Abstract

In this paper, the Bayes estimators of the unknown parameters of the Lomax distribution under the assumptions of gamma priors on both the shape and scale parameters are considered. The Bayes estimators cannot be obtained in explicit forms. So we propose Markov Chain Monte Carlo (MCMC) techniques to generate samples from the posterior distributions and in turn computing the Bayes estimators. Point estimation and confidence intervals based on maximum likelihood and bootstrap methods are also proposed. The approximate Bayes estimators obtained under the assumptions of non-informative priors, are compared with the maximum likelihood estimators using Monte Carlo simulations. One real data set has been analyzed for illustrative purposes.
MCMC Technique to Study the Bayesian Estimation using Record Values from the Lomax Distribution

References

- H. N. Nagaraja, Record values and related statistics-a review, Comm. Statist. Theory
MCMC Technique to Study the Bayesian Estimation using Record Values from the Lomax Distribution

Methods 17 (1988), 2223- 2238.
- S. K. Upadhyay and M. Peshwani, Choice between Weibull and lognormal models: a simulation based Bayesian

**Index Terms**
Computer Science
Algorithms

**Keywords**

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