Editorial

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The journal *Advances in Data Analysis and Classification* (ADAC) publishes herewith its fifth volume and is meanwhile contained in the most essential bibliographic databases worldwide. The current issue 1/2011 contains four articles: two of them starting from problems in economics and finance and dealing with robust estimation and outlier detection, one on constrained principal component analysis and biplots, and one on a fast algorithm for analyzing asymmetric square data tables by GIPSCAL.

The paper by *Luigi Grossi* and *Fabrizio Laurini* on ‘Robust estimation of efficient mean-variance frontiers in finance’ suggests a new robust approach to optimal portfolio selection. The best known method for optimal allocation is the Markowitz mean-variance approach, which, however is not robust to the presence of extreme observations. This issue is addressed by the authors who propose to replace maximum likelihood estimation (MLE) with a robust weighted estimation approach based on the forward search (FWD). After a discussion of the main steps of this new approach, an extensive Monte Carlo simulation is carried out where the performance of FWD is compared to that of MLE and other competing robust approaches. Both simulations and an application to real financial portfolio data show the advantages of the suggested estimation procedure.

The second paper, presented by *Kodai Adachi*, deals with ‘Constrained principal component analysis of standardized data for biplots with unit-length variable vectors’. This technique modifies classical principal component analysis insofar as, in the corresponding biplot, the displayed (projected) variable vectors must have unit length [unit-length vector analysis (UVA)]. While this idea has been proposed by some authors already before, the innovative part of the paper consists in designing a fast algorithm for finding the optimum UVA solutions, to discuss its properties, and to illustrate the advantage of UVA-based biplots, also by simulations and real-data examples (for rating data and journal preference data).

The paper by *Valentin Todorov*, *Matthias Templ*, and *Peter Filzmoser* is devoted to the ‘Detection of multivariate outliers in business survey data with incomplete information’. This paper addresses a quite common problem in business surveys given that

the presence of missing values is more a rule there than an exception. After a review of the available multivariate outlier detection methods which can cope with incomplete data, the authors compare several approaches in a simulation study based on real-life sample survey data.

Finally, *Sébastien Loisel* and *Yoshio Takane* consider generalized GIPSCAL, i.e., a model for the analysis of square asymmetric data tables that allows a spatial representation of the asymmetric relationships among ‘objects’. In their paper ‘Generalized GIPSCAL re-visited: a fast convergent algorithm with acceleration by the minimal polynomial extrapolation’ they present a new and fast algorithm for solving the related optimality problems and compare its computational speed with Trendafilov’s algorithm. The algorithm can be applied to various extensions and modifications of the GIPSCAL model including, e.g., three-way data tables.

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