

Thanapanang Rachokarn 2010: A Comparison of Nonparametric Methods for Testing Homogeneity of Variance. Master of Science (Statistics), Major Field: Statistics, Department of Statistics. Thesis Advisor: Mrs. Ampai Thongteeraparp, Ph.D. 176 pages.

The purpose of this research is to compare the powers of nonparametric methods for testing homogeneity of variance of two populations using Bootstrap-t method, Percentile Bootstrap method, the BC Bootstrap method and the BCa Bootstrap method. The studies data are composed of normal distribution, t-distribution, exponential distribution and beta distribution. The sample sizes are 10, 20, 50, 100, 200, 500, 1,000, 2,000 and 5,000. The specified significance levels are 0.01, 0.05 and 0.10. The data are simulated by using software: R Project. Each case is repeated 1,000 and 2,000 times. The studies show that for the normal distribution Percentile Bootstrap method can control type I error and has the highest power of the test. For t-distribution, the BC Bootstrap method can control type I error and has the highest power of the test. For exponential and beta distribution, the BCa Bootstrap method can control type I error and has the highest power of the test.

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Thesis Advisor's signature