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KEY WORD: LOSS DISTRIBUTIONS / LEFT AND RIGHT TRUNCATED / GROUP DATA

TOSAPORN TALANGTAM: A COMPARISON OF PARAMETER ESTIMATION FOR LOSS DISTRIBUTIONS WITH LEFT AND RIGHT TRUNCATED GROUP DATA.

THESIS ADVISOR : ASST.PROF.CAPT. MANOP VARAPHAUDI, 171 pp. ISBN 974-636-147-3.

The objective of this study is to compare the parameter estimations for loss distributions with left and right truncated group data by comparing RMSE (square root of mean square error). The methods of parameter estimation are Least Squares, Maximum Likelihood, and Minimum Chi-Square. The distributions are used in case of skew distribution functions. They are Weibull Distribution and Lognormal Distribution.

Sample sizes are 100, 300, 500, 700 and 1,000. Left truncated points are 1,000 and 2,000, right truncated points are 100,000, 150,000, and 200,000. Percentages of right truncated data are 5% 10% 15% 20% 25% and 30% of sample sizes. Data are obtained through simulation using Monte Carlo Technique, repeat 1,000 times.

The results of the study are as follows:

For Weibull and Lognormal Distributions, any sample size, each left truncated point, each right truncated point, and each percentage of right truncated data, the RMSE of Maximum Likelihood Method is the lowest, following by Minimum Chi-Square Method and Least-Squares Method respectively. In Weibull Distribution, the RMSE of Minimum Chi-Square and Maximum Likelihood Method are rather the same.

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