988 (local government) and 1990 (state). Public-sector pension providers do not have any explicit liability calculations or solvency constraints. This is due to the fact that the public-sector employees' pension schemes lack explicit pension liability requirements. The public-sector pension assets are thus a pure buffer fund against unfavourable demography or unfavourable employment development in the public sector. The public-sector funds are allowed to take more risk, and the portfolio management is governed by prudent person type regulation. This difference is also the reason for a higher expected rate of return in the public-sector schemes than in the private-sector schemes.

5 Future projections and intergenerational effects

The GDP share of total pension expenditure of the statutory schemes is projected to increase by 4 percentage points in the long run (Figure 5). The GDP share of the earnings-related pension expenditure is expected to grow by over 5 percentage points and the share of the national pension expenditure is expected to decrease by more than one percentage point. Without the 2005 reform, the estimate for the growth of the total expenditure would be 5 percentage points.

Figure 5. Statutory pension expenditure as percentage of GDP in 1960–2075.



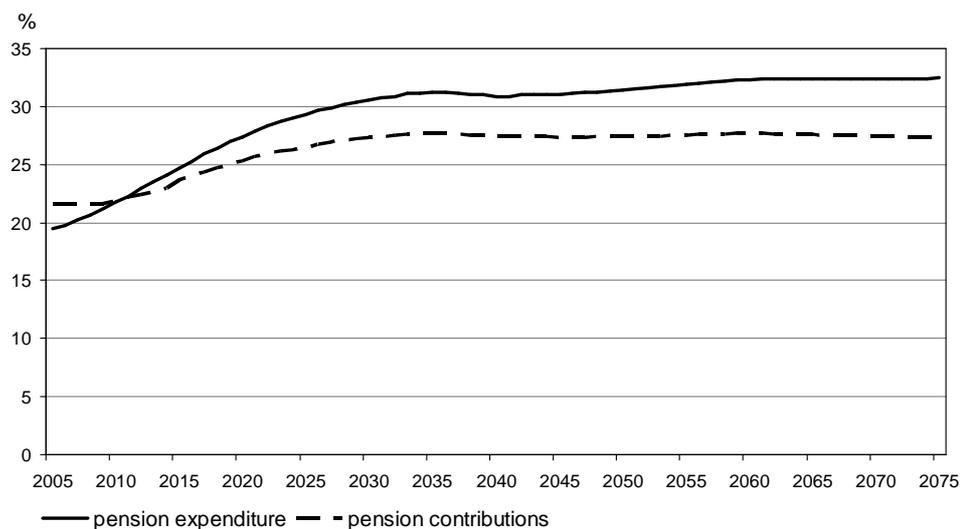
Sources: The Finnish Centre for Pensions and the Finnish Pension Alliance.

According to the baseline calculations of the Commission for evaluation of the development of social expenditure, the social expenditure effects of other items than pensions cancel each other out, and thus the increase of pension expenditure is equal to the increase of total social expenditure (SOMERA Commission 2002). The estimates are mechanical projections based on the same demographic and macroeconomic assumptions as the calculations presented in the joint report of the EU Commission and Council (2003). The estimates of an OLG general equilibrium model are very similar (Lassila & Valkonen 2002b).

The present public net wealth and surplus help to smooth the intergenerational effects of the demographic transition in terms of future contribution rates compared to expenditure rates. An example of this is the comparison of expenditures and contributions in the

private-sector pension scheme (Figure 6). The funding rules lead to a more even development of contributions in comparison with the hypothetical situation in a pure pay-as-you-go system.

Figure 6. Projected pension expenditures and contribution rates 2005–2075 (in relation to wage sum, private sector employees).

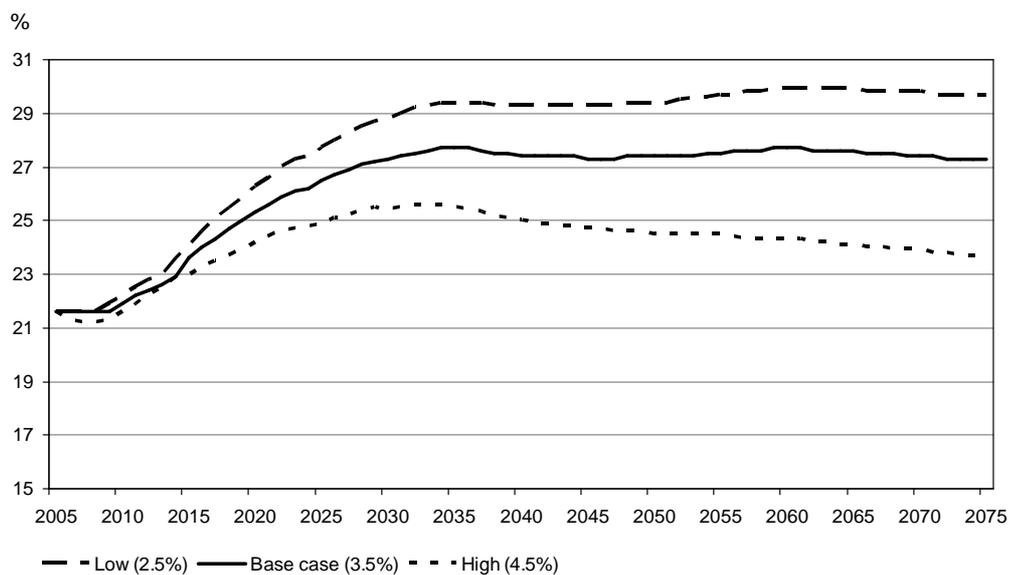


Source: Biström, Klaavo, Risku & Sihvonen (2004).

However, Lassila and Valkonen (1999) have shown in an OLG model simulation that the pension scheme is not fully fair in terms of intergenerational rate of return comparisons. This is the case, although a large reform in 1996 favoured future generations (Palm 1996), and the recent simulations show that also the welfare effects of the 2005 reform favour future generations slightly (Lassila 2004). We should also keep in mind that e.g. the enlargement of the public education system was introduced during the same decades as the pension scheme, and it is probable that this enlargement favoured the present middle-aged and young generations, which suffer a slight welfare loss in the reform.

In a partly pre-funded defined-benefit scheme the rate of return on the investments is reflected in the contribution rate and not in the benefit level. Under the prevailing funding rules, the contribution rate effect of one additional percentage point in the average real rate of return on the pension assets is over 3 percentage points in the private-sector schemes in the long term (Figure 7). The baseline assumption or expectation for the average annual long-term real rate of return is 3.5 per cent in the private-sector funds and 4 per cent in the public-sector funds. One reason for the difference is explained in Chapter 4.

Figure 7. The contribution rate by the projected annual real rate of return of the funds.



Source: Biström, Klaavo, Risku & Sihvonen (2004).

6 Future challenges

The earnings-related pension scheme is now over forty years old and enough time has passed in order to draw conclusions about whether the drive to build a stable pension model has been successful. The answer is positive in many respects. Basically the scheme operates in a similar fashion to what was designed at the beginning of the 1960s: private insurance providers are in charge of the actual management of the scheme, pension funds play an important role (currently the funds amount to 58% in relation to GDP), labour market organisations are actively involved in its administration and they have also been able to make necessary reforms to the scheme during this forty-year period. It has clearly become the dominating pension scheme and the social targets that have been set are achieved fairly well. Even if the target level for the replacement rate (60% of the final salary) is not typically reached, it seldom drops under 50%.

The future challenges of the scheme are connected at least to the sustainability in the coming era of population ageing. In Finland population ageing is amongst the most rapid in the OECD. This demographic fact is one motivating factor for a wide-reaching pension reform that has recently been legislated in Finland. This latest reform introduces e.g. a new technique (so called life expectancy coefficient) to bolster the sustainability of the pension scheme against demographic uncertainties. On the other hand, some parts of the latest reform more or less add to the measures that were taken already in the 1990s in order to curtail early retirement schemes.

However, there does not seem to be a consensus view about the sufficiency of the latest pension reforms. Some critics say that the reforms head in the right direction but they should have been more profound. For example the reports by the OECD have stated that more needs to be done in order to further reduce early retirement (OECD 2003 and OECD 2004a & 2004b).

Börsch-Supan (2004) argues that the reform is an important step in the right direction: higher labour force participation of ageing workers will alleviate the burden of population ageing. However, according to him, the reform is an interim step because of the high level of contributions. The positive feature is that the scheme becomes internally more consistent. A tighter link between contributions and benefits reduces the deadweight loss of public pension contributions. When the contributions are considered less as pure taxes, the harmful disincentive effects of high contributions are also reduced. Börsch-Supan suggests more funding, but this should not take place within the public pension scheme. His conclusion is at least partly based on one of his critical assumptions: Finnish workers do not distinguish between the PAYG and funded part of the scheme.

Clearly, for most people it is very difficult to understand the rules of pension financing. This is especially challenging in a scheme where the scheme relies both on PAYG and pre-funding. The challenges are likely to be even greater when the funds are managed by numerous private pension providers and not by a central fund controlled by the government. However, without understanding the details of the scheme, people may still have confidence in the sustainability and fairness of the scheme. It is a question of how people perceive and appreciate the financing principles of the scheme. It may be the case that people actually see the link between contributions and future benefits more clearly than is often assumed by economists. It is actually natural to assume that pre-funding also within the statutory first-pillar scheme increases this transparency.

The transparency is also linked to the institutional labour market setting in each country so that more centralized decision making in the labour market increases it. Wage agreements made between the central labour market organisations increase the likelihood that pension contributions are seen less as taxes and more from an insurance perspective. This argument is based on the idea that the wage-setters are likely to internalise the link between the contributions and benefits especially in a centralized wage setting. This is likely to lead to wage moderation and less distorting employment effects.¹³

It is admittedly difficult to measure how increases in pension contributions are perceived. A natural assumption for an economist is that (an unknown) share of the contribution is perceived as insurance policy and the rest is perceived as taxes. Changes in the age structure of the population, especially population ageing, may increase this latter part. Also successive reforms might have a similar effect. This can happen if people start to feel that the promises given by the pension scheme are unreliable due to an “endless” chain of reforms.

One future challenge might also be the position of this type of institutional arrangement in the context of EU legislation. Reforming the EU Constitution has given rise to a debate dealing with the position of the Finnish earnings-related pension scheme. Seen from the Finnish perspective it seems very natural that this type of first-pillar scheme does not fall within the scope of application of the Life Insurance Directives even though the scheme is administered by private insurance providers.¹⁴ These Directives are made for fully funded insurance based on free choice of risk and free pricing. The financing of the Finnish earnings-related pension scheme is instead mainly based on a PAYG system of joint liability.

¹³ There is also some empirical evidence indicating that the effect of taxes on labour market outcomes varies in different wage negotiation systems (see e.g. Daveri & Tabellini 2000).

¹⁴ When Finland joined the EU, in the Treaty of Accession a statement was attached to the Life Insurance Directives that these do not apply to the Finnish earnings-related pension scheme. Foreign competition is currently allowed so that foreign companies may offer earnings-related pension insurance by establishing a company in Finland. They would then operate under Finnish legislation.

If the rules on free competition had to be applied to the scheme, very profound changes would be likely to happen in the functioning of the scheme. In circumstances of free cross-border foreign competition it would be very hard to maintain the very basic elements of the scheme, such as the level of contributions set by the government and the joint liability for the rest of the insurance providers in case of one of them going bankrupt.

References

- Alho, Juha** (2003), Predictive Distribution of Adjustment for Life Expectancy Change, Finnish Centre for Pensions Working Papers 3.
- Bach, Jarna & Laitinen-Kuikka, Sini & Vidlund, Mika** (2003), Pension contribution level in certain EU countries, Finnish Centre for Pensions Intergroup Reviews 7/2003.
- Biström, Peter & Klaavo, Tapio & Risku, Ismo & Sihvonen, Hannu** (2004), Eläkemenot, -maksut ja -rahastot vuoteen 2075 (Pension expenditure, pension contributions and funds until 2075), Finnish Centre for Pensions Reports 36.
- Biström, Peter & Klaavo, Tapio & Laesvuori, Arto & Risku, Ismo** (2003), Prospects of the statutory earnings-related pension scheme, in Hietaniemi, Marjukka & Vidlund, Mika (eds.), *The Finnish Pension System*, Finnish Centre for Pensions.
- Börsch-Supan, Axel** (2004), The 2005 Pension Reform in Finland, Finnish Centre for Pensions Working Papers 12.
- Commission for the evaluation of the development of social expenditure (The SOMERA Commission) (2002), Report of the SOMERA Commission, Ministry of Social Affairs and Health.
- Daverini, Francesco & Tabellini, Guido** (2000), Unemployment, Growth and Taxation in Industrial Countries, *Economic Policy* 30.
- Diamond, Peter** (2002), *Social Security Reform*, Oxford University Press.
- Eriksen, Tor & Palmer, Edward** (2004), Swedish Pension Reform: Comments and Reflections, in Overbye, Einar & Kemp, Peter A. (2004), *Pensions: Challenges and Reforms*, International Studies on Social Security, Ashgate.
- Gould, Raija & Saurama, Laura** (2003), From Early Exit Culture to the Policy of Active Ageing – the Case of Finland, Finnish Centre for Pensions Working Papers 4.
- Hietaniemi, Marjukka & Vidlund, Mika**, eds. (2003), *The Finnish Pension System*, Finnish Centre for Pensions.
- Hilli, Petri & Koivu, Matti & Pennanen, Teemu & Ranne, Antero** (2003), A stochastic programming model for asset liability management of a Finnish pension company.
- European Commission (2003), Adequate and Sustainable Pensions, Joint report by the Commission and the Council.
- Kontio, Kimmo** (2003), Development of pension provision, in Hietaniemi, Marjukka & Vidlund, Mika (eds.), *The Finnish Pension System*, Finnish Centre for Pensions.

Lassila, Jukka (2004), Bargaining on Pensions: The Finnish Pension Reform of 2001-2002, in Piekkola, Hannu & Snellman, Kenneth (eds.), Collective Bargaining and Wage Formation, Physica-Verlag.

Lassila, Jukka & Valkonen, Tarmo (2002a), Prefunding in a defined benefit pension system – The Finnish Case, in Feldstein, Martin & Siebert, Horst (eds.), Social Security Pension Reform in Europe, NBER.

Lassila, Jukka & Valkonen, Tarmo (2002b), Sosiaalimenot ja väestön ikääntyminen (Social expenditure and the ageing population), The Research Institute of the Finnish Economy ETLA, Series B 187.

Lassila, Jukka & Valkonen, Tarmo (1999), Eläkerahastot ja väestön ikääntyminen (The pension funds and the ageing of the population), The Research Institute of the Finnish Economy ETLA, Series B 158.

Lindell, Christina (2004), Longevity Is Increasing – What about the Retirement Age?, Finnish Centre for Pensions Working Papers 6.

Lindell, Christina (2003), Financing Pensions, in Hietaniemi, Marjukka & Vidlund, Mika (eds.), The Finnish Pension System, Finnish Centre for Pensions.

Niemelä, Heikki (1994), The Development of Finland's overall pension system (in Finnish, with an 18-page English summary), Publications of the Social Insurance Institution.

OECD (2004a), OECD Economic Surveys 2004 – Finland, Organisation for Economic Co-operation and Development.

OECD (2004b), Ageing and Employment Policies – Finland, Organisation for Economic Co-operation and Development.

OECD (2003), OECD Economic Surveys 2003 – Finland, Organisation for Economic Co-operation and Development.

Palm, Heikki (1996), Eläkeuudistuksen vaikutukset Suomen kansantalouden numeerisessa limittäisten sukupolvien mallissa (The effects of the pension reform in an numerical overlapping generations model of the Finnish Economy), ETLA Discussion papers 565.