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## Private Pensions - A Viable Alternative? Distributive Effects of Private Pensions in a Comparative Perspective

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## Abstract

Pension reforms have been on the political agenda of governments and of international organisations as the OECD and the World Bank for some time. However, the strengthening of private elements in pension systems is often believed to intensify existing inequalities in the distribution of pensions among the population and to contribute to the marginalisation of large groups of the elderly. This paper explores the distributive effects of private pensions on the basis of LIS microdata for twelve industrialised welfare states. Its results confirm that private pensions indeed tend to produce specific inequalities, but also emphasise the importance of policy factors in mitigating the distributive effects of private pensions.

## Acknowledgements

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# 1 Introduction

Pension reforms have been on the political agenda of governments and international organisations such as the OECD and the World Bank for some time. As recent reforms show, welfare states have followed several strategies to adapt pension systems to socio-demographic pressures. Governments have not only curtailed pension levels and increased pension age in some countries, but also sought to re-structure the public-private mix by enhancing private elements in existing private pension schemes and by strengthening incentives for private provision for old age. However, large international variations remain. Whereas some countries are still debating about pension reforms, others already have implemented far-reaching structural changes during recent years. The experiences of the latter may provide valuable insights for countries that are currently considering pension reforms.

In these countries, the debate on strengthening private elements in pension systems is torn between two competing arguments. Some observers have argued that present and future pensioner generations are able to provide for themselves because of an increasing level of individual welfare. Others have been concerned about growing inequalities in the distribution of pensions among the population and the marginalisation of large groups of the elderly. Therefore, the main aim of this paper is to identify the impact of growing private pensions on current and future pensioners in a comparative perspective.

Based on the micro-data of the Luxembourg Income Study, this paper explores the question of whether the strengthening of private pensions undermines the function of income maintenance in old age for twelve industrialised welfare states.[1] What is the significance of private pensions in the household budgets of the elderly? What are the distributive effects of private pensions in terms of gender, age and socio-economic status? Do private pensions systematically favour, or discriminate against, certain groups and do they reinforce existing inequalities? Are private pensions used to uphold a comfortable

1 A number of countries could not be considered due to the lack of comparable data. In addition, countries were excluded from this study if less than 1% of pensioner households received income from private pensions, since a certain minimum significance of private pensions for the current pensioner generation is necessary for the assessment of their distributive effects. The following countries could be included in this analysis: Australia, Belgium, Canada, Denmark, Finland, Germany, Italy, the Netherlands, Norway, Sweden, the United Kingdom and the United States. For a more detailed overview on datasets and sample sizes, see Table A-1 in the Appendix.

standard of living, or do they also contribute to the prevention of poverty? How do these issues vary across countries?

This study focuses on private pension income as defined in the Luxembourg Income Study. This definition mainly covers private pension benefits provided through employers, that is, largely occupational pensions. Yet, there are some methodological problems with this definition. To a varying extent, pensioners may also rely on personal pensions without any contribution from employers, as for example life insurance or other annuities. This type of income may fulfil the same functions as private pensions in some countries, but it is not possible to distinguish these personal pensions from other forms of capital income.

## 2 Private pensions as an element of welfare state reform

Private pensions have been promoted as an instrument for welfare state reform in recent years. In the context of an ageing population, private pensions could constitute a viable alternative to public pension schemes. Private pensions are not only held to be less vulnerable to demographic changes, but also promise higher returns, more actuarial fairness and macro-economic gains (cf. James 1996, 1999a). These views have been endorsed by some international organisations, such as the World Bank and the OECD, and translated into policy recommendations that advocate strengthening private pensions (cf. World Bank 1994; OECD 1998). Other organisations, such as the ILO and the ISSA, have been more sceptical of this strategy (e.g. Gillion 1997, 1999).

Critics of this approach have questioned the alleged superiority of private pensions in terms of their economic effects and have pointed to the difficulties in transforming a mature PAYG pension scheme into a fully-funded scheme (e.g. Orszag/Stiglitz 1999; Thompson 1998). In addition, observers have been concerned with the distributive effects of private pensions. Since private pensions are often linked to employment, some groups of the population are not or only inadequately covered (cf. Kangas/Palme 1996; Turner/Raynes 1998).

*Distributive effects of private pensions*

Private pensions are closely associated with employment in most countries, either directly via employers' contributions or any other formal link to employment, or indirectly, as a result of the fact that saving for old age is dependent upon a relatively comfortable income position during prime age (cf. James 1999b). Although the link between employment and pensions is also present in status-oriented public pension schemes that maintain a close link between contributions and the subsequent level of benefits, this link tends to be even stronger in private pension schemes for three reasons. First, unlike most public pension schemes, private pensions usually do not include redistributional elements that compensate for a low level of participation in the labour force during working life, low wages, or periods of non-employment (such as education, vocational training, or the care of children and relatives in need of long-term care). Second, occupational pensions are often concentrated on the core workforce, while part-time or temporary workers are not always covered. Occupational pensions may also be contingent upon a minimal duration of employment with the same employer. Third, even if not formally connected to employment, personal pensions require a certain level of income that permits the accumulation of savings for old age without unduly restricting current consumption, and also a certain degree of stability of income over time.

In fact, recent pension reforms have sought to alternate the public-private-mix of income during old age in many countries of the industrialised world.[2] In this period of “diversification” (Rein/Turner 1999), the extension of private provision is supposed to compensate for declining levels of public provision in the context of demographic strains on pension schemes. Nevertheless, the emergence of private pensions is by no means a new development in many countries. A combination of public and private pensions constitutes the income package for many elderly households, although this mix varies widely between states (Hedström/Ringen 1990).

*Public-private mix in pension policy*

Public and private provision of social welfare is closely interdependent (cf. Rein 1996; Rein/Wadensjö 1998), yet the degree and the form of interaction varies widely across countries. Public and private pensions may substitute or complement each other. Substitution between public and private provision exists where pensioners may contract out from public pension insurance into a private scheme. A complementary relationship may be found in countries where occupational pensions aim at augmenting the public benefit level to a pre-defined level, but decrease as public benefits rise.

Private pension schemes can be integrated in different ways into a society’s pension system. Participation in private pension schemes may be mandatory by law or based on collective agreements, or contracting-out options, which allow people to substitute public with

2 For a concise overview on pension reforms around the world, cf. Schwarz/Demirguç-Kunt (1999).

private provision. A close integration of private pension schemes often also involves the regulation of private schemes through legislation and supervision by public bodies. By this token, governments seek to guarantee certain standards in the provision of old age income security. In addition, private pensions may be subsidised through the tax system (Rein 1996; Adema/Einerhand 1998). In this respect, whether pension schemes are considered "private" or "public", is not a clear dichotomy, but rather a matter of degree (Kangas/Palme 1989).

Private pensions can assume different functions within the overall pension system of a country, in close interaction with public pension schemes. In countries where public pensions confine themselves to the provision of a minimum income guarantee in old age, often in form of a universal flat-rate benefit, private pensions are used to maintain living standards in old age. In contrast, if public pension schemes offer a strong earnings-related component with relatively high income replacement levels, private pensions tend to be of limited importance both in terms of coverage of the population and level of benefits provided. Countries with dominant public pension schemes include Belgium, Canada, Germany, Italy, Norway, Sweden, and the United States. Flat-rate public pensions allow more leeway for private provision in Australia, Denmark, Finland and the Netherlands, as well as, to some degree, the United Kingdom.[3] In most countries of this group, private pensions are mandatory, either by legislation or by collective agreement, so private pensions are closely integrated into the overall pension system. In countries with a more dominant public pension scheme, private pensions are largely left to individual initative (except for Norway and Sweden where private pensions are subject to a de-facto obligation through collective agreements). Although the institutional varieties of pension systems preclude any unambiguous categorization of countries, Table 1 offers a tentative categorization of countries along these lines.[4]

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3 Although there is a public earnings-related pension scheme (SERPS), workers may contract out of the public scheme and provide for themselves with private pensions.

4 For a more fully-fledged account of the development, institutional structures and outcomes of pension schemes, cf. Palme (1990) and Pedersen (1999).

*Table 1: Tentative classification of pension systems*

| | | private pension schemes | |
|---|---|---|---|
| | | **mandatory** | **voluntary** |
| **public pension scheme(s)** | **flat-rate pension** | Denmark<br>Finland<br>Netherlands<br>(United Kingdom) | Australia |
| | **with earnings-related element** | Norway<br>Sweden | Belgium<br>Canada<br>Germany<br>Italy<br>United States |

In the Scandinavian countries, as well as in the Netherlands, occupational pension plans are negotiated through the unions and cover the majority of the workforce.[5] These occupational pension plans are not necessarily fully funded, but some are (partly) organised pay-as-you-go (Palme and Svensson 1999: 372-375). Whereas the Norwegian and Swedish public pension schemes embody an earnings-related component, flat-rate pensions dominate in Denmark, Finland and the Netherlands. The relatively low public benefits in Finland are supplemented by legislated mandatory private pensions (Kangas/Palme 1989; Kangas/Jäntti 1996). Although supplementary pensions are not formally mandatory on the national level in the Netherlands, Denmark, Norway and Sweden, there is a de-facto obligation to participate in industry-wide pension plans for many branches of the economy (Kangas/Palme 1989, 1996; Wadensjö 1997). The Danish pension system also increasingly uses industry-wide funds negotiated by trade unions and employers that have recently been made compulsory based on collective agreements (Østrup 1996; von Nordheim Nielsen 1996). In the Netherlands, individual employers are allowed to opt out of the negotiated scheme if they offer a more attractive pension scheme for their employees. More than three-quarters of employees participated in an employer-provided pension plan in 1985 (Lutjens 1996).

In countries with a dominant earnings-related public pension scheme such as Belgium, Germany, Italy, and also the United States, membership in a private pension is voluntary, and only a smaller share of the workers dispose of a private pension. In contrast to countries with union-negotiated pension plans, supplementary pensions tend to be provided by individual employers rather than covering whole industry branches (Schmähl/Böhm 1996; Schmähl 1997). In Italy, the large number of pension plans for

5 For Sweden, occupational pensions cover as much as 95% of the labour market (Palme/Svensson 1999: 356); and more than 80% in the Netherlands (Kapteyn/de Vos 1999: 289).

workers in the public and private sector has recently been molded into a more unified scheme that was intended to even out the existing inequalities between different groups of the population (Brugiavini 1999; Ascoli 1996; Di Biase et al. 1997). Private provision has been traditionally stronger in the United States, yet occupational pensions and savings plans also cover around half of the total workforce. The Canadian pension system combines a flat-rate basic pension with an earnings-related pension scheme (cf. Olsen/Brym 1996; Gruber 1999). The United Kingdom is a special case in many respects. A virtually universal (but still contributory) basic pension is supplemented by a public earnings-related pension scheme (SERPS), yet workers can choose to opt out of the public scheme if they contribute to an approved occupational or personal pension (Creedy et al. 1993; Davis 1997). Although the use of private pensions has been widespread among the workforce since the 1960s, the introduction of the contracting-out-option in the mid-1980s further extended coverage (Minns/Martin 1996). Curiously, the available data on coverage of the workforce paint a very similar picture across countries. At least in Canada, Germany, the United Kingdom and the United States, private pensions have covered roughly half of the workforce, with rising tendency.[6]

# 3 Private pensions as a source of retirement income

During the last years, a growing number of employees contribute to a private pension in most countries. Two factors contribute to this expansion. In some countries, governments have actively encouraged workers to provide for themselves and to complement their public pension through private provision. In addition, employers have increasingly used occupational pensions as a means to motivate employees.

What is the significance of private pensions for the income maintenance of pensioners? How many pensioners can rely on private pensions as a source of retirement income, and how much do private pensions contribute to pensioners' incomes?

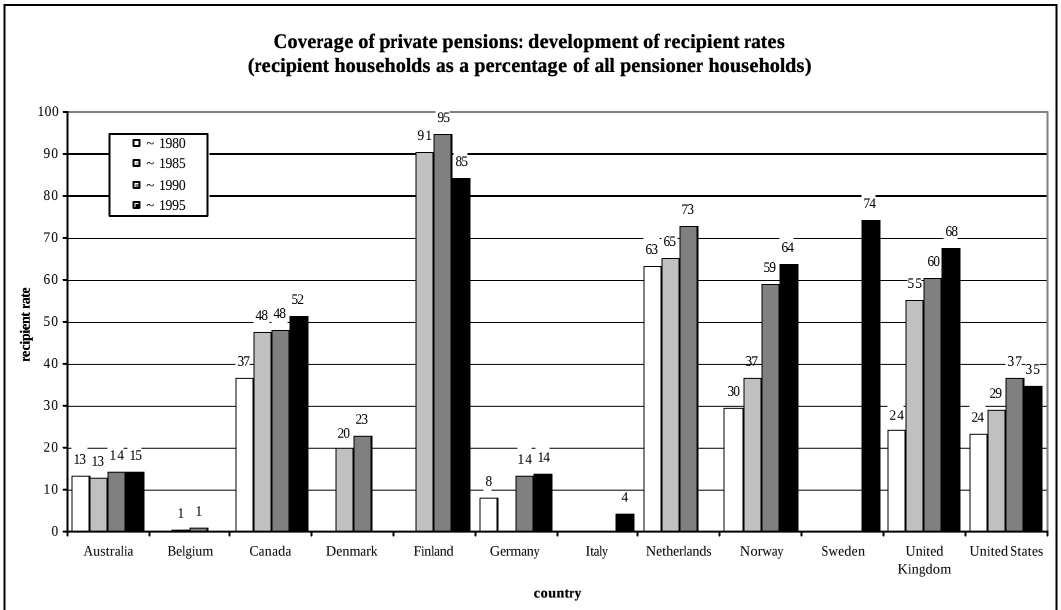
## 3.1 Recipient rates

As the coverage of private pensions within the workforce has grown during recent years in most countries, more and more households can rely on private pension income during

6 Data refer to the year 1993 for Canada, 1990 for Germany, 1991 for the United Kingdom, and 1988 for the United States (cf. Kalisch/Aman 1999; apRoberts/Turner 1997; Davis 1997; Gruber 1999: 89).

retirement.[7] Chart 1 shows the proportion of recipient households as a percentage of all pensioner households.[8]

*Chart 1:* *Pensioner households with income from private pensions (as a percentage of all pensioner households)*



Source: LIS; own calculations.

*Note: The exact years of observation can be taken from Table A-1 in the Appendix.*

Almost all countries covered in this study have experienced a rise in the number of households that benefit from private pensions in their old age during recent years. By the mid-1990s, more than half of the pensioner household population have been covered in the Scandinavian countries (with the exception of Denmark), as well as in the Netherlands, Canada, and the United Kingdom. Much lower recipient rates are found in the United

7 This paper focuses on pensioner households rather than individuals, assuming that incomes are pooled within private households, although this approach may conceal inequalities within households. In order to ensure comparability across countries with different formal and de-facto retirement ages, this study defines pensioner households as households whose head is at least 60 or older. In addition, households have been excluded if earnings made up more than half of total household income.

8 The LIS data referring to the United Kingdom is subject to Crown Copyright; has been made available by the Office for National Statistics through the ESRC Data Archive; and has been used by permission. Neither the Office for National Statistics nor the ESRC Data Archive bear any responsibility for the analysis or the interpretation of the data reported here. This disclaimer also applies to all following charts and tables.

States, Denmark, followed by Australia, Germany[9] and finally Italy and Belgium. Not surprisingly, this pattern also reflects the peculiarities of public pension schemes. In countries with flat-rate public pensions, private pensions are claimed by a large proportion of the population, whereas in countries with more earnings-related public pension schemes, private pension recipient rates are markedly lower.

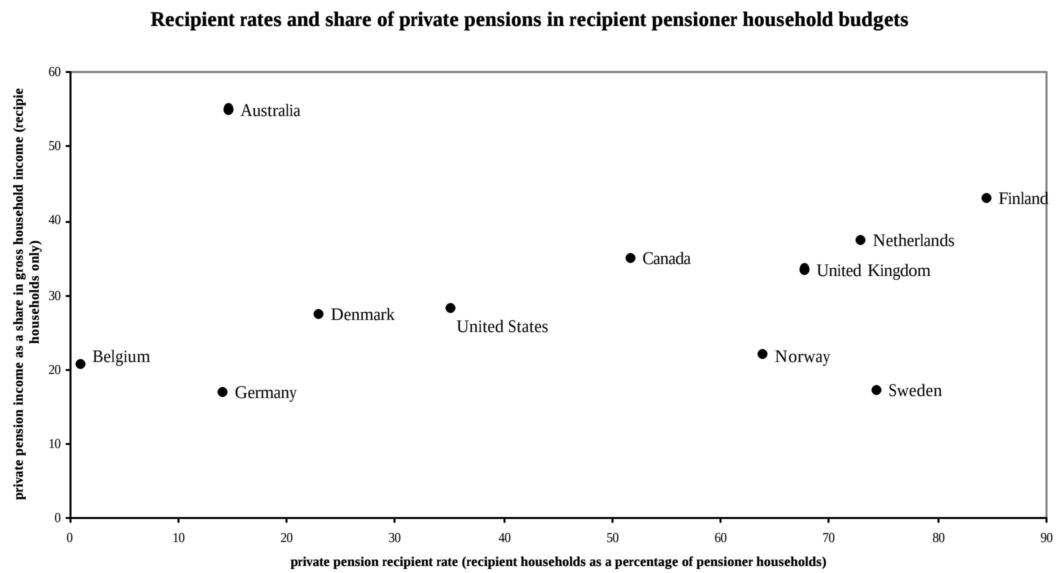
## 3.2 Private pensions in the household budgets of elderly households

The significance of private pensions for income maintenance in old age has been evaluated on the basis of the relative weight of private pensions in household budgets (cf. Hauser 1998; Hauser et al. 1997). Most of these studies have averaged the share of private pensions in household budgets over the whole pensioner population, yet this approach blurs the fact that the distribution of private pensions within the population is the combination of two distinct dimensions. How many households actually receive private pensions, and, among recipient households, what share of household income is made up of this type of income? The horizontal axis in Chart 2 depicts the percentage of pensioner households that actually receive income from private pensions, while the vertical axis shows the relative weight of private pensions in the household budget of recipient households.[10]

9 The minor rise of German recipient rates between 1989 and 1994 conceal the fact that there are large regional differences between East and West Germany. Since only a small share of pensioners in East Germany benefit from a private pension, recipient rates in West Germany must have risen more markedly than suggested in these data. For a detailed account of the income situation of pensioners in East and West Germany, cf. Alber/Schölkopf (1999).

10 This and the following chart use the most recent dataset available for each country, reflecting the situation of the early or mid-1990s.

*Chart 2: The weight of private pensions in recipient pensioner household budgets*




Source: LIS; own calculations. Italy could not be considered because no data on gross incomes are available in LIS.

The relative weight of private pensions in pensioner household budgets markedly differs between countries. Whereas private pensions contribute a major share of household income in some countries, they only top up income from other sources elsewhere. Chart 2 shows that the weight of private pensions in the household budgets of the elderly tends to rise with recipient shares, with Australia as a clear outlier. There, incomes from private pensions make up more than half of household incomes on average for a small share of the population.[11] In the other countries with relatively small recipient rates, the weight of private pensions in the total household budget is rather low, some 20% in Belgium and Germany, and almost 30% in Denmark and the United States. Norway and Sweden are characterised by high recipient rates, but private pensions contribute only a small share of total household income. In contrast, the dominance of flat-rate public pensions in the Netherlands, Finland, and to a certain degree also the United Kingdom and Canada, favours high recipient rates and a large weight of private pensions in household budgets.

11 Recent accounts have emphasised the significance of owner-occupied housing as a source of economic welfare in Australia and have pointed to the flaws of measures of current income as a measure of welfare during retirement (cf. Ritakallio 1999). This point might help to provide an explanation for Australia's position in this account.

### 3.3 Level of private pensions

The weight of private pensions in the household budget only sketches an incomplete picture of the distribution of private pensions within the population, since the level of total household income is also determined by the level of private pensions themselves. Possibly, budget shares are high just because the total income level is low, and vice versa. A more balanced approach uses national equivalent median income as a yardstick to make the average amount of private pensions comparable across countries.

*Chart 3: Level of private pensions (in percent of median equivalent income)*


Source: LIS; own calculations.

Chart 3 largely confirms the insights from the previous section for most countries, yet with some major modifications. The weak co-variation that was present between recipient rates and budget schares has vanished. Among countries with high recipient rates, average private pension income amounts to more than 60% of median income in the Netherlands, and almost 50% in the United Kingdom and Finland. Again, the high recipient rates in Norway and Sweden did not lead to a high level of private pensions. Canada and the United States are found in a medium position in both dimensions, whereas countries with low recipient rates split into two clusters. In the countries with earnings-related public pensions, the level of private pensions is relatively small, falling between 20% and 30% of median equivalent income in Belgium and Germany.

Given the large international variation in coverage and level of private pensions, what are the distributive effects of private pensions?

# 4 Distributive effects of private pensions

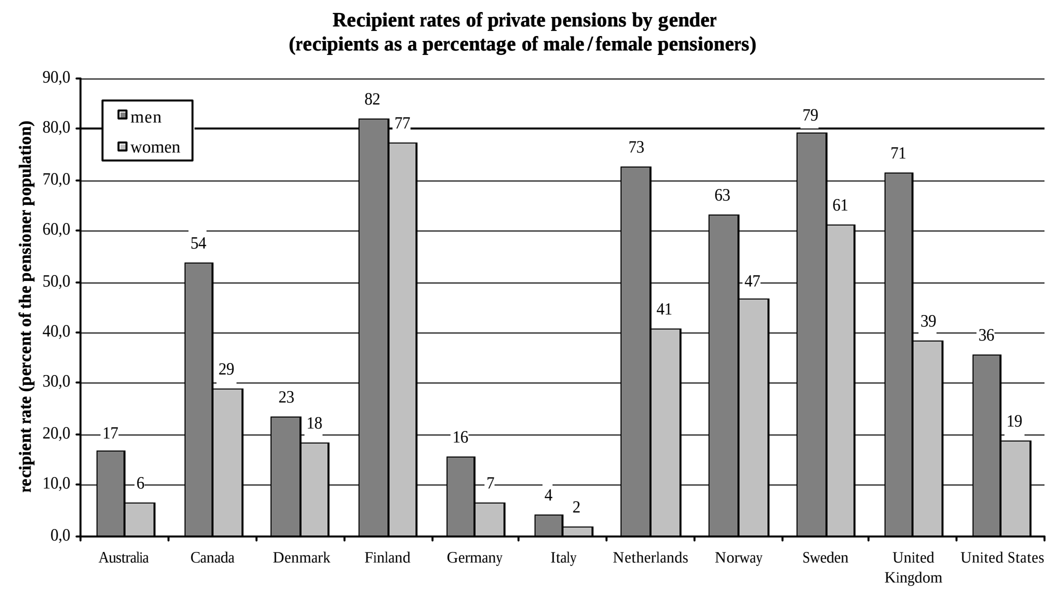
Since private pensions are generally less redistributive than other pensions, and closely linked to employment, we would expect that existing inequalities are preserved or even reinforced in retirement. In the following, three dimensions of inequality will be assessed: gender, age and overall disposable income during retirement.

## 4.1 Distribution by gender

In most countries, women are more likely to have shorter and more fragmented employment records, and tend to work in smaller firms and in lower positions, often part-time, and have lower earnings than men. These factors contribute to their reduced chances of becoming eligible for private pension schemes, and, if they are eligible, to receiving lower benefits. Especially long vesting periods work against women. Some private pension schemes provide for survivor benefits, so some women may benefit from the pensions of their husband's pension after his death. However, these entitlements are usually much lower than pensions in one's own right, and may be lost in case of divorce (Schmähl/Böhm 1996). Chart 4 demonstrates that recipient rates significantly vary by gender.[12]

12 Unlike the previous and following charts, Chart 4 and Chart 5 refer to persons, not households. On the household level, the effect of gender could only be indirectly assessed for different household types.

*Chart 4: Gender inequality in the recipient rates of private pensions: female and male recipient rates*

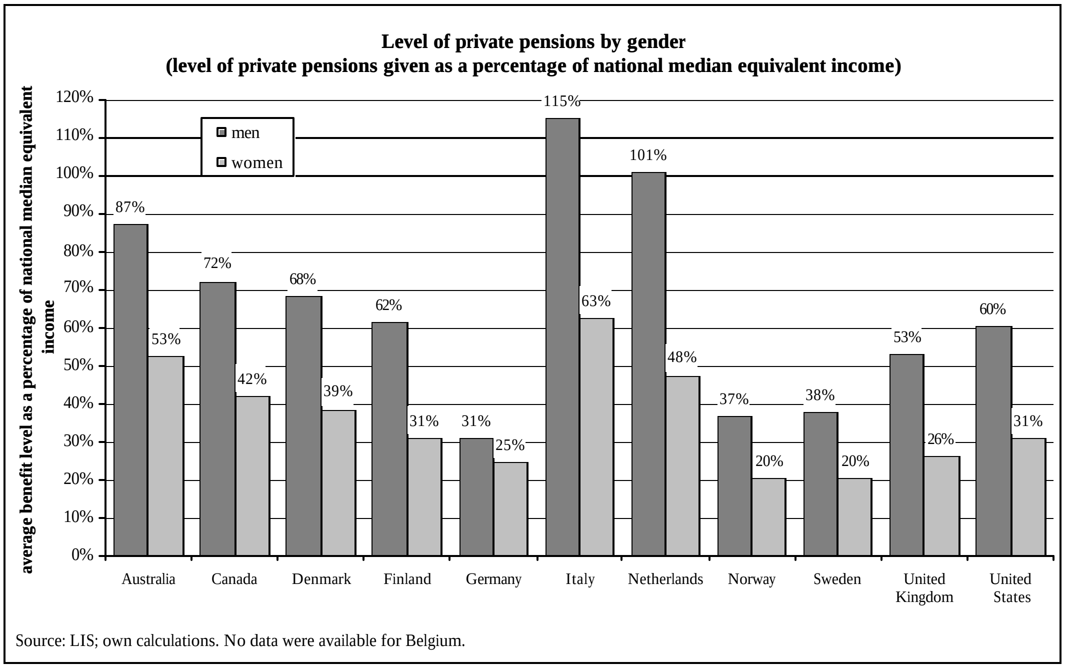



Source: LIS; own calculations. No data were available for Belgium.

Generally, women are less likely to receive a private pension in all countries, most markedly in countries with a track record of low female employment rates. In Australia, Italy and Germany, female recipient rates amount to only some 40% of male recipient rates, and slightly more than 50% in Canada, the Netherlands, the United Kingdom and the United States. In the Scandinavian countries, women are more likely to benefit from any private pension, yet there is still a large gap to be filled. Only the legislated private pension scheme in Finland provide approximate equality between women and men.

Gender inequalities can not only be found in the coverage of private pensions, but also in their level. Chart 5 shows the level of private pensions by gender. In order to make absolute levels comparable across countries, private pension income is given as a proportion of median equivalent household income in each country.

*Chart 5: Level of private pensions by gender*



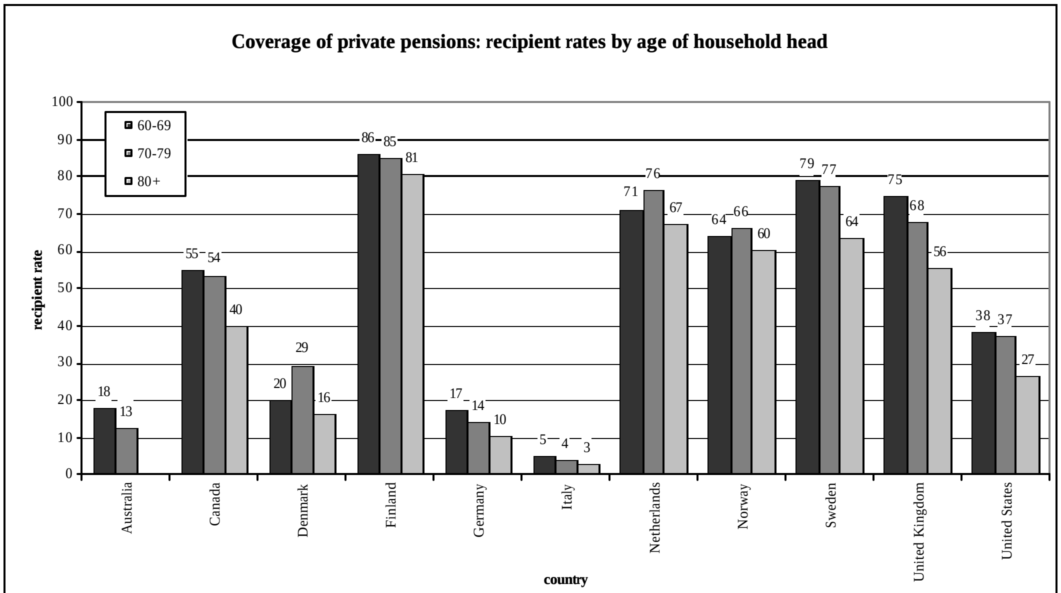

Women are not only less likely to receive any private pension at all, but they also collect considerably smaller pensions on average. In most countries, women's private pensions amount to roughly half of their male counterparts' pensions. Even countries with high female employment rates and recipient rates hardly deviate from this pattern, as is the case in the Scandinavian countries. Interestingly, private pensions are least unequal in Germany, a country with low recipient rates, possibly due to generous survivor's benefits in private pensions.

Gender inequalities in the coverage of private pensions not only affect the current pensioner population, but also future pensioner generations. As far as data on the distribution of private pensions within the current workforce are available, there are large gender differences among future pensioner generations. For example, in the United Kingdom, 57% of male workers, but only 37% of female workers were covered by an occupational pension (Lynes 1997: 323). Similar gender inequalities are found in other countries (cf. Ståhlberg 1995; Allmendinger 1994: 56-57).

## 4.2 Distribution of private pensions by age

The expansion of private pensions during the last years implies that older pensioner cohorts are less likely to receive any additional income from a private pension. However, this effect is entangled with gender inequalities. Because of the longer life expectancy of women, the composition of pensioner cohorts changes with increasing age. Gender inequalities thus also manifest themselves in the distribution of private pensions across age cohorts. Chart 6 shows the coverage of private pensions on the household level by age of the household head.[13]

*Chart 6: Recipient rates by age*




Source: LIS; own calculations. The Australian sample does not include any households whose head is 80 years or older. Belgium has been omitted because of small case numbers.

The distribution of private pensions across age cohorts follows a general pattern: The older the head of the household, the less likely is the receipt of any private pension income. This effect can be found in all countries for the age cohorts of the 70-79 year-olds and those 80 and older, while the age cohorts of 60-69 year-olds have lower recipient rates in some countries. This pattern may be caused by the fact that many people in this cohort are not yet retired (although households whose income dominantly stems from employment have been excluded from this analysis).

## 4.3 Distribution of private pensions by income strata

In which way is income from private pensions distributed across social strata? Recent accounts suggested that large groups of the population are not able to earn the right to a supplementary pension because of their low level of participation in the labour market or

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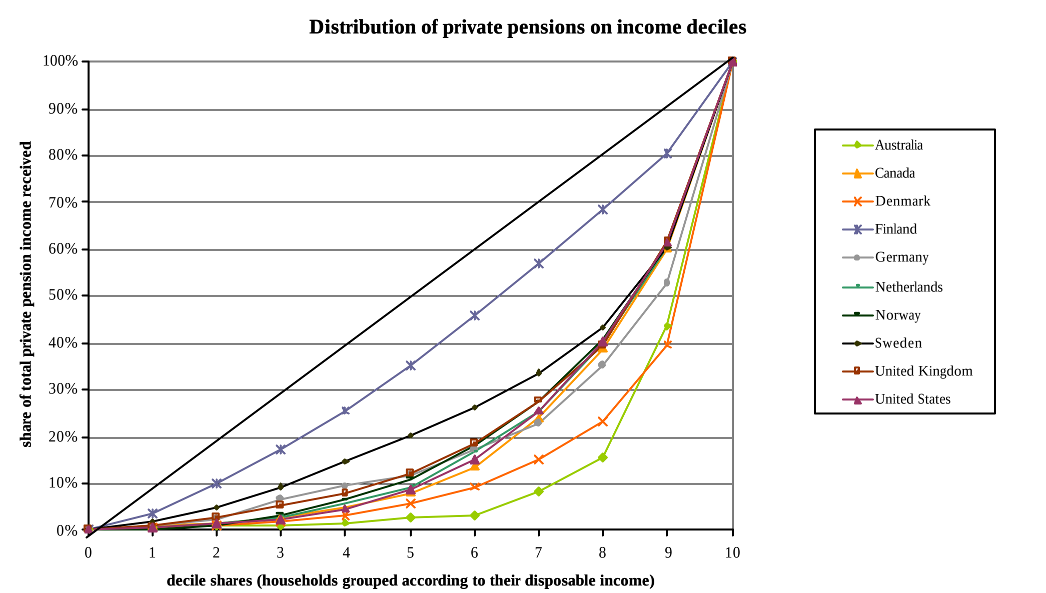
13 For couple households, LIS generally considers the husband as the head of the household.

insufficient financial means (Disney et al. 1997: 21-22). These groups continue to rely exclusively on public pensions while private pensions are concentrated among the better-off pensioners. The close link between private pensions and a comfortable income position during working age suggests that private pensions are concentrated among better-off pensioners. Especially highly qualified white-collar and blue-collar workers with permanent work contracts are expected to overproportionally benefit from private pensions during old age, especially in highly-unionised sectors of the industry.

It would have been interesting to assess the distribution of private pensions by vocational qualification, previous labour market status and employment histories, but the available data do not allow a detailed break-down in these dimensions. Therefore, disposable income during retirement is taken as a measure of socio-economic inequality. Pensioner households are classified in ten groups of equal size according to their disposable income (decile shares). The following chart shows the average income from private pensions (as a percentage of aggregate income from private pensions) for each decile of the population.

*Chart 7: Distributive effects of private pensions: distribution profile based on decile shares*




Source: LIS; own calculations. Poverty line: 50% of median equivalent income (modified OECD equivalence scale). Belgium and Italy have been omitted because of a small sample size.

Chart 7 demonstrates that the distribution profiles of private pensions vary markedly between countries. Whereas private pensions are relatively equally distributed among pensioner households in Finland and also in Sweden, this income type concentrates most distintly among high-income groups in Australia and Denmark. The poorer half of the population receive one-third of total private pension income in Finland, and one-fifth in

Sweden. By contrast, only 3% of total private pension income is received by this group in Australia, and 8% in Denmark. The other countries cluster close together: In the Netherlands, Norway, the United Kingdom and the United States, the five poorer deciles together receive around one-tenth of total private pension income, whereas the richer half of the population receives the remaining 90% of private pension income, 60% of which is reserved for the richest two deciles of the population, and some 40% for the richest decile. It is remarkable that countries with very different institutional settings concerning private pension schemes produce barely distinguishable outcomes in the distribution of private pension income.

### 4.4 Private pensions and the alleviation of poverty

Private pensions are assigned different functions for income maintenance in old age. In some countries, private pensions are largely used to top of income from other sources, and to secure a comfortable standard of living in old age, while the basic income maintenance is guaranteed by public pensions. Other countries rely more fully on private pensions as a strategy of income maintenance. In this setting, private pensions aim at a more comprehensive level of income maintenance that partly substitutes public schemes. In such cases, private pensions thus play a more important role for basic income maintenance and are not confined to the function of providing "luxury".

The distributive effects of private pensions for the current pensioner generation can be measured by comparing the actual income situation to a counterfactual income without private pensions.[14] The value of private pensions is deducted from disposable income, under the simplifying assumption that private pensions are not taxed.[15] The different functions of private pensions – basic income maintenance versus "luxury" – can be illustrated by assessing the effect of private pensions on poverty rates. If private pensions merely top up income from public pensions and other sources, poverty rates should hardly change with the deduction of private pensions from household income. However, if private pensions contribute to basic income maintenance, poverty rates should markedly

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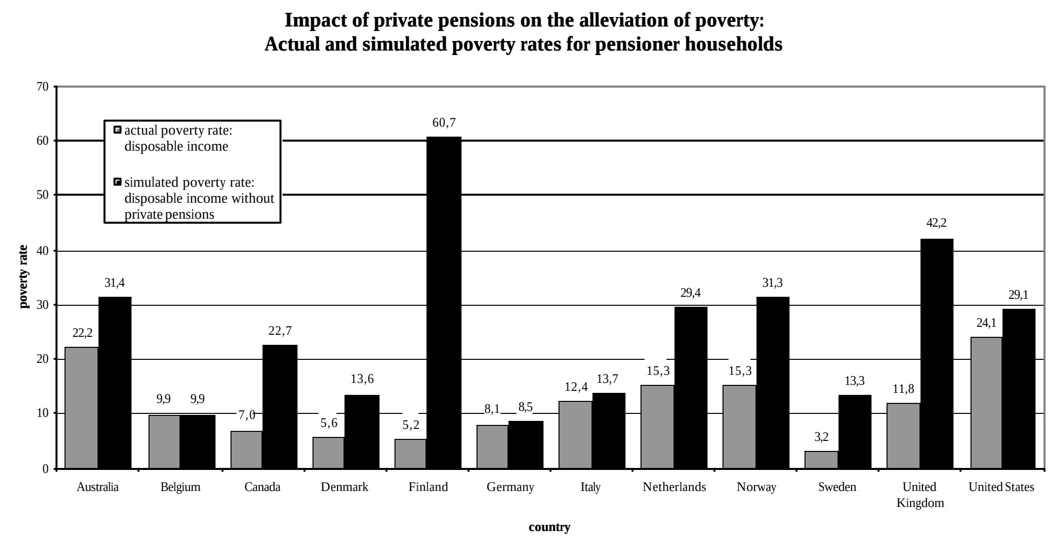
14 This method builds on a methodology developed by Beckerman (1979) that provides a straightforward measure for the effects of specific income types. More recent studies based on this method include Mitchell (1991) and McFate et al. (1995). The comparison of these two distributions provides a straightforward measure for the direct effects of private pensions on pensioner household budgets, yet fails to map indirect effects, such as behavioural changes (Björklund 1998).

15 In reality, private pensions are subject to taxation (albeit possibly at a reduced rate) in some countries. The measured effect of private pensions may be slightly biased in this respect.

increase. Chart 8 displays actual and simulated poverty rates for pensioner households with a poverty line of 50% of national median equivalent household income.[16]

*Chart 8:* *The impact of private pensions on poverty alleviation: Comparison of poverty rates with and without private pensions*




Source: LIS; own calculations. Simulated poverty rates have been calculated on the basis of household income without private pensions under the simplifying assumption that income from private pensions is not taxed. Poverty rates are based on a poverty line of 50% of national median equivalent income. Differences in household size have been accounted for by use of the "modified OECD equivalence scale" that attaches a weight of 1.0 to the head of household, .5 to each additional adult and .3 to each child.

Chart 8 underlines the different functions of private pensions. Private pensions play a dominant role for the alleviation of poverty in Finland and the United Kingdom. In Finland, the absence of private pensions would boost poverty rates from some 5% to more than 60% of the pensioner population. In the United Kingdom, poverty rates among pensioners would triple – an increase of 30 percentage points – to a full 42% of the population. In both countries, flat-rate public pensions appear to be not high enough to protect pensioner households from poverty, so private pensions assume the function of poverty alleviation. The relatively equal distribution of private pensions in Finland contributes to low poverty rates, whereas British pensioners run a relatively high risk of being poor.

16 In order to account for different household sizes, poverty research uses equivalence scales that balance higher needs and economies of scale in larger households (cf. Buhmann et al. 1988). Disposable incomes have been adjusted on the basis of the “modified OECD equivalence scale” that attaches a weight of 1.0 for the head of the household, .5 for additional adults in the household, and 3 for children.

In a second group of countries – including Norway, Canada, the Netherlands, Sweden, Australia, and Denmark – poverty rates would be 8-16 percentage points higher with the absence of private pensions. As in Finland and the United Kingdom, universal flat-rate pension schemes are supposed to protect the elderly from poverty in these countries, yet private pensions have a substantial effect on poverty rates. In the remaining four countries, Italy, Germany, Belgium and also the United States, private pensions only have a marginal effect, if any, on poverty rates. However, as these countries are characterised by relatively low private pension recipient rates, their effect is naturally limited.

There is clearly a close relationship between recipient rates and the poverty-alleviating impact of private pensions. Private pensions can have a considerable impact on the alleviation of poverty only if a significant proportion of the population make up their incomes from private pensions. Nevertheless, there is some variation that cannot be explained by recipient rates alone, as Chart 9 shows.

*Chart 9: The impact of private pensions on poverty alleviation: Impact on poverty rates and recipient rates*

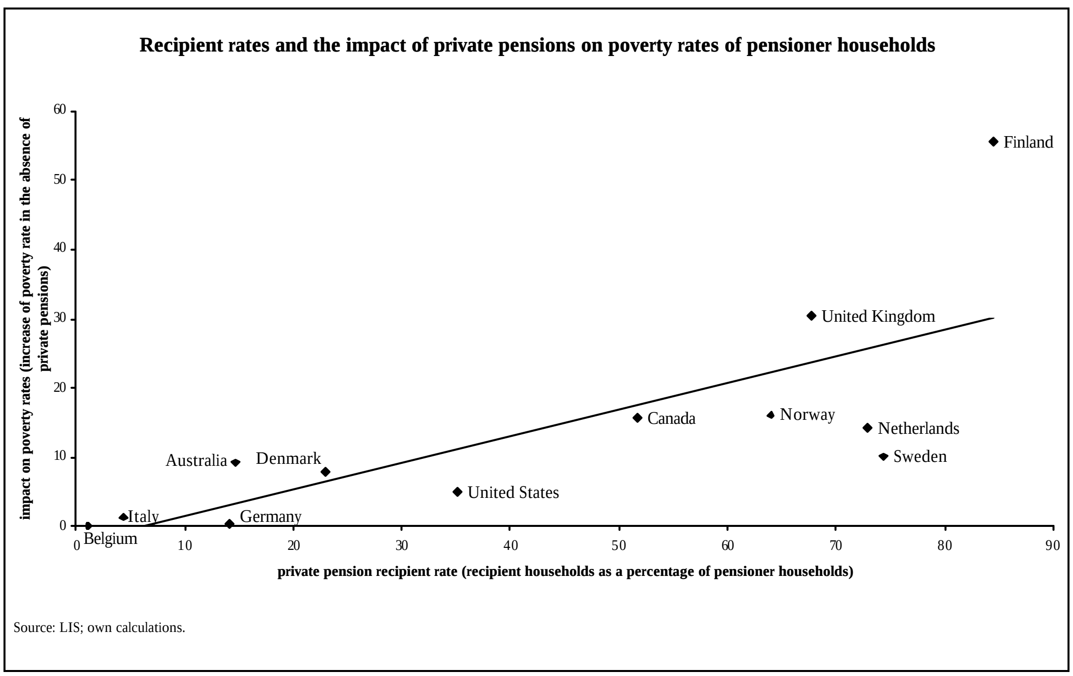


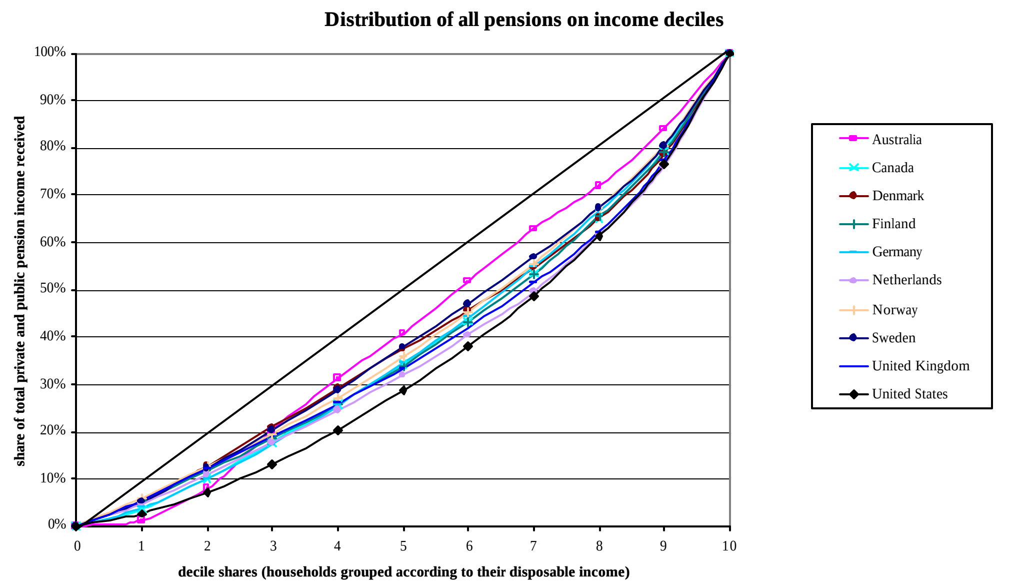

Chart 9 demonstrates that the relationship between recipient rates does not fully determine the impact of private pensions on poverty alleviation. Generally, private pensions overproportionally contribute to the alleviation of poverty in countries that lack a public earnings-related pension scheme. Obviously, flat-rate public pensions are not generous enough to protect all pensioner households from poverty, so private pensions also contribute to protecting some households from poverty. In countries with a dominant status-oriented scheme, private pensions aim at guaranteeing an additional income rather than securing a minimum standard of living. While private pensions hardly have an effect on poverty rates in Belgium, Germany and the United States, they have a discernible but underproportionate effect in Canada, Norway and Sweden. Unlike the first group of countries, the latter offer a dual pension scheme with a universal flat-rate pension that offers relatively effective protection from poverty. Still, private pensions are required to push a considerable share of the population out of poverty, although their effect is more limited than in countries without any earnings-related component in the public pension system.

Two countries do not fit into this pattern, the Netherlands and the United Kingdom. The latter is difficult to classify because of the contracting-out regulation anyway, but possibly a low level of public pensions also contribute to the strong impact of private pensions on the alleviation of poverty. In contrast, the Dutch flat-rate pensions appear to provide a generous income level that is able to protect most households from poverty, even though poverty rates are still relatively high.

### 4.5 Combined effects of public and private pensions

From the perspective of pensioner households, the combined effects of public and private pensions are more relevant than either component alone. Chart 10 assesses the combined distribution of private and public pensions. The distribution of private and public pensions across income deciles is also displayed in the country charts in the Appendix.

*Chart 10: Distributive effects of all pensions: distribution profile based on decile shares*




Source: LIS; own calculations. All incomes adjusted for household size on the basis of the modified OECD equivalence scale. Belgium and Italy have been omitted because of small sample sizes.

The combined effects of public and private pensions show an astonishingly small degree of variation across countries, the lines cluster close together. Although Australia has been the country with the most unequal distribution of private pension income, the combined effects of private and public pensions produce the most equal distribution of pension income, due to the progressive impact of means-tested public pensions. In contrast, total pension income is distributed most unequally in the United States, while private pensions alone are not characterised by an extreme degree of inequality in a comparative perspective. Between these extremes, the other countries cluster close together with intersecting lines. This pattern suggests that variations in public-private mix in pension schemes exert a limited impact on the distribution of pension income in many countries.

From this perspective, the unequal distribution of private pensions has been largely compensated for by public pensions. Overall, private pensions have only a limited impact on the overall distribution of pensioner incomes. However, this section has only analysed the distribution of pension income by income deciles, whereas a more extended analysis of public-private mix of pension incomes would probably have revealed a more unequal distribution of total pension income in further dimensions, such as age or gender.

## 5 Conclusion

Although the scope of this study is limited to private pensions with some involvement of employers, two main conclusions can be drawn from this analysis. The assessment of pensioner incomes on the basis of the Luxembourg Income Study could confirm that private pensions indeed reproduce or even strengthen existing inequalities in the labour market. In the dimensions of gender, age and income status, private pensions follow clear-cut distributional patterns. Recipients of private pensions tend to be male, belong to the younger pensioner cohorts, and have a relatively high disposable income during old age. In contrast, women, older pensioners and the less well-off underproportionally benefit from private pensions.

However, the large variation of distributive effects across countries suggest that a high degree of inequality is not necessarily a characteristic of private pensions as such, but strongly depend on policy factors. An effective regulation of private pensions can make a large difference in terms of distributive effects. A double lesson can be learnt from the example of Finland and the other Scandinavian countries. On the one hand, these countries have reached relatively high degrees of equality in the distribution of private pensions, especially in Finland, less so in Sweden and Norway. On the other hand, gender inequalities in the coverage and the level of private pensions reveal that even a relatively high degree of gender equality in the labour market and a fairly firm regulation of private pensions cannot prevent distinct inequalities in their distributive effects.

The strong effect on poverty rates of the elderly has demonstrated that private pensions have taken over the function of poverty alleviation from public pension schemes. This situation is not unproblematic, however. Because of the distributive effects of private pensions, many pensioners will not receive a private pension that is sufficient to augment their public pensions to a level above the poverty line. Unless private pensions are strictly regulated and cover the full population (see the Finnish example), they cannot fully replace a public minimum pension that is generous enough to protect from poverty.

Countries that consider strengthening private elements as a strategy of welfare reform should be aware of their distributive effects, but also of the possibilities to actively influence their impact. Legislation, regulation and supervision of private pension finds can make a large difference. In addition, it is necessary to adapt private pension provision to existing labour market structures and to ensure that existing inequalities in the labour market are not unduly replicated or even intensified during pension age.

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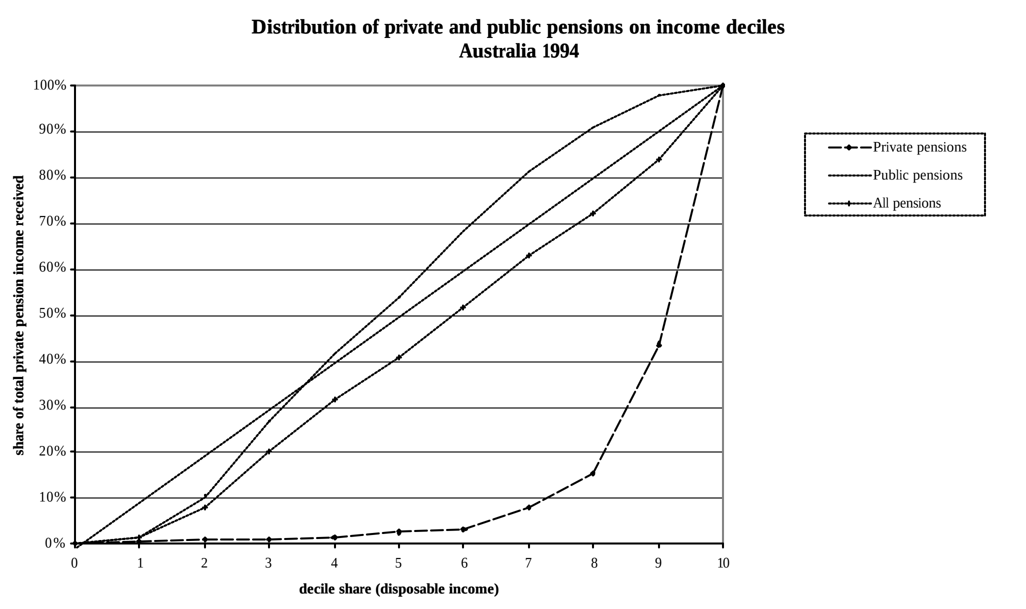
# 7 Appendix

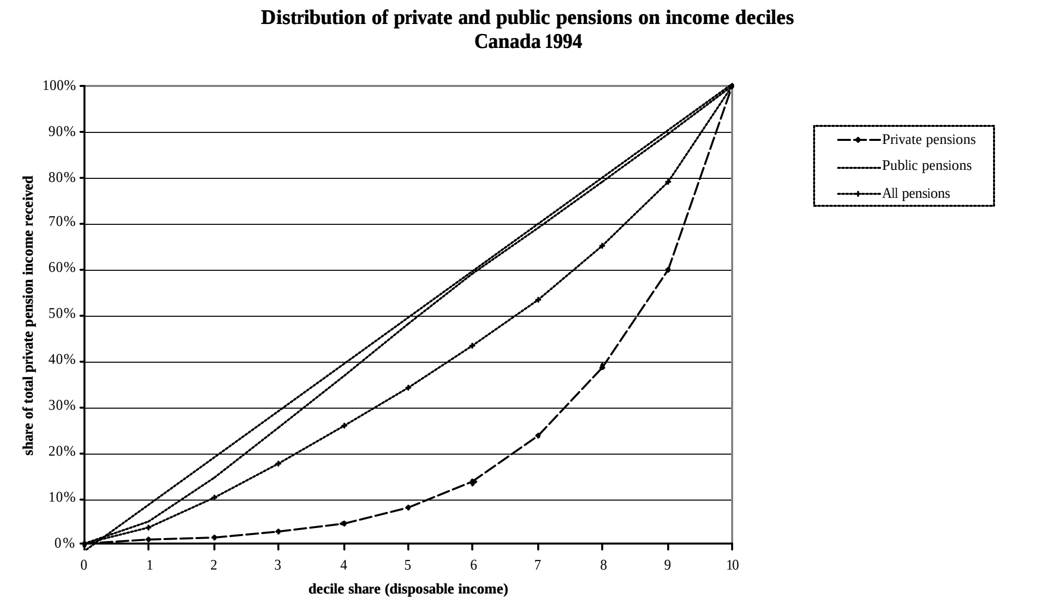
*Table A-1: LIS datasets used in this study and sample sizes for pensioner households*

| | ~ 1980 | | ~ 1985 | | ~ 1990 | | ~ 1995 | |
|---|---|---|---|---|---|---|---|---|
| | *Year* | sample size | *year* | sample size | *year* | sample size | *year* | sample size |
| Australia | *1981* | 3,072 | *1985* | 1,725 | *1989* | 3,125 | *1994* | 1,422 |
| Belgium | | . | *1985* | 1,672 | *1992* | 955 | | . |
| Canada | *1981* | 2,758 | *1987* | 2,337 | *1991* | 4,551 | *1994* | 8,213 |
| Denmark | | . | *1987* | 3,040 | *1992* | 3,220 | | . |
| Finland | | . | *1987* | 1,975 | *1991* | 2,034 | *1995* | 1,555 |
| Germany | *1981* | 659 | *1984* | 932 | *1989* | 860 | *1994* | 1,192 |
| Italy | | . | *1986* | 1,943 | *1991* | 2,257 | *1995* | 2,622 |
| Netherlands | *1983* | 1,076 | *1987* | 920 | *1991* | 1,035 | | . |
| Norway | *1979* | 2,421 | *1986* | 950 | *1991* | 1,052 | *1995* | 2,376 |
| Sweden | *1981* | 1,169 | *1987* | 1,196 | *1992* | 1,902 | *1995* | 4,610 |
| United Kingdom | *1979* | 1,739 | *1986* | 2,028 | *1991* | 2,041 | *1995* | 1,905 |
| United States | *1979* | 2,793 | *1986* | 2,434 | *1991* | 3,162 | *1994* | 12,199 |

*Chart A-1: Distribution of private and public pensions on income deciles: Lorenz curves*




Source: LIS; own calculations. Both disposable income and private pensions have been adjusted for household size (modified OECD equivalence scale).

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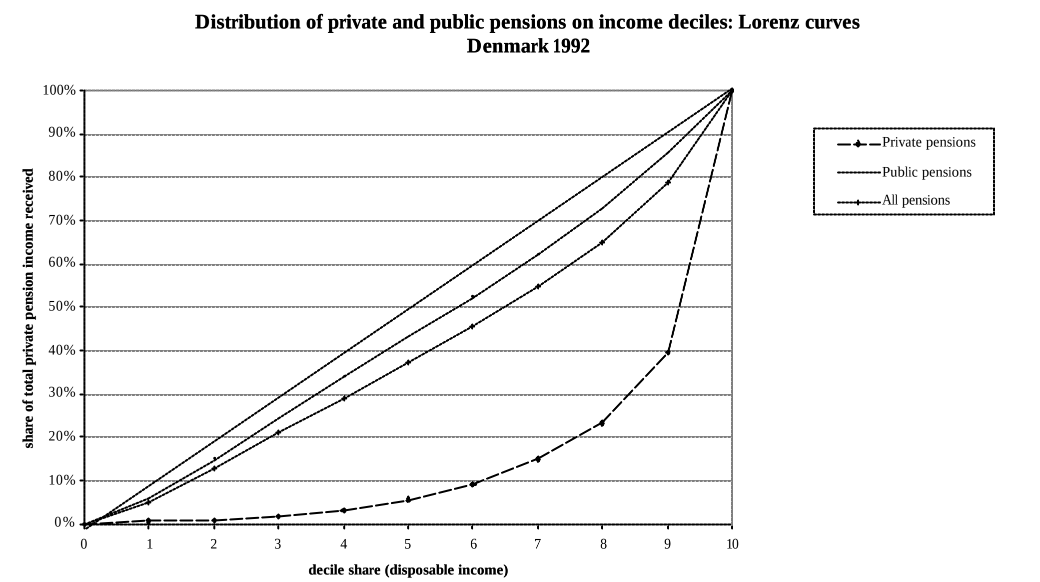


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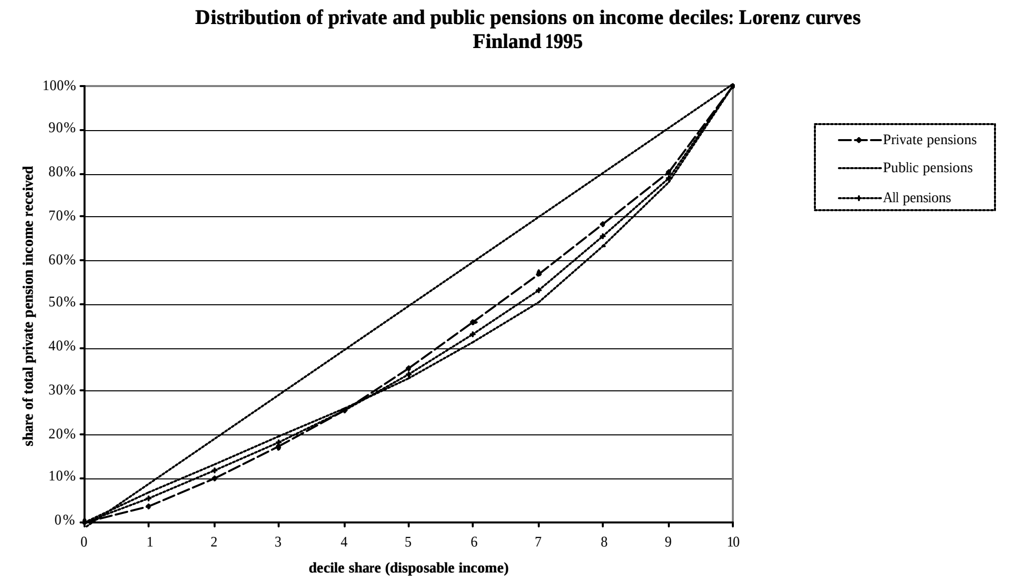


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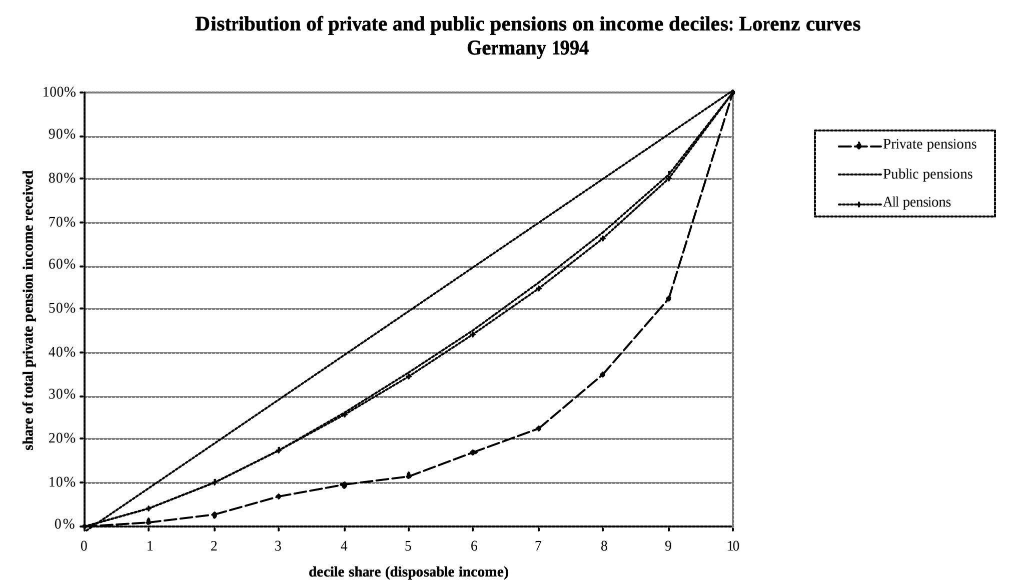


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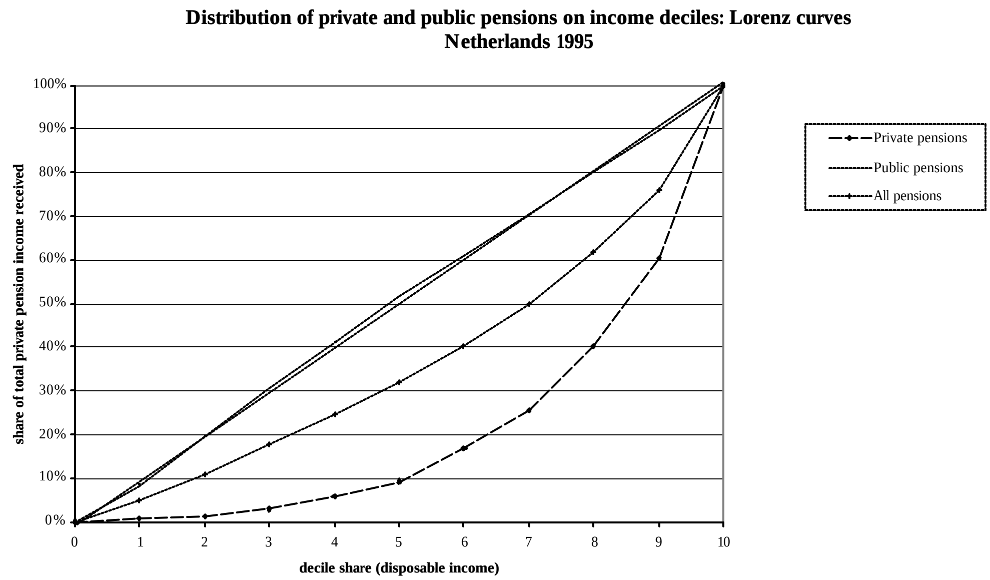


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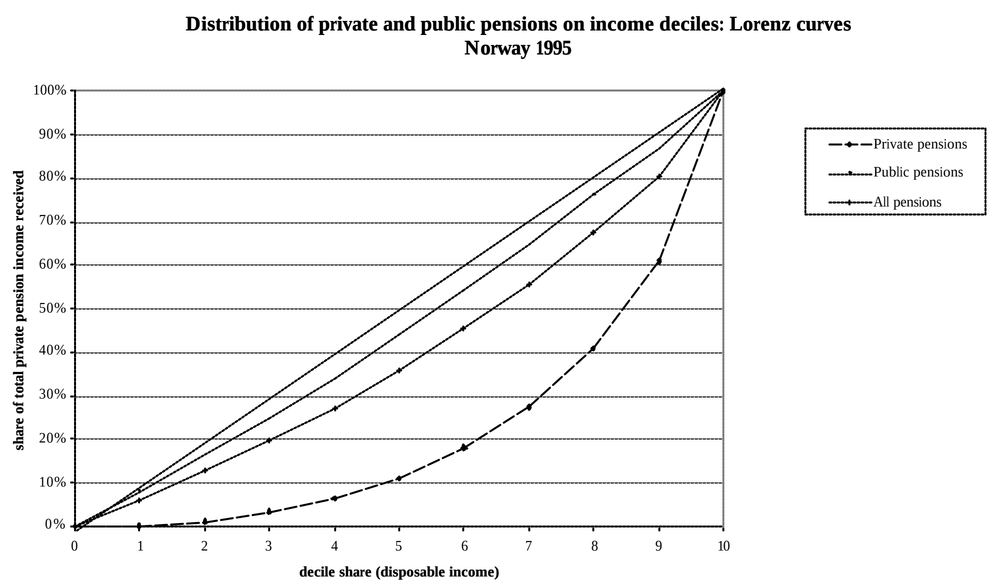
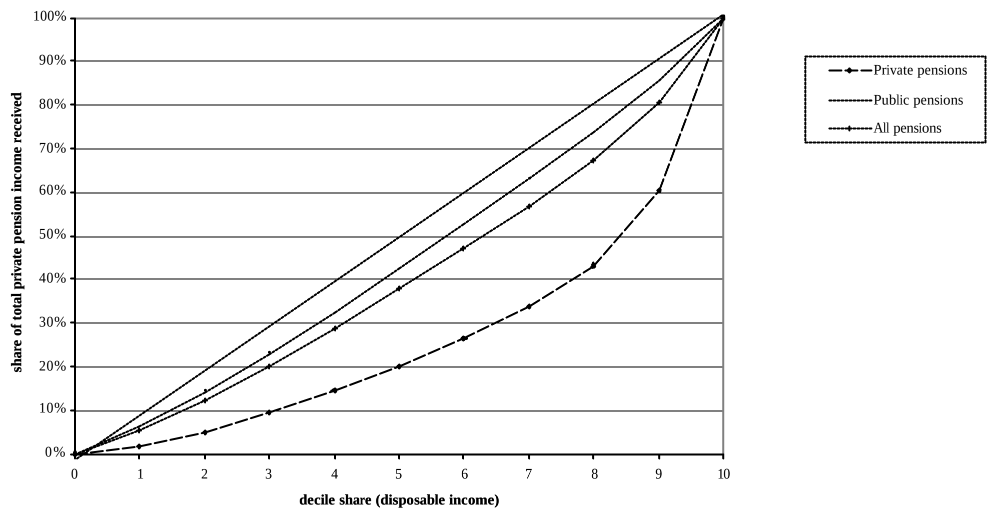


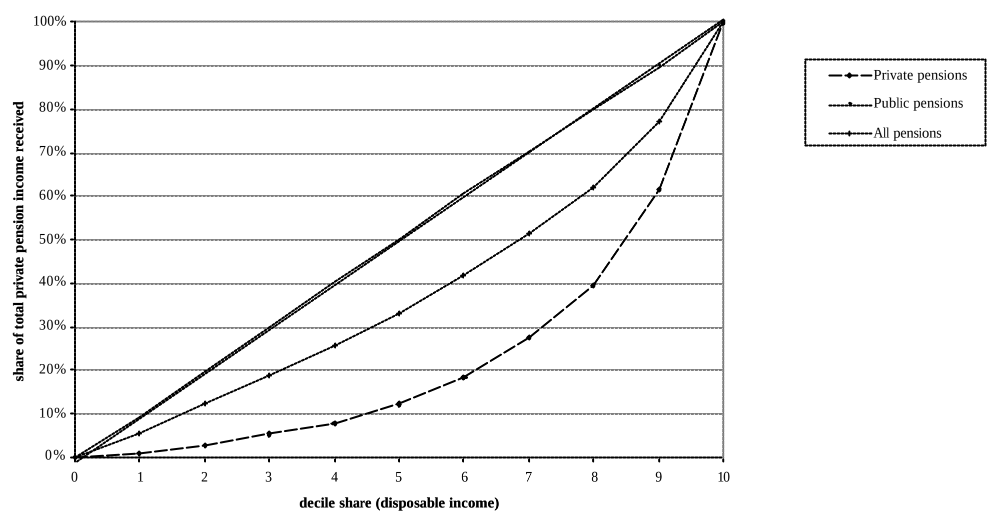

Source: LIS; own calculations. Both disposable income and private pensions have been adjusted for household size (modified OECD equivalence scale).

**Distribution of private and public pensions on income deciles: Lorenz curves**
**Sweden 1995**



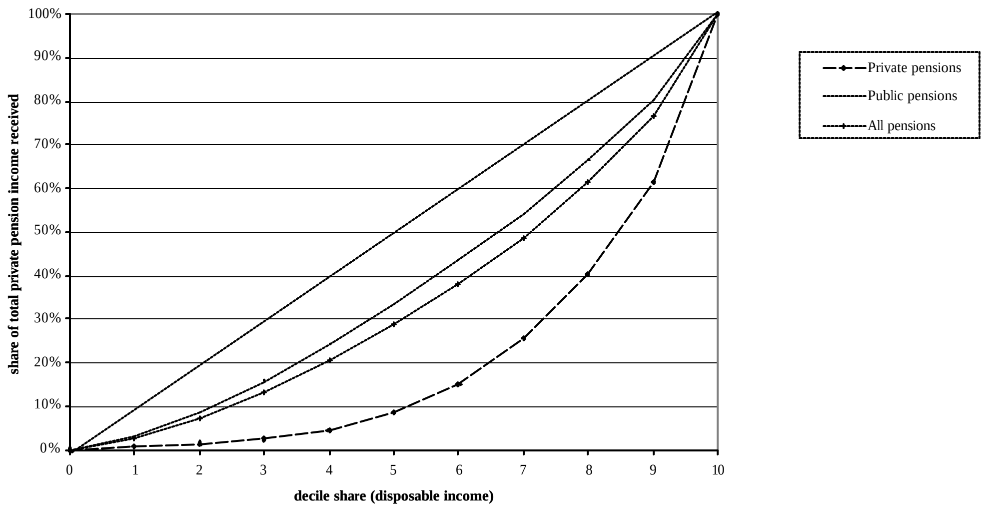

Source: LIS; own calculations. Both disposable income and private pensions have been adjusted for household size (modified OECD equivalence scale).

**Distribution of private and public pensions on income deciles: Lorenz curves**
**United Kingdom 1995**




Source: LIS; own calculations. Both disposable income and private pensions have been adjusted for household size (modified OECD equivalence scale).

**Distribution of private and public pensions on income deciles: Lorenz curves**
**United States 1994**




Source: LIS; own calculations. Both disposable income and private pensions have been adjusted for household size (modified OECD equivalence scale).