

Adaptation of EURAREA experience in business statistics in Poland

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Based on the experiences of the EURAREA project an attempt was made to use small area statistics methods to improve estimation precision with respect to basic information about economic activities of small businesses.

At first available data sources and the possibility of integrating them are discussed. The SP3 survey is presented in terms of sample size, sample design and the range of information estimated. Then the characteristics is enlarged by using additional information from other data sources like: Database of Statistical Units - BJS, Register of Economic Entities REGON and Tax Register POLTAX. The data sources consistence is discussed. We assess them in terms of how useful they are to provide information across type of economic activity (PKD sections) and regions combined.

Application of indirect estimation methods in compliance with the standards developed within the EURAREA project and necessary modifications is presented. An analysis of indirect estimation precision in comparison with traditional estimation techniques is provided.

Another problem considered is the sample allocation for the SP3 survey in terms of optimisation criteria used in small area estimation. We take into account the optimal sample allocation in terms of direct and composite estimators and compare them with the examined sample size across domains and the estimation precision obtained.

Our concerns about the lack of population homogeneity were confirmed. It turns out that it can affect the use of estimators involving values of auxiliary variables at the unit level since GREG Synth_A and EBLUP_A estimators do not comply with direct estimator results. The study confirmed our hypothesis that one method of coping with the high level of variation in distributions of estimated variables is to construct applicable models at the domain level rather than at the unit level. Estimates obtained by Synth_B and EBLUP_B estimators show more compliance with those produced by direct estimators.