

## **ESTIMATE OF ECONOMIES OF SCALE BASED ON INDIRECT UTILITY FUNCTION OF HOUSEHOLDS**

The income and consumption level of each person depends on the size and character of his or her household. The size of the economies of scale of living together is reflected by an equivalence scale. This scale of consumption units is a system of weights which are assigned to individual household members. The OECD-modified equivalence scale commonly applied in the EU might be suitable for international comparisons; however, its uniform nature does not reflect, by definition, any country specifics. Economies of scales are highly dependent on the structure of household consumption of durables and nondurables, expenditure on private and household public goods, especially on housing costs and their share in a family budget, which differ substantially across countries. Country-specific equivalence scales might be, thus, more appropriate for national purposes.

The aim of this research is to estimate the extent of national economies of scale and to determine appropriate equivalence scales in the Czech Republic and several neighbouring countries, such as Slovakia, Hungary and Poland. The selection of countries is motivated by their common history, assuming certain consumption similarities. We hypothesise, first, that the economies of scale of household members are different (rather moderate) than those established by OECD-modified scale in the Czech Republic. Second, we expect similar economies of scale in the selected post-communist countries.

The literature provides a variety of approaches to the measurement of economies of scale. Besides the OECD-modified or OECD equivalence scale, a square root of household size is often used as a consumption unit. A demand approach utilises expenditures of various household types. A method based on utility functions employs subjective financial satisfaction as a proxy for indirect utility functions. Information on individual financial satisfaction is provided in EU-SILC module 2013 data.

We primarily focus on the “utility” approach with the unique opportunity to employ internationally harmonised data. In a simplified way, this methodology assumes that the economies of scale of living together are realized when the sum of individual utilities from personal consumption of all household members exceeds the total household income. The data allows us to compare utility functions (expressed by financial satisfaction) of singles and people living in a couple and consequently to determine the economies of scale from living together. Furthermore, the results could be compared with the “expenditure” approach using the HBS data that involves smaller sample of households than EU-SILC. However, we limit the comparison of approaches to the Czech Republic only as HBS is not fully harmonised in European countries. It is appropriate to use both approaches before making any conclusions.

Preliminary findings based on Czech household expenditures indicate that the economies of scale for an additional household member, especially an adult, are much lower than those considered by the OECD-modified equivalence scale. It would mean that the level of household equivalised income is lower in households of two and more adults. Equivalised income is crucial, e.g., for calculating at-risk-of-poverty rate, a phenomenon of a wide public interest. An alternative, country-specific equivalence scale would influence the poverty line as well as the structure of people under the poverty line. Therefore, multi-person households could be more likely threatened by the risk of poverty than singles, e.g. pensioners living alone. Consequences of different country-specific equivalence scales will be discussed along with the final comparative results that should provide important support for national political interventions.