

Hedström, Peter; Ringen, Stein

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Luxembourg Income Study Working Paper Series

Working Paper No. 4

Age and Income in Contemporary Society

Peter Hedström and Stein Ringen

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THE SWEDISH INSTITUTE FOR SOCIAL RESEARCH
University of Stockholm
S-106 91 Stockholm

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DRAFT

AGE AND INCOME IN CONTEMPORARY SOCIETY:
A Comparative Study

by

Peter Hedström
and
Stein Ringen

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THE FLUCTUATION OF ECONOMIC WELL-BEING

In his classical study of poverty in York at the turn of the century, Seebohm Rowntree demonstrated that the economic well-being of families tended to fluctuate over the life course. The typical career of a family had the form of a "cycle of poverty" whereby families moved in and out of periods of low economic well-being. Rowntree identified two periods in which families faced the highest risk of poverty, the periods of child rearing and old age.

The economic well-being of a family depends largely on its size and its total income. In Rowntree's time, there would typically be one main income earner in the family, the husband, and only minor additional (cash) incomes would be brought in by the wife or older children. Until old age, and with the exception of periods of unemployment for the husband, the income of the family usually did not change very much. But since family size varied considerably over the life cycle - there were usually many children - the standard of living of the family still fluctuated significantly. During the period of child rearing it would be pressed down. As the children grew older and moved out of the parent family, its standard of living would increase although its income remained about the same. Then in old age, the standard of living would usually fall again, but now because of lower earnings and the lack of other alternative income sources such as social security.

Since Rowntree's time, many of the factors underlying the poverty

cycle have changed. It is likely that changes in family size and composition, the increased labor force participation rate of women, and, above all, the development of the welfare state have affected the economic well-being of families as well as the degree to which it fluctuates over the life cycle. However, the basic demographic factors underlying Rowntree's cycle are still with us, and an important issue in social policy debate still is the extent to which welfare programmes should aim to counteract or eliminate the Rowntree type of cycle. In particular, because of the "aging" of the populations of industrial nations, there is a great deal of concern with the economic status of the elderly.

This essay addresses two main questions. First, is this kind of fluctuation of economic well-being over the life course still a characteristic of the distribution of income in advanced industrial nations?¹ Do young and old families still tend to have a lower standard of living than the rest of the population and, if so, is this equally true in all nations?. Second, to what extent can differences between nations in this respect be explained by differences in the relative role of income transfer policies.

In this essay we will analyze the relative economic position of families of various ages in seven industrial nations around 1980. Special attention will be given to the economic status of the elderly as compared to the rest of the population. The paper is

1. More precisely, we analyze differences in family income of different age groups at one point in time, and not the fluctuation over time for the same family.

divided into three sections. We first examine the composition of family income to see how families in various age groups put together "packages of income" (Rainwater et. al. 1985) from various sources. This will show what difference there is between these countries in the relative importance of different sources of income. In the second part, we analyze how the level and distribution of income varies between age groups and across nations. Finally, we conclude with a discussion of possible relationships between different income packages on the one hand and the level and distribution of income on the other.

When interpreting this analysis, the reader should bear in mind that this is a study of

- cash income (non-cash income such as in-kind transfers are not included),
- family income (no analysis of individuals' incomes is included),
- relative income (no comparisons are made in terms of absolute income levels).

This essay is one in a group of papers within the Luxembourg Income Study, an international project on comparative income distribution. The LIS analyses are based on an international data bank of income statistics containing data for the following seven countries: Canada, Germany (BRD), Israel, Norway, Sweden, the United Kingdom and the United States. The data in the LIS data bank are for the year 1979 except for Canada and Sweden where the data are for 1981. The data bank has been established by rearranging micro-data files for each of these countries according to a common

set of concepts, standards, and definitions in order to achieve the best possible comparability. International comparisons of income distribution have usually been based on published statistics in various countries or at best from tables produced in each country (cf. Sawyer 1976, Stark 1976). A serious problem with these studies has been the lack of comparability. In LIS, we believe that by working directly with and rearranging micro-data sets we have overcome many of these problems and reached better comparability than in the past. Of course, perfect comparability is not possible and some of the remaining problems will be discussed later in the paper.²

The group of papers now being prepared constitute the first wave of analyses based on the LIS data bank. The purpose of these papers is mainly descriptive. We want to describe in general terms the distribution of income in these countries in a comparative framework and explore the potentialities of the LIS data bank.

2. The LIS data bank is physically located at the Centre d'Etudes de Populations, de Pauvrete et de Politique Socio-Economique in Luxembourg except for the Swedish data which due to peculiarities in Swedish data legislation have not been physically integrated within data bank and are therefore located at the Institute for Social Research in Stockholm. For a more detailed description of LIS, see the paper by Smeeding, Schmaus and Allegreza. (1985)

INCOME PACKAGES

A useful way of describing the political economy of contemporary society is in terms of different "claim systems" varying in importance from one country to another (see Rein 1983). The major systems within which claims are established in industrial societies are the family, the government, and the market (work and capital). Toward each of these institutions individuals make claims on economic resources. How families put together packages of income from various sources depends on the availability of the various forms of income and the propensity of each family to choose between the forms of income that are available. The availability of different income sources is influenced by factors such as the level of unemployment and the welfare policies of the government, and the families' choices by, for instance, their demographic composition.

The seven countries included in this study differ both in the availability of various forms of income and in family composition. For example, public spending on income maintenance in 1978/79 amounted to 18 percent of GNP in Germany, 12 percent in the United Kingdom, and 9 percent in the United States (OECD 1985). As can be seen from Table 1, these countries also differ from one another in respect to family size and age composition. In terms of average family size, Israel and Sweden are polar cases, Israel having on average larger families than the other countries (3.4 members), Sweden smaller ones (1.9 members), and the other five countries in

there between (2.4 - 2.7 members). As for age composition, Germany has the "oldest" population and Canada and the United States the "youngest" populations. Israel is a case of its own with relatively small groups of both young and old families and consequently a larger proportion middle age groups.

TABLE 1. SIZE AND AGE DISTRIBUTION OF FAMILIES

	Persons per family ¹	Age Group ²		
		-24	25-64	65+
CANADA	2.7	10	73	17
GERMANY	2.4	5	66	29
ISRAEL	3.4	3	74	23
NORWAY	2.5	7	66	27
SWEDEN	1.9	14	60	26
UNITED KINGDOM	2.7	6	68	26
UNITED STATES	2.6	10	70	20

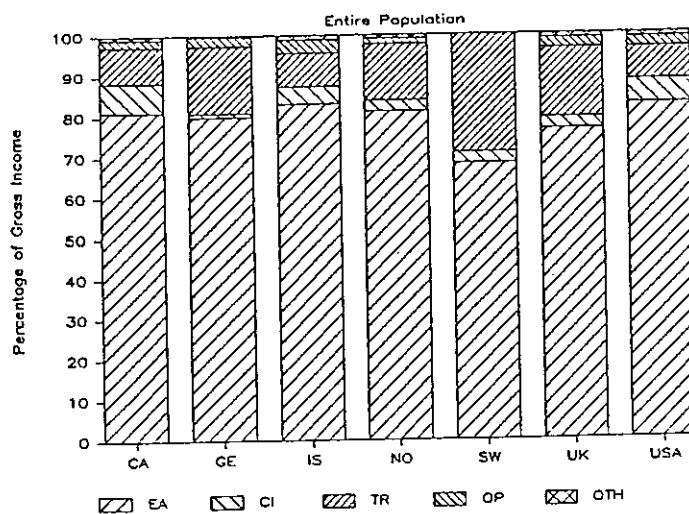
1) There are some differences in family definition between the data files. Most important, in the Swedish data single persons over 18 years of age are counted as a family of their own even if they in fact belong to another family. This will for example be the case with students who live with their parents. (Co-habitants who are not technically married are counted as a married couple.) Household size in Sweden therefore is underestimated. The true figure should probably be close to that of Germany or Norway. (A rearranging of the Norwegian data using the Swedish family definition bring family size in Norway down to 2.0.) This irregularly influences the interpretation of some of the results for Sweden, as will be explained in subsequent comments.

2) Families are assigned to age groups according to the age of the family head. In families with a married couple, with or without other members, the family head is the husband.

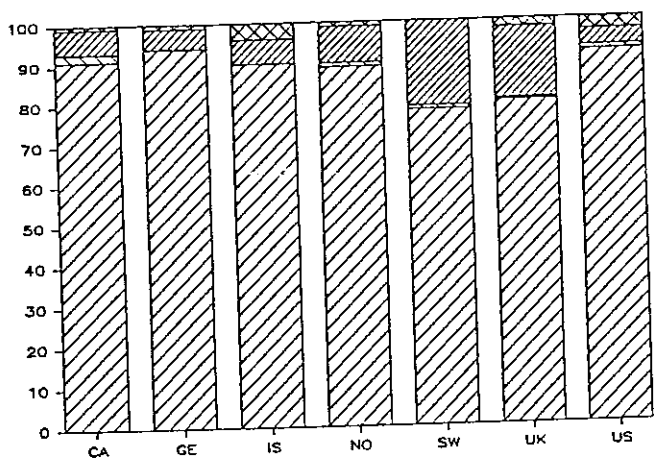
The age composition of a population is likely to affect the packaging of income in several different ways. An increase in the proportion of elderly people, for example, will reduce the role of earnings, and by affecting the relative numbers of "supporters" and "supported" increase the size of the public redistributive system and the relative role of public transfers. We therefore expect to find some difference between countries in the way families put together income packages. Diagram 1 shows the composition of gross income (pre-tax family income), first for all families taken together and then for families in different age groups. We distinguish between five different income sources: earnings (employment and self-employment income), capital income, public transfers, occupational pensions, and a miscellaneous category which we call other income. The diagram confirms the expectation that there are differences between these countries in the composition of family income and shows how they differ from each other in this respect.

If we first look at the population at large, we notice that in all countries, earnings are by far the most important income source. Earnings contribute between 68 percent (Sweden) and 83 percent (Israel) to the average family's gross income.

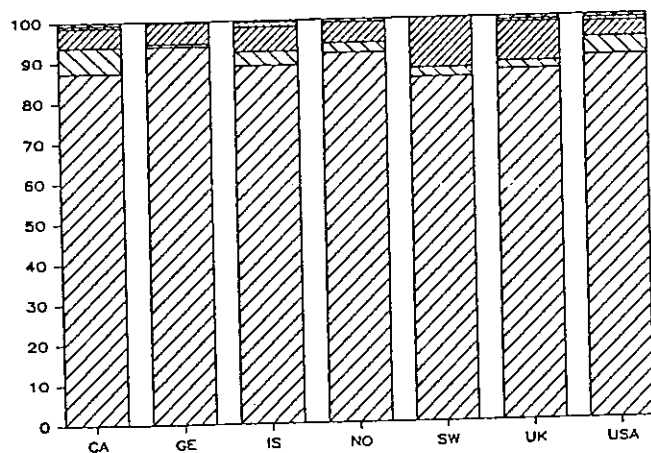
DIAGRAM 1. FAMILY INCOME PACKAGES



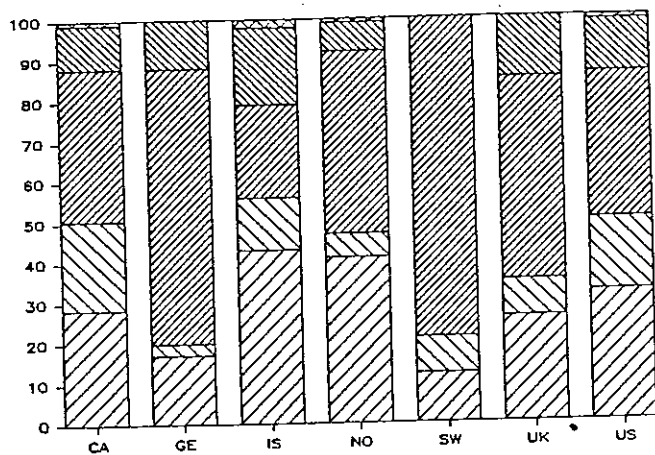
AGE: - 24



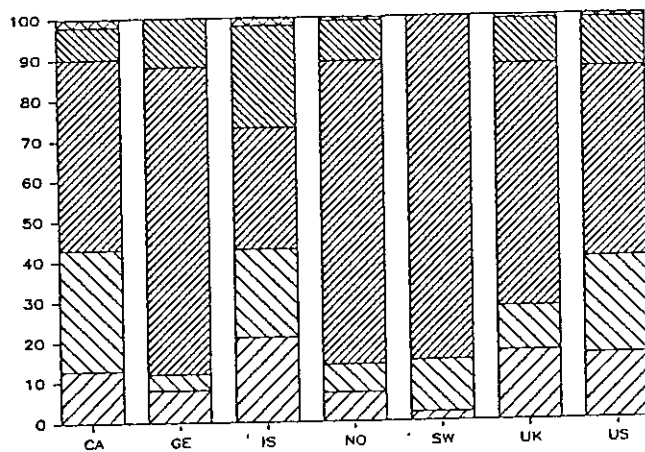
AGE: 45 - 54



AGE: 65 - 74



AGE: 75 +



The most significant difference between these seven nations concerns public transfers. These contribute between 8 and 29 percent to gross family income (in Israel/US and Sweden respectively). A second major difference is the important role played by capital income in Canada and the United States as compared to the other countries.

With some risk of oversimplifying the picture, we can distinguish between a typical European and a typical non-European income package, where the latter is characterized by relatively low levels of public transfers and high levels of capital income. Among the European countries, Sweden is a case of its own due to its exceptionally high level of public transfers; close to 30 percent of gross family income is public transfers.

Are these differences in income packages the ones we would expect to find on the basis of the variations in age composition described above? To some extent, yes. The non-European countries have relatively "young" populations and it is therefore understandable that transfer incomes matter relatively less there. But, the very significant role played by public transfers in Sweden cannot be explained by its demographic structure. Sweden does not have an "older" population than the other European countries. There is reason, therefore, to believe that the high level of public transfers in Sweden is a result of different political priorities than in the other countries.

Now turn to families below 25 and those in the ages 45 to 54,

that is to the youngest families and families in what is presumably the economically most active age group. In the latter group, as expected, almost all income is from earnings. Capital income matters very little, and public transfers only make up a few percent. Young families have roughly the same composition of income as families in the economically most active age group. For families in these age groups, there are only minor differences between countries. But, again Sweden (and to some extent Britain) stands out as case of its own because of the significant role played by public transfers.

Finally, elderly families. In the two oldest age groups, the composition of income is very different from that of younger families and here we see a striking difference between countries. Overall, the pattern is quite complex:

- Public transfers and occupational pensions together contribute at least half of gross income. They make up a larger proportion of family income in the European countries than in Canada, Israel and the United States. It is also interesting to note that Sweden does not differ from Germany and Norway in terms of transfer income for elderly families. The previously observed high level of public transfers in Sweden hence only concerns the non-aged.
- Elderly families generally have some income from economic activity of their own. In some countries, such as Israel, earnings make up a considerable proportion of gross income.
- Capital income also is an important source of income for elderly families. In Canada, Israel and the United States,

3. In fact, a fair number of family heads continue to work full time on a full year basis after they have reached 65 years. On the average, 7 percent of heads in the ages 65-74, and 1 percent of heads in the ages 75 and above, continue to work full time, full year, in these seven countries.

capital incomes as well as earnings are more important than in the other countries. Also among Norwegian families in the 65-74 group earnings comprise a large proportion of family income. This is explained by the relatively high retirement age in that country (normally between 67 and 70 years).

To sum up, by looking at income packages in various age groups we have noted important differences as well as similarities between these seven nations. The most significant difference concerns the roles played by factor income and transfer income. Transfer income is most important in Sweden and least important in Canada, Israel and the United States. This difference is largely due to differences among the elderly. This suggests that if we want to explain differences between these countries in income packaging, we need to understand above all the difference between the situations of elderly families. In fact this is a general theme that we shall return to throughout this essay. We will observe many differences between these seven countries and we will continue to find that these differences largely are explained by differences among the elderly.

To this general conclusion, we should add one qualification. If we look specifically at the composition of elderly families' incomes, and particularly the oldest group, Sweden is no longer exceptional compared to the other European countries. Among the elderly, Germany, Norway and Sweden make up one category with relatively high levels of transfer incomes; Canada, Israel and the United States an opposite category; and Britain a category of its own in between.

INCOME LEVEL AND INCOME DISTRIBUTION

In the previous section we found that in some countries families are relatively more dependent on markets (earnings and capital) and in others more dependent on politics (transfers). Since markets and politics presumably distribute income differently, we also expect to find differences between the countries in the overall distribution of income. We now turn to this issue.

Market Attachment and Factor Incomes

Obviously, the distribution of income is influenced by many other factors than the balance between markets and politics, such as the history and traditions of each society, their economic structures, and trade union organization. It is beyond the purpose of this essay to properly explain the distribution of income in each country. But, we can at least shed light on some of the relevant factors.

We have seen that earnings is a major source of family income and that its importance varies from country to country and between age groups. A relevant factor is consequently the families' attachment to the labor market. In Table 2 we have estimated, as an indicator of labor force attachment, the proportion of families that have earnings. As can be seen, significant differences between age groups and countries exist. The main age group difference within countries is between the elderly and the non-elderly, and the main difference between countries

TABLE 2

PROPORTION OF FAMILIES WITH EARNINGS¹

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD ²
CANADA	.92	.96	.96	.95	.83	.36	.15	.82	.31
GERMANY	.80	.94	.97	.96	.65	.17	.05	.66	.36
ISRAEL	.94	.97	.99	.97	.83	.42	.20	.81	.29
NORWAY	.93	.96	.96	.95	.86	.52	.14	.78	.29
SWEDEN	.95	.96	.97	.96	.86	.34	.10	.76	.33
U.K.	.85	.95	.97	.96	.81	.28	.11	.74	.33
U.S.A.	.90	.95	.96	.94	.82	.39	.17	.80	.30
MEAN	.90	.96	.97	.95	.81	.36	.13	.77	-
SD	.05	.01	.01	.01	.07	.10	.04	.05	-

- 1) Earnings = income from employment and self employment
- 2) SD = Standard Deviation. The row of SDs measure the cross-national variation, and the column of SDs the variation between the seven age groups

concerns elderly families.

There are very little difference between countries for families in the ages 25-54 but a good deal of difference for elderly families as well as those in the youngest group. These differences are caused partly by an atypical pattern for Germany. In Germany, the proportion of families with earnings is about the same as in the other countries for families in the ages 25-54. But it is considerably lower among the youngest families and those 55 and above. This suggest a slightly later entry into working life in Germany than in in the other countries, a more widespread use of early retirement, as well as a more "complete" retirement.

Considering these differences in labor force attachment, we also should find differences in the level of factor income for the different age groups. Table 3 shows average factor income (earnings and capital income) for families in various age groups, expressed as a proportion of the average for the entire population.⁴

TABLE 3. FACTOR INCOME OF DIFFERENT AGE GROUPS IN RELATION TO NATIONAL MEAN¹

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD
CANADA	.65	1.07	1.32	1.40	1.06	.38	.24	1.00	.42
GERMANY	.77	1.19	1.59	1.87	1.88	.12	.06	1.00	.63
ISRAEL	.84	1.18	1.40	1.32	0.99	.33	.23	1.00	.43
NORWAY	.70	1.22	1.52	1.50	1.20	.38	.07	1.00	.52
SWEDEN	.65	1.25	1.64	1.66	1.21	.23	.11	1.00	.59
U.K.	.86	1.23	1.45	1.58	1.05	.23	.14	1.00	.52
U.S.A.	.61	1.09	1.39	1.45	1.13	.37	.23	1.00	.45
MEAN	.72	1.17	1.47	1.54	1.07	.29	.15	-	-
SD	.09	.07	.11	.17	.11	.09	.07	-	-

1) Factor income = earnings and capital income.

The table shows, as expected, that there are substantial differences between age groups in the relative level of factor

4. Factor income roughly correspond to income from market activity. However, it would have been preferable to include occupational pensions in this table so that it would more accurately show the distribution of market income. But, since occupational pensions cannot be separated from public transfers in the Swedish data, this is not possible on a comparative basis.

income, and in particular that elderly families have low factor incomes. The differences between age groups are highest in Germany (SD = .63) and lowest in Israel (SD = .42). On the average, factor incomes of the 45-54 groups are more than twice as high as in the below 25 groups and more than ten times as high as in the 75+ groups. These cross-sectional age-income profiles should, however, not be confused with the income trajectories of single individuals. While the data in Table 3 displays the familiar cross-sectional pattern with a peak income in the mid-forties and declining incomes thereafter, income trajectories of single individuals usually do not reach their maximum until just before retirement (cf. Kreps 1976, Ruggles and Ruggles 1977).

Disposable Income

Disposable income is factor income plus public transfers and occupation pensions, and minus direct taxes. The taxes taken into consideration are central and local income taxes and payroll taxes. Employers' social security contributions are not included on either the income or the tax side.⁵

5. This is a weakness in the material. In most countries, social security contributions are derived in part from a payroll tax paid by employees and in part from an employers' contribution. But, how the contributions are divided between these components differs from country to country and in the case of Sweden the total social security contribution is carried by the employer. From our point of view, these differences are arbitrary and it would have improved the comparability of the material if employers' contributions could have been included both as an income and a tax. For technical reasons, this has not been possible.

TABLE 4. DISPOSABLE FAMILY INCOME¹ OF DIFFERENT AGE GROUPS IN RELATION TO NATIONAL MEAN

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD
CANADA	.62	.99	1.22	1.30	1.06	.71	.54	1.00	.28
GERMANY	.62	.94	1.25	1.60	.97	.63	.53	1.00	.36
ISRAEL	.81	1.09	1.25	1.21	.97	.63	.60	1.00	.25
NORWAY	.68	1.09	1.33	1.27	1.09	.74	.51	1.00	.29
SWEDEN	.63	1.13	1.34	1.25	1.08	.82	.61	1.00	.27
U.K.	.86	1.13	1.31	1.37	1.00	.55	.44	1.00	.33
U.S.A.	.60	.99	1.25	1.31	1.09	.75	.57	1.00	.28
MEAN	.69	1.05	1.28	1.33	1.04	.69	.54	-	-
SD	.10	.07	.04	.12	.05	.08	.05	-	-

1) Disposable income = gross income minus direct income tax (including payroll tax).

Table 4 shows the distribution of disposable income over age groups. Here we see clearly the Rowntree type of cycle.

Disposable income is below average for the youngest group of families, rises gradually to a peak for families in the ages 35 to 54, and then falls again to below average for old age families.

Yet, when comparing Table 3 and Table 4 one can see that in all countries disposable family income varies less between age groups than factor income does (the average standard deviation for factor income is .51 as compared to an average standard deviation of .29 for disposable incomes).

By comparing the distributions in Table 3 (pre tax/transfer

income) and Table 4 (post tax/transfer income) we also can get some idea of the redistributive impact of taxes and transfers. As is well known, the difference between such distributions cannot be interpreted as the redistributive effect of the tax/transfer system. The reason for this is that present taxes and transfers are likely to affect not only post tax/transfer income but also pre tax/transfer income. Nevertheless, the comparison shows the redistributive profile of taxes and transfers in the actual system.

Comparing tables 3 and 4 we see, firstly, that families in the youngest age group have more or less the same relative position after as well as before taxes and transfers. Secondly we note that families in the ages 25 to 54 have a lower relative level of post tax/transfer income than of pre tax/transfer income. Thirdly, we see that families in the two oldest groups have a higher relative income level after than before taxes and transfers. For the elderly, background data show that in all the countries redistribution in favour of elderly households occurs primarily via transfers but also to some degree via taxes (i.e. via lower tax rates relative to gross income for the elderly).⁶

Adjusted Disposable Income.

In the previous section, we analyzed disposable family income. Since families differ in size, however, this is not an adequate

⁶. For a more detailed analysis of income redistribution, see the paper by O'Higgins, Schmaus & Stephenson (1985).

measure of standard of living. Two families with the same disposable income will not have the same standard of living if for instance one is a two person family and the other is a four member family. We have seen previously (Table 1) that average family size differs a great deal between countries and between age groups. For a more accurate comparison of standard of living we therefore use a measure of "adjusted disposable income" in which the income of each family is adjusted for family size. (The method of adjustment is explained in the footnote to Table 5).

As seen in Table 5, a Rowntree type of cycle exists even after adjusting for family size. Differences between age groups are most pronounced in Germany and the United Kingdom, and least pronounced in Israel and Canada. However, differences between age groups are much smaller than they are without the adjustment made; the adjusted standard deviations are only about half the size of the unadjusted ones. The table particularly illustrates that if family size is not adjusted for, the relative economic position of the elderly is clearly underestimated. Elderly families are smaller than average and when this is taken into account we find that their relative standard of living is much higher than what we might be led to think by looking at the unadjusted disposable income. On the basis of the unadjusted disposable income (Table 4), we estimated the economic level of the two oldest groups to be no more than 69 and 54 percent of the population average. After adjusting for family size the relative economic levels of these groups are up to 92 and 80 percent of the national level.

TABLE 5. ADJUSTED DISPOSABLE INCOME IN DIFFERENT AGE GROUPS
IN RELATION TO NATIONAL MEAN¹

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD
CANADA	.87	.96	.96	1.11	1.15	.94	.81	1.00	.11
GERMANY	.86	.88	.94	1.30	1.07	.84	.77	1.00	.17
ISRAEL	1.02	1.03	.91	1.00	1.23	.92	.96	1.00	.10
NORWAY	.81	.96	.99	1.04	1.18	1.01	.79	1.00	.12
SWEDEN	.86	1.00	.98	1.12	1.17	.96	.78	1.00	.13
U.K.	.99	.97	.97	1.20	1.17	.76	.67	1.00	.18
U.S.A.	.77	.93	.95	1.13	1.21	.99	.84	1.00	.14
MEAN	.88	.96	.96	1.13	1.17	.92	.80	-	-
SD	.08	.04	.02	.09	.05	.08	.08	-	-

- 1) The adjustment of disposable income for family size is done with the use of the following equivalence scale:
 No. of family members: 1 2 3 4 5
 Equivalences factor: .50 .75 1.00 1.25 1.50 and
 so on. For a fuller discussion, see Smeeding, Schmauss and Allegrezza (1980).

There are noticable differences between the countries in the relative economic status of families in the various age groups. Among elderly families, the most striking feature is how far behind their compatriots in the other countries the elderly in Britain are. The relative adjusted disposable income of the 65-74 group in Britain is only 76 percent of the population average, and in the 75+ group it is as low as 67 percent. These figures should be compared to 94 percent and 82 percent which are the averages of the elderly's relative incomes in the other six nations. We will

later return to the low incomes of UK elderly in our analysis of poverty. The highest relative standard of living of elderly families is in Israel. In Israel young families also have high incomes. Consequently, in Israel there is no Rowntree type of cycle at all.

Inequality.

So far, we have looked only at differences between age groups. We now turn to inequalities within these groups, that is to differences among families of the same age groups.

The degree of inequality in the distribution of incomes can be expressed by a range of measures, each differing in its sensitivity to income variations at different levels of the income distribution.⁷ The most popular inequality measures, as well as the one used in this essay, is the Gini coefficient. This coefficient ranges between 0 and 1; the higher the coefficient, the greater the degree of measured inequality. The Gini can be interpreted in the following way: If we randomly select two people, and express the difference between their incomes as a proportion of the average income, this difference turns out to be on the average twice the Gini coefficient. For example, a Gini of .4 means that the expected difference between two people chosen at random is 80 per cent of the average income; with a coefficient of .1 the

7. See e.g. Atkinson (1970), Cowell (1977), Allison (1978), and Schwartz and Winship (1980) for overviews of the most commonly used inequality measures and their properties.

expected difference is 20 per cent of the average, etc. (Atkinson 1975:45).

In Table 6 we give Gini coefficients for the distribution of adjusted disposable income within separate age groups as well as for the entire population. Overall, income is most unequally distributed in Germany, Israel and the United States and most equally distributed in Sweden. Next after Sweden in rank comes Norway, United Kingdom, and Canada. These findings correspond fairly well with those of previous cross-national studies (cf. Sawyer 1982).

TABLE 6. INEQUALITY. GINI COEFFICIENTS FOR DISTRIBUTION OF ADJUSTED DISPOSABLE INCOME

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD
CANADA	.332	.295	.285	.286	.296	.309	.291	.299	.016
GERMANY	.304	.267	.317	.452	.342	.298	.340	.355	.055
ISRAEL	.304	.278	.330	.344	.342	.360	.429	.333	.044
NORWAY	.296	.249	.214	.229	.229	.250	.229	.243	.025
SWEDEN	.236	.209	.192	.216	.195	.143	.126	.205	.037
U.K.	.279	.264	.253	.246	.253	.266	.240	.273	.012
U.S.A.	.345	.313	.304	.303	.331	.342	.355	.326	.019
MEAN	.300	.268	.271	.297	.284	.281	.287	.291	-
SD	.033	.031	.049	.076	.055	.067	.092	.050	-

Note: These are unrevised Gini coefficients for Germany. See Table 2 in the paper by O'Higgins, Schmaus and Stephenson (1985).

In Table 6, we can furthermore see that the cross-national variation in the degree of income inequality -- as measured by the standard deviations -- is considerably higher among the elderly than among younger cohorts.⁸ While the highest Gini coefficient for the total populations is 1.7 times as high as the lowest one, among the 65-74 groups the gap is 2.5, and among the 75+ groups it is 3.4. Hence, if we want to explain cross-national differences in income inequality, we are well advised to pay extra attention to the process of income attainment in old age and its cross-national variability.

Poverty.

The concept of poverty is surrounded by a great deal of confusion. Most social scientists agree that the group with the lowest income can be defined as poor even in affluent societies. But, there is no agreement on exactly where the dividing line between the poor and the non-poor should be drawn. In this paper, the poor are defined as all persons belonging to families with an adjusted disposable income below half the median for all families. Although somewhat arbitrarily chosen, this poverty definition has become quite common in recent years and therefore can our results be compared with some previous poverty studies. Table 7 shows the extent of poverty in different age groups according to the

8. The only exception is for the age group 45 to 54 years where an extraordinarily high level of inequality in Germany causes the difference between countries in this age group to be "abnormally" high.

definition we have chosen.

TABLE 7. POVERTY RATES¹

AGE	-24	25-34	35-44	45-54	55-64	65-74	75+	TOTAL	SD
CANADA	22.7	13.1	11.8	9.5	10.6	11.2	12.1	12.1	4.1
GERMANY	14.5	7.2	4.2	4.5	7.3	12.7	15.2	7.2	4.3
ISRAEL	11.7	8.9	17.4	14.5	11.0	22.6	27.1	14.5	6.1
NORWAY	16.8	5.5	3.5	3.5	3.3	2.7	7.3	4.8	4.6
SWEDEN	17.3	4.8	5.3	5.6	3.9	0.0	0.0	5.0	5.4
U.K.	11.6	7.9	7.3	5.2	5.6	16.2	22.0	8.8	5.8
U.S.A.	28.0	17.4	16.0	13.2	13.7	17.8	25.5	16.9	5.3
MEAN	17.5	9.3	9.4	8.0	7.9	11.9	15.6	9.9	-
SD	5.5	4.2	5.3	4.1	3.7	7.5	9.2	4.4	-

1) Proportion (percent) of persons belonging to families with an adjusted disposable income below half of the median for all families. In terms of national currencies, the poverty lines used for a family of three were 10,400 dollars in Canada, 15,966 DM in Germany, 8,068 shekel in Israel, 35,182 kroner in Norway, 42,798 kronor in Sweden, 2,603 pounds in UK, and 7,104 dollars in the US. At the time of writing, there is some uncertainty about the correctness of the German figures. This will be cleared up for the final version of the paper.

On average in these seven countries, about one out of every ten persons belongs to a family with incomes below the poverty line. The overall figure is highest in the United States (about 17 percent) followed by Israel and Canada, and lowest in Norway and

Sweden (about 5 percent).⁹ We also find a Rowntree type of cycle: the risk of poverty is highest in the youngest and oldest age groups. But this cycle does not appear in all countries. In Canada and Israel, the risk of poverty is comparatively high in all groups, but no Rowntree type of cycle exists. In Sweden, the risk of poverty is generally low and virtually non-existent in the oldest groups.¹⁰

The way poverty is defined here, the poverty rate within a specific age group is a function of both its average income and the way these incomes are distributed within it. To illustrate this point, we can compare the extent of poverty among U.S. and U.K. elderly. We first of all note that the poverty rates are about the same in both groups. However, as we previously saw (Table 5), the elderly in the United States have a considerably higher relative income level than the elderly in Britain do. We also noted (Table 6) that incomes were more unequally distributed among the elderly in the United States than among elderly in the U.K. We conclude therefore that in the United States the high poverty ratio among

9. The poverty rate among the young families in Sweden is probably exaggerated because of the Swedish family definition (see table 1, footnote 1). This also exaggerates somewhat the overall level of poverty in Sweden. For a further discussion of this problem, see Smeeding et. al. (1985).

10. During the first half of this century, poverty was, however, a condition closely associated with old age in Sweden as well. The universal public pension reforms of 1948 and the increase in benefit levels in 1958 drastically decreased poverty among the elderly (see Korpi 1974). Between 1952 and 1976, the average Swedish pension increased with over 300 percent in real terms, as compared with a 97 percent rise in average incomes among full time industrial workers (Hedström 1985).

the elderly is due mainly to the unequal distribution of income among them; whereas in the U.K. the same poverty ratio results mainly from the low income level of the elderly.

In general the poverty rate of a specific age group will be different from the national poverty rate if the income level (mean adjusted disposable income) of the group is different from the national average or if the distribution of income at the bottom tail is different (or both, unless the two differences should happen to cancel each other out). By comparing tables 5 and 7, we see that the poverty rate of a specific age group mostly is higher than the national poverty rate when its income level is lower. But, in a number of cases we do not find this pattern. This means that there must be differences between the age groups in the distribution of income that result in a difference between observed and "expected" poverty rates.¹¹ Some examples:

- In Canada, the poverty rates in the two oldest age groups are not higher than the national average although the income level is lower. This means that income distribution is less inegalitarian at the bottom tail among the elderly than in the entire population.

- In Sweden, poverty as defined here has been eliminated among the elderly but not in the entire population, which is to say, again as in the case of Canada, that there is less inequality among the elderly than in the entire population.

- In Britain, the poverty rate in the youngest age group is higher than the national poverty rate although the relative income level is the same. Consequently, there must be more inequality among the young.

11. This difference in income distribution is not necessarily reflected in the Gini-coefficients since the Gini is a measure of overall inequality which is not particularly sensitive to income differences at the bottom tail of the distribution.

- In Israel, the elderly have the highest relative income level but also the highest rates of poverty of all these countries. This means that there must be exceptional inequality in the distribution of income among the elderly in this country.

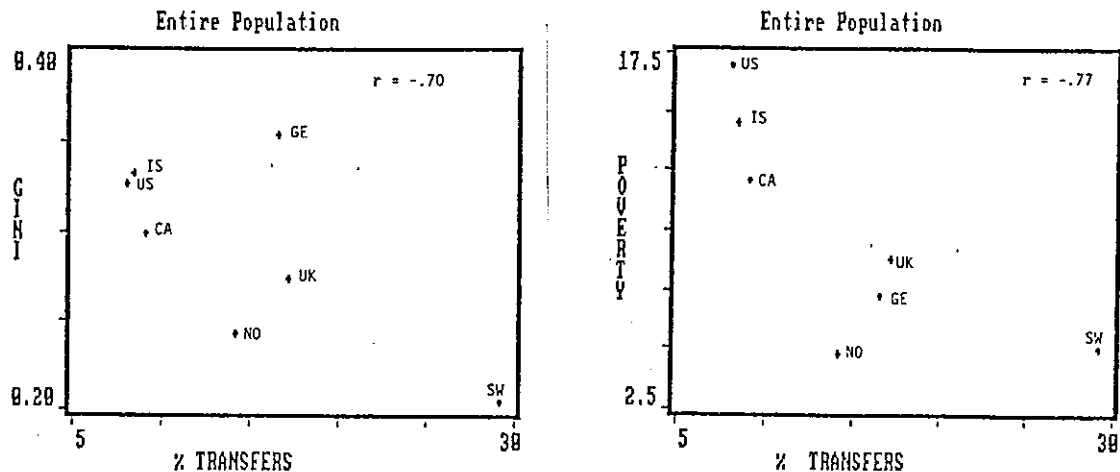
INCOME PACKAGING AND INCOME DISTRIBUTION

So far we have observed that the relative economic position of different age groups as well as the overall distribution of income varies a great deal from one country to another. We have also shown that among these seven countries public transfers comprise different proportions of family income. We now turn to possible relationships between these two phenomena, ie. to the relationship between income packaging and income distribution.

To determine precisely the extent to which differences in income packaging affect income distribution, presents formidable methodological and theoretical problems. Our goals are much more modest. First, we will analyze to what extent poverty ratios and Gini-coefficients correlate with the proportion of public transfers in the average family income package. Second, we will focus on the elderly and examine the relationship between their economic status and the relative importance of public transfers in their income packages.

Our working hypothesis is that markets and politics distribute income differently. The data in the following diagrams suggest that this hypothesis has some validity.

DIAGRAM 2. PUBLIC TRANSFERS, INCOME INEQUALITY, AND POVERTY



As Diagram 2 shows, the cross-national variation in income inequality and poverty rates can be partly explained by differences in the proportion of public transfers in the family income package. The more important public transfers are on the average, the more equally distributed incomes are ($r = -.70$), and the lower the poverty rates are ($r = -.77$). The exceptions to this general rule are Germany, where incomes are quite unequally distributed though transfers represent a significant proportion of family income, and Norway, where the poverty rate is lower than one would expect on the basis of the transfer rate.

As we have seen in this essay, any study of the cross-national variation in income inequality must focus on the elderly. In addition, a very large proportion of public transfers goes to the

elderly. About half of all public transfers in these countries go to elderly families, though only about 15 percent of the population reside in these families.¹² Therefore it is relevant to ask whether cross-national differences in the economic status of elderly families can be explained by differences in the relative role of public transfers. The data in Diagram 3 shed light on this question by relating poverty rates and Gini indices to the proportion of public transfers in elderly families' income packages.

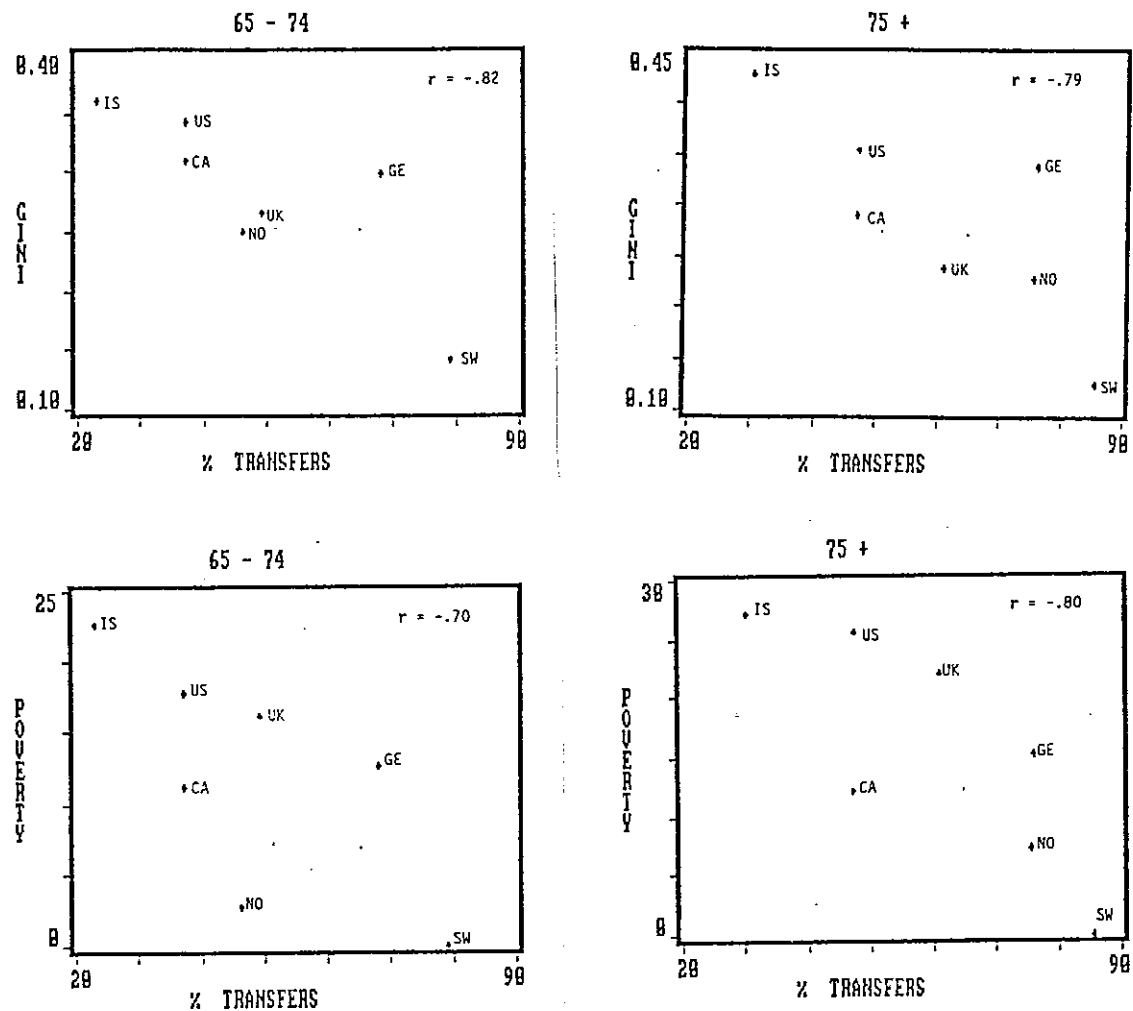
In countries where public transfers account for a larger proportion of the elderly's gross income, poverty rates and measured income inequality generally are lower (the zero-order correlations range from $-.70$ to $-.82$). Again Germany and Norway are exceptions. Also Canada is somewhat of an exception since the poverty rate in the 75+ group is lower than expected on the basis of the public transfer rate.

12.

Population shares and public transfer shares of families 65+:

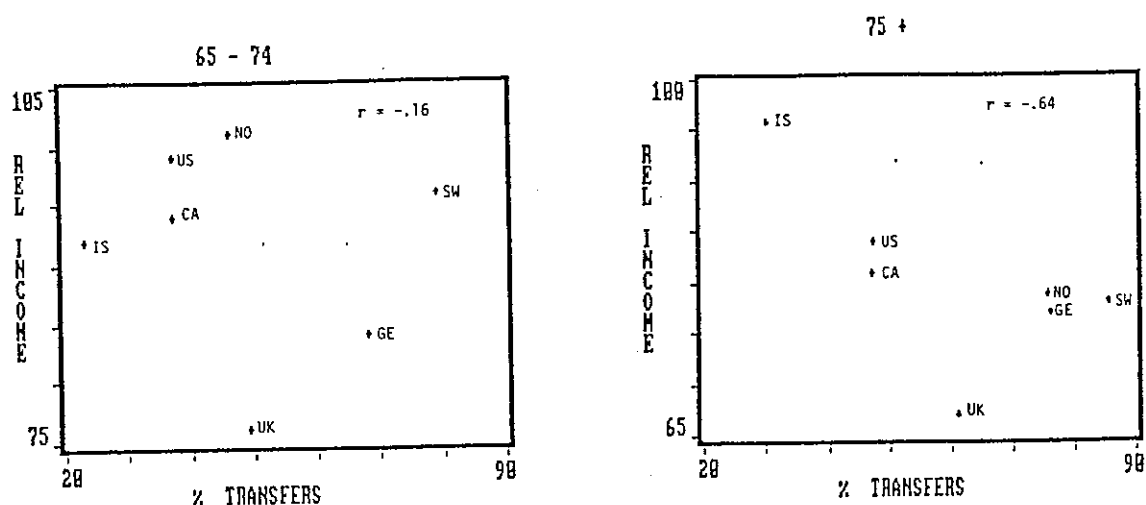
	CA	GE	IS	NO	SW	UK	US
% of population:	11	19	13	16	18	16	13
% of publ.transfers:	46	60	35	59	49	38	58

DIAGRAM 3. PUBLIC TRANSFERS, INCOME INEQUALITY, AND POVERTY, AMONG THE ELDERLY



The level of public transfers, however, do not explain all the cross-national variation in the elderly's economic situation. As can be seen in Diagram 4, the relationship between income packaging and the economic situation of elderly families is quite complex.

DIAGRAM 4. PUBLIC TRANSFERS AND RELATIVE INCOMES OF THE ELDERLY



No clear pattern can be discerned in the 65-74 group, and the zero-order correlation is as low as $-.16$. However, in the 75+ group it appears as if the average family is better off in countries where public transfers play less of a role ($r = -.64$). Israelian, American, and Canadian families in the 75+ group have higher relative incomes and are less dependent upon public transfers than their European compatriots are. On the one hand we find that the average relative income of the 75+ group is higher in countries where public transfers play less of a role. On the other hand, incomes are more unequally distributed and the prevalence of poverty higher in these countries. But, of course these findings are tentative since we have not controlled for all the relevant factors.

* * * * *

We find that a fairly systematic relationship exists between income packaging and the distribution of income. In general, poverty rates are lower and incomes more equally distributed in countries where public transfers account for a larger proportion of gross family income. These statistical relationships should, of course, not be interpreted as causal ones. Certainly, much more detailed information on the institutional characteristics of these societies is needed before any such claims can be made. However, our analysis of the relative role of public transfers is highly suggestive, and should provide incentives for more research on the relationship between income packaging and income distribution.

CONCLUDING REMARKS

In the beginning of this essay we asked the question: do young and old families tend to have a lower standard of living than the rest of the population, and, if so, is this equally true among the seven countries in this study? Rowntree's century old observation still has some validity. Young and old families tend to have lower incomes and face higher risks of poverty than other families. These age-group differences are more pronounced in some of the countries than in others. The greatest variations are found in the United Kingdom and Germany, and the smallest in Canada and Israel.

In addition to analyzing income differences between age groups,

we have explored the size distributions of income among populations at large. Cross-national variations in income inequality are more pronounced among the elderly than among the non-elderly. Public transfers play a key role in the distribution of elderly incomes, and the more significant they are, the more equally distributed the incomes tend to be. What these initial findings underscore is that comparative research on income distribution should focus much more on the process of income attainment in old age and its cross-national variability.

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