Growth curve model with compound symmetry structure

Veronika Kopčová, Ivan Žežula, and <u>Daniel Klein</u>

P. J. Šafárik University, Košice, Slovakia

Abstract

Testing in the growth curve model (GCM) will be considered. As the number of variance-covariance parameters grows very quickly with the dimension, special variance structures with reduced number of parameters are intensively studied in recent years. One of the simplest structures of the variance matrix is the compound symmetry structure which is characterized by just two parameters regardless of the dimension. Khatri developed likelihood ratio test procedure for testing presence of this structure in GCM in 1973. Recently it was proposed other alternative based on the spectral decomposition. We compare these tests and we also derived simultaneous test of specific mean of the model and compound symmetry structure.

Keywords

Growth curve model, Compound symmetry structure, Simultaneous test of mean and compound symmetry structure.

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