พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสีเขียวนี้เพียงแผ่นเดียว

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KEY WORD: TRUNCATED DATA / LOSS DISTRIBUTIONS / PARAMETERS ESTIMATION
URAIWAN JAROENGERATIKUN : ESTIMATION OF THE PARAMETERS OF LOSS DISTRIBUTIONS FOR TRUNCATED DATA WHEN LOSS ARE SYMMETRIC DISTRIBUITIONS, SKEW DISTRIBUTIONS, AND LONG-TAIL DISTRIBUTIONS. THESIS ADVISOR : ASST. PROF. CAPT. MANOP VARAPHAKDI, 153 pp. ISBN 974-363-201-1.

The purpose of this research is to compare the estimation of the parameters of loss distributions for left-truncated data and right-truncated data when the loss data are symmetric distributions, skew distributions, and long-tail distributions. The three methods of the estimation used in this research are Maximum Likelihood(ML), Minimum Distance(MD), and Minimum Weighted Distance(MWD). The criteria of the estimation will be considered from the values of the Root Mean Square Error(RMSE) of the parameters. The loss distributions are Normal Distribution, Lognormal Distribution, and Logistic Distribution. Left-truncated points are 1,000, 2,000, and 3,000, right-truncated points are 130,000, 140,000, and 150,000, sample sizes are 10, 30, 50, and 70, and the percentages of the right-truncated data are 10%, 20%, and 30%. The data of this experiment are generated through the Monte-Carlo simulation technique. The experiment are repeated 1,000 times under each condition.

The results of this research can be summarized as follows :

Under the Normal Distribution, Lognormal Distribution, and Logistic Distribution, the results of the estimation are the same.

For all truncated points, sample size is 10, and the percentages of the right-truncated data are 10% and 20%, RMSE of the MD method is the lowest, following by ML and MWD method respectively.

For all truncated points, sample size is 10, and the percentages of the right-truncated data is 30%, RMSE of the MD method is the lowest, following by MWD and ML method respectively.

For all truncated points, sample sizes are 30, 50, and 70, and the percentage of the right-truncated data is 10%, RMSE of the ML method is the lowest, following by MD and MWD method in sample size of 30, and following by MWD and MD method in sample sizes of 50 and 70.

And for all truncated points, sample sizes are 30, 50, and 70, and the percentages of the right-truncated data are 20% and 30%, RMSE of the MWD method is the lowest, following by MD and ML method respectively.

The effective factor to the RMSE value, when the percentages of the right-truncated data increase, RMSE of the three methods increase the trend, for all sample size.

ภาควิชา สถิติ ลายมือชื่อนิสิต อุไรวรรณ เจริญกิจการกุล

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