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**The Gap Between Market Rewards and Economic Well-Being in Modern Societies**

**Johann Fritzell**

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# THE GAP BETWEEN MARKET REWARDS AND ECONOMIC WELL-BEING IN MODERN SOCIETIES

Johan Fritzell
Swedish Institute for Social Research
University of Stockholm
S-106 91 Stockholm
Sweden

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## Abstract

Both income distribution and wage determination studies take often for granted that a person's position in the distribution of earnings remains largely unaltered in the distributional process even though the "final" distribution may be more compressed. However, with the growth of the welfare state and the increased female labour market participation, the relation between market rewards - mainly earnings - and a more comprehensive measure of economic well-being, such as equivalent disposable income, is in most countries less straightforward than earlier. The extent of reranking when comparing the distribution of market rewards and economic well-being is taken here as an indication of degree of market dependence. The hypothesis tested, with cross-national co-ordinated micro-data from the Luxembourg Income Study, is that not only do countries differ in the degree of market dependence but that different clusters can be distinguished based on different types of welfare state models. The findings support the hypothesis fairly well. Thus, there are large cross-national variations in degree of market dependence. This finding indicates that in order properly to analyze and understand societal distribution in modern societies we must incorporate both family structure and welfare state politics.

## Introduction

It is often claimed that welfare state politics is used to modify the strength of market forces (e.g. Briggs 1961; Korpi 1989). The first and foremost means of doing this is by redistributing income. Not surprisingly, then, most evidence suggests that the tax- and transfer-system, taken as a whole, redistributes income in an egalitarian way (see e.g. Ringen 1987; Uusitalo 1985). More seldom do findings related to the welfare state concern notions of how this might affect the social stratification system in modern societies. However, one could argue that the welfare state not only corrects the structure of inequality but is a system of stratification in itself (Esping-Andersen 1987). Whether or not this stratification system radically changes the inequality structures originating in the market is likely to vary cross-nationally. The purpose of this paper is to study cross-national variation in market dependence. This will be done by examining a much neglected issue in the field of income distribution research, namely the extent of reranking/mobility in the income formation process caused by welfare state action. The aim is not only to study whether cross-national differences in market dependence exist but also to see whether different clusters, derived on theoretical grounds, can be distinguished among the industrialized countries.

## A decline in market dependence?

Within the fields of economics and sociology a huge amount of empirical and theoretical research has been undertaken in order to understand the distribution, and thereby the determinants, of annual earnings and wage rates. Both human capital research and most stratification research, e.g. status attainment, focus on how individual attributes correspond to wage differentials, i.e market rewards. Most often it is taken for granted that the knowledge gained from this research also makes it possible to pin-

point the position a person holds according to a more comprehensive measure of economic well-being.[1] Also, income redistribution studies often neglect the incidence of mobility in the income formation process. It is often implicitly assumed that, even if the distribution of post-tax and transfer income is less unequal than the original income distribution, people's position within the distribution remains unaltered and therefore the correlation between the pre- and post-tax and transfer income is close to unity. If this assumption is incorrect, it may indicate that knowing the inequalities produced in the market, though necessary, is not sufficient properly to understand the distribution of economic well-being in modern welfare states.

Individual earnings might be regarded as the foundation of the distributional process, and in the early postwar era the ranks in the distribution of earnings probably fairly accurately mirrored the ranks of post-tax and transfer income in almost all industrialized Western countries. However, two partly related factors are currently present which make the relation mentioned above less straightforward. The increase in female labour market participation means that individual earnings do not necessarily relate well to the consumption possibilities for households. Perhaps even more important, with the growth of the welfare state, various social policies strongly intervene in the income formation process. It is mainly the latter factor that will be under scrutiny in this paper.

Hence, in this paper the relation between market rewards - mainly family earnings - and economic well-being in some modern industrialized Western societies will be analyzed. By economic well-being we here mean the post-tax and transfer income a household has at its disposal. This income measure is adjusted in order to account for differences in household size and composition. To put the framework within the "income redistribution field" the paper examines the *correlation and change* through the income formation process, i.e. from factor/original income to equivalent disposable income. The extent of change in vertical inequality therefore is *not* of primary interest here. Rather, the focus is on the relation between the individual's position in the distribution of economic well-being and the market determined position. The basic

assumption is that the more frequent the reranking in the income formation process is, i.e. the lower the correlation between market rewards and economic well-being, the lower is also the degree of market dependence.

The concept of market independence has near kinship both to social citizenship as discussed by Marshall (1950) and to Esping-Andersen's (1981;1989) view of the concept of decommodification of labour. The latter defines decommodification in relation to social policy as:

"*..the extent to which individuals, or families, can uphold claims to a given standard of living regardless of their position in the labour market; i.e. independently of their capacity to sell their labour power.*" (Esping-Andersen 1981:11)

Both from his theoretical discussion and his operationalization of this phenomenon it is evident that the link between decommodification, as the concept is used by Esping-Andersen, and a low degree of market dependence in income distribution, as defined above, is strong. The operationalization above of degree of market dependence has to some extent a stronger assumption than decommodification of labour in relation to social policy, as defined by Esping-Andersen, even though the relation is intermingled. Thus, one could in general argue that decommodification could be prevalent even with a low degree of mobility in the income formation process, i.e it is possible that the least advantaged group is upholding a decent living standard even if reranking is low. Furthermore, the welfare state does not only reshuffle income. A primary goal is instead to make services available to all, via the public sector, and to make the use of these public systems independent of social status, income and wealth. Such a policy, of course, also leads to a situation where people's living conditions might be less dependent on their performance in the labour market. This notwithstanding, the more reranking in the income formation process, the lesser is probably also the degree of market dependence.

## Welfare State models

With the growth of the welfare state, cross-national welfare state research has developed as an agenda where commonality and variation in the development of the social welfare systems are under scrutiny. A main issue has been whether, and to a lesser extent how, politics influence welfare state development. Welfare state developments have, mainly, been analyzed by two different approaches. One line of research focuses on total expenditures ( e.g. Pampel & Williamsson 1988; Wilensky 1975). Another strategy tries to work with qualitative differences in the content of social policies (e.g. Esping-Andersen 1989; Korpi 1989). The latter approach is also more suitable for categorization or creating ideal-type models of welfare states. One typical distinction in the latter case is the nowadays classic, but perhaps too simplified, distinction between an institutionalized model and a residual marginalist system (Korpi 1983; Titmuss 1958; Wilensky & Lebaux 1958). Sweden and the United States respectively have often been seen as the two countries most representative of these ideal-types.

Esping-Andersen, one of the adversaries of welfare state researchers' preoccupation with measuring levels and changes in spending levels among countries, has recently argued that we can better understand welfare state development by studying their principles of rights and stratification. Welfare states differ, not linearly but in terms of clusters of regime-types that can be categorized by examining the relations between state, market and family. He distinguishes three different "policy regimes", namely the "corporativist", the "liberal", and the "social-democratic" (1987; 1989). These are linked to the three major ideologies prevalent in modern times, namely conservatism, liberalism and socialism.

In the "corporativist" model, social benefits are linked to work-merit. Different insurance-systems typically exist for different employment categories. Social rights are strongly attached to class and status. Therefore the "inequality structures" relevant in

the market arena prevail. There is also a strong family orientation. The family thus has the primary responsibility and the state interferes only as a second resource. Germany, Italy and Austria might be seen as examples of countries mostly following the work-merit principle, i.e. the corporativist policy regime.

In the liberal model we typically have modest, often means-tested, benefits. Reliance rests with the market to a high degree. The welfare state should only interfere as a final supplement to people in residual groups. As for stratification, this model then suggests a strong class-dualism between welfare recipients and the vast majority of the population. The Anglo-Saxon countries are probably most near the liberal policy-regime.

In the "social-democratic" policy regime, benefits rest not only on universalism but also on high levels and earnings-relatedness of most social benefits introduced in later years. This implies that families, or rather individuals, can maintain normal standards in the event of periods of absence from work at various stages of their life. The policy pursued therefore strives to be attractive to the "middle-class". In contrast to the corporativist model the state does not rely on the family but strives towards individual independence. Thus, many social transfers are linked to the individual and not to the family. Esping-Andersen sees this pathway as a "crowding out" of the market; hence in the long run it not only modifies the strength of the market forces but also "decommodifies the labour". The Scandinavian countries, or Norway and Sweden at least, are the archetype for the "social-democratic" policy regime. The label social-democratic in my opinion is somewhat inappropriate since it can wrongly be interpreted that we shall look upon partisan politics to categorize countries and not on policies pursued, policies partly determined by historical factors and power relations. In fact different parties in one country may pursue the same strategy, just as one specific party, in different countries or at different periods of time, may pursue policies which, according to the ideal types above, are contradictory.

Nevertheless, even though all Western democracies are to some extent governed by the invisible hand, there seems to be reason to expect cross-national differences in the

degree of market dependence, differences that do not just follow social expenditure spending linearly. However, most research in this field, whether focusing on social expenditure in relation to GDP or on qualitative differences in social welfare systems, is based on macro-data. Below we will instead analyze cross-national variation in market dependence by using comparative *micro-data*. The degree of market dependence is given by the association between market rewards and economic well-being. For that purpose we will categorize our countries according to these three different ideal-type models. First, however, we will present another discussion, mainly within economics, related to the question of welfare state intervention in the distributional process.

## Horizontal equity

Above we related reranking in the distributional process to the degree of market dependence in the societal distribution. From another angle, state intervention in the distributional process is often discussed in relation to the concept of horizontal equity (e.g. Atkinson 1983; Jenkins 1988; King 1983; Plotnick 1985). The basic axiom of horizontal equity refers to the "equal treatment of equals". However, since individuals never are identical, the notion of horizontal equity in empirical research is usually expanded so that it is also applicable to the equal treatment of unequals. Accordingly, any reranking, including also those intended, caused by the tax- and transfer system violates the principle of horizontal equity. Thus the rank order of economic well-being shall mirror the rank order of market rewards if horizontal equity is to be maintained. The American economist Robert Plotnick (1985:242) characterizes the occurrence of mobility in the distributional process as follows:

"*..what social purpose would be promoted by reversing ranks during the transformation? None...those earning more initial well-being should surely have greater final well-being than those earning less. What logic could justify otherwise?*

*Thus, any reversals incidental to the redistributive process would seem to lower social welfare.*"

The implicit assumption here, probably diametrically the opposite to that held by Esping-Andersen, is that the initial ranking assigned by the market is equitable and justified. I leave it to the reader to judge whether a high degree of reranking in the distributional process, per se, should be regarded as a positive or negative outcome. This, of course, is a value judgement.

However, the state may for a number of reasons, e.g. differences in family size, intend to treat people differently and introduce reranking. By treating all rank reversals as horizontal inequities one may indeed categorize as inequities what occurs precisely on equity grounds. In the last section of the paper we will decompose our samples into life cycle and employment categories to get at least somewhat closer to the theoretically more correct version of horizontal equity, i.e. the equal treatment of equals.

## Operationalization

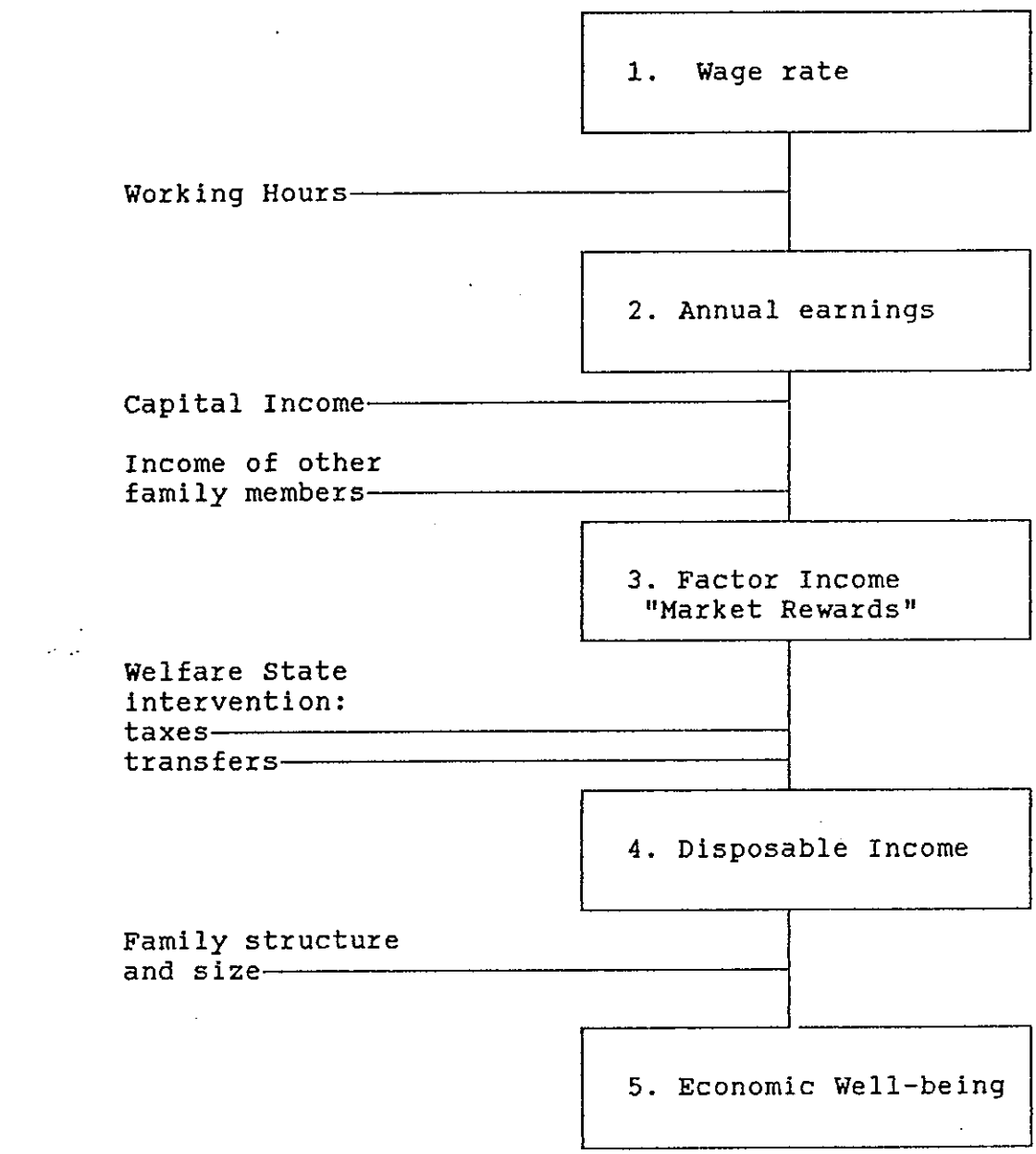
It is first necessary to dwell somewhat on our operationalization of the concepts "market rewards" and "economic well-being". The different stages in the distributional process can roughly be depicted as in Figure 1.

Figure 1 about here

In this study the major concern is the link between stage three and stage five in the figure - labelled market rewards and economic well-being. However, since most empirical research on income determination focuses on earlier stages, we also pay some attention to the upper part of the figure.

No doubt there are various simplifications and shortcomings in the operationalization of our two basic concepts. That factor income is taken as the

Figure 1. Stages in the distributional process.



counterfactual situation of market rewards, assuming no welfare state intervention, is definitely one of them.[2] It is likely that the social policy pursued has many feedback mechanisms on the distribution of factor income (see Ringen 1987 for a discussion). However, this is a common procedure in most income distribution studies aimed at analyzing the redistributive impact of the welfare state.

The distribution of earnings is also, to various degrees, shaped by collective actors and even sometimes directly by the state. This might lead to an overestimation of market power in the analyses to come and, more importantly, probably to a larger extent in countries like the Scandinavian than in the Anglo-Saxon countries. Furthermore, and as has already been said, a large part of welfare state expenditures refer to benefits in-kind. Whether one must pay for education, medical treatment, and so forth, definitely has a bearing on economic well-being.[3] A third feature of the study is that we analyze income at only one point in time. Thus, we get a snapshot of the distribution in each respective country, and it has been shown that the extent of economic mobility - change in economic status over time - is far more prevalent than usually assumed (see e.g. Duncan 1984; Fritzell 1989; Van Stadt 1988). In contrast to the earlier mentioned factors, the extent of economic mobility over time, which seems to be much more common than class mobility, is likely to lead to an underestimation of market power. At any rate, most of these shortcomings are plausibly more severe when analyzing winners and losers of the social welfare system in one particular country, than when analyzing cross-national differences in the overall degree of market dependence.

In order to compare households of different sizes and composition, all income measures, unless otherwise stated, are adjusted by an equivalence scale. The scale used below is the so called OECD-equivalence scale, giving a weight of 1.0 to the first adult, 0.7 to other adults and 0.5 to children.[4] Hence, a two-parent family with two children has an equivalence factor of 2.7. Our measure of market rewards is also adjusted by the equivalence scale.[5] Otherwise, cross-national differences in the associations might be influenced by demographic structure and bias the market dependence that is the primary

focus of attention in this paper. The unit of analysis is the individual. The rationale for this is that the social welfare of every individual is not equally weighted if the family is taken as the unit of analysis (see Cowell 1984; Danziger & Taussig 1979; Van Ginneken 1982). It might seem paradoxical to use an income measure based on the household but still use the individual as the unit of analysis. However, it does not follow logically that we must use the household as the unit of analysis, as in most empirical research on income distribution, even though we use the household as the natural consumption unit.[6]

## Data and methods

The data used are taken from The Luxembourg Income Study (LIS), the first truly comparable micro-database on income distributions. In this study we have included data from nine countries, namely Australia, Canada, Germany, the Netherlands, Norway, Switzerland, Sweden, the United Kingdom and the United States. All data refer to situations around 1980 (for a more elaborate presentation of this dataset, see e.g. Buhmann et al. 1988; Coder et al. 1988).

How, then, are we to measure the relation between market rewards and economic well-being? One way is with the help of a mobility matrix, which permits us to see how common changes are, over say quintile or decile values. From such a matrix, heterogenity indeces can be calculated based on the off-diagonal elements in the matrix (see e.g. Atkinson 1983; Okrasa 1988). A mobility matrix has the advantage of being easily understood, but the ad hoc categorization may lead to a misuse of the potentials of the data. Another more direct measure is, of course, the correlation between the two distributions. Both these possibilities will be used below. However, since we are solely interested in reranking, the income variables will be used as ordinal scales, i.e. we are not here interested in the degree of vertical inequality change but merely in reranking. The degree of market-dependence - and horizontal equity- is therefore primarily

measured by Kendall's $Tau_b$. First, we will calculate the degree of market dependence using the total country samples. Then, we will further test the violations of horizontal equity by dividing the sample into more comparable subgroups.

## Hypothesis of cross-national differences by policy-regimes

From the discussion above we may draw conclusions about how to categorize the countries included, as well as how to form a hypothesis about the expected cross-national variation. It goes without saying that the move from ideal-types to a classification of countries is problematic. There are without doubt some benefits in each country which are more closely linked to alternative models. The chosen strategy in this paper is to rely on the classification suggested by Esping-Andersen (1989) based on multi-dimensional analysis of the social benefits.[7] Germany then is the only nation within this sample closely following the corporativist model. The Anglo-Saxon countries - Australia, Canada, U.K., U.S.A. - and Switzerland are assumed to follow the liberal policy-regime. The Netherlands, Norway and Sweden are categorized into the "social-democratic model".[8] To categorize the Netherlands into the last model may require some explanation. The Social-Democrats in Holland have never been the dominant party, the degree of union organization is fairly low, the labour movement is divided etc.. Once again we might point out that the classification here is not based on proportion of votes or cabinet seats for left parties but is based on the social policies followed. In line with this, Van Kersbergen & Becker (1988:479) characterize the Dutch case as follows:

*".. we consider this welfare state as being social democratic in character, because traditional working class and social democratic demands have to a large extent become official and normal policies of Dutch governments, irrespective of their composition."*

As for the hypothesis of how these policy-regimes differ in market dependence, it is obvious that the liberal model should lead to a much higher degree of market

dependence than the social-democratic model. As for Germany, one could argue that the work-merit principle leads to an even smaller, or at least not much higher, degree of state intervention in the stratification process than found in the liberal policy-regime. However, measuring the strength of market forces at only one point in time probably leads to a higher degree of mobility in the distributional process with a corporativist model than with the liberal model. The reason is that the cross-sectional approach might, due to temporary fluctuations in market rewards, underestimate the importance of the market somewhat, especially in a case like the German one, where most benefits are linked to work-merit and stratified by occupational groups.

Therefore our hypothesis is that the countries will form three clusters: The Netherlands, Norway and Sweden forming one group with a relatively low association, the Anglo-Saxon countries and Switzerland fairly alike with a much higher association, and Germany somewhere in between.

## RESULTS:

### The influence of family

Since wage determination studies use annual earnings or some transformation/standardization of it as the dependent variable, it may be wise first to explore the relation between such a measure and the measure of market rewards used below. As argued above, recent increases in the labour market participation rates of women have probably resulted in a lower association of these measures than in the early postwar era. In Table 1 the correlation of annual earnings of the head of the household and factor income for all employed is reported. Hence, this association roughly shows the importance of the family, both of other family members' income and the influence of family size and composition. Column 1 shows the associations with no adjustment for family size and column 2 reports the associations when factor income is divided by the equivalence scale. This latter measure is later used as a baseline for measuring the

Table 1. Associations (Kendall's $Tau_b$) between annual earnings of head of the household (AE) and factor income, unadjusted and adjusted by the OECD-equvalence scale. All persons with positive earnings.

| Policy-regimes | Countries | Association between AE and factor income unadjusted | Association between AE and factor income adjusted |
|---|---|---|---|
| Corporativist | Germany | 0.51 | 0.34 |
| | Australia | 0.54 | 0.36 |
| | Canada | 0.58 | 0.44 |
| Liberal | Switzerland | 0.65 | 0.38 |
| | United Kingdom | 0.53 | 0.41 |
| | U.S.A. | 0.67 | 0.52 |
| | Netherlands | 0.66 | 0.43 |
| Social- | Norway | 0.53 | 0.35 |
| democratic | Sweden | 0.65 | 0.47 |

Source: Luxembourg Income Study (LIS) data base.

degree of market dependence. One could argue that the unadjusted factor income is a better measure of market rewards, and the choice made here is solely due to the fact that we are interested in isolating the effects of the welfare state actions.

Table 1 about here

As can be seen, the associations between earnings of the head of the household and factor income are far from perfect. The influence of other family members' market rewards and the influence of income from capital are definitely not negligible. Not surprisingly, the associations are even lower when adjusting factor income for family size and composition. Even though we note some cross-national differences, it seems hard to find any specific pattern. Thus, there is no particular difference between the "policy-regimes" and a fair number of differences within them. However, the purpose here was not to find any specific pattern, but merely to show that the commonly used dependent variable in earnings determination studies nowadays only loosely correlates with measures of economic standard that take the family into consideration.[9]

## Cross-national differences in market dependence

The basic results of the analyses of cross-national differences in the degree of market dependence are given in Table 2. The two distributions compared are factor income and disposable income, both adjusted by the OECD-equivalence scale, i.e. "market rewards" and "economic well-being". Thus, the observed change is not due to family composition but due to taxes paid by and transfers given to the family. Even though we control for family structure in both our measures there might be an influence of cross-national differences in demographic structure, something we will return to later, in Table 2.

Table 2. Degree of market dependence measured by the association (Kendall's $Tau_b$), and the fraction changing position over more than one decile value, between factor and disposable income, both adjusted by the OECD-equivalence scale, i.e. "market rewards and economic well-being". Total samples.

| Policy-regimes | Countries | Association Kendall's $Tau_b$ | Fraction mobile more than one step |
|---|---|---|---|
| Corporativist | Germany | 0.51 | 44.2 |
| | Australia | 0.83 | 8.3 |
| | Canada | 0.80 | 9.6 |
| Liberal | Switzerland | 0.73 | 15.0 |
| | United Kingdom | 0.71 | 24.2 |
| | U.S.A. | 0.77 | 12.5 |
| | Netherlands | 0.52 | 47.2 |
| Social- | Norway | 0.66 | 27.3 |
| democratic | Sweden | 0.49 | 47.4 |

Source: LIS data base.

Table 2 about here

The results shown in Table 2 support our hypothesis fairly well. The associations within the group of liberal policy-regimes tend to be clustered, Kendall's $tau_b$ varies between 0.71 and 0.83, and are all much higher than the correlations for the other countries. However, the associations in the case of Germany and Norway do not fit that well with the categorization. The association is surprisingly low for Germany, whereas the opposite is the case in Norway. Sweden and the Netherlands, but also then Germany, have a very high degree of reranking in the income formation process. To make a substantial interpretation of Kendall's $tau_b$ we can for the sake of simplicity assume no ties in the distributions.[10] In that case a figure of, for example, 0.5 means that 25 per cent of all possible pairs are reranked, i.e. discordant. This is roughly the case in these three countries.

The second column is derived from an analysis where each nation's sample was categorized by decile values into 10 x 10 mobility matrices. The column shows the fraction in each country that changed their income position, according to our measures of market rewards and economic well-being, by *more* than one step, i.e. over two decile values. Hence, this measure the extent of rather profound positional changes in the distributional process. The most astonishing result then is perhaps the extremely high mobility in some of the European countries. Whereas around 10 percent of the populations in the non-European countries were mobile according to this definition, nearly half (47%) of the populations in the Netherlands and Sweden were so. However, there is also a difference between Sweden and the other countries with high incidence of reranking hidden in the overall mobility rates and association measures given in Table 2. The Swedish mobility occurs more evenly throughout the whole distribution, whereas it is much more frequent in the lower part of the distribution in all other countries. Hence, the proportion of those in the upper tail of the distribution of market rewards

who still possess such a rank in the distribution of economic well-being is by far the lowest in Sweden.

There are two main factors that might bias the cross-national variation in market dependence as they are given in Table 2. First, the shapes of the initial distributions and secondly, cross-national differences in demographic/age-structure. The former factor means that if some countries' factor incomes are much more compressed than others, the occurrence of reranking may be higher even if they have identical tax- and transfer systems. The latter factor implies that it is plausible that reranking is more common among certain subgroups in the population and that the cross-national differences reported may thus simply reflect the relative sizes of these subgroups. Above all, the proportion of elderly may be of utmost importance in this latter case. In order to control for the eventual influence of these factors some simple simulations were performed. By taking the U.S. distribution of "market rewards" as a baseline we changed all other countries' decile values so that they had the same relation to the mean as in the U.S. case. Furthermore, all samples were reweighted so that the fraction of persons living in families headed by someone over 65 years of age was the same for all countries. We then calculated the fraction in each country that changed their position with more than one step by decile values in the same manner as reported in Table 2. The result of this exercise is reported in Table 3.

Table 3 about here

As can be seen in Table 3, and somewhat surprisingly, these fictious rerankings did not make any major changes to the results. The fractions changing position by more than one step change only marginally among the countries classified into the "liberal policy-regimes". The most profound change refers to the case of Norway in which the "standardized" fraction increased considerably and thereby became more like the other countries within the same policy-regime. One may also note that Germany and the

Table 3. Simulated fractions changing position, between market rewards and economic well-being, with more than one step by decile values by standardizing (i) the proportion of families with heads over 65 years of age and (ii) the distribution of adjusted factor income (market rewards).[a] Percentages and differences from actual figures.[b]

| Policy-regimes | Countries | Standardized fraction mobile |
|---|---|---|
| Corporativist | Germany | 48.3 (+4.1)) |
| | Australia | 10.7 (+2.4) |
| | Canada | 12.2 (+2.6) |
| Liberal | Switzerland | 19.1 (+4.1) |
| | United Kingdom | 28.7 (+4.5) |
| | U.S.A. | 12.1 (-0.4) |
| | Netherlands | 42.0 (-5.2) |
| Social- | Norway | 38.1 (+10.8) |
| democratic | Sweden | 52.3 (+4.9) |

Notes:
a) The simulation was done by reweighting each nation sample so that the proportion "elderly" family heads was the same in each country - taking the value of Australia, the country with the lowest fraction elderly, as a reference - and by changing each country's "decile values" of market rewards so that each country's decile values had the same relation to the overall mean as in the U.S. case. The reported proportions in the table are furthermore standardized by dividing the proportion in each "decile-category" with 10, i.e. transformed to equal sizes.

b) The differences from the actual figures reported in table 2 are given within parenthesis.

Source: LIS data base.

Netherlands switch places. But the major conclusions given by Table 2 seem robust. To summarize, then, it seems obvious that the cross-national differences in market dependence *do not* simply reflect differences in the original distributions or differences in demographic structures between the countries.[11]

How, then, do these cross-national variations of market dependence correspond to findings from macro-data and to changes in vertical inequality produced by the tax and transfer system? Table 4 compares the rank order of the nine countries according to: a) the degree of market dependence as given by the standardized figures in Table 3; b) changes in vertical inequality as given by the change in the coefficient of variation; c) an "index of decommodification" presented by Esping-Andersen (1989). Even though some of the countries change ranking, the resemblance in rank orders are evident. Thus, the approach followed here, the usual income distribution approach and the approach based on macro data all give similar results. In fact, we could have included a fourth rank ordering according to vertical income inequality, rather than changes of it as in column 2 in Table 4, which would produce a similar outcome, i.e. highest in the U.S., Australia and Canada, and lowest in Norway and Sweden (see e.g. Coder et al. 1989).

Table 4 about here

In all it seems evident from going through the different phases in the distributional process that the stratification of the market does not tell the whole story. This is particularly true in countries classified as having a "social-democratic policy regime", but evidently also in Germany. On the other hand, in the Anglo-Saxon countries it seems clear that the distribution of market rewards has a huge determination power in the distribution of economic well-being. The data presented supports our cluster hypothesis fairly well.[11] The cross-national differences must be regarded as pretty large and, for reasons mentioned above, they are probably, if anything, underestimated.

Table 4. Comparison of ranks, according to (A) the standardized proportions changing position reported in table 3, (B) changes in vertical inequality[a], and (C) Esping-Andersen's index of decommodification[b].

| Policy-regimes | Countries | Ranks | | |
|---|---|---|---|---|
| | | A | B | C |
| Corporativist | Germany | 2 | 3(37.7) | 5 |
| | Australia | 9 | 6(32.5) | 9 |
| | Canada | 7 | 8(24.6) | 7 |
| Liberal | Switzerland | 6 | 9(16.0) | 4 |
| | United Kingdom | 5 | 5(32.8) | 6 |
| | U.S.A. | 8 | 7(29.3) | 8 |
| | Netherlands | 3 | 2(41.2) | 3 |
| Social- | Norway | 4 | 4(37.3) | 2 |
| democratic | Sweden | 1 | 1(52.0) | 1 |

Notes:
a) Rank B refer to the ranks given by the vertical redistribute effects measured as the percentage of inequality index of adjusted factor income minus inequality index of adjusted disposable income divided by inequality index of adjusted factor income. The coefficient of variation is used as the measure of inequality index. The figures within parenthesis in Rank B refers to the estimate of this redistributive measure.

b) Rank C refer to the ranks according to an "index of decommodification" (Esping-Andersen 1989, table 2) based on macro data of different dimension of the social welfare systems.

Source: LIS data base.

## Variations in violations of horizontal equity

What, then, is to be said about horizontal equity? Once again one might note that if we regard the distribution of market rewards as unfair, only reflecting the power position of people or classes, this question is of minor importance. Even for those concerned with horizontal equity, the eventual violations of horizontal equity have to be weighted against the possible decrease in vertical inequality caused by welfare state intervention.

In order more meaningfully to examine the rerankings presented earlier we must, for the issue of horizontal equity, decompose the sample into subgroups which are as equal as possible. No doubt, several options for decomposing the sample are possible. The problem can generally be stated as how to decide what are "equity-relevant characteristics". Two different strategies are adopted here. In the first, all individuals are categorized by family situation and employment status. The categorization is a simplification of that employed by Erikson & Fritzell (1988). Each sample is divided into eight different categories. The divisions are based on marital status, employment status - of both spouses in the case of couples - and whether any children belonged to the household as well as the presence of any minor children. The second grouping is simply based on the equivalence scale. Thus, all persons living in families having the same equivalence factor, i.e. household structure, are grouped together (see further Appendix A. for the exact procedure on the decompositions carried out). In the analysis of horizontal equity we have also excluded all those living in families where nobody fully participates in the labour market. The rationale is that, in my opinion, there is no reason, even for those most concerned with horizontal equity, to argue that those who are unable to work, mainly because of age, should always have the lowest economic standard.

Table 5 reports the weighted average of Kendall's $Tau_b$ within each category for each nation according to respective categorization.[12] The nations are not categorized

Table 5. The extent of Horizontal equity preservations in the income formation process and the vertical redistributive effect of the tax- and transfer system. The former measured as the weighted average association (Kendall's $Tau_b$) between factor income and disposable income, both adjusted by the OECD-equivalence scale, in eight subgroups classified by (A) family composition and number of earners, and (B) by the equivalence factor referring to each household.[a] The latter measured by change in coefficient of variation.[b] All persons living in families where at least one person participate full time on the labour market.

| Country | Kendall's $Tau_b$, weighted average | | Vertical redistributive effect of transfers and taxes |
|---|---|---|---|
| | A | B | |
| Australia | 0.92 | 0.92 | 19.7 |
| Canada | 0.89 | 0.90 | 13.5 |
| Germany | 0.73 | 0.73 | 13.5 |
| Netherlands | 0.82 | 0.82 | 16.9 |
| Norway | 0.81 | 0.79 | 25.0 |
| Sweden | 0.64 | 0.64 | 28.7 |
| Switzerland | 0.89 | 0.89 | 3.5 |
| United Kingdom | 0.72 | 0.75 | 14.2 |
| U.S.A. | 0.87 | 0.88 | 20.1 |

Notes:
a) The categorization by (A) employment and family characteristics and (B) by the equivalence scale is fully explained in Appendix A.

b) The vertical redistributive effect is measured in the same way as in table 4, however the changes in vertical inequality reported here refer only to the subsamples of those living in families where at least one person fully participate on the labour market

Source: LIS data base.

by "policy-regimes" in Table 5 since the issue of horizontal equity does not primarily refer to different welfare state models, even though we might of course expect countries with a low degree of market dependence to have a high degree of horizontal inequity, since the method used here to examine these issues is basically the same.

Table 5 about here

Before studying the findings in Table 5 it must be said that the categorization of sub-groups carried out here is very crude, and consequently the incidence of horizontal inequity is probably overestimated in the table. The reason is, of course, that not all families within these groups are necessarily "equals", and thus some of the rerankings within these categories may still to be intended from a policy point of view.

Nevertheless, the figures indicate some interesting findings. In all cases, albeit to different degrees, the correlations are much higher than those presented in Table 2. However, for Sweden, Britain and Germany the correlations are quite far from one and the extent of horizontal inequity produced by the tax- and transfer system is not negligible. One could of course argue that the decomposition carried out here fits badly with the social policies practised in these countries, but the extreme resemblance between the weighted correlations according to these two categorizations indicate that there may be more to it than this.

Whether or not the reported violations of horizontal equity, in general, and most notably for these three countries, are alarming depends, as noted earlier, partly on our perception of the market arena, and partly on the size of redistribution towards vertical equality produced by the social welfare system. This issue thus ultimately involves two steps, the empirical investigation and a value judgement. A value judgement on how much weight we want to put on the issue of vertical redistribution towards equality versus the possible violations of horizontal equity, in the same manner as in the case of the possible tradeoff between efficiency and equality (Okun 1975). To make such a

value judgement we can conclude this section by looking at the last column in Table 5. This column reports the vertical redistributive effects of taxes and transfers (measured as before by the coefficient of variation for adjusted factor income minus the coefficient of variation for adjusted disposable income divided by coefficient of variation for adjusted factor income). In other words, the column reports, similarly to Table 4, the decline in inequality between "market rewards" and "economic well-being" and not the inequality figures themselves.[13] However, in contrast to Table 4, the redistributive effects are calculated only among those included in the analysis of horizontal equity, i.e. persons living in families where at least one member participates full-time in the labour market. The vertical redistributive effect is strongest in Sweden, but as is evident from the first two columns, this is at the cost of the lowest reported horizontal equity preservation in the distributional process.[14] Not surprisingly, the size of the redistributive effects depends on whether we calculate the inequality index on the total samples or only on those active in the labour market, as can be seen by comparing the figures in Tables 4 and 5. Of special interest here though is also the rather large cross-national variations in this respect. Thus, in Germany and Holland, for example, only a small part of the vertical redistributive effect remains among those active in the labour market. The vertical redistribution in these latter countries thus seems mainly to go from those in the labour market to those out of the labour market. But the violations of horizontal equity are still much higher in these countries than in Australia, Canada, and the U.S..

## Conclusions and discussion

A much neglected issue in empirical research in relation to stratification and societal distribution is examined in this paper. In earnings determination studies one often tends to forget that the market rewards given to individuals - often only men - do not necessarily pin-point the position a person occupies according to a more

comprehensive measure of economic well-being. There is a far from negligible mobility in the different stages of the distributional process. This is also neglected in income distribution studies which mainly examine the change in vertical inequality resulting from different policies pursued by the welfare state. Even here one often gets the impression that these policies only compress the distribution but leave the rank order the same. We have tried to show that the process is more complicated. The welfare state not only modifies the market's stratification - but also changes it to some extent.

However, cross-national differences in market dependence, as defined above, are quite substantial. With some good will, the nations included in this study could be regarded as forming clusters along the lines suggested by Esping-Andersen. Thus, the results indicate that the populations in Norway, the Netherlands, and Sweden, but also in Germany, have a much lower degree of market dependence, than they have in the Anglo-Saxon countries. These latter countries, along with Switzerland, were also fairly similar in most of the analyses presented, which is in accordance with the hypothesis.

Since social class position can be seen as the major concept when explaining the inequalities produced in the market, the findings indicate that the relevance, or rather importance, of social class for social stratification might vary cross-nationally. One way of reaching a better understanding of these variations is by studying the interplay between market, politics and family. Accordingly, the findings might also have implications for comparative studies on class structure and social stratification. The concept of social citizenship, which one may see as the basis for stratification in the welfare state, thus seems to have gained some ground, in some of the countries, in the ongoing "war" against the class-specific stratification system prevalent in the market arena - under the assumption that these cross-national differences were not as marked some decades ago. Thus, even though these results show that the market, as the arena where the origin of the distributional process is located, still creates most of the structure of inequality, the results at the same time indicate the importance of both

welfare state action and family structure for properly analyzing and understanding societal distribution.

## NOTES

1. A typical fallacy of this assumption is often found when relating the first stage of the income formation process with an outcome of a much latter stage, such as poverty rates measured on the basis of households' equivalent disposable income. For example, Colbjörnsen & Kalleberg (1988) take the huge difference in poverty rates between the U.S. and Norway as an indication of differences in the earnings distribution between these two countries. However, as shown by Smeeding et al. (1988), the big difference in poverty rates between these countries has very little do to with earnings differentials but primarily reflects the divergent social welfare systems these countries have.

2. An interesting paradox related to this can be noted when contrasting research on income redistribution with research on cross-national wage attainment. In the latter case, the explanations of why countries differ in their distribution of wages, or why independent variables have different effects on wages in different countries, are often given, for good reasons, within a political context (see e.g. Åberg 1984, Colbjörnsen & Kalleberg 1988). Within income redistribution studies, on the contrary, the distribution of factor income - which is mostly based on wages - is taken for granted as the distribution of the market, even though most authors are aware of the counterfactual problem.

3. In some redistribution studies attempts have been made to impute the values of benefits in-kind. Åberg (1989), for example, has shown that in Sweden these benefits have an equalizing impact both between social classes and between income groups, in spite of the fact that "upper classes" consume more of these "transfers". Any estimation of the redistributive impact of benefits in-kind must, however, be based on fairly strong assumptions, to which the results presented are extremely sensitive.

4. The choice of equivalence scale has a strong impact on most comparisons of the economic well-being of different subgroups in a population, and sometimes an impact on cross-national comparisons of income inequality. It is however likely that the choice of equivalence scale do not much influence the occurrence of reranking in the distributional process. For a review of different equivalence scales see e.g. Atkinson (1975), Buhmann et al. (1988).

5. We have thus included family structure already at Stage 3 in the analysis and not at Stage 5 as seen in the figure.

6. The assumption here is, of course, that family members pool their resources so that each family member has the same economic well-being.

7. The classification of countries into different policy-regimes is based on the following attributes (see Esping-Andersen 1989, ch. 3): a) number of occupationally distinct pensions program; b) the degree of welfare privileges for civil servants; c) the relative weight of means-tested benefits; d) the relative shares of privat pensions and health expenditures; e) the coverage of pension, sickness and unemployment insurances; f) the "standard worker" benefit related to maximum benefit of the same insurances.

8. Palme (1989) has developed a reconstruction of Esping-Andersen's model in relation to the pension system in eighteen OECD-countries. His classification, although denoted differently, leads to roughly the same grouping of countries as the classification used here.

9. Consistent with this is Uusitalo's (1989) finding that the explanatory power of family composition on economic well-being has increased in Finland over time, whereas the opposite was found for social class.

10. In such a case the value of Kendall's $tau_b$ equals the value of gamma.

11. Another possibility that cannot entirely be eliminated is, of course, that the findings in Tables 2 and 3 only reflect the "size of the welfare state" and have nothing to do with different policy-regimes. This is somewhat hard to explore properly since we know that the categorization done here roughly coincides with most measures of welfare state size. In spite of this the relation between the associations presented above and the "size of the flow", calculated as the aggregated ratio of the amount going to and from the households in relation to factor income in the LIS-data, was investigated (not seen in any table). Not surprisingly, there was a strong correlation such that countries in which the total amount of taxes and transfers was high in relation to total factor income also scored relatively low on market dependence. But such a ratio did not succeed in explaining the low market dependence in the case of Germany and was neither, for example, particularly powerful in explaining the differences between the countries categorized into the liberal model. Thus, it appears that this measure of "welfare state size" does not predict the outcomes in Tables 2 and 3 better than the "policy-regimes" classification used here.

12. The extent of horizontal equity preservations presented in table 5 are, for computer-technical reasons, based on grouped data.

13. The choice of inequality index made here, the coefficient of variation, is more sensitive to what happens in the upper tail of the distribution than for example the Gini coefficient. As for the cross-national variations of changes in inequality as given by the relation of inequality between "market rewards" and "economic well-being", this has a profound influence on the results in one case, namely Switzerland. The redistributive effect of taxes and transfers in Switzerland is relatively lower as measured here than it would be if using, for example, changes in Gini instead. This variation of the effects of using different inequality indexes also holds for inequality per se (see Buhmann et al. 1988: table 5).

14. Even though there is, not surprisingly, a positive correlation between the vertical distributive effects and the degree of horizontal inequity this is not self-evident per se. In fact, from a strict statistical point of view this is rather paradoxical since any transfer violating the principle of horizontal equity means that the redistribution becomes less "efficient".

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**Appendix A.**

The categorization of each nation's sample into subgroups by A) family situation and employment status in the analysis of horizontal equity and B) equivalence scale (ES) was carried out as follows:

Categorization A

A. Single person, no children, employed

B. Married couple, no children, 1 employed

C. Married couple, no children, 2 employed

D. Single person, with children, employed

E. Married couple, small (0-6) children, 1 employed

F. Married couple, small (0-6) children, 2 employed

G. Married couple, only older (7-18) children, 1 employed

H. Married couple, only older (7-18) children, 2 employed

The employment status is dichotomized in such a way that employed here is defined as working "full-time".

Categorization B:

A. ES=1.0, single person;

B. ES=1.5, single with one child;

C. ES=1.7, couple no children;

D. ES=2.0, single with two children;

E. ES=2.2, couple with one child;

F. ES=2.7, couple with two children;

G. ES=3.2, couple with three children;

H. All others.

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