

ESTIMATION OF PARAMETERS OF PARETO DISTRIBUTION USING DIFFERENT LOSS FUNCTIONS

DEVYA MAHAJAN & PARMIL KUMAR

Department of Statistics, University of Jammu, Jammu and Kashmir, India

ABSTRACT

The aim of this paper is to derive, the exact analytical expression for estimation of Parameters of Pareto distribution, using entropy loss functions. Our purpose is to obtain, bias estimator and the associated risk function of different types of loss function, namely SELF absolute loss function, Linex loss function, Precautionary Loss function and entropy loss function. The purpose is to find out the most suitable loss function, amongst these five loss functions. In this paper, parameters of Pareto distribution have been estimated, by using the method of moments. The workability of the estimator is then compared, on the basis of their risks obtained under different loss functions. The relative efficiency of the estimator is also obtained. In the end, Monte-Carlo simulation has been performed, to compare performances of the bias estimates, under different situations.

KEYWORDS: Entropy, Pareto Distribution, Loss Functions, Root Mean Square Error, Efficiency