

A Study of the Effect of Different Priors, Loss Functions and Method of Estimation for Pareto Distribution

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ABSTRACT

This paper deals with the estimation of Maximum likelihood estimator (MLE), uniformly minimum variance unbiased (UMVUE) and Bayes estimators of shape parameter of Pareto distribution for different priors. The posterior expected loss under squared error loss function (SELF), quadratic loss Function (QLF) and asymmetric precautionary loss function (APLF) are also discussed. A comparison has been made between these all estimators of the parameter. We illustrate the results using a simulation study with varying sample sizes in R software.

Keywords: Bayes estimator, Maximum likelihood estimator, Prior distribution, Shape parameter, Squared error loss function, Asymmetric precautionary loss function, Quadratic loss function.