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# **Microsimulation modeling as a costing tool: FISKSIM and SIMTASK**

**Comments**

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## Two common special features

### 1. Adaptation of EU-SILC sample weights (re-weighting)

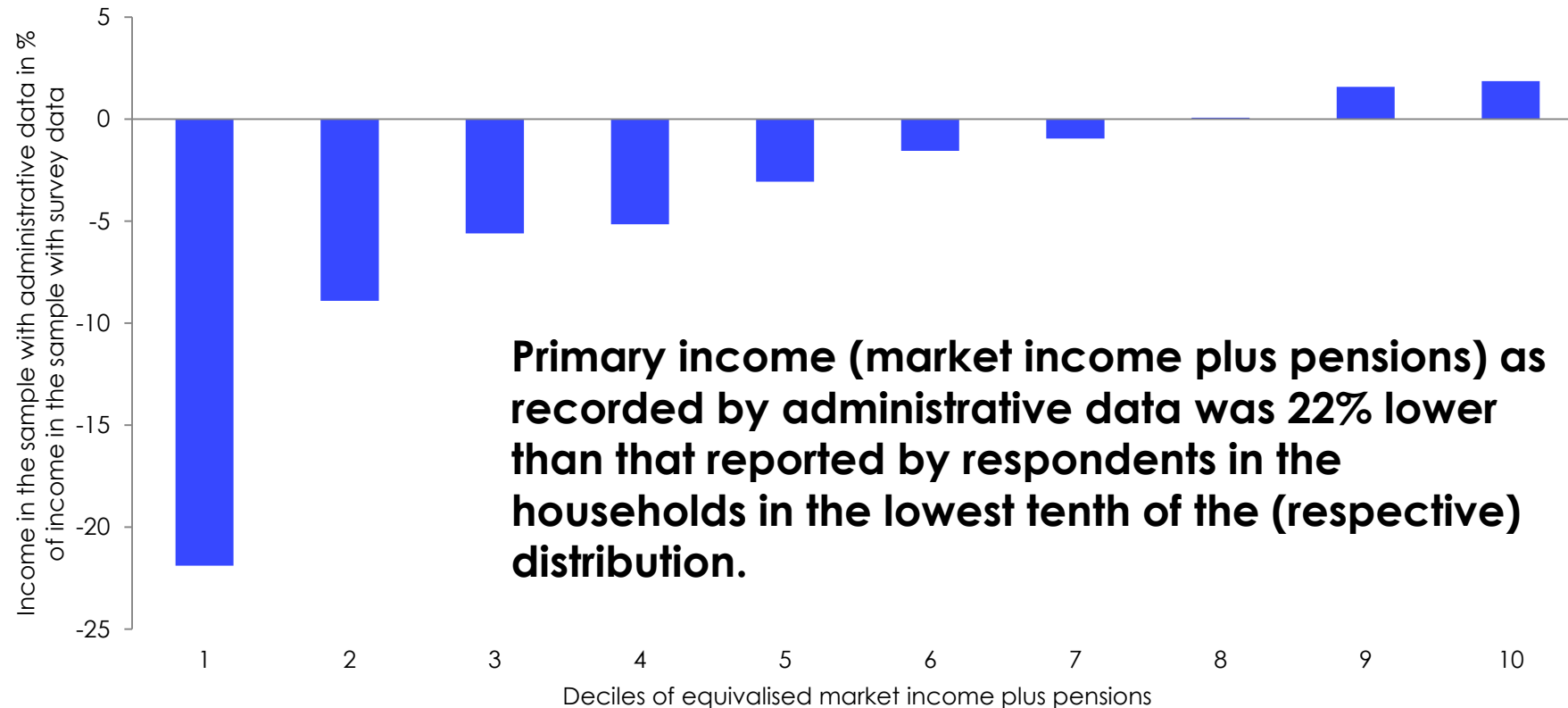
- Aim: approach actual aggregate figures (transfer incomes and recipients, in particular)
- Background: Discrepancies between age structures in EU-SILC and official statistics that exist due to relatively small sample size → small number of age groups included in the original weighting

### 2. Simulation of interaction effects between several social transfers

- Crucial for simulating total (net) effects
- Complex task that usually involves behavioural assumptions
- Important for labour supply effects

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- **Aggregate fiscal costs potentially biased by 2 sources of inaccuracies in the sample**
    - 1) **number of recipients recorded**
    - 2) **level of reported income (transfer) by respondents**
      - **problem restricted to survey data (e.g. means-tested minimum income (BMS), housing benefit (Wohnbeihilfe), wealth and self-employment income ...)**
      - **many transfers are obtained from administrative data (unemployment benefits, unemployment assistance, family allowance, childcare benefits, maternity allowance...)**

**Tendency to overreport income among lower income households ...**



- **Further simulation challenges:**
  - **Not the household but the „needs unit“ (with maintenance obligations towards other persons in the household) is the relevant observation unit; weights at the household level ...**
  - **Interaction with other transfers: Respondents mix up the amount attributable to BMS and to housing benefit (see Mundt – Amann (2015))**
  - **Small number of recipients in EU-SILC; heterogeneity not adequately covered; weights adjusted for those observed in the sample**

**How does re-weighting affect:**

- **Demographic structure: number and share of different household types before and after reweighting**
- **Market income distribution?**
- **Hierarchy of individual households in the market income distribution?**
- **Important to know the direction of potential bias due to reweighting!**
- **Impact on vertical and horizontal redistribution (e.g. between households with and without children)**
- **Impact on net fiscal costs**

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- Simulations of the means-tested minimum income (BMS), unemployment benefit (ALG) and unemployment assistance (NH) important contributions
  - Necessary inputs for labour supply models
  - If persons can change their labour market participation and hours of work as desired, policy changes may induce „second-round effects“ → impact on the net fiscal costs of social policy instruments

- **Primary aim: Accurate estimation of net fiscal costs when fiscal policy instruments are altered → interesting analysis**
- **But: Caution is needed in the interpretation of „net effect of a fiscal transfer“:**
  - **Microsimulation models are suitable for predicting the effects of marginal changes in the tax and transfer system; day-after-effect**
  - **Behavioural implications: When the framework within agents (employees and employers) operate is assumed to change fundamentally (e.g. if unemployment benefits are abolished) the assumption of unchanged behaviour cannot hold**
  - **Equilibrium implications: „Large changes“ in social policies require use of macroeconomic models that take into account interactions in the economy as a whole (including inter alia wages, prices, migration, fertility ...)**



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- **Unemployment benefits (UB)**
    - Minimum and maximum levels → outside these limits no information on relationship between UB and wage in reference period
    - Assumptions regarding the benefit duration depend on (unknown) number of insurance years and age
  - **Unemployment assistance (UA)**
    - Income of partner not considered as of July 1st 2018 → observed data is based on different regulations than those presently valid
    - Transition from UB to UA requires assumptions on months of UB entitlement (20 weeks?) → potential underestimation of UB costs due to longer period of entitlement of older unemployed (with typically higher benefit level)

- Not only social transfers but also tax benefits have to be claimed (non full take-up → impact on distribution of disposable income and on fiscal cost)
- „Uprating formula“ (forecast of evolution of incomes) → impact on cost
  - Average growth factor (e.g. CPI)?
  - Differentiation by source of income (wages/salaries, pensions, unemployment benefits, self-employment income ..)?
  - Differentiation by source of income and level of income (e.g. pension income bands determined by regulations ..)

- Households' income affected by housing rents
- The imputed rent (net of loan repayments) is a non-monetary income component that increases a household's consumption potential compared with a corresponding household living in a rental dwelling with market rent
- Quantiles in terms of disposable income without/with imputed net housing rents?

**... keeping in mind that only a subset of the welfare system's cost is being captured on the expenditure ...**

