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How Fair is the Distribution of Private Pension Benefits?

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HOW FAIR IS THE DISTRIBUTION OF PRIVATE PENSION BENEFITS ?

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ABSTRACT

The purpose of this paper is to examine the redistributive impact of partially replacing public retirement schemes by private plans in OECD member countries. The focus is on the income distribution of the elderly. To address this question, we must examine the way in which the costs relating to these two types of régimes, together with the resulting benefits, are distributed. The general conclusion which emerges from this study is obvious but nonetheless alarming : if a substitution takes place without collective measures, over the next few decades we could see greater income inequalities among the elderly and a return to pockets of poverty in this age category.

[1] I wish to than I. Compagnie and B. Delhausse for their assistance in this research. A preliminary version of this paper was presented to the OECD conference on Private Pensions in Paris on 2 July 1991.

THE DISTRIBUTION OF PRIVATE PENSION BENEFITS : HOW FAIR IS IT ?

Introduction

At first sight, it may seem incongruous to talk in terms of equity for private pensions. We do not, for example, question whether champagne consumption is fairly distributed. At the very most, we might look at the income elasticity to assess to what extent champagne is a luxury item.

However, if the French State decided to subsidize champagne consumption in order to bolster employment in the Champagne region, we would be justified in examining the incidence of such a policy on income distribution. Similarly, when the government grants tax exemption to supplemental pension schemes on the grounds that they encourage savings and help solve the crisis of basic pensions, an impact study is called for.

In general terms, retirement income can be obtained from three different sources : basic régimes, supplemental régimes, linked to a type of employment or profession, and private individual pension schemes. This structure, which is in practice in all OECD member states, is known as the three-pillar system. The first pillar is also referred to as public pensions and the other two as private pensions. Sometimes, however, these distinctions are not clear and it is not always easy to associate a given form of retirement benefit with one of these pillars. This is illustrated by supplemental schemes imposed by law : do these fall in the first or the second category, are they public or private?

We should not, however, allow ourselves to get bogged down in definitions. In this report, our main focus is the second pillar, whose role is to provide private retirement benefits, either individual or collective, within a specific legal and fiscal framework. Very often, these pension schemes have been implemented to complement benefits provided by the public social security system.

An examination of supplemental régimes cannot be separated from one of basic pension schemes. When we talk of incidence, we mean differential incidence, i.e., what is the probable effect of substituting basic régimes by supplemental schemes[2] on the distribution of income among the elderly? Clearly, the philosophy behind basic schemes also affects supplemental régimes. Basic schemes based on distribution, providing lump sum benefits and which are not earnings-linked, are more often than not combined with supplemental régimes imposed by the law, whose earnings-linked benefits are designed purely to support the basic scheme.

However, for régimes based on commutative thinking, which provide earnings-related benefits, supplemental schemes are only available for income brackets not covered by the basic scheme, and this is usually done on a voluntary basis, to provide assistance. The interaction of these principles of assistance and insurance has easily discernible consequences in terms of the equity of supplemental pension schemes.

This report is divided into two sections. Firstly we will describe the major distributive features of supplemental schemes in member countries. These features include the extent of coverage, the amount of benefits, the source of financing and tax exemptions. Secondly, we will examine the incidence of private pensions on the

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2 In a recent study on pension schemes in Europe, Petersen (1991) forecasts that supplemental individual regimes will probably expand in the Netherlands, Germany, France, Belgium and the United Kingdom, the five countries he examined. Furthermore, he estimates that there will be a decline in the relative size of basic plans.

distribution of income among the elderly for those countries for which statistics are available, particularly in comparison with public pension schemes.

1. Features of supplemental pension schemes

From the point of view of equity, the two specific features of supplemental schemes are the limited number of eligible people and the funded financing method. Compared with basic schemes, this means that supplemental régimes introduce a certain degree of blatant discrimination among people who are covered,whether on a compulsory basis or not, and those who are not eligible. Moreover, except in certain rare cases, these régimes are not based on the principle of intergenerational solidarity inherent in funded pension plan methods.

Table 1 shows the different types of basic and supplemental pension schemes in OECD countries. We have given the distributive features of these régimes : level of coverage, replacement ratio, whether benefits are lump sump payments or other, financing methods and tax expenditure. Unfortunately, this table remains incomplete for two reasons : the complexity of these régimes and the lack of data for certain countries. The first problem is by far the most serious. For example, how do we calculate in a single figure the level of replacement of supplemental régimes when it varies from one sector to another and from one income category to another, not to mention the personal characteristics of each retired person?

The best comparisons can be made for EC countries; after all the Community has imposed on its members harmonization requirements, which are ineluctable in the long run.

In this section, we will comment on the table highlighting the most significant elements and drawing conclusions on the equity of supplemental pension schemes. At the end of this section, we will examine the taxation of contributions and benefits.[3] Indeed it is the possibility of tax relief for individual or collective supplemental régimes that justifies our inquiry about their distributive nature.

Table 1 is based on a group of recent reports which are given in the bibliography[4]. The table contrasts the two pillars on three levels : level of coverage, benefits and financing. Clearly, the basic schemes concern a larger part of the population than supplemental régimes. Depending on the country, basic schemes involve either the work force or all residents. Where régimes are based on a notion of assistance, they tend to cover all residents, whereas if they are more commutative, they are limited to workers only.

The philosophy behind the basic schemes also explains the compulsory nature of supplemental régimes. In countries where basic benefits depend directly on the income received in the course of one's working life (e.g., Germany, Belgium, Canada, Spain, Luxembourg, Portugal and the USA), schemes are not compulsory. However, the other (fewer) countries, where basic benefits are lump sum payments, tend to make supplemental régimes compulsory and interlink benefits with employees' income. This is the case in the United Kingdom, Iceland and Denmark.

To a large extent, this distinction between countries with compulsory régimes and those with optional systems is artificial. What really matters is the final amount of pensions. In the Netherlands, many employees do not have any supplemental benefits,

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[3] For this see Dilnot (1991).

[4] d'Herbais (1991), Lusenti (1989), Observateur Européen de la Protection Sociale (1991), Petersen (1991), De Ryck (1991) and the OECD country surveys.

yet they have more than sufficient pensions, much higher than those in certain countries where there are combinations of basic and supplemental schemes. The important thing is the net replacement ratio, i.e., the ratio of net pensions (basic schemes and supplemental régimes) to the average net salary throughout one's working life.

Table 1 gives the average replacement ratios of basic régimes and that of the two régimes combined. In order to simplify comparisons, gross levels are given. For many countries, particularly in Europe, the level of replacement by the two combined régimes is relatively homogeneous. Taking as a basic standard the net salary of a married man having worked throughout his life, the level of replacement varies between 59% for Ireland and 68% for Germany, Denmark, Portugal and the United Kingdom. When this average salary is doubled, the level of replacement oscillates between 48% for Belgium and 66% for Portugal[5].

However, these average levels of replacement are deceptive. If we proceed along the scale of incomes, these levels tend to decline for basic schemes and increase for supplemental régimes. This increase is all the more pronounced as benefits are linked to professional salaries and restricted to middle management only.

In general, basic régimes are based on a pay-as-you-go system. However, this is rarely done on an integral basis. Furthermore, the State often makes some contribution, which varies from one country to the next, in order to balance out these régimes. At this point, mutual insurance schemes to cover old age take different forms, sometimes focusing on intergenerational inequalities, sometimes on individual inequalities within a given cohort.

Supplemental schemes are based on funded pension plans. However, it is noteworthy that the forms of funded pension plans vary significantly from one country to the next, incorporating both insurance and assistance requirements. Funded pension plans are handled by specialized bodies dealing with pension funds and insurance. Alongside pay-as-you-go and funded pension plans, book reserves are also used : employers provide supplemental retirement benefits and in return are entitled to use as they see fit the provisions thus constituted free of tax.

With regards to equity, each of these methods for funding supplemental plans has specific implications. For example, it is easier to ensure a certain degree of redistribution within the framework of pension funds than it is for retirement insurance contracts.

The State plays diverse roles in these supplemental régimes. In virtually all countries examined, the State defines regulations for organizations authorized to collect supplemental contributions, in order to ensure solvency. In practical terms, it is the executive which monitors the activities of these organizations. But it is mainly at the level of taxation of contributions and benefits that the State plays its key role.

While in all countries contributions to basic pension schemes by both the employer and employee are deductible from profits, there is a major difference in the tax treatment of contributions to supplemental régimes.

Ceilings and limits have been imposed on the deductibility of contributions; some favour employer contributions, while others favour those of employees.

In most countries, employer contributions are generally deductible when they do not exceed a certain amount, or when the final benefit itself is subject to a ceiling.

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5 dHerbais (1991), p.222.

Naturally, this deductibility is only applicable to a supplemental scheme operating within the bounds of the law, regulations, collective agreements or company agreements.

Deductibility of employee contributions is usually limited to either an absolute value, determined by the tax law, or to a percentage of the salary. If these limits are overstepped, the excessive amount of the employee's contribution is transferred to his/her income and taxed as such.

In virtually all countries but New Zealand, pensions are subject to income tax, although effective tax rates are generally very low.

Certain supplemental schemes can be settled in cash, in which case they are subject to lump sum taxation, like in Belgium, Germany and Luxembourg. Finally, it is noteworthy that there is a general move towards exemption of virtually all income from pension funds. New Zealand and to a lesser extent Australia and Japan are exceptions.

To assess the real impact of the different tax expenditure applicable to supplemental schemes, we need to know the exact amount transferred to the domestic income. If we accept the hypothesis, which appears quite plausible, that all public receipts are neutral with regards to revenue distribution, we can make an approximate assessment of the redistribution involved in these tax expenditure. So if x is the ratio of tax expenditure to national income and y is the fraction of people enjoying private pension schemes, we can say that each of these persons receives from the State a subsidy of x/y.

In the OECD country surveys, some data are provided about these tax expenditure, which are given in Table 2.

Table 2

Ratio of tax expenditure to public retirement expenditure

		National currency (million)	%
Australia	(1984)	2610/10470	25
United States	(1985)	63180/285200	22
Ireland	(1989)	256/1290	20
United Kingdom	(1989)	11800/29550	40

Sources : Andrews (1989), Haberman (1991), Hughes (1990), McCallum (1991).

Therefore, it appears that the financing of supplemental schemes represents a vast sum of money. As Hughes points out in his study on Ireland (1990), tax expenditure granted for private pensions (256 million Irish pounds in 1989) largely exceed the public financing of basic pension schemes (165 million pounds).

Of course, these figures represent the State subsidy for supplemental régimes, but they do not tell us what a cohort of pensioners actually receives for a given year. Indeed, some of these exemptions will be returned to the treasury upon retirement through income tax. In the United States, the Congressional Budget Office (CBO)[6] carried out a study, taking into account all these dynamic aspects. This study showed that while tax expenditure are not as high as they at first seem, they are highly regressive. For example,

6 See Andrews (1990).

for a single person retired in 2019, tax benefits increase from 2% for the first quartile of income distribution to 21% for the highest quartile.

There is therefore a dual source of regressiveness in the "concealed" financing of supplemental pensions. On the one hand, those eligible for private pensions with the highest income benefit from the largest number of tax exemptions due to the progressive nature of taxation. On the other hand, all those eligible for exemptions benefit from resource transfers from the rest of the population.

Another aim of this paper is to examine what happens with basic schemes and their public financing. We have adopted the hypothesis that basic schemes will undergo a certain "squeezing". This will have an even greater impact as these régimes are based on a notion of assistance and are partially financed out of general revenue. Less regressive consequences will be felt if this squeezing goes hand in hand with a restructuring of the distribution of benefits and contributions, with the former becoming lump sum payments and the latter freed of any ceilings.

Unfortunately, very little information is available concerning this particular issue. At the very most, we have been able to note that in several countries there is a tendency to erode large pensions directly by reducing the final amount, or indirectly by levying the same level of tax as on other sources of income.

2. Private Pensions as Part of Retirement Income

The main purpose of this paper is to study the differential incidence of replacing basic régimes by supplemental pension schemes. This is a straightforward yet complicated matter. Straightforward because in most basic cases, this substitution has clear regressive implications. Yet complicated because beyond any general responses, the lack of reliable data prevents a precise evaluation of the true extent of this impact.

On a purely conceptual basis, there are several ways of assessing the distributive impact of this substitution. First, we can focus on the distribution of income among the elderly. We are aware of the distribution of income according to age category and country. The issue is then to evaluate the degree of income inequality in the highest age groups if private pensions far outstrip public pensions . Secondly, we may find it more appropriate to examine the distribution of income for the entire life cycle in order to take into account not only benefits but also contributions to pension schemes. Lastly, rather than examining the breakdown of intragenerational incomes, we can also look at intergenerational distribution. For example, it is likely that in many countries partial replacement of public pensions, which are characterised by universal coverage and mutual assistance, by private schemes based on funded pension plans and limited to a restricted number of beneficiaries has a regressive effect both in terms of intragenerational and intergenerational equity.

As we can see, the notion of equity itself in a dynamic context such as pensions is somewhat ambiguous[7]. In this paper, we aim to concentrate on the intragenerational impact.

Nevertheless, the intergenerational aspect is also significant. State pensions based on pay-as-you go schemes are known for their intergenerational redistribution effect. Within the context of the ageing population, whatever the solution adopted to solve the problems of financing public pensions - increased contributions, reduced benefits, longer working life - it will be impossible to avoid creating a certain loss for future generations. These are just rewards; after all, the generations who have seen basic schemes develop

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7 Pestieau (1989).

have enjoyed the benefits of pensions to which they have barely contributed. However important they might be, supplemental funded pension plans will not be able to alter this, since they are essentially ineffective from the point of view of intergenerational redistribution.

An exhaustive intergenerational study should consider individuals throughout their life cycle. In this respect, it is not sufficient to examine how benefits are broken down among the elderly; we must also determine who is responsible for the direct private and indirect public financing of supplemental régimes. As was shown in the previous section, in nearly all countries, private financing, whether compulsory or optional, lies with the future retired population, to within one actuarial factor. Public financing on the other hand is supported by the entire population. As a result, the more supplemental régimes are limited to a small fraction of the population, who in addition, earn the highest salaries, the more their public financing is regressive.

But let us concentrate on the main purpose of this section, the income of elderly people. In concrete terms, there has been an improvement in the situation of the elderly in many countries compared to the working population, but also compared to the elderly of previous cohorts[8]. This improvement is largely due to the development of both public and private retirement plans. Furthermore, it is believed that in the future, supplemental schemes will expand to compensate for the specific gaps in basic state pension funds. Under these conditions, two key questions arise. Should we not anticipate a decline in the material well-being of the elderly? Moreover, shoud we not fear a sharp increase in the inequality of incomes of those in the highest age group, which at present is on average similar to that of other age groups?

When we take the average income in countries for which the LIS[9] has data, inequalities according to age group appear to be evenly widespread. However, there are differences among countries. In the United States, the greatest inequalities are found among the higher age group, whereas in Sweden inequalities are the lowest (see Table 3). The size of pensions may explain this difference. In Sweden, 85% of gross earnings of the over-75s come from public transfers, whereas in the United States, transfers represent only 47%. But even more significant is the philosophy behind the different retirement plans. Plans are distributive in Sweden, while they are commutative in Germany, where, despite the high level of pensions, the oldest members of the population experience the greatest inequalities. German pensions are more or less proportional to average earnings during one's working life, while the Swedish system has a strong focus on lump sum benefits. Consequently, the impact of substituting public pensions by private schemes will depend on the actual features of each régime.

The extreme case would be one of a country where basic schemes were based on a redistributive concept and covered the entire population, and where supplemental plans were purely commutative and limited to senior management. To deal with this question, we have used data from the LIS for countries where it is possible to distinguish the contributions of both pension schemes from the income of the elderly. The populations examined include retired households, but also those without public or private pensions. We studied eight countries, of them some for several years.

We used the most recent data available to the LIS. The demographic structure of our sample is given in the appendix in Tables A.1, A.2 and A.3. Table 4 gives for each selected country and year the relative share of private and public pensions for all families whose head of the household is at least 55. Two comments on this table are in order. There is a definite higher percentage of public pensions than private schemes. The

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8 Kessler and Pestieau (1990).

9 Luxembourg Income Study, which compiles data on household incomes for a large number of countries.

difference is at its greatest in Germany and its lowest in Israel. Furthermore, for the countries for which data over several years are available, the share of private pensions is rapidly increasing. But it is Table 5 which represents the key elements for our study.

Table 4

Percentage of private and public pensions in the income of the elderly (55 and over)

Country	Year	Private pensions (%)	Public pensions (%)
Germany	1981	6.54	54.14
Australia	1981	4.06	36.11
-	1985	12.10	34.51
Canada	1981	6.11	32.63
Canada	1987	10.10	38.57
United States	1979	8.37	29.78
-	1986	10.30	36.49
Israel	1979	14.70	24.76
Netherlands	1983	18.50	41.84
United Kingdom	1969	7.44	36.86
-	1979	8.39	41.69
-	1986	13.50	45.02
Swizerland	1982	7.61	34.71

Note : Income is gross income of the household.

Before commenting on Table 5, we should point out certain reservations. The years given are not the same, but more importantly, the statistical factors behind the concepts of private and public pensions and gross earnings vary from one country to the next. Despite these reservations, several conclusions can be drawn from this table. In the first instance, we will focus on the intermediate age group (65-75).

In all countries, in the first quartile of earnings distribution public pensions represent the largest share. This decreases as we ascend the scale of incomes. This decrease is more pronounced in the United Kingdom, Australia and, to a lesser extent, in Canada, the United States and the Netherlands. Except for the United States, these are also the countries whose basic schemes are based on distributive grounds. The profile for private pensions is the reverse. They account for the largest relative share in the third quartile, except in the Netherlands. Naturally, it is in the first quartile that private pensions are least widespread, with strong growth in Germany, the Netherlands and the United Kingdom.

In the first quartile, public pensions are clearly more widespread than private schemes. This remains true for the second quartile, except in Israel, and in the third, except in Australia, Israel, the Netherlands and the United Kingdom (in 1986). In the fourth quartile, public pensions are more widespread than private pensions only in Germany, Canada in 1981 but not in 1987, the United States in 1979 but not in 1986, and Switzerland. While public pensions represent up to 88% of income for the elderly, private schemes represent only a maximum of 39%. These two extremes are found in the same country, the Netherlands, which is known for having one of the most generous systems of private and public pensions.

When we distinguish the three age groups, a certain evolution can be observed. Our sample includes all elderly households, whose head is 55 or over, whether retired or not. Naturally, income reduces with age, and conversely, the share of public pensions

increases. The change on the part of supplemental schemes is less clear. In these transversal comparisons, households belonging to different cohorts are compared. As supplemental régimes are a recent development, it is not surprising that in certain countries, the oldest households benefit from them less than younger households.

This dynamic aspect is much more distinct in countries for which we have data over several years. In Australia, there has been a widespread increase in the share of private pensions and a certain decline in that of public pensions. In the United States, Canada and the United Kingdom, the boom in private pensions is as evident, but the decline in public pensions is much more mitigated.

Many researchers have already hightlighted an inverse relation between incomes from property and private pensions, on the one hand, and public pensions, on the other. Table 5 indicates that this relation can be seen not only in intertemporal or international comparisons but also when we examine the scale of incomes among the elderly. Every country in our sample forms part of this trend. We must therefore conclude, on the basis of this admittedly limited sample, that if the structure of benefits provided by basic schemes and supplemental retirement plans remains unchanged and if there is a gradual substitution of the former by the latter, income inequality for the elderly will ineluctably intensify.

In most national studies on private pensions, distributive aspects have not been examined. Where they have been taken into consideration, they have been analysed in purely superficial terms. Haberman (1990), for example, at the end of his long study, devotes a few lines to saying that supplemental régimes are not concerned with either redistribution or equity. Haberman recognizes that, implicitly, these schemes favour non-manual and full-time workers, whose incomes increase more rapidly than the average.

Hughes (1990) in his report on Ireland emphasizes the difference between public and private pensions. The latter are often made available to managerial staff, male employees, employees of large companies and those from the public sector. This implies that there is a noticeable regressive structure to benefits.

Why has so little been said of distributive matters when dealing with private pensions? We have identified four reasons. Firstly, supplemental régimes have often been developed to counterbalance the sometimes overly egalitarian nature of basic schemes. Secondly, any adequate treatment of matters of equity requires a dynamic context, which is always highly complex. Even for public pensions whose structure is simpler and more standardized than that of private pensions, good empirical methods are cruelly lacking. Moreover, in recent years, the concern for equity has often had to give way to demands for greater efficiency. Lastly, we have to admit that in certain countries there are relatively few problems surrounding pensions. This is the case in the United States, for example, as noted by Andrews (1990). Hence the optimism of researchers, who fail to realise that in many OECD countries, the redistributive prospects of retirement schemes are extremely hazy.

Conclusion

The purpose of this report is to examine the benefits of supplemental pension plans in terms of equity. This issue is all the more pertinent at a time when many governments are actively encouraging the development of these plans through tax incentives in order to compensate for the failings of basic régimes and to spur more dynamic savings.

Supplemental schemes vary from one country to the next in terms of the following features with clear distributive implications :

- the level of cover, which oscillates between a marginal fraction of employees to virtually the entire work force;
- the financing method implemented everywhere except in France on variations of funded pension plans and through book reserves, insurance companies, or pension funds;
- contributions, which enjoy extensive tax reliefs.

Compared to most basic régimes, supplemental schemes are limited to a sub group of the population; they do not imply intergenerational solidarity. At the very most, in certain countries, there is some redistribution among beneficiaries of a given fund.

There is no doubt that supplemental régimes help alleviate problems created by an ageing population with regard to the financial viability of basic pay-as-you-go schemes. However, this is only a partial response, which in the long term could entail strong disparities in income among the oldest members of society. This policy is perhaps beneficial in electoral terms if a majority of citizens benefit from this substitution. However, we know that the majority rule can have undesirable effects in terms of equity. If, furthermore, national savings are not stimulated by the expansion of supplemental pension schemes, we may be inclined to question whether the fiscal expenditure devoted to contributions to these plans are still justified. Indeed some people believe that these régimes do not create new savings, but simply serve to generate flux within existing savings.

This applies moreover not only to supplemental régimes, but also to individual private schemes which benefit from tax relief, the effect on savings of which is equally dubious and the distributive effect of which is to make those people pay who cannot save for the benefit of those people who are able to make savings.

In conclusion, let us quote Lusenti (1989), who perfectly summarizes the spirit of this report. Lusenti analyses distribution according to the income categories of benefits provided by professional employer plans in Germany and he concludes his study by the following statement: "On the basis of information provided by these statistics, *we have shown that, to a certain extent, professional welfare plans help to create a gap in income after retirement between the best paid employees and the least paid, and that in this respect, these plans do not in general represent an instrument of social policy.* Consequently, it would be difficult for professional employer plans to replace State retirement benefits without a full review of the principles which govern the provision of benefits for the different employee categories".

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Table 1

Different Public and Private Pension Schemes

		1st PILLAR			2nd PILLAR			
Country	Retirement age	Coverage	Type of benefit (level of max. gross replacement)	Financing	Coverage (% of working population)	Type of benefit (level of average gross replacement including social security)	Financing	Taxation	Redistribution
AUSTRALIA	65/60	All residents	Lump sum pensions (40%)	"Pay-as-you-go"	Voluntary, 60%	Lump sum pensions (53%)			
BELGIUM	65/60	All workers	Pensions linked to average earnings during working life (60%)	"Pay-as-you-go"	Voluntary, 5%	Pensions linked to salary (60%)	Funded plans	. Employer and employee contributions deductible . Pensions liable for income tax, with tax credit	. Involves very few workers . Concerns 80-90% of managers
CANADA	65/65	All residents	Lump sum and supplementary pensions linked to average earnings during working life (35%)	"Pay-as-you-go"	Voluntary, 45%	Lump sum pensions or linked to salary (70%)	Funded plans	. Employer and employee contributions deductible up to a ceiling . Pensions taxed	
DENMARK	67/67	All residents	Lump sum pensions (25%)	"Pay-as-you-go"	Compulsory	Lump sum pensions (68%)	Funded plans	. Employer and employee contributions deductible . Pensions liable for income tax	
FINLAND	65/65	All workers	Lump sum pensions and complements linked to level of average earnings during working life (60%)	"Pay-as-you-go"	Compulsory, 100%	Pensions linked to salary (60%)	. Employees : funded plans . Farmers and self-employed : "Pay-as-you-go"	. Employer contributions deductible . Employee contributions deductible up to 15% of annual salary . Pensions liable for income tax	

		1st PILLAR			2nd PILLAR				
Country	Retirement age	Coverage	Type of benefit (level of max. gross replacement)	Financing	Coverage (% of working population)	Type of benefit (level of average gross replacement including social security)	Financing	Taxation	Redistribution
FRANCE	60/60	All workers	Pensions linked to average earnings of of best 10 years (50%)	"Pay-as-you-go"	Compulsory, 80%	Pensions linked to salary (67%)	. "Pay-as-you-go" for share of pension < compulsory minimum . Funded plans for share of pension > compulsory minimum	. Employer and employee contributions deductible . Pensions liable for income tax	
GERMANY	65/65	All workers	Pensions linked to average earnings during working life (50%)	"Pay-as-you-go"	Voluntary, 65%	Lump sum pensions or linked to salary (66%)	Mainly "book reserve"	. Employer contributions deductible . Employee contributions taxed below norm . Pensions taxed	. Few workers affected . Involves all managerial staff
GREAT BRITAIN	65/60	All residents	Lump sum pensions (40%)	"Pay-as-you-go"	Voluntary, 50-60%	Pensions linked to salary (68%)	. Funded plans (professional pension plans) "Pay-as-you-go" (SERPS)	. Employer and employee contributions deductible . Pensions liable for income tax, except Lump sum payments	. Concerns most workers . Concerns managers in particular
GREECE	65/60	All employees and the like	Pensions linked to average earnings of the last 2 years (70%)	"Pay-as-you-go"	Voluntary, 40%	Pensions linked to salary (67%)	"Pay-as-you-go"	. Employer and employee contributions deductible . Pensions liable for income tax	
ICELAND	67/67	All residents	Lump sum pensions	"Pay-as-you-go"			Funded plans		

	1st PILLAR				2nd PILLAR				
Country	Retirement age	Coverage	Type of benefit (level of max. gross replacement)	Financing	Coverage (% of working population)	Type of benefit (level of average gross replacement including social security)	Financing	Taxation	Redistribution
IRELAND	66/66	All workers	Lump sum pensions (25%)	"Pay-as-you-go"	Voluntary, 50%	Pensions linked to salary (59%)	"Pay-as-you-go" or funded plans (unorganized scheme)	. Employer contributions deductible . Employee contributions deductible up to ceiling . Lump sum payments exempt . Pensions liable for income tax	. Membership terms more favourable for managers than workers
ITALY	60/60	Employees, self-employed, certain professional categories	Pensions linked to average earnings of the last 5 years (80%)	"Pay-as-you-go"	Voluntary, 5%	Pensions linked to salary (60%)	. Pension plans defined by collective agreement : funded plans or "Pay-as-you-go" . Pension plans managed by insurance companies: funded plans	. Employer and employee contributions deductible . Pensions liable for income tax	
JAPON	60/60		Partly lump sum, partly linked to average earnings over working life (47 %)			(60 %)		. Contributions deductible . Pensions taxed	
LUXEMBOURG	65/65	All residents	Partly lump sum, partly linked to average earnings over working life (64%)	"Pay-as-you-go"	Voluntary	Pensions linked to salary (87%)	Mainly "book reserve"	. Employer contributions deductible . Employee contributions deductible up to a ceiling . Pensions liable for income tax	. Generally, complementary cover reserved to high-level employees

		1st PILLAR			2nd PILLAR			
Country	Retirement age	Coverage	Type of benefit (level of max. gross replacement)	Financing	Coverage (% of working population)	Type of benefit (level of average gross replacement including social security)	Financing	Taxation	Redistribution
NETHERLANDS	65/65	All residents	Lump sum pensions (70%)	"Pay-as-you-go"	Voluntary, 50%	Pensions linked to salary (61%)	Funded plans	. Employer and employee contributions partially and fully deductible . Pensions liable for income tax	
NEW ZEALAND	60/60	All residents	Lump sum pensions (45%)	"Pay-as-you-go"	Voluntary, 22%	Lump sum or linked to salary (77%)	Mainly funded	. Employer and employee contributions taxed . Lump sum payments exempt . Pensions exempt	
NORWAY	67/67	All workers	Lump sum and complement linked to average earnings during working life (68%)	"Pay-as-you-go"	Voluntary, 25%	Pensions linked to salary (65%)	Funded plans	. Contributions deductible . Pensions liable for income tax	
PORTUGAL	65/62	All workers	Pensions linked to average earnings of 5 best years out of last 10 (80%)	"Pay-as-you-go"	Voluntary	Pensions linked to salary (68%)	Funded plans	. Employer contributions considered as costs up to max. 15% of wage costs . Employee contributions exempt . Pensions partly or wholly deductible, up to certain ceilings	

		1st PILLAR			2nd PILLAR				
Country	Retirement age	Coverage	Type of benefit (level of max. gross replacement)	Financing	Coverage (% of working population)	Type of benefit (level of average gross replacement including social security)	Financing	Taxation	Redistribution
SPAIN	65/65	All workers	Pensions linked to average earnings of last 8 years (100%)	"Pay-as-you-go"	Voluntary, 3 %	Lump sum pensions plan or linked to salary (74%)	Funded plans	. Employer and contributions deductible . Employee contributions deductible up to a ceiling . Pensions liable for income tax	. Concerns all middle/senior managers
SWEDEN	65/65	All workers	Lump sum pensions and complements linked to income (80%)	"Pay-as-you-go"	Compulsory, 100%	Pensions linked to salary (65%)	Funded plans	. Employer contribution partially deductible (since 1991) . Pensions liable for income tax	
SWITZERLAND	65/62	All employees over 24	Pensions partly lump sum, partly linked to average earnings over working life (60%)	"Pay-as-you-go"	Compulsory	Pensions linked to salary (72%)	Funded plans		. Concerns few workers . Concerns mainly managers
USA	65/65	All workers	Pensions linked to average earnings (40%)	"Pay-as-you-go"	Voluntary, 55%	Pensions linked to salary (68%)	Funded plans	. Employer contributions deductible up to a ceiling . Employee contributions taxable . Pensions liable for income tax	

Table 3

Relative Size of Public and Private Pensions in Gross Income Among the Elderly in Selected OECD countries, 1978-1980

	Australia			Canada			Germany			Norway			Sweden			Switzerland			UK			USA		
Age of Head of Household	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+	55+	65-74	75+
Breakdown of Families as % of Population	33	11	6	32	17	7	43	23	12	45	24	12	40	22	12	36	12	10	42	24	9	34	19	8
Public Pensions	24	42	55	18	35	45	46	67	15	30	45	75	51	76	18	23	36	45	28	46	54	19	35	45
Private Pensions	4	8	6	6	12	8	8	12	12	3	1	10	—	—	—	1	13	15	8	15	12	8	13	12
Gini Coefficient	0.29	0.28	0.27	0.30	0.31	0.29	0.34	0.30	0.34	0.23	0.25	0.23	0.20	0.14	0.13	0.30	0.41	0.34	0.25	0.27	0.24	0.34	0.34	0.36

Sources : Holzman (1988), Achdut and Tamir (1990).

Table 4

Percentage of Private and Public Pensions in Income of the Elderly (55 and over)

Country	Years	Private pensions (%)	Public pensions (%)
Germany	1981	6.54	54.14
Australia	1981	4.06	36.11
Australia	1985	12.11	34.51
Canada	1981	6.11	32.63
Canada	1987	10.13	38.57
United States	1979	8.37	29.78
United States	1986	10.37	36.49
Israel	1979	14.72	24.76
Netherlands	1983	18.55	41.84
United Kingdom	1969	7.44	36.86
United Kingdom	1979	8.39	41.69
United Kingdom	1986	13.57	45.02
Switzerland	1982	7.61	34.71

Note : Income is gross income for the household.

Table 5

Breakdown of Private and Public Pensions by Age and Income

Country (year)	Transfers (% of Income)	First Quartile of Income			Second Quartile of Income			Third Quartile of Income			Fourth Quartile of Income		
		55-64	65-74	≥ 75	55-64	65-74	≥ 75	55-64	65-74	≥ 75	55-64	65-74	≥ 75
Germany (1981)	Private Pensions	5.55	2.33	3.65	2.83	10.82	17.78	3.13	26.39	26.19	3.38	18.56	8.31
	Public Pensions	48.97	83.53	89.96	26.29	73.29	68.18	8.39	37.93	53.36	4.39	32.77	24.49
Australia (1981)	Private Pensions	2.17	2.01	2.42	4.11	11.30	10.79	3.84	9.78	10.05	0.83	7.79	3.70
	Public Pensions	32.65	73.82	84.59	3.67	32.94	44.63	1.56	11.95	18.43	0.58	6.24	12.49
Australia (1986)	Private Pensions	13.24	14.08	5.39	14.34	26.45	18.58	5.38	14.89	15.39	2.74	8.04	8.33
	Public Pensions	33.93	68.16	79.59	6.37	27.28	38.91	1.94	8.52	10.39	0.42	3.30	5.33
Canada (1981)	Private Pensions	6.95	4.01	3.98	6.12	12.24	10.69	3.35	12.78	8.01	2.22	11.26	3.99
	Public Pensions	10.59	74.69	76.03	3.22	39.14	40.93	1.70	21.50	20.13	0.73	11.86	11.19
Canada (1987)	Private Pensions	9.63	5.17	4.17	11.84	16.25	17.37	9.07	21.28	18.34	5.47	17.58	16.84
	Public Pensions	18.87	77.16	80.44	8.84	46.99	49.68	3.71	26.17	26.17	1.49	15.45	17.38
United States (1979)	Private Pensions	10.45	4.79	4.39	8.97	14.59	14.35	5.60	15.87	12.62	3.44	11.08	18.12
	Public Pensions	0.12	65.91	71.40	0.02	44.97	45.97	0.10	24.85	28.42	0.03	11.87	16.28
United States (1986)	Private Pensions	8.66	5.67	4.92	15.22	17.22	13.74	8.78	17.56	13.80	6.05	14.48	12.69
	Public Pensions	29.64	73.10	75.64	13.38	48.07	48.44	6.29	26.95	26.42	1.38	12.80	17.46
Israel (1979)	Private Pensions	12.08	19.54	16.74	6.90	22.95	33.36	2.59	27.67	40.00	2.78	10.87	29.83
	Public Pensions	27.65	53.51	69.20	4.03	16.63	20.66	1.08	9.70	7.60	0.85	4.37	2.66
Netherlands (1983)	Private Pensions	21.34	8.29	6.85	16.31	30.77	32.16	22.08	38.23	38.30	14.38	39.34	45.97
	Public Pensions	0.60	88.24	90.64	6.32	54.88	51.52	1.54	36.67	34.27	1.07	17.37	17.51
United Kingdom (1969)	Private Pensions	4.01	5.58	6.53	5.51	16.92	14.34	2.86	11.21	13.81	6.60	9.64	26.77
	Public Pensions	45.03	85.18	83.95	6.03	39.99	42.48	1.71	16.23	16.30	0.30	3.13	6.36
United Kingdom (1979)	Private Pensions	8.14	7.51	6.10	4.62	21.00	20.70	2.25	19.76	17.66	2.80	13.70	8.79
	Public Pensions	34.47	74.27	75.82	5.92	40.91	40.29	2.12	21.12	20.30	0.95	12.10	10.88
United Kingdom (1986)	Private Pensions	10.89	7.61	5.94	14.37	21.33	26.00	10.59	33.08	23.75	8.08	25.05	24.86
	Public Pensions	34.53	83.10	85.72	8.30	50.91	52.75	3.60	26.36	25.74	1.09	13.89	12.49
Switzerland (1982)	Private Pensions	2.10	5.30	6.46	1.04	16.29	18.19	0.13	24.77	33.56	0.00	13.69	19.84
	Public Pensions	16.59	74.61	75.63	1.86	54.41	55.20	0.19	36.31	35.13	0.09	19.20	18.70

Notes : Income is gross income for the household.
The age given is of the head of the household.

Table A.1

Structure of the Population by Age of Head of Household (%)

Country (Year)	Age of Head of Household						
	≤ 54 years	> 55 years	55-59	60-64	65-69	70-74	≥ 75 years
Germany (1981)	64.6	35.4	8.7	5.3	6.2	6.8	8.4
Australia (1981)	68.8	31.2	7.5	6.8	6.1	5.0	5.9
Australia (1986)	66.2	33.8	7.1	8.1	6.4	5.7	6.6
Canada (1981)	66.7	33.3	7.6	7.2	6.5	5.1	6.8
Canada (1987)	68.0	32.0	6.7	6.6	6.1	5.2	7.3
United States (1979)	67.0	33.0	7.5	6.6	6.2	5.3	7.4
United States (1986)	66.4	33.6	6.8	6.7	6.3	5.6	8.2
Israel (1979)	66.4	33.6	7.4	6.9	7.4	6.3	5.6
Israel (1986)	64.3	35.7	7.9	7.6	7.1	6.1	7.0
Netherlands (1983)	66.7	33.3	7.3	6.9	6.1	5.6	7.3
United Kingdom (1969)	58.7	41.3	9.5	9.5	9.2	6.0	7.1
United Kingdom (1979)	58.0	42.0	9.2	6.9	8.8	7.9	9.2
United Kingdom (1986)	58.7	41.3	7.1	8.4	8.2	7.3	10.4
Switzerland (1982)	64.1	35.9	7.8	7.4	6.2	6.1	8.4

Table A.2

The Distribution of Family Types according to the Age of the Head of Household

Country (Year)	Age	Single Man	Single Woman	Couple no children	Family with children (1)	Other (2)	Size of Family
Germany (1981)	55-64	3.24	20.68	54.32	15.96	5.69	2.26
	65-74	9.94	37.11	44.36	1.07	7.51	1.63
	75 and +	14.10	44.40	37.80	0.00	3.70	1.43
Australia (1985)	55-64	8.98	15.28	55.73	13.38	6.68	2.27
	65-74	10.30	26.34	53.13	2.08	8.36	1.78
	75 and +	11.40	42.00	32.70	0.70	13.20	1.53
Australia (1985)	55-64	10.97	15.30	57.47	8.24	8.01	2.22
	65-74	10.17	28.29	53.73	1.87	5.93	1.74
	75 and +	10.70	43.30	36.20	0.00	9.80	1.51
Canada (1981)	55-64	8.58	14.27	53.61	16.64	6.74	2.44
	65-74	10.81	22.11	54.20	5.42	5.55	1.84
	75 and +	13.70	38.10	37.80	1.90	8.40	1.61
Canada (1987)	55-64	8.30	12.25	58.05	12.45	8.95	2.39
	65-74	9.23	25.79	53.20	4.46	7.32	1.88
	75 and +	13.00	39.20	37.60	1.60	8.60	1.59
United States (1979)	55-64	8.25	16.64	52.44	14.00	8.71	2.28
	65-74	9.08	29.92	48.28	5.27	7.40	1.84
	75 and +	10.80	43.80	33.20	1.50	10.50	1.56
United States (1986)	55-64	7.25	15.40	55.55	12.45	8.80	2.16
	65-74	9.28	29.61	41.18	4.80	7.87	1.73
	75 and +	11.00	47.20	29.80	1.50	8.40	1.50
Israel (1979)	55-64	1.87	10.47	54.01	24.95	8.64	2.93
	65-74	5.75	20.27	62.38	7.09	4.46	2.15
	75 and +	10.20	20.50	58.30	5.50	5.50	1.90

Table A.2 (continued)

The Distribution of Family Types according to the Age of the Head of Household

Country (year)	Age	Single Man	Single Woman	Couple no children	Family with children (1)	Other (2)	Size of Family
Netherlands (1983)	55-64	7.25	13.98	59.25	14.57	6.71	2.45
	65-74	7.41	28.14	57.46	1.00	6.51	1.78
	75 and +	18.40	42.90	32.20	0.60	5.90	1.42
United Kingdom (1969)	55-64	4.70	15.00	58.70	13.20	8.40	2.4
	65-74	9.01	25.87	50.41	3.56	11.09	1.90
	75 and +	12.90	38.70	28.40	2.40	17.50	1.66
United Kingdom (1979)	55-64	9.07	17.34	54.67	10.72	8.23	2.08
	65-74	10.53	30.45	49.64	1.40	7.97	1.73
	75 and +	13.10	46.00	27.40	0.30	13.20	1.50
United Kingdom (1986)	55-64	8.18	16.46	57.64	8.62	9.14	2.14
	65-74	10.36	29.81	50.65	2.07	7.16	1.71
	75 and +	14.50	46.20	29.00	0.70	9.50	1.45
Switzerland (1982)	55-64	9.04	16.33	55.27	19.35	0.00	2.02
	65-74	10.40	24.23	60.80	4.50	0.00	1.63
	75 and +	13.10	47.10	39.40	0.30	0.00	1.40

Notes : (1) Including couples, mono-parental families with children and other additional adults. Children are less than 18.

(2) This category includes all families without children not included in the first three groups.

Table A.3

Different Components of Income According to Age of Household Head

Country (Year)	Age of Head of Household	Market Income	Salary	Property Income	Private Pensions	Transfer Income	Direct Taxes	Net Income
Germany (1981)	55-64	74.28	69.31	1.28	3.69	25.72	20.77	79.84
	65-74	31.99	16.74	2.46	12.80	68.01	4.67	95.33
	75 and +	25.61	10.71	3.10	11.80	74.39	2.90	97.10
Australia (1981)	55-64	88.55	69.34	16.93	2.28	11.45	20.74	79.26
	65-74	56.28	25.97	22.97	7.78	43.48	13.15	87.06
	75 and +	44.36	16.32	21.95	6.09	55.64	11.59	88.41
Australia (1985)	55-64	89.74	69.49	14.01	6.16	10.33	22.55	77.44
	65-74	64.22	26.53	20.81	16.82	35.78	13.96	86.04
	75 and +	54.42	14.45	27.42	11.79	45.58	14.49	85.51
Canada (1981)	55-64	91.80	76.34	11.82	3.65	8.20	13.95	86.05
	65-74	61.03	27.54	23.07	10.41	38.97	8.85	91.15
	75 and +	50.27	14.65	28.98	6.63	49.73	6.35	93.65
Canada (1987)	55-64	87.28	71.13	7.64	8.48	12.73	17.00	82.99
	65-74	52.01	21.61	14.95	15.45	47.99	9.57	90.43
	75 and +	42.87	15.81	20.49	13.10	57.13	7.77	92.33
United States (1979)	55-64	92.69	78.59	9.05	5.10	7.31	23.42	76.58
	65-74	63.21	32.71	17.95	12.54	36.79	10.45	90.55
	75 and +	50.23	16.27	22.36	11.58	49.77	6.62	93.38
United States (1986)	55-64	92.67	74.02	9.82	9.14	7.33	21.90	78.10
	65-74	66.95	30.64	21.89	14.41	33.05	14.03	85.97
	75 and +	53.22	15.72	26.27	11.21	46.78	8.51	91.49
Israel (1979)	55-64	93.28	84.55	4.59	4.15	6.72	28.74	71.21
	65-74	77.52	42.21	13.61	20.81	13.38	14.57	85.43
	75 and +	73.58	21.14	27.76	24.69	26.42	9.60	90.40
Netherlandss (1983)	55-64	73.78	54.53	1.90	17.36	26.21	33.54	66.46
	65-74	45.97	14.63	3.40	28.21	54.08	23.26	76.74
	75 and +	40.09	7.44	7.02	25.63	49.91	21.72	78.28