Statistics ›
A Journal of Theoretical and Applied Statistics
Volume 47, 2013 - Issue 5

372 Views | 10 CrossRef citations to date | 0 Altmetric

Original Articles

Pareto analysis based on records

Mahdi Doostparast & Narayanaswamy Balakrishnan

Pages 1075-1089 | Received 30 Nov 2009, Accepted 24 Feb 2012, Published online: 20 Jun 2012

Cite this article https://doi.org/10.1080/02331888.2012.694440

Sample our Politics & International Relations Journals
>> Sign in here to start your access to the latest two volumes for 14 days

Full Article | Figures & data | References | Citations | Metrics
Reprints & Permissions | Read this article | Share

Abstract

Estimation of the parameters of an exponential distribution based on record data has been treated by Samaniego and Whitaker [On estimating population characteristics from record-breaking observations, I. Parametric results, Naval Res. Logist. Q. 33 (1986), pp. 531–543] and Doostparast [A note on estimation based on record data, Metrika 69 (2009), pp. 69–80]. Recently, Doostparast and Balakrishnan [Optimal record-based statistical procedures for the two-parameter exponential distribution, J. Statist. Comput. Simul. 81(12) (2011), pp. 2003–2019] obtained optimal confidence intervals as well as uniformly most powerful tests for one- and two-sided hypotheses concerning location and scale parameters based on record data from a two-parameter exponential model. In this paper, we derive optimal statistical procedures including point and interval estimation as well as most powerful tests based on record data from a two-parameter Pareto model. For illustrative purpose, a data set on annual wages of a

sample of production-line workers in a large industrial firm is analysed using the proposed procedures.

Keywords:

generalized likelihood ratio test | invariant test | monotone likelihood ratio | shortest-width confidence interval | two-parameter Pareto model | uniformly most powerful test

Acknowledgements

The authors are grateful to anonymous referees and the associate editor for their useful suggestions and comments on an earlier version of this manuscript, which resulted in a substantial improvement of this manuscript.

Related research

People also read | Recommended articles | Cited by 10

Issues in Pareto analysis and their resolution

Ashok Sarkar et al.
Total Quality Management & Business Excellence
Published online: 16 Aug 2012

Information for

Authors

R&D professionals

Editors

Librarians

Societies

Open access

Overview

Open journals

Open Select

Dove Medical Press

F1000Research

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Help and information

Help and contact

Newsroom

All journals

Books

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2026 Informa UK Limited Privacy policy

Cookies Terms & conditions Accessibility

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG

Taylor & Francis by informa