

## **IMPROVING OF THE RELIABILITY OF UKRAINIAN POVERTY INDICATORS ESTIMATES USING AUXILIARY INFORMATION**

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The state Household Living Conditions Survey (HLCS) provided by the State Statistics Service of Ukraine on quarterly basis is the main source of information for measuring of a number of important indicators which in details reflect incomes, expenditures, consumption features, poverty of Ukrainian households and many others. In Ukraine, there are 24 oblasts, one autonomous republic (Autonomous Republic of Crimea – AR of Crimea) and two cities (the city of Kyiv and the city Sevastopol) which are all consisted as administrative regions (at present AR of Crimea, city Sevastopol and partly two eastern regions are temporally occupied by Russia). Each administrative region is subdivided into lower level administrative units. Analysis of reliability of the poverty indicators estimates defined on base of HLCS data, first of all of the relative poverty rate by national poverty line which is defined as 75% of median household equivalence income, has proved the indicators direct estimates at the regional level to be insufficiently reliable. The most important factors of this are the high nonresponse rate and small effective sample size in some regions which can make less than 250 households. Respectively, this limits the possibilities of efficient poverty monitoring in Ukraine, especially in the context of government decentralization policy implementation, and affects the income and consumption distributions which are determined from the survey. The high nonresponse rate registered among the territories with relatively high rate of well-off population (primarily the capital Kyiv and other cities) make the possibility to suggest about incomplete coverage of well-to-do households by the HLCS.

An efficient approach to enhancing the reliability of the poverty indicators estimates at the regional level is using the small area estimation technique (Longford, 2005; Longford, 2010). The possibility of the adequate procedures development and their further practical usage depends essentially on the available additional information. According to results of our researches today one of the most effective approaches in Ukraine in addition to indirect estimation is calibration (Deville, J.-C. and Särndal, C.-E., 1992) of HLCS statistical weights using the structure of the NAS final consumption expenditures by groups of goods and services in order to ensure maximum proximity of the HLCS structure to NAS structure. It should be noted that it is necessary to eliminate the main differences between expenditures measures in NAS and in survey taking into account the methodological features.

On base of the obtained results it is shown that the reliability of poverty indicator estimates in Ukraine can be enhanced by using of NAS data on household final consumption expenditures on different stages of the indicators estimation process. The calibration of statistical weights using NAS data can decrease biases of estimates for regions as it provides the possibility of better accounting of well-to-do households' expenditures by the HLCS data. The indirect estimation using NAS data and poverty indicators direct estimates for the national level and composite ones for the regional level from previous year can significantly decrease the mean squared error of estimation.

### **References**

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