Sirirat Chiangjong 2006: A Comparative Study of Simple Linear Regression Estimation Methods with Non–Normality Error.
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The purpose of this study is to compare the four simple linear regression estimation methods, the Least square method, the Least absolute deviations regression, the M regression and Nonparametric regression using the ranks of numbers when error distribution is nonnormal. The criterion using to compare the regression line are mean square error (MSE) and mean absolute deviation (MAD). The most efficient regression line has the lowest value of MSE and MAD.

Simulation studies show that :

1. The Least absolute deviations regression is the most efficient when error distribution is lognormal. The value of MSE and MAD increase when the value of parameter σ increase.

2. The M regression is the most efficient when error distribution is beta. The value of MSE and MAD tend to lower down when the value of α increase. The value of $\beta = 3$ provides higher MSE and MAD when the value of $\beta =$ 1 and 5.

3. Nonparametric regression using the ranks of numbers is the most efficient when error distribution is weibull. The value of $\alpha = 2$ and 5 provide higher MSE and MAD when the value of $\alpha = 3$ and the value of $\beta = 1$ provides higher MSE and MAD when the value of $\alpha = 0.5$ and 3.

4. The sample size has no effect on MSE and MAD.

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