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A test for the presence of stochastic ordering under censoring: the *k*-sample case

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Abstract

In this paper, we develop an empirical likelihood-based test for the presence of stochastic ordering under censoring in the *k*-sample case. The proposed test statistic is formed by taking the supremum of localized empirical likelihood ratio test statistics. Its asymptotic null distribution has a simple representation in terms of a standard Brownian motion process. Through simulations, we show that it outperforms in terms of power existing methods for the same problem at all the distributions that we consider. A real-life example is used to illustrate the applicability of this new test.

Keywords Censored data · Empirical likelihood · Order-restricted inference · Stochastic ordering

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