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Semiparametric Inferences on the Means of Groups with Excess Zero Observations

In this talk, we propose empirical likelihood-based approaches for making statistical inferences on the means of positively skewed populations with excess zero observations. We propose inference procedures about the difference and ratio of means based on the empirical likelihood ratio (ELR) and Wald-type statistics under the semiparametric density ratio model. The proposed ELR method provides a unified framework that covers a wide range of inference problems through the use of general estimating equations. Large sample properties of both methods are studied and simulation results demonstrate that the proposed methods are well adapted to the data with skewness and excess zeros.