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Confidence Intervals for Mean and Distribution Function Under Imputation for Missing Data

Missing observations are commonly encountered in data from sample surveys due to item non-response. Imputation is used to compensate for non-response. In particular, single or fractional imputation is often used. This paper develops asymptotically valid bootstrap confidence intervals for the mean and the distribution function, using the bootstrap percentile and the bootstrap empirical likelihood methods, under fractional imputation. Imputation is done independently within classes formed on the basis of known auxiliary variables. Performance of the proposed confidence intervals is studied through simulations.