Abstract

In this paper, one of the most important continuous probability distributions which is Lomax. The Lomax distribution is one of the important distributions used in many areas like the study of water resources, such as the study of floods, a study Meteorological phenomena such as the study of minimum and maximum temperatures. Where the distribution properties were studied, also some methods of point estimating were discussed which is the Maximum Likelihood Estimator method, and the method of moments in order to estimate one of the two distribution parameters, . which is the shape parameter

In theoretical aspect, this research aims to derive the Maximum Likelihood Estimator, as well as the Moments Estimator of the shape parameter for the Lomax distribution, as well as a comparison between these two estimation methods using the Mean Squared Error (MSE) criterion based on the use of the simulation method through assuming some real values for the parameter, and trying to use different sample sizes represented in small, medium, and large sample sizes to arrive at the best method for estimating the shape parameter for this distribution. Through the results obtained, we found that the Maximum Likelihood method gave estimates with good characteristics compared to the Moment method by increasing the sample size and the minimum mean squared error .