

Piyawan Thukaeow 2009: Comparison on Homogeneity Test of Variances. Master of Science (Statistics), Major Field: Statistics, Department of Statistics. Thesis Advisor: Associate Professor Chirash Sukhagate, M.S. 161 pages.

The objective of this research was to comparison on homogeneity test of variances. When sample sizes are equal and unequal by considering 4 and 5 populations under Normal distribution Double Exponential distribution (Normal)² distribution and (Double Exponential)² distribution. Using T_3 's test Neyman-Pearson's test Layard χ^2 's test Levene's test and O'Brien's test in this research by considering the capability to control type I error based on the Cochran limit and power of the test by fix difference variance ratio with significance levels 0.01 and 0.05. The data were simulated by using the Monte Carlo technique total 252 case and each case was replicated 1,000 times. Results of the research were as follows :

For Normal distribution T_3 's test could control of type I error and had highest power of the test. For Double Exponential distribution when sample sizes are equal, Layard χ^2 's test could control of type I error and had highest power of the test but if sample sizes that unequal O'Brien's test could control of type I error and had highest power of the test. For (Normal)² distribution and (Double Exponential)² distribution was asymmetric, O'Brien's test could control of type I error and had highest power of the test.

Student's signature

Thesis Advisor's signature

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