Likelihood Ratio Test for Covariance Matrix under the matric-variate t distribution

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Abstract

In many applied fields such as, for example, macro and financial economics the distribution of variables is skewed and heavy tailed. Multivariate t-distribution assumption provides a better solutions than multivariate normality when variables are heavy tailed. In the multivariate normal case uncorrelated observations are independent which is not the case for any other distribution. In this talk matric-variate t distribution under the assumption of uncorrelated observations (instead of independent) is considered.

The likelihood ratio test is proposed and its distributional properties are verified under the null hypothesis with fully precised covariance matrix or precised up to the constant.

Keywords

Matric-variate t distribution, Hypothesis testing, Likelihood Ratio Test

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