

INTRODUCTION

The current issue of *Folia Oeconomica* covers the broad area of multivariate statistical analysis, presenting topics of parametric and nonparametric statistical inference, discriminant and factor analysis and innovative applications of statistics theory. Scientific problems considered in the Volume result from papers presented and discussed at the 33rd Scientific Conference on Multivariate Statistical Analysis MSA 2014, which was organized by the Department of Statistical Methods, University of Lodz, the Polish Statistical Association in Lodz and the Committee on Statistics and Econometrics of Polish Academy of Sciences on November 17–19, 2014.

The first section explores the area of discriminant and factor analysis. The new method based on the metaheuristic strategy tabu search is presented as an alternative to classic stepwise discriminant analysis. Then feature selection methods are discussed in the context of chessboard-like structure in the data with numerous irrelevant variables. Finally the use of the Likert rating scale in the process of factor extraction in exploratory factor analysis is investigated.

The second section compares properties and investigates applications of statistical estimators and tests. Permutation tests are proposed for detecting changes in trend. Within the area of estimation methods, the means for estimating the ROC (Receiver Operating Characteristic) curve are discussed as well as competing VaR estimation methods are compared. The articles investigate both parametric and nonparametric estimation procedures.

The third section is dedicated to applications of statistical methods. The problem of determining the chemical balance weighing designs satisfying the criterion of D-optimality is examined. Shifting to the applications of statistical methods in economy, the effect of a professional effectiveness enhancing programme on unemployment spells is evaluated.

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