Socio-Economic Influences on Income Inequality: Projections for Germany

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The discussion paper deals with sensitivity influences upon the German personal income distribution in a time perspective. In this context, income-dependent, variable equivalence scales are explicitly applied for Germany 1995-2009 (as a methodical innovation and following in some sense prominent approaches of socio-demographic functionalizing like the Barten or the Translating approach). There are good reasons for using such flexible equivalence scales instead of income-independent, constant equivalence scales in poverty or in inequality studies, e.g.: (1) In the higher income ranges the reference consumption levels (e. g. concerning accommodation costs) are relatively high so that the "adding" of a child would increase the corresponding costs only slightly, and this would lead to low relative costs, i. e. flat equivalence scales for larger households in the upper income range compared with the lower incomes. (2) Prices of commodities can differ from each other across income groups such that members of the upper income classes obtain price advantages. (3) Credit constraints for households in the bottom income range can shift the consumption bundles of these households in the sense of lower expenditure shares of durables which are connected with relatively high economies of scale.

Moreover, one fundamental criticism on the conventional proceeding of measuring well-being is that an individual does not behave like a homo oeconomicus. This means that in reality people do not have (or do not want to have) a complete overview about society's entire income situation. Since welfare comparisons refer to household incomes and since households are (very) different from each other with respect to size and composition, it seems like a Herculean task for each individual to consider all these aspects in the context of his/her well-being rankings. It appears much easier for individuals to compare themselves with household types which are similar to their own type ("keeping up with the Jones's"). This implies a kind of bounded rationality. As a consequence, my proceeding is based on an orientation of welfare levels only on the behaviour of one's own group of households; it is based on socio-psychological approaches like Festinger's theory of social comparisons which exactly suggest that people compare themselves with similar people. A number of empirical findings point towards this direction. Thus, the proposed method differentiates between various social groups in the sense that for each group a separate welfare border is determined, and each individual is assumed to assess her/his degree of well-being on her/his own group's mean well-being level. e.g., household size might be a criterion for such a differentiation of social groups.

On the basis of the new approach (so-called "decomposition approach"), the effects of income-structural and socio-demographic changes are analysed. With respect to the influences of alternative methodical settings (different kinds of variable equivalence scales, different inequality indicators, etc.) some robustness of the results becomes apparent when it comes to the ranking between the different observation years (for Germany 1995-2009 according to the German Socio-Economic Panel as data base).

However, present author's own calculations reveal higher poverty levels indicated by the decomposition approach compared with the conventional method of measuring (income)

poverty. Since it appears to be realistic that some people perform their poverty assessments through a "mixture" of their own group's and overall well-being levels, at a plausible degree of economies of scale (i.e., Buhmann et al.'s è > 0.65) the poverty levels of the decomposition approach can be interpreted as upper limits for the "true" level of poverty, and, conversely, the degree of poverty ascertained by the conventional approach can be seen as a lower limit for "true" poverty.

In the field of measuring income inequality the usage of variable equivalence scales also leads to a higher degree of measured inequality compared to the traditional reference on constant equivalence scales in inequality studies. This is caused by an enhancement of the differences of equivalent incomes between the upper income classes and the lower incomes when using variable instead of constant equivalence scales. But the "inequality pattern" for Germany 1995-2009 is qualitatively nearly the same for the cases with variable versus the cases with constant equivalence scales.

The sketched decomposition approach is directly linked to analyses of social stratification. In this sense, binary logistical regressions are estimated to assess the likelihoods of several social groups for being located within the income areas considered in the paper (low-income, middle-income, and high-income areas). Furthermore, within the framework of the decomposition approach it is relatively easy to compute transition matrices for the several income areas which has been done in the paper.

Additionally, the usage of decomposable poverty and inequality indicators offers the possibility to perform shift-share analyses. In the paper such analyses are carried out in order to assess the relevance of demographic ageing in the context of cross-sectional income poverty and inequality. The corresponding shift-share calculations are also used for predicting German income poverty and inequality. Besides age structure, further variables like household size/household composition, labor market participation rates, etc. as well as age-differentiated income shares of different kinds of income (labor income, capital gains, transfers) are used as explaining factors. Furthermore, longitudinal cohort effects are considered as influencing variables within the several projections.

With respect to such connections between (socio-)demography and income poverty and income inequality, a differentiation between direct and indirect impacts of (socio-)demography makes sense. Direct demographic effects are solely defined by changes in population shares on the supposition of constant economic variables (like mean incomes or dispersions of incomes for the several socio-demographic groups). In contrast, indirect demographic effects aim at economic processes which are relevant for distributional purposes. Examples for such economic processes are individual adjustment reactions (e.g. on the labor market with dependencies on an individual's own age but also on other market participants' age) or fiscal aspects like the compliance of budget restrictions.

All in all, the paper's analyses refer to the necessity of a rigorous methodological foundation for distributional studies, e.g. concerning the selection of a set of (preferably variable) equivalence scales but also concerning sensitivity considerations and micro-simulations.