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On constrained estimation problems in time-use surveys. (English) Zbl 1106.62011
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Summary: In the context of “stylized” time-use surveys, constrained estimation problems are common, a simple illustration being the constraint that the hours reported for a mutually exclusive and exhaustive set of activities in a given day should sum up to 24. An example is developed, using mixtures of multivariate normal models, which demonstrates that model-based inference can lead to estimators that can decisively outperform ad hoc strategies such as “shrinking towards the constraint” that have been recommended in the literature.

MSC:

62D05 Sampling theory, sample surveys
62F15 Bayesian inference

Cited in 1 Document

Keywords:

stylized time-use survey; linear constraints; bivariate normal distribution; maximum likelihood

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