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Bootstrapping Mean Squared Errors of Robust Small Area Estimators

Robust small-area estimation has received considerable attention in recent years, and the mean squared error has been the main way in which the estimators performance is measured. This paper proposes a new bootstrap procedure for mean squared errors of robust small area estimators. We formally prove the asymptotic validity of the proposed bootstrap method and examine its finite sample performance through Monte Carlo simulations. The results show that our procedure performs reasonably well and outperforms existing ones. We also provide a real data example to illustrate the usefulness of the proposed bootstrap method in practice.