PROPOSED ESTIMATORS FOR SYMMETRIC SURVIVAL FUNCTIONS UNDER PEAKEDNESS ORDER CONSTRAINTS

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Abstract

The problem of estimating distribution functions F and G when F is more peaked than G and F and G are symmetric about 0 is addressed by Rojo and Batun-Cutz (2009). These estimators correct for violations in the peakedness order of the empirical distribution functions, Fn and Gm.When applying this estimation process to survival functions, the partial censoring of F and G creates greater inaccuracy in these estimators. By using the Kaplan-Meier estimator in place of the empirical distribution functions in the estimators proposed by Rojo and Batun-Cutz (2009), the impact of changing the weights in their benchmark function can then be investigated. Here, two new benchmark functions are proposed for use in their estimators. Through Monte-Carlo simulations, the estimators built from the new benchmark functions are compared in terms of mean squared error and bias with the original estimators proposed by Rojo and Batun-Cutz (2009).