

Title: Bayesian Inference Based on Pooled Sample from Two Independent Samples of Record Values

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Abstract

Instead of discussing the problem of estimating the unknown parameters for every underlying distribution separately, this paper develops a general procedure for estimating the unknown parameters based on an ordered pooled sample from two independent sequences of record values using a general exponential form for the underlying distributions. Maximum likelihood and Bayesian methods are used to estimate the unknown parameters. Bayesian estimation is discussed using three different loss functions. The problem of predicting record values from a future sample is also discussed. In addition, the results of the exponential and Pareto distributions are shown as examples. Furthermore, a Monte Carlo simulation study is carried out to compare the maximum likelihood and Bayesian estimates, as well as to examine the performance of point and interval predictions. Finally, a numerical example is provided to demonstrate all of the inferential procedures discussed here.