



Statistics >

A Journal of Theoretical and Applied Statistics

Volume 47, 2013 - [Issue 5](#)

360 | 9 | 0
Views | CrossRef citations to date | 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
Economics, Finance,
Business & Industry 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 9

Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

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 © 2025 Informa UK Limited [Privacy policy](#) [Cookies](#) [Terms & conditions](#)

[Accessibility](#)

 Taylor and Francis Group

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