

A Computational Approach to Confidence Intervals and Testing for Generalized Pareto Tail Index Based on Greenwood Statistic

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Abstract

We provide a general result describing stochastic behavior of the Greenwood statistic within certain stochastically ordered parametric families of distributions. Our example is the generalized Pareto family, for which we develop a computational approach leading to an exact test for the tail parameter based on the Greenwood test statistic. In turn, an inversion of the test leads to exact confidence set for the tail index, which is shown to be an interval.

References

1. M. ARENDARCZYK AND T.J. KOZUBOWSKI AND A.K. PANORSKA . A computational approach to confidence intervals and testing for generalized Pareto tail index based on Greenwood statistic. working paper.