

SUMMARY

Pervaiz (1995) obtained asymptotically robust tests for homogeneity of variances; i.e. standard error, grouping and jackknife, for clusters samples from finite populations consisting on separate clusters by adopting the super-population approach with unrestrictive assumptions. The test statistics were extended for stratified cluster samples as well.

In this thesis asymptotically robust tests are modified under simple random sampling design. Empirical study is conducted to analyze size and power properties of asymptotically robust tests for normal and nonnormal distributions. Comparisons are made with size and power properties of F, Bartlett, Likelihood ratio and Cochran's test.

An empirical study of size and power properties of the homogeneity tests for normal and non-normal distributions under simple random sampling design reveal that the asymptotically robust tests maintained very good nominal levels with respect to size for normal as well as nonnormal distributions. Standard error test showed better performance with respect to power with small samples and equally better with large samples. Grouping and jackknife test showed better performance with large samples and variance ratios.