MLE and the Estimated Expected Test Time for

Pareto Distribution under Progressive Censoring Data

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Abstract

This study considers the estimation of two-parameter Pareto distribution under Type II progressive censoring with random removals, where the number of units removed at each failure time follows a binomial or a uniform distribution. The maximum likelihood estimators of two parameters are derived. The expected test time to complete the censoring test is computed and analyzed for different censoring schemes. For binomial removals, the effect of various p on the expected test time under progressive censoring and the relative expected test time over the complete sample (REET1) are investigated in this article. For random removals (PCR), the expected test time is computed and the relative expected test time over the complete sample (REET2) are also investigated.

Keywords: Pareto Distribution, Type II Censoring, Progressive Censoring, Binomial Removals; Random Removals, Expected Test Time.