INTRODUCTION

The volume comprises articles presented at "The 28th International Conference on Multivariate Statistical Analysis". The papers present the latest theoretical achievements in the field of the multivariate statistical analysis and its applications. The scientific conference program covered most of the statistical problems, such as multivariate distributions, multivariate statistical tests, nonparametric inference, factor analysis, cluster analysis, Bayesian inference, multivariate Monte Carlo analysis, data mining, robust procedures, pattern recognition and applications of multivariate methods in marketing, finance, insurance, capital markets and risk management.

The articles have been divided in the following thematic sections: The History of Polish Statistics, Estimation and Regression Analysis, The Theory of the Probability and Statistical Tests, Classification Methods, Time Series Analysis, Applications of Statistical Methods and Other Topics, and The Statistical Analysis in Economic.

Section I is devoted two Polish statistics. This section includes the following articles: Czesław Domański, *Ludwik Krzywicki (1859–1941)* and Mirosław Krzyśko, *Stanisław Marcin Ulam (1909–1984).*

The papers presented in second thematic group deal with estimation and regression analysis. This section includes the following works: Daniel Kosiorowski – *Depth based strategies to robust estimation of arima parameters*, Anna Szymańska – *The influence of sample size on the estimation of net premiums and net premiums' size in civil responsibility car insurance*, Janusz L. Wywiał – *Simulation analysis of accuracy estimation of population mean on the basis of regression type strategy dependent on order statistic of auxiliary variable,* Anna Witaszczyk – *Estimation of the Stieltjes transform of the normalized spectral function of covariance matrices.*

Next section is devoted to the theory of the probability and statistical tests. The mentioned issues are discussed in the following papers: Janusz Kupczun – *The role of probability theory and statistics in methodology of the exact sciences. Part 1 and 2*, Tomasz Jurkiewicz, Ewa Wycinka – *Significance tests of differences between two crossing survival curves for small samples*, Grzegorz Kończak – *On monitoring the average level of the process based on the sequence of permutation tests*, Grażyna Trzpiot – *Some tests for quantile regression models*, Grażyna Trzpiot, Justyna Majewska – *Testing for tail independence* *in extreme value models – application on polish stock exchange*, Wiesław Wagner – *Characteristics of bivariate binomial distribution.*

The papers presented in Section IV deal with classification methods – the list of the papers is the following: Jerzy Korzeniewski – *An entropy based non-wrapper approach for choosing variables in cluster analysis*, Mariusz Kubus – *The influence of irrelevant variables on classification error in rules induction*, Dorota Rozmus – *Comparison of stability of algorithms in classical and ensemble approach in taxonomy*, Aleksander Suseł – *Multiple classification analysis, theory and application to Demography*, Ewa Witek – *The comparison of model-based clustering with heuristic clustering methods.*

The papers from the Section V, which is devoted to the time series analysis, applications of statistical methods and other topics, are the following: Jacek Białek – *A proposal of an aggregate index of labour productivity*, Katarzyna Bolonek-Lasoń – *Log-periodicity and dynamics of Open Pension Funds*, Bronisław Ceranka, Małgorzata Graczyk – *Some notes about singular two pan designs*, Wiesław Dziubdziela, Michał Stachura, Barbara Wodecka – *Extreme value index of left and right tails for financial time series*, Aleksandra Fijałkowska – *Non-random errors in opinion polls*, Małgorzata Graczyk – *Balanced bipartite weighing designs leading to regular D-optimal spring balance weighing designs*, Marcin Hławka, Maciej Kawecki – *Model selection criteria for reduced rank multivariate time series with application in identification of periodic components*, Tomasz Jurkiewicz – *Multidimensional smoothing in tables of fertility rates*, Andrzej Mantaj – *Multivariate analysis in 3x3 type table*, Dorota Mierzyńska – *Socioeconomic well-being – soft model*, Artur Mikulec – *Statistical analysis of efficiency of the pension system in EU and EFTA countries*, Dorota Perło – S*ustainable development in the regional dimension – soft model*, Agnieszka Pietrzak – *The comparison on determination methods of loss distribution in credit portfolio in CreditRisk+ model*, Wiesław Wagner, Andrzej Mantaj – *Remarks on the scheme of simple sampling with replacement*, Tomasz Żądło – *On some practical issues in prediction of domain mean and fraction.*

The last of sections deal with applications of statistical methods in economic. The works of this section are as follows: Aleksandra Baszczyńska, Dorota Pekasiewicz – *The estimation of the corruption perception index*, Beata Jackowska, Ewa Wyc*inka – An analysis of job seniority among unemployed. Application of model*, Przemysław Jeziorski, Sebastian Twaróg – *Determinants of supply chains of blood in Poland,* Damian Gajda, Tomasz Jurkiewicz – *Innovations and usage of new technologies in Polish small and medium-sized enterprises. Results of a sample survey*, Monika Zielińska-Sitkiewicz – *Analysis of real estate market based on balance sheet data of major developers in Poland.*

Czesław Domański, Monika Zielińska-Sitkiewicz