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Luxembourg Income Study Working Paper Series

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Elderly. A Comparative Study.

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**The Public/Private Mix
in the Income Package of the Elderly.
A Comparative Study**

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**The Public/Private Mix
in the Income Package of the Elderly.
A Comparative Study¹**

1. Introduction

The point has been made in recent social policy research (cf. Rein/Rainwater 1986, Rainwater/Rein/Schwartz 1986) that in assessing the economic well-being of the elderly (or of any other group in society), it is necessary to take account of the whole "income package", of the various sources of income not only of individuals, but of families or households. For it is in the social framework of households where resources of various kinds (cash income, above all) are pooled and redistributed for satisfying the needs of the individual members. The analysis of household income composition, therefore, seems to be a promising starting-point in order to evaluate the impact societal arrangements of work and social security have on the patterns of social inequalities.

This idea is not altogether new. Almost 30 years ago, Richard Titmuss, in his famous essay on "The Social Division of Welfare" (1963), pointed to the necessity of taking account also of "occupational" and "fiscal" welfare in order to arrive at a more comprehensive view of collective provisions for welfare in society. With regard to the well-being and living conditions of the elderly, the idea is gaining acceptance both in practical social policy and in policy analysis, that social policy considerations should not narrowly focus on the provision of public pensions. Rather, the "societal" old age security system should be conceived as a three-pillars or three-tiers system composed of

- public pensions (eventually including other public transfers),
- occupational pensions, provided by public and/or private employers,
- and voluntary private provisions undertaken by the individuals themselves, e.g. private life insurances, private savings, homeownership and other property etc. (cf. for instance Jones 1985).

¹This research has generously been supported by a research grant of the Deutsche Forschungsgemeinschaft (DFG). My special thanks go to Brigitte Buhmann for her advice and support in analyzing the LIS data sets.

Underlying this conceptualization is the idea that the various components are interrelated and must be analyzed in conjunction, therefore. In cross-national perspective, for instance, occupational and private pensions can be assumed to be more important where public schemes are limited in scope and their average benefit levels are low. Where public pensions schemes are well-developed, on the other hand, and average benefit levels are high, there is less need for occupational and private provisions. Moreover, the general hypothesis can be derived that the function of occupational pension schemes depends on the developmental level and the benefit structure of public pension schemes.

Historically, public social security schemes have certainly expanded their domain in coverage as well as in resources spent. But despite this expansion, neither occupational pensions nor private provisions have been completely crowded out although their relative importance may have declined somewhat.² In a longitudinal perspective, their relationship towards public schemes seems complementary rather than substitutive.

In recent years, however, policy proposals have mostly been put forward to shift the balance in the opposite direction. A concept of interdependence of public and private expenditures for old age is also underlying these policy proposals. It is assumed that public pension expenditures can (and should) be replaced at least partly by occupational pension arrangements and/or by private, individual provisions. Such proposals have mostly been motivated by the desire to limit the tremendous rise in public pension expenditures which place a heavy burden on the public sector budgets. Sometimes, they are also advocated in the vein of general criticisms of the welfare state, contending that allocating benefits by market mechanisms is

²The major reason for this seems to lie in a growing need for income security in old age (and related social risks) accompanying secular economic growth and long-term demographic shifts towards an increasing share of the elderly in the population. In view of these structural factors, it cannot reasonably be assumed that "societal outlays" for the elderly can be kept constant, not to say be reduced to any significant degree. This makes for a growth in total pension outlays. Thus, while the share of occupational and private pensions in total pension outlays may have diminished, their expenditure share in total economic resources (i.e. in GDP) may still have grown over time. This, at least, is suggested by the various extensions in coverage of occupational schemes and the gradual improvements in their standards of benefits almost everywhere during the post-war period.

more "efficient" than public provision subject to political decision-making mechanisms.

From a social policy perspective, however, such an evaluation of relative merits and shortcomings can only be based on an appreciation of the overall goals of old age security policy. Three goal dimensions, in particular, can be distinguished (cf. Schmähl 1977, Knappe 1980):

- preventing poverty in old age (which is equivalent to the goal of securing a basic minimum income),
- maintaining adequate standards of living (so that the relative income position and social status is maintained after retirement),
- reducing income inequalities among the elderly; at least, inequalities in living standards should not be wider during the phase of retirement than during the active working life.

There are certainly inherent tensions among these goals, and they are not easily rendered compatible. Countries are likely to differ, therefore, in the emphasis they place on one or the other goal, due to cultural and ideological preferences. Despite such differences, however, there seems to be a broad consensus among policy-makers across countries that none of these goals can be completely ignored, but that a balance has to be struck between them.

These goals are here interpreted as goals of old age security policy in general, not only of public pension policy. They serve as evaluative criteria in order to measure the actual outcome of different patterns of old age security arrangements. For not very much is known empirically about existing patterns of inequality and poverty among the elderly, and how these relate to the institutional characteristics of old age security. And it cannot be taken for granted that shifts in expenditures from the public to the private sector are "distributionally neutral", i.e. achieve the same results. In such a framework, the policy problem is designing an "optimal mix" of the various components rather than "maximizing (or minimizing) public provision".

Ultimately - this is the view taken here - it is the performance of the societal arrangements providing for (income) security in old age which is at stake. Cross-national comparisons of countries with varying institutional structures, especially different public/private mixes of their pension policies, can then serve to examine and

illustrate what the likely consequences of shifts in the balance of public and private programs might be.

2. Household income composition of the elderly

For the empirical analysis, four countries have been selected which - based on preliminary knowledge - seem to represent different patterns of the public/private mix as well as structurally different public pension schemes: the Federal Republic of Germany, the United Kingdom, Sweden, and Switzerland. In terms of public pension expenditure levels, Germany and Sweden are among the "big spenders", whereas in the United Kingdom and in Switzerland expenditure levels are considerably lower, and occupational and private pension arrangements seem to be of greater importance.³

In structural terms, the British and the Swedish public pension schemes are similar insofar as both countries have originally followed the "Beveridge model" of flat rate schemes and have later supplemented them with earnings-related supplementary schemes. The German and the Swiss public pension schemes, on the other hand, are in principle earnings-related insurance schemes which are modified, however, - especially in the Swiss case - by minimum and maximum pensions. Thus, these four countries lend themselves for varied matched comparisons.

The following analysis is based on representative household income surveys carried out in these countries around 1980 which have been made comparable and available for secondary analysis in the organizational framework of the LIS project.⁴ These data sets probably provide the best data bases presently available for cross-national comparisons concerning problems of income distribution and redistribution.

³OECD expenditure figures (in % of GDP) for 1985 are: 11.8% for Germany, 11.2% for Sweden, 8.1% for Switzerland, and 6.7% for the United Kingdom. This means that expenditure levels, relative to national economic resources, in the former two countries are about one and a half times those in the latter two countries (I). Cf. OECD 1988: 140f., Table C.1(b).

⁴For a presentation of the project and a fuller description of the data sets, see Smeeding/Schmaus 1990. A first collection of analyses based on LIS data has been published in Smeeding/O'Higgins/Rainwater 1990.

In accordance with the conceptual considerations outlined above, the following income sources of the elderly generation can be distinguished in the LIS data files:

- social insurance transfers (including old age and retirement pensions as well as invalidity and occupational injury pensions),
- means-tested transfers not directly targeted at, but also benefitting the elderly (such as social assistance, housing allowances, etc.),
- occupational pensions, whether public or private, and whether granted as voluntary employer benefits or negotiated between union and employers,⁵
- income from private property and savings (including life insurances), and
- last, but not least, earnings from continued, though perhaps reduced employment.⁶

The first two categories can conveniently be summed up as "public transfers". Special attention has to be given to the latter two items because these are usually regarded as market income, not specific to the elderly, which cannot be separated statistically at the aggregate level and are, therefore, usually missing in aggregate comparisons of total resources of the elderly.⁷

⁵Unfortunately, in the Swedish data file, 'occupational pensions' could not be statistically separated from 'social insurance transfers', but are included in the latter figures. A special tabulation of the Swedish data which was generously provided to me by Joakim Palme, Swedish Institute for Social Research, is given in the appendix (Table A-9). While separating 'occupational pensions' from social insurance transfers', however, this analysis suffers from other problems of comparability. Occupational pensions here include private-individual pensions, and social insurance transfers include means-tested transfers. Most importantly, the whole analysis is restricted to people aged 66 years and over. Because no average tax shares were available, net equivalent income could not be computed, and people had to be ranked by their gross income, instead.

⁶In cross-national perspective, the patterns of transition from employment to retirement and, hence the actual age of retirement, vary considerably. These patterns are themselves likely to be affected by the eligibility conditions and levels of pension benefits.

⁷In principle, also the provision of public goods and services in kind pertains to an assessment of the living standards of the elderly. The provision of health care and, eventually, of long-term care seems particularly relevant. But mainly because of the lack of comparable data, this analysis is restricted to cash income and transfers only.

Table 1: Income Composition of Elderly Households (60 +)

a. aggregate shares in % of household gross income

Income component	Germany	United Kingdom	Sweden	Switzerland
Earnings	30	46	29	37
Property Income	2	7	8	25
Occupational Pensions	10	10	.	8
Social Insurance Transfers	57	34	60	27
Means-tested Transfers	1	3	3	1
Gross Income	100	100	100	100
Direct Taxes & Contributions	9	14	29	20
Net Income	91	86	71	80

b. average individual shares in % of household gross income

Income component	Germany	United Kingdom	Sweden	Switzerland
Earnings	16	27	19	24
Property Income	2	6	8	16
Occupational Pensions	8	10	.	10
Social Insurance Transfers	73	52	68	47
Means-tested Transfers	1	5	5	1
Gross Income	100	100	100	100
Direct Taxes & Contributions	4	8	22	12
Net Income	96	92	78	88

Note: the income shares can be calculated in two different ways which lend themselves to different interpretations:

First, we can ask what shares of the total resources available to the elderly are made up by income items A, B, C etc. This method gives the aggregated shares which represent something like the "collective income structure" of the elderly (or of a sub-group). On the other hand, we can compute the respective income shares for each household first, and then calculate the averages over all households. This method gives a more realistic view of the income structure typical for the majority of households. For this reason, preference is given to this variant (b) in the following analyses.

The technical difference between the two variants is that in the second case, each household is weighted equally, while in the first case it is weighted by the amount of household income (the mean of absolute numbers is computed). The differing findings result from the fact that income level and structure are systematically correlated. A high share of earnings tends to be associated with a high level of total gross income, while higher shares of social transfers are usually found in the lower income brackets.

The income items mentioned above add up to the household's gross income (pre-tax) which is taken as the base for the purpose of structural comparisons. Personal income taxes and employee social security contributions (payroll taxes) are then deducted to arrive at the household's net disposable income (see Table 1).

Elderly households are here defined as those headed by a member aged 60 years or over.⁸ That is, they may include members below this age. On the other hand, elderly persons living in households headed by a younger member are excluded. This seems to be a reasonable simplification because the latter category can be assumed to be a less typical minority, and their living standards may be largely determined by the income of the younger, active members of the household rather than by their own.

It is, of course, not surprising that the institutional differences of old age security systems mentioned above are reflected in the patterns of household income composition. In those countries which spend high shares of GDP for public pension schemes (Germany, Sweden), social insurance transfers also account for the larger part of total resources of elderly households (variant a). But in the United Kingdom and in Switzerland, earnings (own or of other household members) still contribute a larger share than social transfers to total resources. For the average household (variant b), however, social insurance transfers are the main income source of the elderly in all countries, though with distinct gradations (from 47% in Switzerland to 73% in Germany). For the elderly households as a whole, the contribution of means-tested transfers is negligible, but they are certainly of some importance for smaller subgroups of the aged otherwise threatened by poverty.

It is perhaps a bit more surprising that occupational pensions contribute, on the average, no more than 10% to total household resources, and they do not seem to contribute markedly more in those countries where the aggregate spending level for public pension schemes is relatively low (United Kingdom, Switzerland). Apparently, a low share of public transfers is compensated by higher shares of employment income rather than of occupational pensions. This points to relatively extended labour force participation among

⁸In order to trace the process of transition from employment to retirement more accurately, the age group of 55-59 years has also been included in some analyses.

the elderly in these countries - which may be felt necessary in view of the low benefit levels of public as well as private-occupational schemes.

It is equally striking that income from property (the "third pillar") accounts for less than 10% of household's gross income, with the very significant exception of Switzerland, however. Here, it contributes almost as much to total resources as social transfers (25%:28%) and much more than occupational pensions. It should be noted, however, that the average shares per household are 16%:48%. This fact indicates that for the typical elderly household, even in Switzerland, social insurance transfers are far more important, and it further suggests that returns from private property are heavily concentrated in the higher income brackets.

Finally, there are remarkable differences in the tax burden imposed upon the older generation. In Sweden, for instance, almost 30% of households' gross income is taxed off via direct taxes, while in Germany the share is less than 10%. The average individual tax rates are somewhat lower, as a consequence of progressive tax systems. But the ranking of countries remains the same: 22% in Sweden, 12% in Switzerland, 8% in the United Kingdom, and only 4% in Germany.

It is noteworthy that the reduction of gross income by means of taxation sometimes exceeds the amounts which property income or occupational pensions add to household income. This finding points to the necessity of paying more attention to the tax treatment of retirement income in future analyses than has been done so far.

The analysis of household income composition can be broken down by age groups in order to trace the timing of the transition from employment to retirement and the ensuing shifts in income composition from one age group to another more accurately (Tab. A-1 to A-4). Generally speaking, the cross-national differences found for all households are, by and large, confirmed in the age-specific analysis.

Across all age groups, income from continued employment contributes a larger share to household income in the United Kingdom and in Switzerland than in Sweden and West Germany. Up to the age of 64 years, earnings from employment prevail as the main source of families' income, except in Germany. Here, the transition into retirement begins earlier, and the reliance on social transfers

as the chief income source of the elderly is more pronounced throughout than in the other countries. In the critical age group of 60-64 years, the ratio of social transfer to employment income is 61:33 for Germany, but 44:54 for Sweden, 34:53 for the United Kingdom, and 21:59 for Switzerland.

Second, across all age groups, elderly households in Switzerland receive continuously more income from property and private provisions than elsewhere. Above the age of 65 years, its contribution to the average household's income rises to more than 16%, compared to less than 10% in the United Kingdom and in Sweden and a meagre 3% in Germany.

Finally, the relative burden of taxation decreases with age, of course, due to the lower total income, to shifts in the income structure and a generally more favourable treatment of social transfer income. But across all age groups, the tax rate on gross income is in Sweden consistently about double the rate in the United Kingdom and in Switzerland.⁹ This is evidence that in Sweden the elderly households are integrated into the process of publicly organized income redistribution not only as beneficiaries, but also as taxpayers (and contributors) to a far higher degree than in the other countries.

3. Patterns of intergenerational and intragenerational inequality

How do the patterns of household income composition described above affect the living standards of the elderly, and the patterns of inequality and poverty among them?

For measuring the living standards of the elderly (as far as they are expressed in cash income), we have chosen the net disposable income (post-tax, post-transfer) of households as a starting-point. In order to account for differing household size and needs, we have then adjusted it by means of an equivalence scale which defines equivalent levels of economic well-being for households of different

⁹This does not allow the inference, of course, that the absolute levels of net income (or economic well-being) of the elderly are lower in Sweden than in those countries where the tax rates are lower.

size.¹⁰ Here, the standard LIS equivalence scale has been used which attributes a weight of 0.50 to the head of household and of 0.25 to each additional person, so that it is normalized to a three-person household (unit weight = 1)¹¹. The resulting net equivalent income characterizes the living standards attainable for the household as well as for the individual members. Since we are finally interested in the economic well-being of individuals rather than households, the distribution of net equivalent income, weighted by persons, is the basis of our analysis of inequality of living standards.

Two dimensions of inequality have to be distinguished:

- the relative position of the elderly (as a group), compared to the non-elderly, economically active households (intergenerational inequality), and
- inequality among the elderly themselves (intragenerational inequality).

Insofar as it is an accepted goal of old age security policy that the living standards attained during working-life should be preserved and continuity of income should be assured during retirement, no sudden drop in net equivalent income and certainly no further loss during the retirement period should occur.

Strictly speaking, however, cross-sectional differences in relative income positions of different age-groups should not (or only with some precaution) be interpreted in a longitudinal perspective as the income profiles of households growing older and passing through the various stages of the life-cycle. The reason is that the income profiles of subsequent cohorts are subject to historical events and economic vicissitudes (as well as perhaps different social security provisions) which are likely to work out differently.

¹⁰Such an adjustment is especially necessary in comparisons involving elderly households because of their usually smaller size. Comparisons of unadjusted household incomes would let their situation appear more disadvantaged than it actually is. Comparisons of per capita income, on the other hand, would not take into account the economies of scale in larger households.

¹¹For a comparison of different equivalence scales and a fuller discussion of the methodological implications involved see Buhmann/Rainwater/Schmaus/Smeeding 1988.

Even so, it is an interesting question from a social structure perspective whether households of different age groups enjoy similar or markedly different living standards, and whether cross-national differences can be observed in this respect. In addition, from the viewpoint of social policy we are interested to know whether there are differences in living standards within the elderly population, systematically associated with age. Such differences are usually assumed to be avoided.

In order to measure the fluctuations of economic well-being over the life cycle, the mean equivalent income in various age groups can be expressed as a percentage of the national average (see Table 2).

**Table 2: Relative Mean Net Equivalent Income Across Various Age Groups
(national average = 100)**

Age group	Germany	United Kingdom	Sweden	Switzerland
< 24	89	99	86	81
25 - 34	87	97	100	94
35 - 44	92	97	98	92
45 - 54	128	120	112	105
55 - 59	116	122	121	124
60 - 64	94	109	113	130
65 - 69	94	81	102	115
70 - 74	78	70	91	98
75 +	81	67	78	91
all - 59	104	105	102	98
all 60 +	86	82	95	108

The results, in general, confirm the pattern that households usually reach their economically most comfortable positions when household heads are between the ages of 45 and 60 years, but then experience a distinctive drop in economic well-being when they retire from working life (Hedström/Ringen 1990). Moreover, the disposable income of elderly households further declines with increasing age (of head of household). This is evidence that none of the countries has been very successful to ensure similar living standards before and after retirement, nor have they succeeded to prevent further deteriorations for those in retirement as they grow older.

What is most interesting in our context, however, are the national deviations from the general trend. In West Germany, for instance,

the decline in relative economic status of the elderly begins very early. As soon as they reach the age of 60 years, their income position drops already below the national mean. But differences between the various age cohorts among the elderly people seem to be smaller than in the other countries.

The decline in economic well-being is most clearly pronounced for the elderly in Britain where already the younger groups of pensioners (65-69 years) fall below the national average by one-fifth and the very old (75 years and over) even by one-third. The very old are also placed at disadvantage in Sweden, but here the relative income position of younger cohorts of pensioners (below the age of 70 years) is above the national average.

The most surprising finding, however, is that Switzerland exhibits the most comfortable economic position for older people among the four countries studied. Astonishingly enough, the peak of economic well-being is reached by households in the 60-64 years age group, later than in any other country. Even the oldest age groups fall only slightly below the national average.

Comparing the relative economic positions of all elderly households with heads over 60 years of age with those under 60 years, Switzerland even stands out as the only country where the older citizens enjoy a more favorable position than the younger ones. In all the other countries, the older households are worse off than the average. While in Sweden the difference is rather small (5%), they fall behind by 14% in Germany and even by 18% in Britain.

These cross-national differences in living standards across age groups (intergenerational inequality) appear to be shaped, to a large extent, by the actual patterns of labour force participation of the elderly. Since in the "younger" age groups more elderly people are still employed, it is likely that earnings (which may be cumulated with retirement income) will contribute larger shares to total household income and thereby raise their attainable standard of living. In the older age groups when labour force participation is, of course, greatly reduced, the loss of earnings is not compensated by higher retirement income so that the overall level of living is depressed. Consequently, high rates of labour force participation will raise the living standards of the respective age group, but at the same time accentuate inequalities between age groups.

Thus, high labour force participation in Switzerland, due to a rigid retirement age of 65 years, probably accounts for the extremely high level of well-being in the age groups up to 64 years. On the other hand, the below average standard of living in the same age group in Germany may be explained by the exceptionally low activity rates of this age group due to a deliberate policy to push older employees out of the labour market by means of flexible and early retirement schemes, thereby lowering the actual age of retirement.

The issue of inequalities among the elderly population is a difficult one, and their evaluation depends on the priorities given to the distributional goals mentioned in the beginning. If, for instance, the dominant goal is considered to be the maintenance of relative social status, such inequalities must be accepted as a corollary of the inequality structure generated before retirement. Besides, they can eventually be justified by reference to the principle of equivalence insofar as the levels of social benefits may be linked to differences in the amount of contributions paid into insurance schemes. If, on the other hand, such inequalities in market income distribution are questioned as illegitimate or at least exaggerated in size, the policy goal should be to reduce the impact of existing inequalities at least for the retirement period. In fact, there seems to be a broad consensus at least that inequalities in living standards should not be widened during retirement. In particular, there is widespread agreement that retirement income should not fall short of a certain minimum level - which is tantamount to say that poverty in old age should be avoided.

Apart from these normative considerations, it is an interesting and important matter-of-fact question whether and to what extent the inequalities of market income distribution are reproduced rather than reduced in the distribution of retirement income.

In order to measure the degree of intragenerational inequality, we have ranked all individuals (in elderly households) according to the net equivalent income (= level of economic well-being) assigned to them, and have then calculated the income shares falling to each decile of persons. The smaller the income shares in the bottom deciles (and the larger the shares in the top deciles), the larger the inequalities in the distribution of economic well-being among the elderly. In addition, Gini coefficients can be calculated as summary statistics characterizing the overall concentration of income; the

higher these coefficients - ranging from 0 to 1 -, the more unequal the distribution. The results are given in Table 3.

Table 3: Income Inequality Among Elderly Households (60 +)
(income shares per decile of equivalent net income)

Decile	Germany		United Kingdom		Sweden		Switzerland	
	%	cum%	%	cum%	%	cum%	%	cum%
1	3.5	3.5	4.6	4.6	5.7	5.7	2.1	2.1
2	5.5	9.0	5.5	10.1	7.1	12.8	4.7	6.8
3	6.4	15.4	6.0	16.1	7.9	20.7	5.5	12.3
4	7.4	22.8	6.6	22.7	8.4	29.1	6.3	18.6
5	8.3	31.1	7.4	30.1	8.9	38.0	7.2	25.8
6	9.4	40.5	8.6	38.7	9.5	47.5	8.3	34.1
7	10.8	51.3	10.3	49.0	10.4	57.9	9.6	43.7
8	12.4	63.7	12.3	61.3	11.6	69.5	11.3	55.0
9	14.8	78.5	15.6	76.9	13.3	82.8	13.8	68.8
10	21.5	100.0	23.1	100.0	17.2	100.0	31.2	100.0
Gini	0.273		0.287		0.176		0.380	

They reveal cross-national differences, unexpected in such distinctiveness: There can be no doubt that the inequality of living standards among the elderly is most pronounced in Switzerland and least pronounced in Sweden. Whereas the lower 40% of persons in Sweden receive almost 30% of total resources available to the elderly households, they receive less than 20% in Switzerland. West Germany and the United Kingdom fall in between.¹² But while in Germany, a high degree of inequality characterizes the lower part of the distribution, in the United Kingdom the concentration of income is most expressed in the higher deciles. The most extreme concentration, however, is found in Switzerland where the top decile disposes of a larger share of total resources than the lower half of the elderly population.

In view of this evidence, it can be hypothesized that the public/private mix in household income composition shapes the

¹²These cross-national variations can also be found - with only minor exceptions - within the more homogeneous 5-year age groups.

pattern of inequalities in the following way: Intragenerational inequality is likely to be low where a large part of household income is made up by public social transfers (Germany, Sweden). On the other hand, large shares of employment income, of property income and of occupational pensions are likely to have "unequalizing" effects (United Kingdom, Switzerland). This hypothesis is further corroborated by the fact that in those countries where public social transfers contribute most to total household income, inequalities in living standards among the elderly are smaller than in the society at large. This is also true *vice versa*: in the United Kingdom and in Switzerland, inequality among the elderly is even more pronounced than in the society at large. The respective Gini coefficients are given in Table 4.

Table 4: Income Inequality Among the Elderly and in the Total Population

	Germany	United Kingdom	Sweden	Switzerland
all elderly 60 +	.273	.287	.176	.380
total population	.338	.273	.205	.303

This is the more amazing since the Swedish society is already characterized by the most egalitarian and the Swiss society by one of the most inegalitarian distributions of the resources of economic well-being. But it may also be asked: why is inequality among the elderly so much more pronounced in Germany than in Sweden? Or why is inequality in the United Kingdom so much less expressed than in Switzerland?

In order to explore these questions further, we finally turn to an investigation of the typical income structure of households within each decile of equivalent income (see Tables A-5 to A-9). Of course, the general pattern is that the relative importance of social transfers (social insurance and means-tested) is highest in the bottom deciles and gradually diminishes as one moves up the income hierarchy. Correspondingly, those in the higher income brackets receive increasingly larger portions of their resources from property income and occupational pensions. Higher shares of employment earnings are usually also found in the upper half of the distribution.

But at the same time, we have to take account of absolute income differentials (i.e. the differing degrees of inequality) and have to

compare the relative incomes in the various deciles with the national averages for all elderly. Viewed in this perspective, it appears that public social transfers are more or less evenly spread across all deciles, whereas earnings from employment tend to be concentrated in the upper deciles. The absolute amounts of property income and of occupational pensions are also much larger in the upper deciles. While these tendencies are by and large true for all the countries studied, the magnitude of these differential effects is the more pronounced the more the respective income categories predominate in the household income package.

Some of the more significant findings are revealed by a closer inspection of cross-national differences:

In the United Kingdom and in Switzerland, not only the relative shares, but even the absolute amounts of social transfers are declining as one moves up through the income deciles. In contrast, in West Germany and in Sweden - where public social transfers make up more than half of all resources of the elderly - the absolute amounts are increasing, i.e. the more well-to-do among the elderly, even in the top deciles, receive higher benefits as beneficiaries of public schemes.¹³ As surprising as this finding may seem at first glance, it is a natural consequence of earnings-related pension schemes which cover the large majority of the labour force.

Correspondingly, property income is heavily concentrated in the upper deciles in the United Kingdom and, most of all, in Switzerland. It is quite obvious that the steep rise in income from the 9th to the 10th decile is due to the excessively high share of property income in the top decile. This dramatic asymmetry in the capacity for building private wealth contributes substantially to widening inequalities. In the light of this finding, it is not surprising that living standards among Swiss pensioners are even more unequally distributed than in Swiss society at large.

¹³The original flat-rate pension scheme (Folkpension) in Sweden has been supplemented by an earnings-related scheme (ATP) since 1959 so that the overall system now resembles an earnings-related scheme with a high minimum pension. Moreover, it should be remembered that occupational pensions which are also earnings-related are included in the Swedish figures for social insurance transfers. As the special tabulation in Table A-9 shows, also in Sweden occupational pensions play an increasing part in old age security for the middle and upper income brackets, certainly more important than income from private property. But these figures also indicate that in all but the top decile, social insurance transfers constitute more than 60% of old people's resources.

Once again, attention should be paid to the income taxation of the elderly's income. While the taxation of retirement income is almost negligible (and somewhat irregular) in Germany, the high average level of taxation in Sweden and its consistently progressive character is outstanding. Although the distribution of household gross income is already the most egalitarian of the four countries, existing inequalities are further levelled off by progressive taxation. It is suggested, therefore, that the grip of taxation is the main reason - beside the more fragmented and less redistributive character of the German pension system - why inequality among the elderly turns out to be so markedly less pronounced in Sweden than in Germany.

According to the perspective developed above, the risk of old people to fall into poverty can be construed as determined by the interplay of inter- and intragenerational inequality.¹⁴ The poverty rate of any specific age group is a function of both its level of income (compared to the national average) and the distribution of incomes within this age group. Consequently, the poverty rates among the aged tend to be higher than the national poverty rate because their disposable income is generally lower (see Table 5).

**Table 5: Poverty Rates Among the Elderly and in the Total Population
(Poverty line: 50% of Net Equivalent Income)**

	Germany	United Kingdom	Sweden	Switzerland
all elderly 60 +	8.4	15.6	1.1	7.8
total population	5.5	8.8	5.1	8.3

This is indeed the pattern we find in all countries, with the notable exception of Sweden. The Swedish case can then be explained by the very low level of intra-generational inequality which outweighs the decline in average living standards. Even the most deprived pensioners do not dispose of less than half of the median income in the larger society.

Taking these two aspects together, the conditions for effectively coping with the problem of poverty in old age seem to be given when the average level of retirement income (public, occupational, and private) and hence the relative income position of pensioners in

¹⁴The issue of poverty in old age is explored in greater detail in Kohl 1992.

society is fairly high, and when at the same time the degree of inequality among pensioners is low (Sweden). The problem becomes extreme, on the other hand, when the average level of benefits is low and, in addition, intragenerational inequality is more expressed. Large numbers of pensioners will then cluster at the lower end of the income distribution of the larger society (United Kingdom). But similar (or even higher) degrees of inequality among the elderly can be partially compensated for by fairly generous average living standards of the elderly. In these cases, the resulting incidence of poverty will be in the medium range (Switzerland, Germany). Compared to Sweden, however, protection against poverty in old age remains full of gaps in Switzerland and Germany, despite similar average living standards of the elderly.

4. Discussion and conclusions

Which conclusions can be drawn regarding the performance of different societal old age security arrangements? The analysis of inter- and intragenerational inequality has provided us with a varied, somewhat puzzling picture:

- The average economic position of the elderly seems to be most comfortable in Switzerland, even above the average in the larger society. But at the same time, intragenerational inequality is also most pronounced among them, even more than in the Swiss society at large.
- In the United Kingdom, a sharp decline in the living standards of the elderly associated with increasing age has been found; but inequality among the elderly is about the same as in Germany and certainly less than in Switzerland. The risk of old people to fall into poverty, however, is the highest of all the countries studied.
- In Germany, the pattern of inequalities between as well as within the various age groups is somewhat irregular which points to certain inconsistencies of the social security system. Although inequalities among the elderly are smaller than in the society at large, the elderly run a higher risk of falling into poverty.
- It is only in Sweden where intergenerational inequality is fairly moderate and the relative economic status of the aged fairly stable (except for the very old), and intragenerational inequality is lowest among the countries studied. Consequently, the problem of poverty in old age has virtually disappeared.

This evidence clearly demonstrates that inter- and intragenerational inequality are not only analytically different (though interrelated) dimensions, but that there are also empirically significant variations.

First, it can be concluded that the "societal" system of old age security (as explained above) tends to reduce inequalities in the distribution of market income in Germany and Sweden, but tends to reinforce them in the United Kingdom and in Switzerland. More specifically, it is the predominance of public social transfers in the income package of elderly households which distinguishes the former two from the latter two countries. This lends strong support to the hypothesis that "markets and politics presumably distribute incomes differently" (Hedström/Ringen 1990).

This is, however, only part of the story. For also "politics" alone can be assumed to distribute incomes differently, depending on the preferences of policy-makers with regard to the competing distributional goals mentioned in the beginning. A high share of public social transfers opens the opportunity to achieve a more egalitarian distribution of living standards among the elderly, but it does not guarantee such a result - as is demonstrated by a comparison of Germany and Sweden.

Distributional goals are, above all, institutionalized in the benefit levels and structures of public pension schemes which interact in specific ways (cf. Myles 1984: 52ff.). Myles argues that high average benefit levels are associated with low intergenerational inequality (and *vice versa*) whereas the benefit structure is supposed to determine the degree of intragenerational inequality. The level of benefits being equal, intragenerational inequality is the more pronounced, the more earnings-related the character of the public scheme is; for an earnings-related benefit structure tends to reproduce income inequalities generated by employment. A flat-rate scheme, on the other hand, which basically gives the same benefit to every old citizen is supposed to promote more equality among the elderly. This hypothesis is supported by greater inequality in Switzerland, as compared to the United Kingdom, as well as greater inequality in West Germany, compared to Sweden.

But it is particularly interesting that if flat-rate schemes are operated at low benefit levels (like the British one), they do not lead to more income equality than earnings-related schemes at high

benefit levels (United Kingdom vs. West Germany). So the paradox emerges from these findings that countries which have institutionalized earnings-related public pension schemes are ultimately characterized by smaller degrees of overall inequality among the elderly population than those with flat-rate pension schemes.¹⁵ This has not been anticipated by Myles because he exclusively focusses on public pensions and neglects their interaction with occupational and private provisions.

The paradoxical result that flat-rate schemes - contrary to policy intentions - may have the effect of reinforcing inequalities can be explained by the following mechanism:

The flat-rate character of public schemes, especially when combined with low average benefit levels, does not adequately match the desire of the average pensioners for securing the living standards they have grown accustomed to. They will be induced, therefore, to remain longer in gainful employment in order to prevent drops in their income and/or to join occupational pension schemes and/or to make private provisions for old age. The economic capacities to make such provisions (e.g. savings, life insurance, formation of assets) however, are not only proportionate to their market income position, but are growing disproportionately to rising income. Higher savings rates in the upper income brackets will lead to an even more skewed distribution of property and of the returns flowing from this property. Likewise, occupational schemes, especially when they are established on a voluntary basis and not negotiated in collective agreements, tend to favour the higher ranks of the labour force, i.e. white-collar employees, managers, etc..

On the other hand, high-level earnings-related schemes will reduce the need, and indeed, the likelihood to make supplementary occupational and private provisions because they do already promise higher income security and better maintenance of living standards. Moreover, the political decision-making process allows to take

¹⁵Strictly speaking, neither the United Kingdom nor Switzerland have pure flat-rate schemes. But compared to Germany and Sweden, their public schemes are certainly less earnings-related. Since the earnings-related SERPS scheme in Britain came only in effect in 1978 and only affects pensioner cohorts entering retirement after this time-point, it is not reflected in the data of the household income survey taken in 1979. The Swiss public pension scheme provides for maximum pensions which are just twice the level of the minimum pensions, i.e. the earnings-related component is relatively weak.

account of certain social needs which are not adequately accounted for in occupational or private schemes (such as periods of sickness, unemployment, child-rearing, supplements for married couples etc.). These deviations from the individual equivalence principle are likely to result in a moderate decrease of inequalities, even when the earnings-related character is basically maintained. The performance concerning the reduction of inequalities among the elderly will be the better, the more such elements of solidaristic redistribution are institutionalized and the higher the average benefits are.

In the light of this comparative evidence, there is not much reason to believe that shifting pension outlays from the public to the private sector will alleviate the burden without jeopardizing the goals. On the contrary, most likely shifts in the public/private mix will result in shifts in goal performance. Certainly, total outlays (and, hence, average income per pensioner) may remain at similar levels, depending on the general level of wealth and the behavioural response of the elderly. But - as demonstrated by the Swiss case - greater reliance on occupational pensions and private provisions will disproportionately favour the upper ranks of the gainfully employed and, in general, the wealthy who can afford to make such provisions. This will result in greater inequality of living standards among the elderly and *ceteris paribus* increase the risk of poverty in old age.

According to our analysis, a combination of a universal flat-rate scheme with a public earnings-related scheme - as exemplified by the Swedish case - is most effective in achieving favourable results with regard to the major goal dimensions of preventing poverty, reducing intragenerational inequality and maintaining attained standards of living (i.e. low intergenerational inequality). If in such a situation, a greater emphasis on occupational and private pension arrangements is proposed, it has to be accompanied by a restructuring of public and occupational schemes themselves - if the favourable overall performance of the "societal" old age security system is not to be endangered. Under certain circumstances, in particular when public and private-occupational schemes are well coordinated and integrated into a coherent policy approach¹⁶, it is conceivable that the earnings-related component of a public scheme may - so to speak - be replaced by earnings-related private-

¹⁶This, however, is an intricate subject in itself which is beyond the concerns of the present paper (see, for instance, ISSA 1987, Kohl 1988, Kangas/Palme 1989).

occupational pensions. This, however, presupposes that typical shortcomings of occupational pension schemes are overcome (such as limited coverage, insufficient indexation of benefits, non-transferability of entitlements, privileged positions of high-income earners, etc.). Moreover, since the "unequalizing" tendencies of occupational and especially of private pensions can hardly be avoided, these consequences have to be anticipated and counteracted by flattening the earnings-related character of public schemes, while raising the minimum benefit levels (in order to protect effectively against poverty).

Finally, still existing excessive inequalities in the distribution of household gross income may effectively be curbed by progressive income taxation. Generally speaking, income taxation seems to be the policy instrument best suited to take account of the whole income package and to counterbalance the effects of cumulating different income sources in a consistent and socially equitable way.

The discussion above was meant to outline the conditions under which a shift from public to private-occupational and private-individual programs may not be detrimental to the overall goal performance of the "societal" system of old age security and, therefore, be worth considering. But, I am well aware, these implications are usually not what the proponents of such proposals have in mind and advocate.

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Table A-1: Income Composition of Elderly Households (55+) by Age Groups (West Germany)						
Income component	all 55 +	55 - 59	60 - 64	65 - 69	70 - 74	75 +
Earnings	22	69	33	12	5	3
Property Income	2	1	1	3	2	3
Occupational Pensions	7	2	5	9	6	8
Social Insurance Transfers	67	26	58	74	84	84
Means-tested Transfers	2	2	3	2	2	2
Gross Income	100	100	100	100	100	100
Direct Taxes & Contributions	6	19	9	3	1	1
Net Income	94	81	91	97	99	99
Table A-2: Income Composition of Elderly Households (55+) by Age Groups (United Kingdom)						
Income component	all 55 +	55 - 59	60 - 64	65 - 69	70 - 74	75 +
Earnings	32	76	53	16	9	6
Property Income	6	3	5	7	7	7
Occupational Pensions	8	2	7	13	12	9
Social Insurance Transfers	48	15	30	59	65	69
Means-tested Transfers	6	3	4	4	7	10
Gross Income	100	100	100	100	100	100
Direct Taxes & Contributions	9	17	13	6	5	4
Net Income	91	83	87	94	95	96

Table A-3: Income Composition of Elderly Households (55+) by Age Groups (Sweden)						
Income component	all 55 +	55 - 59	60 - 64	65 - 69	70 - 74	75 +
Earnings	25	71	50	11	5	1
Property Income	8	4	5	8	9	11
Occupational Pensions	.	.	.	.	.	.
Social Insurance Transfers	62	23	41	76	80	79
Means-tested Transfers	5	2	3	5	6	9
Gross Income	100	100	100	100	100	100
Direct Taxes & Contributions	23	34	30	25	20	12
Net Income	77	66	70	75	80	88
Table A-4: Income Composition of Elderly Households (55+) by Age Groups (Switzerland)						
Income component	all 55 +	55 - 59	60 - 64	65 - 69	70 - 74	75 +
Earnings	30	76	59	18	7	2
Property Income	15	10	11	16	18	19
Occupational Pensions	8	0	2	13	12	12
Social Insurance Transfers	43	9	21	52	60	64
Means-tested Transfers	1	0	0	1	2	3
Gross Income	100	100	100	100	100	100
Direct Taxes & Contributions	12	18	15	14	8	6
Net Income	88	82	85	86	92	94

Table A-5: Income Composition of Elderly Households (60+) by Deciles of Equivalent Net Income (West Germany)										
Income component	1	2	3	4	5	6	7	8	9	10
Total										
Earnings	16	6	4	6	13	4	23	35	30	34
Property Income	2	3	1	1	1	2	5	2	3	3
Occupational Pensions	8	2	4	2	3	8	10	9	16	22
Social Insurance Transfers	73	83	88	88	82	86	62	53	50	41
Means-tested Transfers	1	5	3	1	1	0	0	0	1	0
Gross Income	100	100	100	100	100	100	100	100	100	100
Direct Taxes & Contributions	5	4	2	2	4	1	6	10	7	9
Net Income	95	96	98	98	96	99	94	90	93	91

Table A-6: Income Composition of Elderly Households (60+) by Deciles of Equivalent Net Income (United Kingdom)										
Income component	1	2	3	4	5	6	7	8	9	10
Total										
Earnings	27	4	3	0	12	26	39	50	61	64
Property Income	6	3	4	3	6	6	6	9	7	11
Occupational Pensions	10	2	5	7	12	14	15	13	12	11
Social Insurance Transfers	52	86	81	80	62	50	37	27	18	14
Means-tested Transfers	5	5	7	10	7	3	3	1	1	0
Gross Income	100	100	100	100	100	100	100	100	100	100
Direct Taxes & Contributions	8	2	1	1	3	7	12	15	18	20
Net Income	92	98	99	99	97	93	89	85	82	80

Table A-7: Income Composition of Elderly Households (60+) by Deciles of Equivalent Net Income (Sweden)										
Income component	1	2	3	4	5	6	7	8	9	10
Total										
Earnings	19	16	4	6	7	9	13	19	27	37
Property Income	8	8	11	10	8	9	7	8	6	7
Occupational Pensions	.	.	.	.	.	.	.	.	.	.
Social Insurance Transfers	68	73	76	72	74	76	74	72	66	56
Means-tested Transfers	5	3	9	12	11	6	6	1	1	0
Gross Income	100	100	100	100	100	100	100	100	100	100
Direct Taxes & Contributions	22	16	11	12	14	19	21	27	31	34
Net Income	78	84	89	88	86	81	79	73	69	66
Table A-8: Income Composition of Elderly Households (60+) by Deciles of Equivalent Net Income (Switzerland)										
Income component	1	2	3	4	5	6	7	8	9	10
Total										
Earnings	24	8	10	6	14	12	24	31	40	52
Property Income	16	5	13	11	15	17	16	16	16	18
Occupational Pensions	10	3	4	5	6	11	16	14	16	10
Social Insurance Transfers	47	81	70	73	61	55	42	34	26	18
Means-tested Transfers	1	1	2	4	3	3	0	0	0	0
Gross Income	100	100	100	100	100	100	100	100	100	100
Direct Taxes & Contributions	12	14	5	5	6	7	11	12	14	18
Net Income	88	86	95	95	94	93	89	88	86	82

Table A-9: Income Composition of Elderly Households (66+)										
by Deciles of Gross Income (Sweden)										
Income component	1	2	3	4	5	6	7	8	9	10
Total										
Earnings	6	0	2	1	1	1	3	7	7	15
Property Income	12	7	10	10	14	9	7	18	7	22
Occupational Pensions 1	17	1	8	13	13	17	17	18	21	25
Social Insurance Transfers 2	66	93	80	76	72	74	73	71	64	38
Means-tested Transfers	.	.	.	.	.	.	.	.	.	.
Gross Income	100	100	100	100	100	100	100	100	100	100
1 including private-individual pensions										
2 including means-tested transfers										