

Domains similarity models in synthetic estimation

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Abstract

We consider the problem of estimation in domains of a survey population where available sample sizes are too small to get traditional parameters estimates of an adequate quality. As a solution, so-called small area estimation methods are applied in a common statistical practice. A success of these methods depends strongly on a good auxiliary information from administrative and other supplementary data sources.

We present a new small area estimator which is applicable in many kinds of statistical surveys. In particular, it exploits possibly incomplete auxiliary information and is eligible for business, social and for other types of sample surveys. We give its application example in the survey of business enterprises, where we compare a performance of the estimator with some other standard estimation methods.