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Income Packaging and Economic Well-Being at the Income Last Stage of the Working Career

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Luxembourg Income Study Working Paper No. 270

**INCOME PACKAGING AND ECONOMIC WELL-BEING
AT THE INCOME LAST STAGE
OF THE WORKING CAREER**

**Martin Rein
Heinz Stapf-Finé**

April 2001

Income Packaging and Economic Well-Being at the Income Last Stage of the Working Career.

Martin Rein and Heinz Stapf-Finé

The main question that animated this study was to explore how the changing role the state's share of income would affect economic well-being at the last stage of the working career. There seems to be growing evidence of a declining share of state social insurance in the income package of older persons and a growing share of personal saving and occupational pensions. In Britain, the Goode Commission¹ reports the average income of pensioner units in 1979 prices and shows that state pensions as a percentage of total gross income decline from 61 percent in 1980 to 51 percent in 1988. In the USA Turner reports that social security income declined from 39 percent of gross income in 1986 to 36 percent in 1990.² The percentage rebounded to 39.5 percent in 1992 making it difficult to interpret the reasons for the decline. Swedish social security reforms in July 1998 introduced a radical reform of the pension system. Benefits will be based on lifetime earning, rather than the 15 best years of earning, a reform which will decrease on average the value of social retirement benefits. Moreover an individual premium account was introduced permitting individuals to invest 2.5% of social security contributions in the stock market under their control.

The state as a provider of income is being challenged from three different directions: "can't afford" arguments based on demography and the trend to early retirement; the question of fairness, both in terms of inter-generational and intra-generational equity; and a change in philosophy which prefers private to public transfers. The crisis of the welfare state literature assumed that the state cannot respond to these challenges without undermining its legitimacy. But the essence of policy, as Haveman points out,³ is the ability of the government to respond to changes in its environment in more than just symbolic ways.

The difference between a welfare state and welfare society mix is one such response. The multi-pillar view of social protection is a critique of the literature on the welfare state, which assumes that over time there is a natural evolution towards public provision. One of the main debates in the welfare state regime literature was how to organize public provision among three different organizing principles: selectivity which targets benefits on groups that are in need; universal, flat rate benefits that provide minimum income for selected demographic groups in society and thus reducing the risk associated with being embedded in market based work relationships; and earnings-related transfers, which tie benefits and contributions to the command of market income.

The multi-pillar or welfare-mix perspective raises a different set of policy issues other than the universal selectivity question which dominates the design of public benefits. First, there is the issue of the separation of the redistribution function of the state from the savings function of both personal households and the deferred earnings of occupational welfare provision. What

¹ Law Review Committee, Pension Law Reform: The Goode Report. House of Commons Social Security Committee, (H.M.S.O. London 1994).

² John Turner and Noriyasu Watanabe, *Private Pension Policies in Industrialized Countries*, (Kalamazoo, Michigan: Upjohn Institute, 1995).

³ Robert Haveman, "Should Generational Accounts Replace the Public Budget and Deficit?" *Journal of Economic Perspectives* (Winter, 1994, vol. 8, no. 1), p. 99.

the new model implies is a separation of public and occupational and personal protection. In fact, it turns out to be very difficult to make an unambiguous demarcation of these spheres of social protection. One of the many difficult issues is that the state also is an employer, a regulator, stimulator, and guarantor of private pensions and in some countries mandates enterprise to provide social protection. Among these multiple functions the redistribution of income is a clear objective in many countries. The dual role of the state as provider and employer: Is public employment to be treated as occupational welfare in the same way that private pensions are conventionally viewed? Of course, the answer is that it is both. It is public because the state pays for it, and it is occupational since the benefits are based on the employment contract rather than citizenship.⁴ Moreover, the relationship of the three pillars to each other is in flux, and many mixed forms which co-mingle public and private arrangements are emerging. For example, the Dutch civil servant pension funds was privatized in 1995, meaning that it is now subject to the same regulatory framework as private pension funds.⁵

In this analysis of the emerging welfare mix we do not resolve the conceptual difficulties in the demarcation of the public and private institutional arrangements. This paper reports two different analysis. First we consider, at a point in time, how cross-country differences in the mix of income sources, which now exist, are related to three measures of economic well-being. Poverty, defined as 50 percent of mean-adjusted household income; relative adjusted disposable income of aged households with heads over 55 years of age relative to those under 55; and inequality as measured by the gini coefficient. We second want to address the broader question namely that if the institutions providing social benefits are changing, over time, what is the likely redistributive impact of this development?

The analysis we focus on are income sources in the last stages of the working career. Starting at age 55, we identify four different five-year age groups to describe the last stage of the working career. LIS data is used to analyze the experience of ten countries: Australia 1994, Canada 1997, Finland 1995, Germany 1994, Netherlands 1994, Norway 1995, Sweden 1995, Switzerland 1992, United Kingdom 1995 and United States 1997. Data for Finland are available, but difficult to interpret, since the mandated earnings-related public social security is administered by a private life insurance company making the distinction between public and private especially difficult to draw. These are the only countries which had usable data on occupational pensions at the time of this first analysis. In this analysis we were able to include trends over time, broadly from 1980 to 1995, but actual available years varied by country.

Our first task is to identify the main income sources. An emerging consensus appears in the literature which identifies three main income sources: (1) The public pillar as a direct provider of transfer income. (2) An employer provided occupational pension that supplements the public pillar and is provided both in the private sector and in governmental agencies, often but not always through contractual agreements with unions. Historically, occupational pensions were an instrument of labor regulation designed to recruit, retain, and reject the labor force desired by enterprises. But many of these systems are funded and therefore serve the additional aim of capital investment. The state provides tax incentives which encourage their development. For employers the contributions and the earnings from investment are tax exempt, and for employees they are tax deferred. These provisions make these pensions particularly attractive for some

⁴ Michael Shalev, "Occupational Welfare and the Welfare State in Comparative Perspective," London McMillian, 1996 p4 and Martin Rein and Eskil Wadensjo, *Enterprise and the Welfare State*, Cheltenham, Edward Elgar Press, 1997.

⁵ Robert Goodin and Martin Rein: Regimes on Pillars: Alternative Welfare State Logics and Dynamics, forthcoming in: Public Administration 2001,

groups. "Tax regimes are at least as powerful as the nature of state pension schemes in determining levels of private pension saving."⁶ On the other hand, the stronger the state's regulation, the weaker are the employer incentives. (3) The personal saving pillar which involves voluntary contributions made by households to their retirement. In Britain in 1993 over one-fifth of households contribute to a pension of this kind. Poorly trained agents, working on a commission bases oversold inappropriate policies. "Public policy is likely to be cautious in the near future."⁷ In some countries, such as the USA and Britain, the tax incentives to invest in the personal pillar are strong.

"One of the primary policy issues in the design of old age security programs is the relative importance of the redistribution, saving and insurance functions and the role of government in each."⁸ This seemed like a sensible starting point, but it is inadequate to describe the income package at the last stage of the working career. First, the concept of public pensions needs to be elaborated. The massive trend of early retirement pointed to dramatic declines in the labor force participation of older men. "The majority of males are now out of full time employment before the legal entitlement to full social security pensions." In part, this trend is due to the fact that age 65 is no longer an adequate starting point for the study of retirement, largely because in many countries pensions are available at earlier ages.⁹ For example, in the USA a reduced public pension is available at age 62. In the UK it is 65 for men and 60 for women. In France the official retirement age is 60, and in Germany the long-term unemployed and other special groups can receive a public pension at age 60. By contrast, in the Netherlands access to a public old age pension is only available at age 65. There is a fixed chronological point of entry into the public social retirement system. This practice encourages the use of other programs for younger age groups. These programs are found in all countries and are the functional equivalent to pensions, but have other programmatic names: disability, unemployment, sickness and accident insurance. We call these programs, "retirement pathways" because, when they are received by older household heads, they lead to exit from the labor force. These programs regulate the exit from the labor market before age 65. We thought it would be useful to extend the conventional dichotomy between contributory social insurance and selective targeted means-tested public programs to include pathways to retirement. In some countries, however, limits of the LIS data do not permit us to explore this theme. For example, in Norway the pensions are listed under accident insurance and therefore we cannot separate pathways from retirement. This has only recently been changed.

In summary, we elaborate the three pillar. First, we distinguish three public programs: social insurance, means-tested benefits and retirement pathways, which are routes to enable individuals over age 55 to exit from work through early retirement, disability or unemployment. Under pensions, we tried to distinguish public and private supplementary occupational pensions, but since data was available only for the United States, Finland and Germany, we did not pursue this difference further. The term "private pensions" in this context, is therefore somewhat of a

⁶ Leslie Hannah, "Similarities and Differences in the Growth and Strength of Private Pensions in OECD Countries," Social Policy Study No. 9. *Public-Private Pension in OECD Countries*. (Paris: OECD, 1992).

⁷ Richard Silburn (ed), *Social Insurance: The Way Forward*, Proceedings of the First Social Insurance Seminar, Nottingham University, October 1994 p. 4.

⁸ *Averting the Old Age Crises: Policy Options for a Graying World* Policy Research Department, (New York: Oxford University Press for The World Bank, 1994), p. 9

⁹ Martin Kohli, Martin Rein, Anne Marie Guillemard and Herman van Gunsteren, *Time for Retirement: Comparative Studies of the Decreasing Age of Exit from the Labor Force*. (New York: Cambridge University Press, 1991).

misnomer, because public sector workers also receive these benefits as a supplement to the public social security system. Civil servant pensions which are an alternative to the general public social security system are clearly public pensions and are not supplementary pensions. Cash property income or simply “assets” is the closest fit to the concept of personal savings.

The three pillar model, even when elaborated, is still incomplete. The role of wages, for the head and spouse, and income from self-employment is not included in the three pillar image of the sources of income at the last stage of the working career. Also excluded is the role of income from assets. As our analysis will show these two income sources are not only important in some countries, but suggest the basis for a different typology of countries. Because of the significance of earnings and income from assets for older heads of households a three pillar image of income Packaging provides an incomplete and misleading metaphor.

In both the first and second analysis we make use of nine different income sources. (See Appendix A for details.) We have introduced a residual category of "other income." which include public benefits, such as family allowances and also inter family transfers. For a study of the last stage of the working career, this seems to be an acceptable procedure. However this procedure does introduce some anomalies since in some countries and in certain age groups "other income" is about 4% of the share of household income. In our summary tables in the report we give special attention to four sources: Public or State transfer benefits; earnings; income from assets; and occupational pensions. In the analysis that follows, we then further simplify the income package and reduce the varied income sources into two types: income from transfers, including both state and occupational pensions and market income from earnings and personal assets.

When we started the study we did not anticipate that we would uncover a major puzzle of how to measure income shares and a minor problem that different measures of well-being are not highly correlated. In addition, Government agencies like the Goode Commission and the Social Security Administration tend to define the unit of analysis- as aged units, rather than aged households or families. This practice makes comparisons with official data sometimes difficult. We did not intend to write a technical essay addressing these questions. On the other hand, we cannot altogether avoid considering the issue of measuring the income packaging, since this measure affects our substantive findings in dramatic ways. We discuss first the question of how to measure income packages, and then, later in the paper, show how the choice of the measure affects our understanding of the income package as a whole and especially the role of the state and the market.

How to Measure Income Packages.

The issue is whether to construct income packages by weighting each source in terms of "the share of total income" or by computing the share of each household's income first and then taking "the mean percent of the shares." (Of course, the household is only one possible definition of aged units. This issue will be discussed below and is not relevant to the question we examine here.)

A simple example helps to illustrate these different approaches. Consider one income source, namely, public transfer income. In the first approach, Household A has \$ 10,000 in gross income and \$ 2,000 in public transfer income. Household B has \$ 100,000 in gross income and \$ 5,000 in public transfer income. If we compute the shares first of Household A, we get 20 percent of its income from transfers while Household B has 5 percent. If we then take the mean of the shares of the two households, we get 12.5 percent of their income coming from public

transfers. This method effectively weights by household. Each household gets the same weight in the calculation of the mean. This approach might be called the "mean of the shares."

The second approach starts by taking account of the amount of gross and public transfer incomes of the two households together. If we add the gross incomes we get \$ 110,000. If we add the transfer incomes, we get \$ 7,000. Dividing \$ 7,000 by \$ 110,000 gives us a mean of 6.4 percent. This approach effectively weights each household by its gross income. This might be called the "mean share of total income" approach.

The choice of whether to compute an income package by using the "mean of the shares" or the "mean share of total income" depends on the question that we are trying to answer. If the question is the relative income source of the typical household, the weighting by household is the appropriate procedure. The "mean of the shares" measure is therefore called for. In using this approach, it is necessary to exclude all the cases where the gross income was zero because it is not possible to divide by zero to calculate a share for each household. If the question is what percent of the total income for different groups comes from each source, then the appropriate measure is the "mean share of aggregate income." We are inquiring into the question of what is the share of income of households for each five-year age group. It is for this reason that the mean of the shares is the appropriate measure

It is interesting to note that in the United States the report prepared by Susan Grad and published by the Social Security Administration Office of Research and Statistics makes use primarily of the shares of aggregate income of aged units. This office prepares a comprehensive survey of income Packaging every two years based on data in the Current Population Survey.¹⁰ This is the same data source used in the archives of LIS. Susan Grad explains that when analysts construct pie charts to show the relative importance of the sources of income of the aged, they rely upon the aggregate mean share measure. The mean of the shares approach is buried in 134 pages of tables presented in Grad's study. She explains that no one has done anything with this measure, yet, as far as we can discern, in most analysis of income sources using LIS data, the reverse situation is the case.¹¹ The mean of the shares approach is preferred. Of course, this observation about practice should not be interpreted as a comment on appropriateness. The correct measure must depend on the questions that the analyst is seeking to answer. As Lee Rainwater points out, the two approaches are just answers to two different questions, not two answers to the same question. Getting the questions right turns out to be a difficult and elusive problem.

The mean of the shares almost uniformly shows a larger role of the state than does the share of the aggregate income approach. In the United States almost a third of the income in the

¹⁰ Susan Grad, *Income of the Population 55 or Older, 1992* (Washington, DC: U.S. Department of Health and Human Services, Social Security Administration Office of Research and Statistics, May 1994 SSA publication No. 13-11981).

¹¹ These comments are based on a personal conversation with Susan Grad by Martin Rein. Europeans have also noticed the issue, but reached different conclusions about how to handle the matter. See for example Juergen K. Kohl, "The Public/Private Mix in the Income Package of the Elderly. A Comparative Study." A paper prepared for the conference, Social Security Fifty Years After Beveridge, University of York, England, September 1992. Kohl identifies the two approaches to measure income shares and concludes that what we have called "the mean of the shares" approach "gives a more realistic view of the income structure typical for the majority of the households. For this reason, preference is given to this variant. In the following analysis." (Note on page 6.) Susan Grad's report for the USA Social Security Administration followed the opposite convention, weighting by income rather than household.

age group 62-64 comes from the state, following the share of the total income approach compared to 42% when using the mean of the shares approach. (See Table 1)

Table 1: The mean of the shares and the share of total income of aged units in the USA, 1992

Income Sources USA 1992	Mean of the shares			Share of total income		
	55-61	62-64	65+	55-61	62-64	65+
Retirement benefits	15	42	73	9.5	28.7	59.1
Social security	7	27	58	2.2	13.5	39.5
Gov't worker pensions	4	6	6	3.6	6.6	
Private pension & annuity	5	9	8	3.6	8.2	10.2
Earnings	69	42	9	78.7	56.4	17.1
Public assistance	4	3	3	0.6	0.7	0.9
Income from assets	7	9	13	8.6	11.1	20.6

Source: Income of the Population 55 or older, 1992; Social Security Administration, May 1994. Table VI A1 and Table VII 1, pp. 89, 109.

These results are not at all surprising, since higher income groups have lower reliance on state income and more reliance on other income sources than do lower income groups. Results are sensitive to outliers. The share of total income is dominated by the sources of income that the wealthy receive. Therefore, weighting by income reduces the role of the state as compared to weighting by household units. This expected outcome suggests that a combination of both approaches may be called for. As Turner points out¹², a sizable fraction of different demographic groups do not receive any benefits. About 15 percent of non married blacks and 22 percent of non married Hispanics age 65 and over receive no social security benefits. Moreover, social security accounts for more than three quarters of the income for retirees in the lowest two income quintiles.

In interpreting the results of Table 1 it is important to note that in the study by the Social Security Administration an aged unit is defined as a couple or an individual regardless of the unit in which the individual resides. In other words, two sisters living together in the same household are treated as two aged units. No adjustment for couples is made. In our study, the unit of analysis is adjusted for household size when constructing our measures of economic well-being on the assumption that resources are pooled and therefore economies of scales need to be taken into account. Therefore, the Social Security Administration data differs somewhat from the detailed data we report in the Appendix Tables for the United States. It is interesting that the unit of analysis question has been somewhat neglected in the study of poverty which has tended to focus on drawing the poverty line and defining equivalent household incomes.

Market-transfer income mix

We summarize in a simplified way the basic story of income packaging and economic well being at the last stage of the working career. The data are presented in graphic form, so the patterns can be readily recognized. We start with total gross household income and two aggregated income sources: market income defined as earning and asset income defined as cash property income; and transfers which include transfers both public transfers and occupational

¹² John Turner op.cit.

pensions. To keep this definition as clean as possible, the residual category of other income is excluded

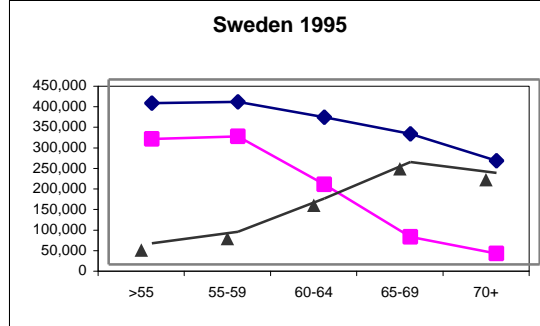
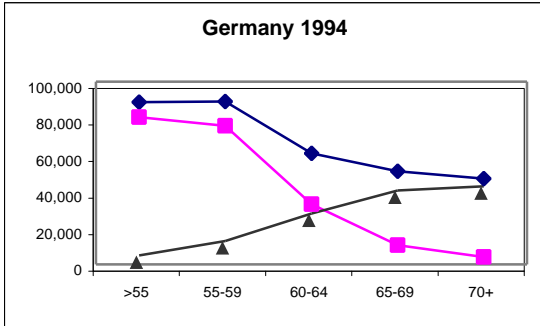
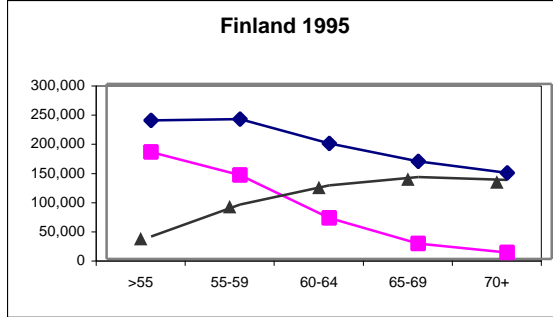
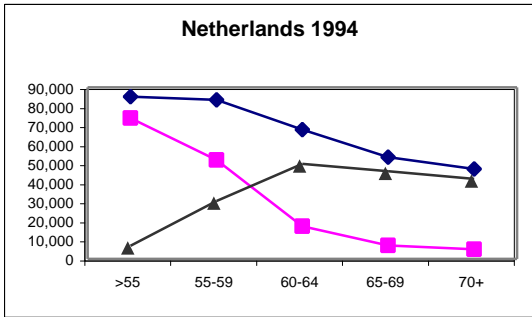
In thinking about the stylized facts presented below it is important to keep in mind that they are based on total aggregate income by age in the currency of the country. Moreover, the dichotomy of income into market and transfer income is based on two views. First, although market income from earnings declines with age, it remains in some countries as a very robust component of the income package over the life course. The continued importance of earnings has been almost completely neglected in the recent literature on types of welfare states. Second, that asset income is best conceptualized as a non-transfer market driven income source. The reason for this is that this cash property income is usually not large enough to be annuized as suggested by the more conventional use of term assets.

Graph 1 shows total income by age desegregated by transfer and market income for ten countries, using information from the most recent available year. The data are in the currency of the country and are therefore not directly comparable. Only the highlights, i.e., the slope of the lines provide the basis for comparison. What emerges is a clear pattern. After age 60 total income declines sharply in every country. The decline is earlier in Canada, Netherlands and UK and the slopes are steeper. Surprisingly the sharpest rates of decline in total income is not found in the countries with the highest rate of welfare state spending. An examination of the pattern of transfer and market income shows that as market income declines so does total income. The transfer system tends to partly offset the decline in market income. The cut off point where transfers and market income intersect differs across countries - below age 60 in the Netherlands compared to Australia where the intersection is much later. The size of the cross over is also strikingly different. In Australia at age 65-70 transfers exceed market income only slightly, whereas in the Netherlands it is substantially larger at this age group. The size of the triangle created by the cross over of market and transfer income visually highlights both of these differences. Two extreme types emerge: a large triangle in the Netherlands, Finland, Sweden and Germany and very small triangles in Australia and US. The other countries fall between these extremes.

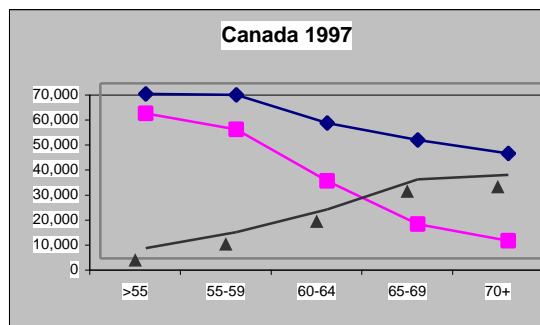
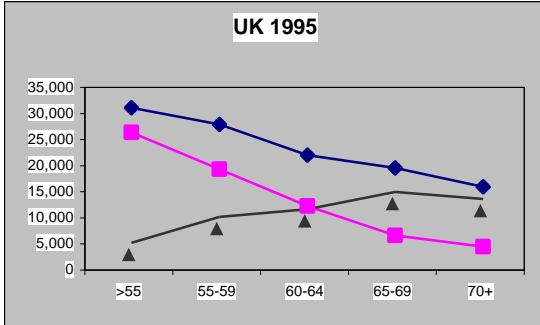
We next use the market-transfer dichotomy as useful empirical framework to develop a typology of country differences. The data in the appendix presented with detailed information on 9 income sources, so that readers can further analyze the typology on a more disaggregated bases, exploring for example the changing role of wives income or self-employment income over the life course. We initially developed the typology simply by inspecting the length and width of the triangle, which captures at what age the cross over from market to transfer income occurs and the relative importance of each income source. There is no doubt a more sophisticated way to classify countries by actually measuring the area inside of the triangle. This is a difficult task since the ages are not continuous and the geometric shapes that are formed are not really triangles. Based on inspection then we identified three types: transfer dominated, market-transfer mix and market dominated. We shaded the mixed type in gray so the types are clearly visible in the graph. Some of the countries in the mixed type could readily be classified as either transfer or market dominated. We thought it was conceptually important to develop a mixed type, which actually emerges more sharply when we shift the measure from monetary income in the country's currency to market shares.

Graph 1: Total gross income in market and transfer income in national currency

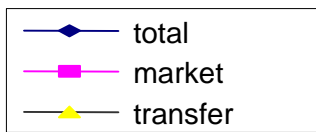
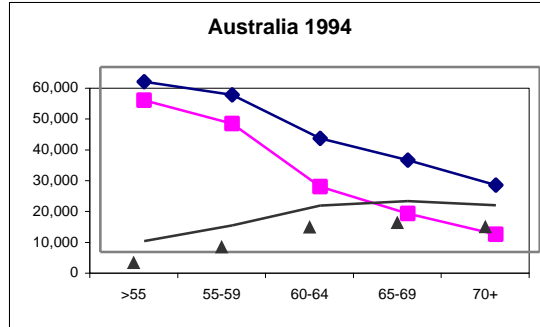
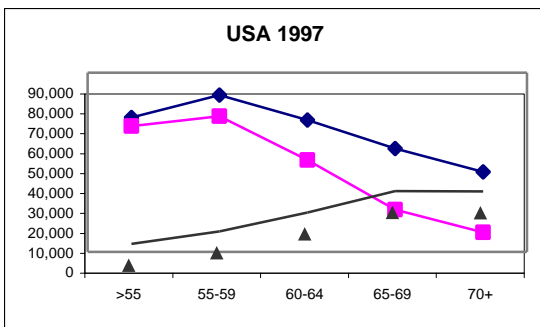
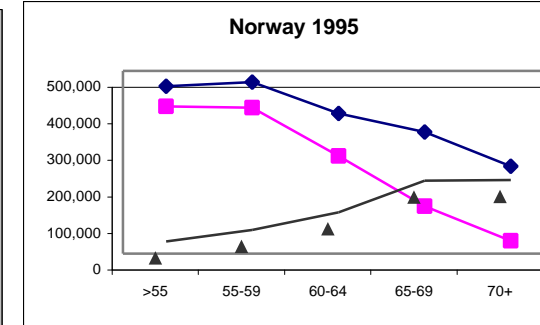
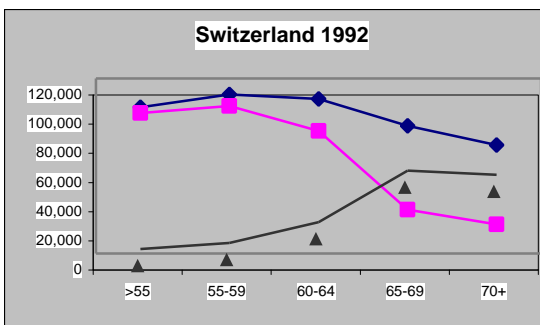
Transfer dominated



Market-transfer mix



Market dominated



In the remainder of this paper we use the mean of the shares measure of the income package rather than total income and continue to explore the different types of market and transfer income based mixes that we presented Graph1. We then explore the consequences that the mix has on poverty, inequality and relative well being.

As a first step in this analysis we divided the countries into three ordinal categories, (high, medium and low) depending on their share of each component of the welfare mix. This procedure was repeated for three age groups: 60-64, 65-69, and 70 plus. We did not include the 55-59 age group, since the earnings for this group are quite substantial. The task of developing types based on this procedure was difficult. The reason, as Charles Ragin points out, is due to the fact that "The correspondence between constructed types and empirical cases is not strong enough to warrant simple assignment of cases to types."¹³

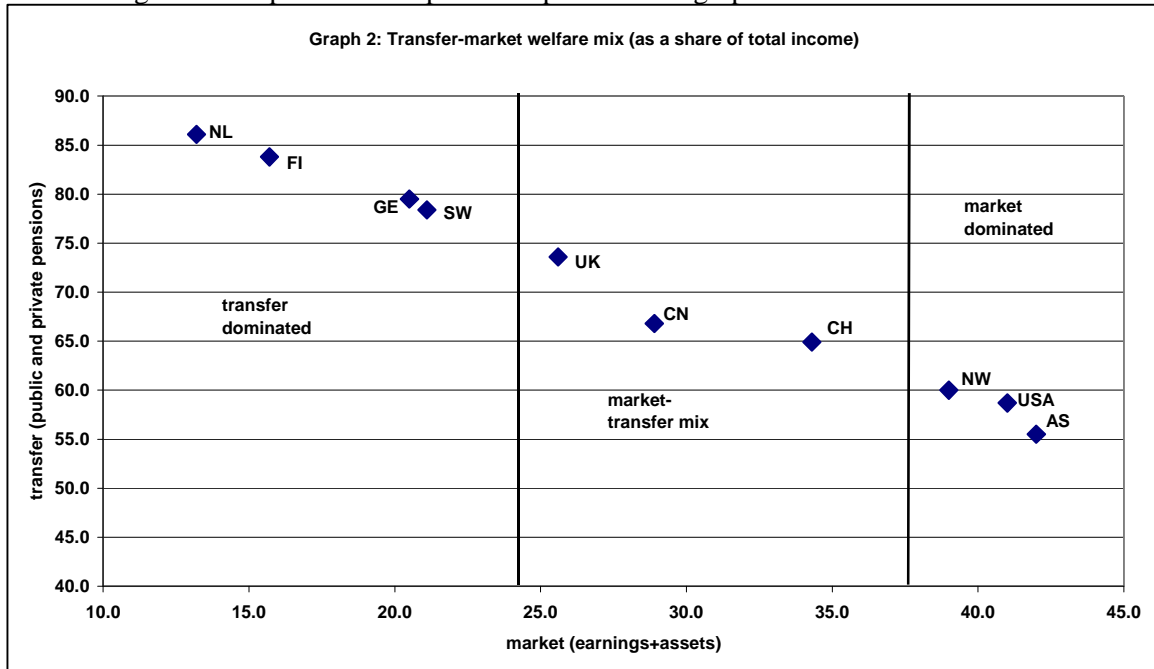
Table 2: transfer-market mix for 10 countries by age

Market		60-64	65-69	70+
High	Australia	57.3	42.0	26.3
	USA	69.7	41.0	24.3
	Norway	69.8	39.0	14.8
Medium	Switzerland	79.4	34.3	26.9
	Canada	57.2	28.9	16.8
	UK	50.9	25.6	16.7
Low	Sweden	54.4	21.1	10.6
	Germany	54.2	20.5	8.7
	Finland	35.5	15.7	7.6
	Netherlands	25.3	13.2	10.6
Transfer		60-64	65-69	70+
High	Netherlands	73.5	86.1	88.8
	Finland	63.6	83.8	91.8
	Germany	45.7	79.5	90.8
	Sweden	44.9	78.4	88.2
Medium	UK	47.6	73.6	82.8
	Canada	36.2	66.8	79.5
	Switzerland	20.3	64.9	72.4
Low	Norway	29.4	60.0	84.1
	USA	29.8	58.7	67.6
	Australia	40.7	55.5	69.9

Other attempts at classification based on constructed types did not prove helpful for several reasons. Models based on three pillars proved inadequate because they neglected to include the role of earnings of other members of households headed by an older person. Earnings turned out to be important not only in the stage before retirement, but at virtually every stage thereafter. Second, we expected that the income package might change at each stage of the working career; therefore, a single classification of types was likely to be unsatisfactory.

¹³ Charles Ragin, "A Qualitative Comparative Analysis of Pension Systems," in Thomas Janoski and Alexander M. Hicks, (ed.) *The Comparative Political Economy of the Welfare State* (London: Cambridge University Press, 1994), p. 322.

Once we created table 2 where we dichotomized market and transfers into three categories each and then created a graph which cross-tabulated the market and transfer for the 65-69 age group there emerged a clear pattern. This pattern is presented in graph 2.



What emerges from this analysis for 10 countries are the three ideal types we identified in graph 1 based on monetary income rather than income shares. The types are interesting in their own right and quite different from the conventional grouping in the literature.

Type 1: Transfer dominated

Transfer domination occurs when a country is high on occupational pension and state transfers and low on earnings and cash property income. The low market income shares range from 13% to 21% and the high transfer shares range from 78% to 86% as shown in graph 2. The Netherlands represent the strongest prototype of this idealized pattern of transfer domination. This ideal type of transfer dominance is quite clear and unambiguous.

Type 2: Market-transfer mix

A complementary pattern where transfers and market income complement each other. In other words, the elements of the package are nested and combined into a cumulative pattern, characterized by a medium level position for each component of the package. The countries that fall into this pattern include two Anglo-Saxon countries (Canada and UK) and one continental country (Switzerland). Had we decided on a dichotomy instead of three types, we would have drawn the line differently and included Switzerland as embracing a high market dominated pattern.

Type 3: Market dominated

The market dominated pattern includes three countries where earnings and cash property income accounts for about 40% of the household income at age 65 to 69. This is a very striking pattern especially since so much attention has been given to early retirement. But what we see is that in

Norway earnings accounts for 34% of total income, 29% in the U.S. and 24% in Australia. It seems likely that this pattern will increase for 2 reasons: Better educated aging persons will want to continue their jobs since it is less physically stressful than blue collar work. And secondly, many countries as a matter of public policy are encouraging the employment of older workers. In the summer of 2000 the U.S. removed any economic penalty for persons working at age 65. Thus the social security program was converted from a retirement program into an age pension.

These three patterns appear to be quite robust. We are confident that we have identified, for households headed by persons 65-69 years of age two reasonably strong reciprocal patterns: one characterized by a strong reliance on earnings and assets, and the other by dominant pattern of transfers, occupational and state pensions. In addition there is a clear pattern which draws on the middle range of the market and transfer income components.

The Welfare Mix and Well-Being.

In summary then we find that for the years before retirement that there are many ways of combining the elements of an income package. What is crucial for our concerns is whether the pattern makes any difference in terms of its effect on well-being. We have chosen to measure well-being in terms of three indexes: the poverty rate set at half of the mean of adjusted household income, the gini coefficient as a measure of inequality, and relative net adjusted disposable income.¹⁴ The adjustments take family size into account. In case of net disposable income the comparison is with the household headed by a person under 55 years of age. This is a measure of how well-off households in the last stage of the life course are relative to those at an earlier stage, rather than in comparison to all households.

Does the market-transfer mix provide a clue about its impact on our three measures of economic well-being? The data in table 3 and 4 show that some effects are clear. If a country has high market and transfer income the poverty rates are substantially higher and the inequality much greater than when the situation is reversed, as in Holland. However Norway is an exception, because it shows that a country can have low poverty and inequality, even if it is market dominated. The Norwegian market domination rises largely because of its heavy reliance on earnings rather than cash property income. (see ,Table 5)A third of the household income in Norway comes from work and the spouse contributes slightly more to the household income at age 65-69 than does the male head from his wages. The same pattern prevails for the other age groups under consideration (60-64,70+). This reliance on the income of the spouse occurs also in some other Nordic countries, but not to the same extent.

But by the measure of relative net disposable income we find the extremes lie within a type, rather than across types. Switzerland has the highest net disposable income for households headed by a person 65-69 while UK and Canada with almost the same type have a relative low disposable income. A similar discrepancy is found for Australia as compared to Norway and the United States. By this measure similar types yield different outcomes, and similar outcomes can be found with different types.

¹⁴ We are using the OECD equivalence scale (1/.5/.3). On the sensitivity of the results according to the use of different equivalent scales see: Michael Förster: Comparing poverty in 13 OECD countries: traditional and synthetic approaches, LIS working paper #100, 1993. We opted for measuring poverty as a percentage of households below half of the mean income, since we get a more pronounced picture compared to using the median income, because our interest was to relate the poverty measures with different public-private mixes.

On the other hand, different types can also produce similar outcomes using the measure of poverty and inequality. Norway and Holland have similar poverty and ginis even though Norway is market dominated and the Netherlands are transfer dominated. USA and Australia also seem to produce similar outcomes of high poverty and inequality when compared to UK.

If we start with the outcome rather than the input it would seem to be the case that poverty and inequality are greatest in countries where pensions, both occupational and public, are low and earning and assets are high or medium. The other combinations seem to be less decisive. On the other hand, low poverty and inequality can also be achieved through different types of mixes as the comparison with Norway and Holland suggests. However the transfer dominated pattern uniformly produces the best poverty results, but not necessarily the best relative net disposable income.

The finding that outcomes vary within a type and across types is important. It suggests that the same types can lead to different results and that different types can yield similar outcomes. In brief, there are different ways to achieve low poverty and inequality. Occupational and public pensions can be complementary and not merely substitutes for each other. A pattern which holds for Sweden as well as Holland. Equally so, market income and pensions can combine in different ways.

These data, with modification, support the Smeeding, Torrey and Rainwater¹⁵ findings that the smaller the role of public sources, the higher the level of income inequality and poverty. There are two important qualifications to this thesis: What the transfer domination pattern does can also be achieved by the market-transfer mix (Switzerland) and also by the market dominated pattern (Norway).

In a more recent paper Tim Smeeding also qualifies this hypothesis: "At higher income levels one finds a more balanced portfolio in almost all nations".¹⁶ Thus he underlines that the income composition also matters.

¹⁵ Tim Smeeding, Barbara Torrey, Lee Rainwater, "Going to Extremes: An International Perspective on the Economic Status of the US Aged," LIS Working Paper 87, February, 1993

¹⁶ Tim Smeeding: Income Maintenance in Old Age: What can be learned from cross-national comparisons. Paper prepared for the Third Annual Conference of the Retirement Research Consortium, May 17-18, 2001, Washington DC, p. 20.

Table 3: The welfare mix and well-being four households headed by a person 60-64 years of age, depending on extension of state transfers

Pattern	Country	poverty rate ¹⁾	gini	relative net dpi ²⁾
transfer	Netherlands	7.2	0.2833	0.94
Dominated	Finland	5.7	0.2237	1.01
	Germany	12.9	0.2872	0.94
	Sweden	4.1	0.1999	1.07
	UK	14.6	0.2978	0.86
market-transfer mix	Canada	21.3	0.3309	0.92
	Switzerland	6.9	0.3009	1.22
	Norway	7.6	0.226	1.02
market-Dominated	USA	23.3	0.4024	1.08
	Australia	32.4	0.3831	0.78

1) equivalence scale=1/.5/.3; as a percentage of mean income

2) relative net disposable income: ratio of net adjusted income of the given age-group divided by the disposable income of the age group under 55

Table 4: The welfare mix and well-being four households headed by a person 65-69 years of age, depending on extension of state transfers

Pattern	Country	poverty rate ¹⁾	gini	relative net dpi ²⁾
transfer	Netherlands	8.2	0.2568	0.83
Dominated	Finland	8.9	0.2281	0.91
	Germany	7.8	0.2645	0.94
	Sweden	2.2	0.1934	0.98
	UK	17.0	0.2911	0.81
market-transfer mix	Canada	8.5	0.2678	0.88
	Switzerland	6.8	0.3487	1.11
	Norway	6.6	0.2718	1.00
market-Dominated	USA	24.7	0.3881	0.97
	Australia	29.6	0.2973	0.66

1) equivalence scale=1/.5/.3; as a percentage of mean income

2) relative net disposable income: ratio of net adjusted income of the given age-group divided by the disposable income of the age group under 55

Income packaging at the bottom and top end of the income distribution

Thus far we have simplified the nine income sources into market and transfers focused on the sources of income for the population as a whole. Our main intention was to develop a simple typology for sorting out the countries relative reliance on markets and the transfer system. We next disaggregate the market and transfer system into four income sources and cross classify the results in into three age categories. The data are presented in table 5 and show which countries

which do not rely on earnings (Holland and Finland), and these countries together with Norway, Sweden and Canada have relatively low assets.

Table 5: The welfare mix for 10 countries by age

Earnings	60-64	65-69	70+
Australia	48.8	24.1	8.3
Canada	52.1	22.4	7.7
Finland	32.6	12.6	4.7
Germany	51.6	17.2	4.9
Netherlands	21.7	7.9	4.6
Norway	65.4	33.5	8.6
Sweden	49.9	16.1	3.6
Switzerland	66.3	15.1	7.3
UK	41.6	15.6	6.6
USA	61.4	28.8	11.6
Assets			
Australia	8.5	17.9	18.0
Canada	5.1	6.5	9.1
Finland	2.9	3.1	2.9
Germany	2.6	3.3	3.8
Holland	3.6	5.3	6.0
Norway	4.4	5.5	6.2
Sweden	4.5	5.0	7.0
Switzerland	13.1	19.2	19.6
UK	9.3	10.0	10.1
USA	8.3	12.2	12.7
Employer provided pensions			
Australia	5.8	11.0	9.8
Canada	16.0	20.2	22.0
Finland	48.1	64.1	56.5
Germany	4.4	9.5	11.5
Netherlands	36.8	28.6	24.6
Norway	7.1	16.2	14.0
Sweden	13.9	16.4	13.3
Switzerland	10.2	21.8	17.4
UK	25.2	27.3	21.2
USA	12.4	17.4	9.5
Government transfers			
Australia	34.9	44.5	60.1
Canada	20.2	46.6	57.5
Finland	15.5	19.7	35.3
Germany	41.3	70.0	79.3
Netherlands	36.7	57.5	64.2
Norway	22.3	43.8	70.1
Sweden	31.0	62.0	74.9
Switzerland	10.1	43.1	55.0
UK	22.4	46.3	61.6
USA	17.4	41.3	58.1

The table also highlights the countries with relatively low employer provided pensions: Australia, Germany and the USA. Pension coverage has dramatically increased since private pensions were mandated in 1992, but it takes a while for the system to mature, and to provide a significant component of the income package. In the governmental transfer system Switzerland and the United States stand out as having the smallest share of income compared to other countries. The pattern we described for the 60-64 age group persists for the other age groups.

We next analyze the income package of the top and bottom of the income distribution not over time, but across the stage of the life cycle for the most recent year available at LIS. We know that the income package not only varies by the life course, but by a household's position in the income distribution. So we further subdivided our population in the top 60% and the bottom 40% of the income distribution. The data are presented in table 6.

What we see, as expected, in all countries and in all age groups is that the top of the income distribution receives a considerably larger share of their income from earnings as compared to the bottom of the distribution. And these differences are quite dramatic. Particularly striking is the case of Australia where half of the income package of the well off end of the distribution at age 65-69 comes from earnings compared to only 10% for the bottom 40% of the distribution. The reason for this discrepancy in Australia is self evident since the main source of income in this age group is a national state administered means tested transfer program which penalizes earnings. But assets by contrast have a much higher income disregard. Thus the Australian assets at the bottom end of the income distribution are among the highest of the 10 countries, with the exception of Switzerland. So the lesson from the Australian experience is unambiguous: policy matters. A country can shape the income package by the way in which it designs the rules that guide its public transfer system.

The upper end of the income distribution compared to the bottom end not only has a greater reliance on earnings but also on property income that is convertible into a cash income flow which we call "assets". These assets become increasingly more important over the life course for the well off, but less so for the bottom end of the distribution where they are more or less stable. The exceptions are Switzerland and Australia. So it appears that households in the upper end of the distribution accumulate resources that are later convertible into an income stream and that they are more able to do this than the bottom end of the income distribution. We cannot disaggregate the property income with LIS data and therefore cannot distinguish between savings, home ownership, equities etc.

Turning next to the transfer system what we find is that employer provided pensions over the life course are, as expected, uniformly higher for the top compared to the bottom end of the distribution. This pattern of greater importance of the private pensions at the top end of the distribution holds uniformly after the conventional retirement age of 65. Finland is the only striking exception. Clues about the details that produce this result is shown in appendix A-3 where the disaggregated income package is presented. What we see is that the private pensions are even more important than public social retirement and public sector pensions. Institutional arrangements explain the outcome. The National Pension system is available to residents over 65. It is flat rate and means tested and transfer tested and is not available to those who receive employment pensions that exceed a rather low ceiling. Virtually the entire private sector is

covered by mandatory earning related pension, that is partially funded and administered by pension funds and life insurance companies.¹⁷

However this pattern is somewhat different for the period immediately before the entry into the normal social retirement programs of the state at age 60-64. What we see is that in countries like the UK, Switzerland, Norway, Canada and Australia private pensions are broadly similar at both ends of the income distribution. The reason appears to be that the structure of the pathway programs (unemployment insurance, sickness and disability) has a different public-private mix in these countries as compared with the normal retirement age (see appendix tables for details).

But the most striking transfer pattern that emerges of these data is that income packages exist only at the top end of the income distribution. Income diversification appears to be strongly skewed in the income distribution. And this pattern of discrepancy between reliance on the state at the bottom end of the distribution compared to the top is particularly true in Anglo-American countries, but it is also found in social democratic welfare states like Sweden and the Netherlands. Consider the case in Sweden. After retirement age, 75% to 80% of the income share comes from the state in the low end of the distribution compared to only 50% to 60% at the top of the distribution. Even more striking is the Dutch pattern where the bottom end of the distribution gets three-quarters of its income from state transfers and the top gets only a third. However this pattern should not be overstated, because, at both ends of the income distribution the state becomes increasingly more important with age.

¹⁷ Tryggi Thor Herbertsson, Michael Orzag, and Peter Orgag, "Retirement in the Nordic Countries," prepared for the Nordic Council, May 2000 pp. 72-84

Table 6: Mean of the Shares Income Packages for the Top 60% and the Bottom 40% of the income Distribution

Country	Top 60% of income distribution					Bottom 40% of income distribution				
	< 55	55-59	60-64	65-69	70 +	< 55	55-59	60-64	65-69	70 +
Netherlands 1994										
Earnings	92.3	69.7	23.9	16.1	5.5	73.0	31.8	19.4	2.1	4.2
Assets	1.3	3.3	4.2	8.9	12.3	1.1	5.2	2.9	2.8	2.7
State Transfers	4.1	17.1	19.1	36	37.2	15.5	58.1	54.7	72.7	78.3
Private Pensions	-	8.6	50.7	37.9	44.0	-	4.0	22.5	22.2	14.4
Finland 1995										
Earnings	85.2	67.0	44.5	19.7	8.2	59.6	28.0	14.9	6.5	2.5
Assets	2.0	3.2	3.2	4.7	5.2	1.0	1.8	2.5	1.7	1.4
State Transfers	6.4	12.0	8.7	9.1	24.6	26.5	33.0	25.4	28.7	42.2
Private Pensions	1.3	8.8	20.0	33.6	30.4	1.3	25.9	41.1	51.3	39.4
Germany 1994										
Earnings	94.1	87.4	62.2	17.6	6.8	82.0	72.1	39.2	16.6	2.8
Assets	1.9	3.2	3.7	4.1	4.8	0.6	1.2	1.3	2.5	2.7
State Transfers	2.3	7.5	27.7	61.9	70.5	10.7	26.0	57.1	78.5	89.5
*Private Pensions	0.2	1.4	6.4	16.2	17.5	-	-	2.0	2.2	4.4
Sweden 1995										
Earnings	85.2	79.3	55.9	21.9	8.7	60.0	55.8	34.3	8.1	1.4
Assets	2.0	3.6	4.3	5.4	8.9	1.8	5.1	4.9	4.4	6.2
State Transfers	7	12.9	23.8	51.8	61.6	21.7	31.8	49.5	75.5	80.7
Private Pensions	0.5	3.8	15.4	20.4	20.3	0.4	3.4	10.1	11.0	10.2
United Kingdom 1995										
Earnings	92.7	72.9	53.1	25.0	14.2	59.5	36.2	26.9	7.3	3.1
Assets	1.8	5.6	10.3	14.2	18.3	2.4	6.7	8.1	6.3	6.4
State Transfers	1.6	6.1	12.8	26.6	31.0	24.5	35.7	34.5	63.6	75.6
Private Pensions	1.3	14.5	22.8	33.6	35.9	1.0	15.9	28.3	21.8	14.5
Canada 1997										
Earnings	93.6	84.0	66.1	33.1	12.7	75.0	57.8	33.6	12.3	3.7
Assets	1.4	3.2	5.6	8.8	13.3	1.3	4.4	4.5	4.4	5.5
State Transfers	2.3	3.2	8.7	28.4	37.5	11.3	18.9	35.4	63.7	74.2
Private Pensions	0.7	6.9	16.2	26.1	33.3	0.7	8.7	15.7	14.6	12.7
Switzerland 1992										
Earnings	92.2	84.2	67.7	19.5	9.7	90.2	84.4	61.0	8.6	4.8
Assets	5.5	9.6	13.9	21.6	26.7	3.6	3.7	10.3	15.6	12.9
State Transfers	1.3	4.4	7.8	30.2	36.7	4.5	9.5	18.2	62.1	72.2
Private Pensions	0.3	1.3	10.3	28.1	26.2	0.3	0.8	9.8	12.5	9.2
Norway 1995										
Earnings	90.5	85.3	74.5	46.1	20.3	77.0	69.5	49.4	20.3	4.5
Assets	2.2	3.8	4.2	6.5	8.6	1.1	2.6	4.8	4.5	5.3
State Transfers	3.7	8.7	14.5	28.4	46.7	13.0	24.6	36.1	59.9	78.7
Private Pensions	0.3	1.3	6.3	18.4	23.8	0.2	1.3	8.5	14.0	10.4
USA 1997										
Earnings	93.9	83.2	68.6	34.7	17.9	86.4	70.9	47.4	20.2	6.4
Assets	3.4	7.3	9.6	16.3	20.2	1.2	5.5	5.9	6.4	6.4
State Transfers	1.5	3.1	8.3	26.1	37.2	11.0	16.3	35.2	63.1	75.6
*Private Pensions	0.9	5.9	13.1	12.6	22.4	0.6	7.1	10.9	10.0	11.3
Australia 1994										
Earnings	95.2	91.2	76.1	49.8	25.2	69.6	44.4	27.6	9.1	3.9
Assets	1.9	5.5	10.1	24.9	27.3	1.7	8.2	7.2	13.9	15.6
State Transfers	1.3	1.8	6.3	7.4	21.1	16.4	40.6	57.2	66.0	70.3
Private Pensions	0.4	0.9	6.7	17.2	23.0	0.4	4.4	5.1	7.4	6.3

* Includes public and private occupational pensions

Analysis of trends in the income package of 10 countries between 1980 and 1995

In the rest of this paper we proceed by examining the different income packages at the top 60% and the bottom 40% of the income distribution, measuring the income shares in terms of the mean of the individual share of each household. We start with a portrait of four main income sources for eight countries over time, using only the earliest and latest year for which we have data. We separate earning from assets in market income and occupational pensions and state social security in transfer income creating four main income sources and consider trends over time for each income class. The details of the components of market income (heads wages, spouses wages, self-employment and assets) and the components of transfer income (social retirement, pathways to retirement, means tested programs and public and private pensions) are available in the appendix, but not analyzed at this time. We summarize the main findings and consider their implications for theory and practice.

The analysis of income packaging considers how the source of income varies by country, by age, and by the household's position in the income distribution. The conventional way of dealing with this question, is to create income deciles or quintiles. But since we want to examine both the role of age and income, we believed this would make the results less robust, since the number of observations in each cell would be small. Instead we use a much cruder measure of the top 60% and bottom 40% of the household income distribution. The story that emerges is both complicated and interesting. The full data on all nine income sources are presented in the appendix. The data we present are extracted from these tables.

Table 7 summarizes our finding of income package of state transfers, occupational pensions, earning and assets for the age group 65-69 for the entire sample and for those in the top 60% and bottom 40% of the income distribution over time. The data confirm the expected variations across countries and show as well how this pattern varies by a households position in the income distribution. Reaching the age of 65 to 69, households work less and rely more on State transfers in all countries. In this table we focus on the conventional age of retirement and uncover some surprises, or at least observations that are not self-evident.

The first most striking findings in table 7 is how substantial is the share of earnings at the last stage of the working career, how strong is the difference between the top 60% and the bottom 40% of the income distribution, and how varied is the experience of different countries. In 1980, at age 65-69 high income household's earnings account for between 28-45% of household income in all countries except the Netherlands and Germany. In 1995 the overall situation remains the same, but in four countries we actually see a rather sharp decline in the earnings share of the well off, which is not offset by an increase in asset income.

Considering the income distribution as a whole at age 65-69 a clear pattern can be found over time: There is a considerable retreat of the state in all countries with Germany being the only exception. The reduction of state transfers is offset by increases in employer provided pensions, but not by increases in earnings and cash property income. Only in Australia is the share of earnings rising.

If one would expect that it is the upper 60% of the income distribution that would over time rely less on the state. But what we observe is that there is only a slight decline of their reliance on state transfers. However, what is remarkable is that it is the lower part of the income distribution, that get less from the state. And this is a uniform pattern all over the countries. In

most countries the social partners are responsible for responding to this state retreat.. Employer provided pensions increase uniformly, with two exceptions: the U.S. and Germany. In these countries the decline appears also to be met, with a stronger work commitment at the bottom end of the income distribution. We did not expect that the role of earning in the income package of households would increase after entering the normal retirement years after age 65. And we would not have expected that the rich work less over time and the poor work more. But this appears to be the pattern we find, with the share of the income of the bottom being higher, with the exceptions of Holland, and Switzerland.

The reason why these findings are counter intuitive is that we know that there has been a rather dramatic decline in the employment activity rate of men 55-64 years of age. OECD reports in 1995 the following rates. The Netherlands 39.9, 47.2 in Germany, 54.0 in Canada, 55.2 in Australia, 56.1 in the United Kingdom, 63.6 in the USA and 70.0 in Norway. If a man is not working in the 10 years before the retirement age, he is not likely to become an earner after age 65.

Table 7: Trends in State Transfers, Employer provided Pensions, Earnings and Property inc. at age 65-69 as the mean of the shares of total income.

Country	1980			1995		
	Total Sample (percent)	Top 60% (percent)	Bottom 40% (percent)	Total Sample (percent)	Top 60% (percent)	Bottom 40% (percent)
Netherlands (1983,1994)						
State transfers	64.1	46.2	88.1	57.7	36.0	72.7
Emp. provided	22.9	35.1	6.8	28.6	37.9	22.2
Earnings	10.5	15.0	4.6	7.9	16.1	2.1
Property inc.	1.5	2.6	0.1	5.3	8.9	2.8
Germany (1987,1994)						
State transfers	62.4	50.4	79.8	70.0	61.9	78.5
Emp. provided	15.9	22.4	4.0	9.5	16.2	2.2
Earnings	15.4	19.8	9.1	17.2	17.6	16.6
Property inc.	6.5	7.2	5.5	3.3	4.1	2.5
U.K. (1979,1995)						
State transfers	63.0	30.1	79.3	46.3	26.6	63.6
Emp. provided	12.6	20.7	8.5	27.3	33.6	21.8
Earnings	16.4	38.3	5.3	15.6	25.0	7.3
Property inc.	6.7	9.5	5.4	10.0	14.2	6.3
Canada (1981,1997)						
State transfers	49.1	22.0	70.4	46.6	28.4	63.7
Emp. provided	9.3	14.7	5.2	20.2	26.1	14.6
Earnings	20.6	36.4	8.2	22.4	33.1	12.3
Property inc.	17.1	23.4	12.1	6.5	8.8	4.4
Switzerland (1982,1992)						
State transfers	51.4	31.1	67.1	43.1	30.2	62.1
Emp. provided	12.5	18.5	7.9	21.8	28.1	12.5
Earnings	17.5	27.9	9.5	15.1	19.5	8.6
Property inc.	17.7	21.6	14.6	19.2	21.6	15.6
Norway (1979,1995)						
State transfers	49.5	29.3	72.6	43.8	28.4	59.9
Emp. provided	5.3	6.8	3.5	16.2	18.4	14.0
Earnings	38.2	56.7	17.2	33.5	46.1	20.3
Property inc.	5.6	5.8	5.4	5.5	6.5	4.5
USA (1979,1997)						
State transfers	51.7	29.2	72.9	41.3	26.1	63.1
Emp. provided	10.7	15.6	6.0	17.4	22.6	10.0
Earnings	24.3	35.4	13.5	28.8	34.7	20.2
Property inc.	12.6	18.6	6.7	12.2	16.3	6.4
Australia (1981,1994)						
State transfers	57.9	16.1	76.5	44.5	7.4	66.0
Emp. provided	4.4	9.7	2.0	11.0	17.2	7.4
Earnings	16.8	44.6	4.4	24.1	49.8	9.1
Property inc.	16.4	26.7	11.7	17.9	24.9	13.9

Conclusion

Since the poverty rates are higher in the Anglo-American countries where the state benefits are lower, and the poverty rates are lower in the European countries where the state-benefit share of household income is larger, Smeeding, Torrey, and Rainwater reached the following important conclusion. "The smaller the role of public sources of income the higher the level of income inequality." In the US and Canada all public transfers are about 60-67 percent compared to Sweden, Germany and France where about 80 percent of income of the aged (65-69) comes from this source. Their argument for the reason this outcome occurs is that "private sources are less stable across age and over time than public sources. These public transfer sources of income are those which are systematically adjusted for price change and which provide fail-safe sources of income among the aged." In their study private sources are defined as earnings, income from assets, and occupational pensions. We tell a very different story, because we believe that occupational pensions cannot readily be separated into a public and private components in most countries. The state accounts in most countries for less than half of the gross household income the more affluent 60% of the income distribution and between 60-80% of the less affluent bottom 40% of the distribution.

Consider in more detail the situation in Britain. As reported earlier, data from the Goode report show that trends in the composition of gross income of pensioner units. In 1979 the state pension accounted for 61 percent of aged household income, occupational pension 16 percent, saving and earning each 12 percent. By 1990-91 state pension declined to 50 percent, occupational pensions grew to 22 percent, savings to 20 percent and earning declined to 10 percent.¹⁸ In the Smeeding, Torrey, and Rainwater paper, covering roughly the same period of time, the percent of low income persons over 60 years of age declined from 17 percent to 6.7 percent. Even the Gini for aged heads 65-74 decline slightly from .251 to .235. These data are very striking - poverty and inequality declines in the face of declining state pensions and a growing occupational and personal pillar

We report that countries like the Netherlands and the United Kingdom all have high occupational pensions. The Dutch data on public pensions are imputed and are therefore probably an overestimate, since there are undoubtedly many households that qualify for lower benefits since they do not meet the eligibility requirement for years of coverage. But we know that in these countries occupational pensions are large. Yet only in Britain is poverty relatively high and state pensions relatively low and declining, as discussed above. An effective public transfer system can be combined with a substantial occupational system as appears to be the case in the Netherlands. The main difference is the level of coverage. In the Netherlands despite low union membership once an occupational pension has been accepted in a labor contract it applies to all firms in that industry. Thus the Dutch have in effect a hybrid system, contracts are voluntary, but once agreed upon are mandatory. The result appears to be a public mandatory occupational system covering 90% or more of all workers, whereas the UK system of occupational pensions covers perhaps half as many workers. Yet the Netherlands has one of the lowest poverty and inequality measures among Western economies. What accounts for the parallel expansion of occupational pensions and low inequality? One interpretation is that inequality depends on two main factors: the level of coverage and the height of the income ceiling that is protected.

Before the current pension reform in Sweden, some analysts predicted that with continued economic growth, the ATP in Sweden's earning related scheme would simply become

¹⁸ The Goode Report on Pension Law Reform, (1994), p. 152-153

a new higher basic level pension as most of the full time working population would earn above this income ceiling. Occupational pensions in Sweden are the outcome of national collective bargaining agreements covering virtually the whole working population. Occupational pensions in this context had an important distributional effect. They stabilized the present distribution of income and prevented the further narrowing of the distribution of income by continually raising the ceiling of protection. Greater income equality was being achieved by this silent strategy of raising the floor while keeping the same ceiling. Occupational pensions acted to offset this equalizing trend and stabilized the income distribution.

The British, Dutch and Swedish examples would seem to suggest that the hypothesis that "the smaller the role of public sources the higher the level of inequality" needs to be qualified. The proposition holds under certain conditions, namely, when coverage of occupational pension is limited to a small segment of the population and when public pensions have a low and declining replacement rate. The issue of the relative role of public and private pensions is very much on the political agenda of many countries, hence understanding under what conditions can occupational pensions reinforce rather than threaten objectives to equalize income and reduce poverty.

Appendix

Table A-1-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Australia 1994

<i>Australia 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	56.8	60.3	60.5	43.7	31.9	15.9
Self-employed	8.6	8.1	10	14.9	10.3	5.9
Spouse % gross wage	24.3	26.8	20.7	17.5	7.6	3.4
Total Earning	89.7	95.2	91.2	76.1	49.8	25.2
Property income	4.3	1.9	5.5	10.1	24.9	27.3
Social retirement	0.6	0.1	0.2	0.7	6	7.6
Means tested	-	-	-	0.1	-	0.3
Pathways	1.8	1.2	1.6	5.5	1.4	13.2
Total State	2.4	1.3	1.8	6.3	7.4	21.1
Private pensions	2.2	0.4	0.9	6.7	17.2	23
Other income	1.2	1.2	0.6	0.8	0.7	3.4

Table A-1-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Australia 1994

<i>Australia 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	30.7	48.3	26.4	16.8	4.7	3.1
Self-employed	7.7	10.7	11.8	8.2	1.7	0.7
Spouse % gross wage	6.7	10.6	6.2	2.6	2.7	0.1
Total Earning	45.1	69.6	44.4	27.6	9.1	3.9
Property income	6.6	1.7	8.2	7.2	13.9	15.6
Social retirement	14.8	0.4	2	8.2	55.1	42.6
Means tested	0.7	1	0.8	0.5	0	0
Pathways	21.9	15	37.8	48.5	10.9	27.7
Total State	37.4	16.4	40.6	57.2	66	70.3
Private pensions	2.9	0.4	4.4	5.1	7.4	6.3
Other income	8	11.8	2.4	2.9	3.6	3.9

Table A-1-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Australia 1994

<i>Australia 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	46.4	56.5	49.0	28.6	14.7	5.7
Self-employed	8.3	8.9	10.6	11.1	4.9	1.8
Spouse % gross wage	17.3	21.8	15.8	9.1	4.5	0.8
Total Earning	72.0	87.2	75.4	48.8	24.1	8.3
Property income	5.2	1.8	6.4	8.5	17.9	18.0
Social retirement	6.3	0.2	0.8	4.9	37.1	35.4
Means tested	0.3	0.3	0.3	0.3	-	-
Pathways	9.8	5.5	13.8	29.7	7.4	24.7
Total State	16.4	6.0	14.9	34.9	44.5	60.1
Private pensions	2.5	0.4	2.1	5.8	11.0	9.8
Other income	3.9	4.6	1.2	2.0	2.5	3.8

Table A-2-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Canada 1997

<i>Canada 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	50.9	58.0	54.8	42.1	17.2	7.0
Self-employed	6.3	6.5	7.2	7.1	5.2	2.8
Spouse % gross wage	24.8	29.1	22.0	16.9	10.7	2.9
Total Earning	82.0	93.6	84.0	66.1	33.1	12.7
Property income	3.1	1.4	3.2	5.6	8.8	13.3
Social retirement	5.0	0.5	1.3	6.6	27.0	36.8
Means tested	0.2	0.2	0.2	0.7	0.3	0.5
Pathways	1.5	1.6	1.7	1.4	1.1	0.2
Total State	6.7	2.3	3.2	8.7	28.4	37.5
Private pensions	6.0	0.7	6.9	16.2	26.1	33.3
Other income	2.3	1.9	2.6	3.6	3.7	3.2

Table A-2-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Canada 1997

<i>Canada 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	36.2	49.3	35.0	17.9	6.9	1.7
Self-employed	7.1	8.6	10.6	6.9	2.8	1.0
Spouse % gross wage	12.8	17.1	12.2	8.8	2.6	1.0
Total Earning	56.1	75.0	57.8	33.6	12.3	3.7
Property income	2.6	1.3	4.4	4.5	4.4	5.5
Social retirement	17.7	1.4	6.8	20.8	61.7	72.9
Means tested	5.4	5.7	8.3	12.4	1.4	1.0
Pathways	3.2	4.2	3.8	2.2	0.6	0.3
Total State	26.3	11.3	18.9	35.4	63.7	74.2
Private pensions	5.0	0.7	8.7	15.7	14.6	12.7
Other income	10.0	11.8	10.3	10.8	5.0	3.9

Table A-2-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Canada 1997

<i>Canada 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	45.0	54.8	48.1	31.7	11.9	4.1
Self-employed	6.6	7.3	8.4	7.0	4.0	1.8
Spouse % gross wage	20.0	24.7	18.7	13.4	6.5	1.8
Total Earning	71.6	86.8	75.2	52.1	22.4	7.7
Property income	2.9	1.4	3.6	5.1	6.5	9.1
Social retirement	10.1	0.8	3.1	12.7	44.9	56.5
Means tested	2.3	2.2	3.0	5.7	0.9	0.8
Pathways	2.1	2.5	2.4	1.8	0.8	0.2
Total State	14.5	5.5	8.5	20.2	46.6	57.5
Private pensions	5.6	0.7	7.5	16.0	20.2	22.0
Other income	5.4	5.6	5.2	6.7	4.4	3.6

Table A-3-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Finland 1995

<i>Finland 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	37.4	45.8	29.3	12.8	2.0	1.2
Self-employed	7.9	7.9	9.2	9.5	7.8	4.3
Spouse % gross wage	27.9	31.5	28.5	22.2	9.9	2.7
Total Earning	73.2	85.2	67.0	44.5	19.7	8.2
Property income	2.6	2.0	3.2	3.2	4.7	5.2
Social retirement	1.7	0.3	1.8	3.3	7.2	13.2
Means tested	1.0	1.2	0.8	0.3	0.4	0.2
Pathways	5.6	4.9	9.4	5.1	1.5	11.2
Total State	8.3	6.4	12.0	8.7	9.1	24.6
Private pensions	6.5	1.3	8.8	20.0	33.6	30.4
Public sector pensions	6.1	0.7	8.1	22.4	32.4	31.4
Other income	3.4	4.3	0.9	1.2	0.5	0.2

Table A-3-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Finland 1995

<i>Finland 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	22.0	31.6	6.8	4.4	0.9	0.8
Self-employed	6.8	8.1	11.3	6.1	2.8	0.9
Spouse % gross wage	14.5	19.9	9.9	4.4	2.8	0.8
Total Earning	43.3	59.6	28.0	14.9	6.5	2.5
Property income	1.2	1.0	1.8	2.5	1.7	1.4
Social retirement	8.1	0.8	7.3	11.9	24.3	32.7
Means tested	10.9	14.9	7.5	3.7	2.1	1.1
Pathways	10.1	10.8	18.2	9.8	2.3	8.4
Total State	29.1	26.5	33.0	25.4	28.7	42.2
Private pensions	14.4	1.3	25.9	41.1	51.3	39.4
Public sector pensions	4.6	0.6	9.5	15.3	11.3	13.6
Other income	7.6	10.9	1.9	0.8	0.5	0.8

Table A-3-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Finland 1995

<i>Finland 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	31.2	40.4	23.6	9.4	1.4	1.0
Self-employed	7.4	8.0	9.7	8.1	5.1	2.2
Spouse % gross wage	22.5	27.1	23.8	15.1	6.1	1.5
Total Earning	61.1	75.5	57.1	32.6	12.6	4.7
Property income	2.0	1.6	2.9	2.9	3.1	2.9
Social retirement	4.3	0.5	3.2	6.8	16.5	25.0
Means tested	5.0	6.4	2.5	1.7	1.3	0.8
Pathways	7.4	7.2	11.6	7.0	1.9	9.5
Total State	16.7	14.1	17.3	15.5	19.7	35.3
Private pensions	9.6	1.3	13.1	28.5	43.1	35.8
Public sector pensions	5.5	0.7	8.5	19.6	21.0	20.7
Other income	5.0	6.8	1.2	1.0	0.5	0.6

Table A-4-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Germany 1994

<i>Germany 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	50.2	60.0	64.9	39.0	8.6	4.2
Self-employed	6.5	8.5	3.6	4.7	3.7	0.8
Spouse % gross wage	20.6	25.6	18.9	18.5	5.3	1.8
Total Earning	77.3	94.1	87.4	62.2	17.6	6.8
Property income	2.6	1.9	3.2	3.7	4.1	4.8
Social retirement	13.5	0.6	4.4	24.3	60.5	69.9
Means tested	0.6	0.8	0.5	0.6	-	-
Pathways	1.3	0.9	2.6	2.8	1.4	0.6
Total State	15.4	2.3	7.5	27.7	61.9	70.5
Private pensions	0.9	-	0.6	1.0	4.5	5.1
Public sector pensions	2.6	0.2	0.8	5.4	11.7	12.4
Other income	1.1	1.6	0.5	0.1	0.2	0.3

Table A-4-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Germany 1994

<i>Germany 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	46.9	63.9	56.6	25.3	11.4	1.0
Self-employed	2.4	2.9	1.0	5.1	0.6	0.9
Spouse % gross wage	11.8	15.2	14.5	8.8	4.6	0.9
Total Earning	61.1	82	72.1	39.2	16.6	2.8
Property income	1.2	0.6	1.2	1.3	2.5	2.7
Social retirement	24.2	1.1	13.3	49.8	74.7	85.9
Means tested	4.5	5.6	3.6	4.1	3.1	1.2
Pathways	3.9	4.0	9.1	3.2	0.7	2.4
Total State	32.6	10.7	26	57.1	78.5	89.5
Private pensions	0.2	-	0.0	1.3	0.7	0.4
Public sector pensions	0.8	-	-	0.7	1.5	4.0
Other income	4.2	6.7	0.7	0.4	0.1	0.6

Table A-4-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Germany 1994

<i>Germany 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	48.9	61.5	62.2	32.7	10.0	2.7
Self-employed	4.9	6.3	2.8	4.9	2.2	0.8
Spouse % gross wage	17.1	21.6	17.5	14.0	5.0	1.4
Total Earning	70.9	89.4	82.5	51.6	17.2	4.9
Property income	2.0	1.4	2.5	2.6	3.3	3.8
Social retirement	17.8	0.8	7.3	36.1	67.4	77.3
Means tested	2.2	2.6	1.5	2.2	1.5	0.5
Pathways	2.3	2.1	4.7	3.0	1.1	1.5
Total State	22.3	5.5	13.5	41.3	70	79.3
Private pensions	0.7	-	0.4	1.1	2.7	3.0
Public sector pensions	1.8	0.1	0.5	3.3	6.8	8.5
Other income	2.3	3.6	0.5	0.2	0.2	0.4

Table A-5-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Netherlands 1994

<i>Netherlands 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	53.7	62.7	54.4	17.2	7.0	2.8
Self-employed	4.27	4.5	5.5	2.0	5.0	1.4
Spouse % gross wage	20.4	25.1	9.8	4.7	4.1	1.3
Total Earning	78.4	92.3	69.7	23.9	16.1	5.5
Property income	2.5	1.3	3.3	4.2	8.9	12.3
Social retirement	3.5	0.2	0.8	4.4	30.5	36.5
Means tested	0.5	0.5	0.5	1.0	0.6	-
Pathways	5.1	3.4	15.8	13.7	4.9	0.7
Total State	9.1	4.1	17.1	19.1	36	37.2
Private pensions	7.8	-	8.6	50.7	37.9	44.0
Other income	2.1	2.3	1.4	2.1	1.6	0.9

Table A-5-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Netherlands 1994

<i>Netherlands 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	36.4	54.2	20.8	8.8	1.7	4.0
Self-employed	2.8	3.6	5.1	3.0	0.3	0.0
Spouse % gross wage	10.5	15.2	5.9	7.6	0.1	0.2
Total Earning	49.7	73	31.8	19.4	2.1	4.2
Property income	1.9	1.1	5.2	2.9	2.8	2.7
Social retirement	16.7	0.6	1.4	2.3	58.4	77.5
Means tested	4.5	5.4	10.1	3.4	1.2	0.8
Pathways	14.3	9.5	46.6	49.0	13.1	-
Total State	35.5	15.5	58.1	54.7	72.7	78.3
Private pensions	6.4	-	4.0	22.5	22.2	14.4
Other income	6.5	10.2	1.1	0.5	0.2	0.3

Table A-5-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Netherlands 1994

<i>Netherlands 1994</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	46.8	59.7	44.4	13.1	3.9	3.6
Self-employed	3.7	4.2	5.3	2.5	2.2	0.5
Spouse % gross wage	16.5	21.6	8.7	6.1	1.8	0.5
Total Earning	67.0	85.5	58.4	21.7	7.9	4.6
Property income	2.3	1.2	3.8	3.6	5.3	6.0
Social retirement	8.8	0.3	1.0	3.4	46.8	63.4
Means tested	2.1	2.2	3.3	2.2	1.0	0.5
Pathways	8.8	5.6	24.9	31.1	9.7	0.3
Total State	19.7	8.1	29.2	36.7	57.5	64.2
Private pensions	7.2	-	7.2	36.8	28.6	24.6
Other income	3.9	5.1	1.3	1.3	0.8	0.6

Table A-6-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Norway 1995

<i>Norway 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	46.8	52.6	49.1	42.8	18.8	7.8
Self-employed	8.5	8.4	13.0	8.2	6.8	4.7
Spouse % gross wage	26.6	29.5	23.2	23.5	20.5	7.8
Total Earning	81.9	90.5	85.3	74.5	46.1	20.3
Property income	3.1	2.2	3.8	4.2	6.5	8.6
Social retirement	4.6	0.8	1.1	2.3	17.5	44.7
Means tested	0.4	0.4	0.4	0.2	0.2	-
Pathways	4.1	2.5	7.2	12.0	10.7	2.0
Total State	9.1	3.7	8.7	14.5	28.4	46.7
Private pensions	3.4	0.3	1.3	6.3	18.4	23.8
Other income	2.5	3.2	0.7	0.6	0.7	0.6

Table A-6-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Norway 1995

<i>Norway 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	30.9	48.3	35.4	25.1	6.9	1.9
Self-employed	6.8	8.8	12.7	11.4	5.1	0.8
Spouse % gross wage	13.9	19.9	21.4	12.9	8.3	1.8
Total Earning	51.6	77.0	69.5	49.4	20.3	4.5
Property income	2.8	1.1	2.6	4.8	4.5	5.3
Social retirement	24.8	2.6	3.1	4.2	37.9	76.6
Means tested	2.4	4.0	1.9	0.5	0.5	0.2
Pathways	8.6	6.4	19.6	31.4	21.5	1.9
Total State	35.8	13.0	24.6	36.1	59.9	78.7
Private pensions	4.6	0.2	1.3	8.5	14.0	10.4
Other income	5.2	8.5	2.0	1.2	1.2	1.1

Table A-6-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Norway 1995

<i>Norway 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	40.4	51.2	45.8	36.4	13.0	3.4
Self-employed	7.8	8.6	13.0	9.3	6.0	1.8
Spouse % gross wage	21.5	26.3	22.8	19.7	14.5	3.4
Total Earning	69.7	86.1	81.6	65.4	33.5	8.6
Property income	3.0	1.8	3.5	4.4	5.5	6.2
Social retirement	12.7	1.4	1.6	3.0	27.5	68.1
Means tested	1.2	1.6	0.8	0.3	0.3	0.1
Pathways	5.9	3.9	10.2	19.0	16.0	1.9
Total State	19.8	6.9	12.6	22.3	43.8	70.1
Private pensions	3.9	0.3	1.3	7.1	16.2	14.0
Other income	3.6	5.0	1.0	0.8	0.9	1.0

Table A-7-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: Sweden 1995

<i>Sweden 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	42.2	52.2	45.4	28.4	4.5	1.1
Self-employed	1.9	1.8	2.7	2.5	1.4	1.3
Spouse % gross wage	27.7	31.2	31.2	25.0	16.0	6.3
Total Earnings	71.8	85.2	79.3	55.9	21.9	8.7
Property income	3.2	2.0	3.6	4.3	5.4	8.9
Social retirement	11.2	1.2	6.2	17.8	49.8	60.8
Means tested	0.6	0.7	0.1	0.2	0.3	0.4
Pathways	4.8	5.1	6.6	5.8	1.7	0.4
Total State	16.6	7	12.9	23.8	51.8	61.6
Private pensions	5.1	0.5	3.8	15.4	20.4	20.3
Other income	3.5	5.1	0.4	0.6	0.3	0.4

Table A-7-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: Sweden 1995

<i>Sweden 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	21.9	34.8	28.9	15.2	1.5	0.3
Self-employed	3.6	4.9	7.1	6.0	1.1	0.5
Spouse % gross wage	13.6	20.3	19.8	13.1	5.5	0.6
Total Earning	39.1	60.0	55.8	34.3	8.1	1.4
Property income	3.4	1.8	5.1	4.9	4.4	6.2
Social retirement	29.3	1.5	15.6	32.6	70.6	79.0
Means tested	5.4	7.9	2.7	3.8	1.6	1.5
Pathways	8.6	12.3	13.5	13.1	3.3	0.2
Total State	43.3	21.7	31.8	49.5	75.5	80.7
Private pensions	4.4	0.4	3.4	10.1	11.0	10.2
Other income	9.8	16.0	3.9	1.2	0.9	1.4

Table A-7-c: Income source of household as a percentage of gross income by age. Total of the income distribution: Sweden 1995

<i>Sweden 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	34.1	45.8	42.3	24.7	3.2	0.5
Self-employed	2.6	2.9	3.5	3.5	1.3	0.7
Spouse % gross wage	22.1	27.2	29.1	21.7	11.6	2.4
Total Earning	58.8	75.9	74.9	49.9	16.1	3.6
Property income	3.3	1.9	3.9	4.5	5.0	7.0
Social retirement	18.4	1.3	7.9	22.0	58.7	73.4
Means tested	2.5	3.4	0.6	1.2	0.9	1.2
Pathways	6.3	7.8	7.8	7.8	2.4	0.3
Total State	27.2	12.5	16.3	31.0	62.0	74.9
Private pensions	4.8	0.5	3.7	13.9	16.4	13.3
Other income	6.0	9.1	1.1	0.8	0.6	1.1

Table A-8-a: Income source of household as a percentage of gross income by age.
Upper 60% of income distribution. Switzerland 1992

<i>Switzerland 1992</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages	56.0	66.9	65.7	52.3	9.8	4.6
Self-employed	6.4	7.1	7.5	6.2	4.6	2.4
Spouse % gross wage	14.2	18.2	11	9.2	5.1	2.7
Total Earning	76.6	92.2	84.2	67.7	19.5	9.7
Property income	9.7	5.5	9.6	13.9	21.6	26.7
Social retirement	6.4	0.6	2.5	6.3	29.8	35.3
Means tested	0.2	0.1	0.2	0.2	0.2	0.5
Pathways	0.8	0.6	1.7	1.3	0.2	0.9
Total State	7.4	1.3	4.4	7.8	30.2	36.7
Private pensions	5.6	0.3	1.3	10.3	28.1	26.2
Other income	0.6	0.7	0.4	0.3	0.7	0.7

Table A-8-b: Income source of household as a percentage of gross income by age.
Lower 40% of income distribution. Switzerland 1992

<i>Switzerland 1992</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages	50.2	64.3	61.6	37.8	4.6	2.4
Self-employed	10.9	13	18.1	13.8	1.8	1.7
Spouse % gross wage	9.9	12.9	4.7	9.4	2.2	0.7
Total Earning	71.0	90.2	84.4	61.0	8.6	4.8
Property income	6	3.6	3.7	10.3	15.6	12.9
Social retirement	15.5	1	6.9	15.7	60.1	68.2
Means tested	1.7	1.4	2.3	1.4	1.4	3.1
Pathways	1.7	2.1	0.3	1.1	0.6	0.9
Total State	18.9	4.5	9.5	18.2	62.1	72.2
Private pensions	2.8	0.3	0.8	9.8	12.5	9.2
Other income	1.2	1.3	1.6	0.6	1.1	0.9

Table A-8-c: Income source of household as a percentage of gross income by age. Whole sample. Switzerland 1992

<i>Switzerland 1992</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages	53.7	65.8	64.9	49.2	7.7	3.5
Self-employed	8.2	9.6	9.7	7.8	3.5	2.1
Spouse % gross wage	12.5	15.9	9.7	9.3	3.9	1.7
Total Earning	74.4	91.3	84.3	66.3	15.1	7.3
Property income	8.2	4.7	8.4	13.1	19.2	19.6
Social retirement	10.0	0.8	3.4	8.3	42.1	52.3
Means tested	0.8	0.7	0.7	0.5	0.7	1.8
Pathways	1.2	1.3	1.4	1.3	0.3	0.9
Total State	12.0	2.8	5.5	10.1	43.1	55.0
Private pensions	4.5	0.3	1.2	10.2	21.8	17.4
Other income	0.9	1	0.7	0.3	0.9	0.8

Table A-9-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: United Kingdom 1995

<i>United Kingdom 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	46.0	54.0	42.2	31.6	8.8	6.4
Self-employed	13.1	14.6	13.7	8.9	7.1	3.8
Spouse % gross wage	20.6	24.1	17	12.6	9.1	4.0
Total Earning	79.7	92.7	72.9	53.1	25	14.2
Property income	4.4	1.8	5.6	10.3	14.2	18.3
Social retirement	3.2	0.1	0.6	2.7	21.2	27.7
Means tested	0.5	0.4	0.3	1.5	0.3	1.0
Pathways	2.3	1.1	5.2	8.6	5.1	2.3
Total State	6.0	1.6	6.1	12.8	26.6	31.0
Private pensions	7.9	1.3	14.5	22.8	33.6	35.9
Other income	2.1	2.5	0.9	0.9	0.7	0.6

Table A-9-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: United Kingdom 1995

<i>United Kingdom 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	23.9	36.6	25.1	13.3	3.8	2.2
Self-employed	4.5	6.8	2.5	4.0	1.4	0.3
Spouse % gross wage	10.6	16.1	8.6	9.6	2.1	0.6
Total Earning	39.0	59.5	36.2	26.9	7.3	3.1
Property income	4.4	2.4	6.7	8.1	6.3	6.4
Social retirement	18.5	0.3	1.1	4.1	48.6	66.9
Means tested	13.6	17.4	18.8	11.1	4.3	6.6
Pathways	7.9	6.8	15.8	19.3	10.7	2.1
Total State	40.0	24.5	35.7	34.5	63.6	75.6
Private pensions	9.0	1.0	15.9	28.3	21.8	14.5
Other income	7.7	12.6	5.4	2.1	1.1	0.4

Table A-9-c: Income source of household as a percentage of gross income by age. Total of the income distribution: United Kingdom 1995

<i>United Kingdom 1995</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	37.2	48.2	36.4	23.5	6.1	3.5
Self-employed	9.6	12.0	10.0	6.8	4.1	1.4
Spouse % gross wage	16.6	21.4	14.2	11.3	5.4	1.7
Total Earning	63.4	81.6	60.6	41.6	15.6	6.6
Property income	4.4	2.0	6.0	9.3	10.0	10.1
Social retirement	9.3	0.2	0.8	3.3	35.8	54.6
Means tested	5.7	6.1	6.5	5.8	2.4	4.8
Pathways	4.5	3.0	8.7	13.3	8.1	2.2
Total State	19.5	9.3	16	22.4	46.3	61.6
Private pensions	8.3	1.2	15.0	25.2	27.3	21.2
Other income	4.3	5.9	2.4	1.4	0.9	0.5

Table A-10-a: Income source of household as a percentage of gross income by age. top 60% of the income distribution: United States 1997

<i>United States 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	51.8	60.5	53.6	40.8	18.1	10.5
Self-employed	5.0	5.0	6.9	7.0	3.8	2.4
Spouse % gross wage	24.4	28.4	22.7	20.8	12.8	5.0
Total Earning	81.2	93.9	83.2	68.6	34.7	17.9
Property income	6.3	3.4	7.3	9.6	16.3	20.2
Social retirement	5.4	0.6	1.7	6.6	24.9	35.3
Means tested	0.2	0.2	0.2	0.2	0.1	0.1
Pathways	0.9	0.7	1.2	1.5	1.1	1.8
Total State	6.5	1.5	3.1	8.3	26.1	37.2
Private pensions	2.9	0.4	3.0	7.5	12.4	12.4
Public sector pensions	2.6	0.5	2.9	5.6	10.2	12.0
Other income	0.4	0.5	0.5	0.4	0.3	0.3

Table A-10-b: Income source of household as a percentage of gross income by age. Lower 40% of the income distribution: United States 1997

<i>United States 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	44.6	58.6	39.8	26.0	11.2	3.9
Self-employed	5.4	6.3	9.7	6.5	2.3	0.9
Spouse % gross wage	17.2	21.5	21.4	14.9	6.7	1.6
Total Earning	67.2	86.4	70.9	47.4	20.2	6.4
Property income	2.8	1.2	5.5	5.9	6.4	6.4
Social retirement	17.8	2.1	8.8	26.4	59.1	72.3
Means tested	6.0	7.3	5.1	6.7	2.8	2.0
Pathways	1.6	1.6	2.4	2.1	1.2	1.3
Total State	25.4	11.0	16.3	35.2	63.1	75.6
Private pensions	2.4	0.4	4.4	8.0	6.2	7.0
Public sector pensions	1.3	0.2	2.6	2.9	3.8	4.3
Other income	0.7	0.8	0.4	0.6	0.4	0.2

Table A-10-c: Income source of household as a percentage of gross income by age. Total of the income distribution: United States 1997

<i>United States 1997</i>	Total	<55	55-59	60-64	65-69	70+
Gross wages without spouse	49.0	59.8	49.8	35.8	15.3	6.9
Self-employed	5.2	5.5	7.6	6.8	3.2	1.6
Spouse % gross wage	21.6	25.7	22.3	18.8	10.3	3.1
Total Earning	75.8	91.0	79.7	61.4	28.8	11.6
Property income	4.9	2.5	6.8	8.3	12.2	12.7
Social retirement	10.4	1.2	3.7	13.3	39.0	55.5
Means tested	2.5	3.0	1.6	2.4	1.2	1.1
Pathways	1.2	1.0	1.5	1.7	1.1	1.5
Total State	14.1	5.2	6.8	17.4	41.3	58.1
Private pensions	2.7	0.4	3.4	7.7	9.8	9.5
Public sector pensions	2.1	0.4	2.8	4.7	7.6	7.8
Other income	0.5	0.6	0.4	0.5	0.4	0.2

Table B: Poverty rate (percentage of hh under poverty line of half of the adjusted mean income) and number of households (hh)

Country	total	<55	55-59	60-64	65-69	70+
Australia 1981						
- number of hh	5,226	3,427	436	395	334	633
- poverty rate (%)	17.0	11.7	13.5	22.3	28.7	38.5
Australia 1985						
- number of hh	5,202	3,329	398	417	353	704
- poverty rate	18.6	12.1	15.3	22.5	33.1	41.8
Australia 1989						
- number of hh	6,108	4,040	418	432	415	803
- poverty rate	18.8	12.7	18.4	23.1	32,3	40.7
Australia 1994						
- number of hh	6,340,412	4,143,826	455,149	415,736	415,911	909,790
- poverty rate	20.4	13.3	18.6	32.4	29.6	44.0
Canada 1981						
- number of hh	8,901	6,053	711	610	519	1,008
- poverty rate	15.0	12.5	11.8	17.9	23.7	25.7
Canada 1987						
- number of hh	9,287	6,283	652	658	551	1,142
- poverty rate	11.4	11.3	12.6	14.3	10.5	10.0
Canada 1991						
- number of hh	10,682	7,271	751	689	684	1,287
- poverty rate	12.8	14.2	12.5	18.9	8.0	4.7
Canada 1997						
- number of hh	11,792,760	7,896,620	816,540	705,292	691,920	1,682,388
- poverty rate	13.7	15.1	15.5	21.3	8.5	55
Finland 1995						
- number of hh	2,289,892	1,476,954	163,185	149,558	154,220	345,975
- poverty rate	10.6	10.4	8.9	5.7	8.9	15.3
Germany 1984						
- number of hh	24,813	14,203	2,224	1,860	1,385	5,141
- poverty rate	8.6	7.9	8.2	6.0	6.7	12.5
Germany 1989						
- number of hh	23,017,900	12,458,088	1,668,084	2,015,178	1,884,991	4,991,559
- poverty rate	9.1	7.9	10.6	9.8	11.4	10.5
Germany 1994						
- number of hh	34,395	19,282	3,144	2,487	2,527	6,955
- poverty rate	9.6	10.3	5.0	12.9	7.8	9.2
Netherlands 1983						
- number of hh	5,599	3,563	433	397	351	855
- poverty rate	4.6	4.3	4.4	6.0	3.7	5.6
Netherlands 1987						
- number of hh	5,465	3,577	373	384	351	781
- poverty rate	5.0	5.4	7.8	8.6	1.7	1.3
Netherlands 1991						
- number of hh	6,286,210	4,30,828	414,272	467,878	431,869	941,364
- poverty rate	7.9	9.6	4.7	8.6	3.6	3.5
Netherlands 1994						
- number of hh	5,492	3,578	361	402	367	784
- poverty rate	9.2	10.4	6.6	7.2	8.2	6.3

Country	total	<55	55-59	60-64	65-69	70+
Norway 1979						
- number of hh	1,635	905	147	136	135	312
- poverty rate	37.9	28.8	20.4	27.9	44.4	74.0
Norway 1986						
- number of hh	1,704,599	989,900	115,218	129,710	144,380	325,391
- poverty rate	15.1	8,7	3.8	9.0	16.9	40.2
Norway 1995						
- number of hh	1,988,471	1,248,824	112,626	109,986	126,534	390,501
- poverty rate	15.0	11.9	6.3	7.6	6.6	32.0
Sweden 1995						
- number of hh	4,671,155	3,013,154	287,625	262,678	259,076	848,622
- poverty rate	11.6	15.3	3.5	4.1	2.2	6.8
Switzerland 1982						
- number of hh	3,098	1,973	217	210	179	520
- poverty rate	17.9	11.7	7.8	16.2	30.7	42.3
Switzerland 1992						
- number of hh	6,095	3,795	424	422	395	1059
- poverty rate	8.7	9.1	5.0	6.9	6.8	10.1
United Kingdom 1979						
- number of hh	6,772	3,888	631	470	606	1,177
- poverty rate	15.1	8.0	10.0	16.2	27,6	34.2
United Kingdom 1986						
- number of hh	7,156	4,191	511	600	589	1,265
- poverty rate	12.7	12.5	9.0	10.3	10.5	16.8
United Kingdom 1991						
- number of hh	23,328	13,733	1,649	1,797	1,822	4,326
- poverty rate	23.6	17.1	19.0	20.4	31.4	44.2
United Kingdom 1995						
- number of hh	22,431	13,546	1,567	1,578	1,643	4,097
- poverty rate	20.2	18.7	16.5	14.6	17.0	30.0
United States 1979						
- number of hh	78,186	50,281	6,305	5,568	5,272	10,760
- poverty rate	18.1	14.0	14.4	20.7	25.1	35.1
United States 1986						
- number of hh	89,342	57,502	6,519	6,373	6,050	12,898
- poverty rate	20.6	17.7	20.4	16.8	22.9	34.6
United States 1991						
- number of hh	95,216	61,963	6,034	6,338	6,377	14,503
- poverty rate	20.5	18.7	18.4	17.1	22.2	29.8
United States 1997						
- number of hh	101,863,229	66,941,413	7,026,024	6,037,346	5,960,113	15,898,333
- poverty rate	23,0	20.9	17.3	23.3	24.7	33.6

Table C: Gini-Index by age group

Country	total	<55	55-59	60-64	65-69	70+
Australia 1981	0.2882	0.2668	0.2744	0.3099	0.2835	0.2588
Australia 1985	0.3011	0.2729	0.2998	0.3452	0.2729	0.2546
Australia 1989	0.3127	0.2865	0.3140	0.3388	0.3070	0.2897
Australia 1994	0.3193	0.2887	0.3077	0.3831	0.2973	0.2898
Canada 1981	0.3875	0.2837	0.2858	0.3227	0.3418	0.2946
Canada 1987	0.2923	0.2819	0.3124	0.3337	0.2902	0.2459
Canada 1991	0.2911	0.2909	0.3033	0.3197	0.2523	0.2359
Canada 1997	0.2983	0.2982	0.3242	0.3309	0.2678	0.2370
Finland 1995	0.2352	0.2308	0.2603	0.2237	0.2281	0.1950
Germany 1984	0.2593	0.2437	0.2540	0.2639	0.2616	0.2941
Germany 1989	0.2593	0.2598	0.2520	0.2466	0.2606	0.2470
Germany 1994	0.2720	0.2777	0.2654	0.2872	0.2645	0.2437
Netherlands 1983	0.2573	0.2514	0.2666	0.2594	0.2487	0.2623
Netherlands 1987	0.2499	0.2536	0.2496	0.2599	0.2448	0.2061
Netherlands 1991	0.2790	0.2685	0.3137	0.2844	0.3023	0.2519
Netherlands 1994	0.2674	0.2631	0.2496	0.2833	0.2568	0.2458
Norway 1979	0.2447	0.2229	0.2114	0.2232	0.2541	0.2298
Norway 1986	0.2456	0.2267	0.1909	0.2334	0.2395	0.2362
Norway 1991	0.2405	0.2335	0.2107	0.2246	0.2366	0.2130
Norway 1995	0.2533	0.2449	0.2232	0.2260	0.2718	0.2121
Sweden 1995	0.2382	0.2567	0.2005	0.1999	0.1934	0.1700
Switzerland 1982	0.3279	0.2953	0.3279	0.3663	0.3923	0.3203
Switzerland 1992	0.2990	0.2878	0.2610	0.3009	0.3487	0.3120
United Kingdom 1979	0.2775	0.2536	0.2496	0.2612	0.2581	0.2114
United Kingdom 1986	0.3009	0.3043	0.2812	0.2888	0.2497	0.2212
United Kingdom 1991	0.3470	0.3237	0.4205	0.3307	0.3115	0.3028
United Kingdom 1995	0.3418	0.3443	0.3518	0.2978	0.2911	0.2689
United States 1979	0.3115	0.2872	0.3076	0.3464	0.3456	0.3403
United States 1986	0.3387	0.3243	0.3458	0.3434	0.3637	0.3553
United States 1991	0.3413	0.3321	0.3437	0.3584	0.3416	0.3422
United States 1997	0.3798	0.3695	0.4005	0.4024	0.3881	0.3650

Table D: Total household income by age relative to households under 55 years of age

Country	60-64	65-69	70+
Australia 1981	0.88	0.71	0.65
Australia 1985	0.91	0.65	0.61
Australia 1989	0.90	0.70	0.63
Australia 1994	0.78	0.66	0.54
Canada 1981	1.00	0.87	0.72
Canada 1987	0.99	0.85	0.75
Canada 1991	0.95	0.89	0.81
Canada 1997	0.92	0.88	0.82
Finland 1995	1.01	0.91	0.87
Germany 1984	1.00	0.95	0.90
Germany 1989	0.87	0.91	0.80
Germany 1994	0.94	0.94	0.86
Netherlands 1983	0.98	0.95	0.87
Netherlands 1987	0.98	0.96	0.87
Netherlands 1991	0.99	0.98	0.80
Netherlands 1994	0.94	0.83	0.78
Norway 1979	1.02	0.91	0.69
Norway 1986	1.04	0.86	0.68
Norway 1991	1.05	0.93	0.72
Norway 1995	1.02	1.00	0.72
Sweden 1995	1.07	0.98	0.82
Switzerland 1982	1.16	0.89	0.69
Switzerland 1992	1.22	1.11	0.97
United Kingdom 1979	0.84	0.68	0.58
United Kingdom 1986	0.90	0.78	0.68
United Kingdom 1991	0.88	0.73	0.62
United Kingdom 1995	0.86	0.81	0.65
United States 1979	1.01	0.87	0.72
United States 1986	1.07	0.97	0.78
United States 1991	1.08	0.93	0.80
United States 1997	1.08	0.97	0.77