

Survey data integration for regression analysis using model calibration

We consider regression analysis in the context of data integration. To combine partial information from external sources, we employ the idea of model-calibration which introduces an ``working'' reduced model based on the observed covariates. The working reduced model is not necessarily specified correctly, but can be a useful device to incorporate the partial information. The actual implementation is based on a novel application of the empirical likelihood method. The proposed method is particularly attractive for combining information from several sources with different missing patterns. The proposed method is applied to a real data example combining a survey data from Korean National Health and Nutrition Examination Survey and a big data from National Health Insurance Sharing Service in Korea.