

## INTRODUCTION

The current issue of *Folia Oeconomica* presents a wide range of topics in the area of methods of multivariate statistics and their innovative applications. The research problems presented in this volume were discussed during XXXIV international conference on Multivariate Statistical Analysis, WAS 2015, which was organized by the Department of Statistical Methods of the University of Łódź (UŁ), Institute of Statistics and Demography UŁ, Polish Statistical Society (PTS) and the Committee for Statistics and Econometrics of the Polish Academy of Sciences (PAN).

The first chapter provides the reader with an introduction to the area of statistical analysis by presenting profiles of Polish statisticians against historical background. Tadeusz Gerstenkorn presents an article to commemorate the 110 anniversary of birth of Włodzimierz Krysiński – the mathematician who mainly studied the theory of probability and statistics. Czesław Domański describes in his paper the life and scientific achievements of Stanisław Staszic – a sympathizer of Łódź.

The second part of the publication covers the area of the theory of probability and statistical inference. Grzegorz Kończak and Angelina Rajda-Tasior in the paper on *Monitoring of complex multivariate processes* present the method related to the permutation test. Alina Jędrzejczak and Jan Kubacki examine in their article an application of the estimation method for small areas using the empirical best linear unbiased predictor (EBLUP) based on the Rao-Yu model with time-related autocorrelation. Artur Zaborski discussed two methods of dynamic scaling to examine changes in preferences. In the first method the location of the points on the perceptual map is made on the basis of the super-dissimilarity matrix. The second method involves multidimensional scaling for respective periods and the obtained configurations are matched with transformations preserving the proportions of distances between points. The final article of this section presented by Dorota Rozmus, compares the accuracy of probabilistic distance and the aggregated approach in taxonomy.

Part three presents papers dealing with practical applications of statistical methods. A new method of constructing D-optimal chemical balance weighing design and a list of proposed experiment plans is discussed by Bronisław Ceranka and Małgorzata Graczyk. The next author Aneta Ptak-Chmielewska offers an assessment of the most frequently applied statistical methods and

points out the advantages and drawbacks of various approaches to rating model construction. She underlines the possibility of using statistical models for credit risk assessment. Anna Szymańska proposes methods of estimation of net premium rates in the groups of the motor hull liability insurance portfolio of individuals created by the age of the insured. For premium estimation one of the maximum likelihood models, the so called Bülmann-Straub model, is used. The aim of the paper by Małgorzata Misztal is to arrange notions and terminology related to ordination and to point at application possibilities of ordination methods in social research, using an example of the analysis of results of parliamentary elections in 2015.

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