INTRODUCTION

The set of papers we would like to present is the result of the 17^{th} International Conference on Multivariate Statistical Analysis organized by Institute of Statistical Methods, University of Lodz and Polish Statistical Association. The conference was held in the period 30 November – 1 December 1998 in Lodz. The scope of subjects discussed during the conference was very wide – from the latest theoretical achievements in mathematical statistics to their applications in various disciplines: finance, insurance and risk theory. The major stress has always been put on statistical methods.

The selected papers have been grouped into three thematic sections:

1. Statistical Methods.

2. Statistical Inference.

3. Application of Statistical Methods.

The first paper devoted to the problems of statistical models, entitled "Classification into Two Populations for Time Dependent Observations" was proposed by Mirosław Krzyśko and Waldemar Wołyński. The authors studied the optimal classification rules based on linear functions which maximize area under the relative operating characteristic curve or which maximize the chosen probabilistic distance between two populations. It has been shown that the resulting procedure belongs to the Anderson-Bahadur admissible class and the expression for the optimal linear discriminate function has been presented.

Bronisław Ceranka and Krystyna Katulska in their paper "Analysis of Variance with Time Series Data" considered the likelihood-ratio criteria testing the hypothesis of equality of the group means, under the assumption that there is a random effect for each individual and the successive observations on each individual follow AR model.

The next paper by Krystyna Pruska entitled "Bootstrap Distribution of OLS-Estimators for Linear Regression Models" focused on the results of simulation experiments for linear models with errors which have normal, student or uniform distribution.

Andrzej Grzybowski in the paper "On Uncertainty Classes and Minimax Estimation in the Linear Regression Models with Heteroscedasticity and Correlated Errors" proposed two models of the uncertainty knowledge (the so called uncertainty classes). The first one may represent the problem of estimation for heteroscedastic model, the other may reflect the uncertainty connected with the presence of correlation among errors. Minimax estimators were obtained and some numerical examples were discussed as well.

The last paper in this section: "Evaluation of the Probability Content as an Infinite Linear Combination of Wishart Distributions" by Helena Jelenkowska was concerned with the problem of getting unified estimators as the conditional posterior means of multivariate inverted matrics of Dirichled distribution.

Grzegorz Malinowski in the paper "Logical Many-Valuedness Versus Probability" presents and discusses the most direct issues on relation between logical many – valuedness and logical probability i.e. the probability related to proposition.

The next section entitled "Statistical Inference" starts with the contribution of Janusz Wywiał: "Estimation of Mode on the Basis of a Truncated Sample". The author presents the problem of estimation of the mode of a continuous distribution function. Moreover, the accuracy of the mode estimation is studied on the basis of computer simulation.

Grażyna Trzpiot in the paper "Multivalued Stop-Loss Stochastic Dominance Test" discussed the problem of procedures used to identify the class of decision alternatives in the case of multivalued probability distributions.

The next paper entitled "Sample Breakdown Points of the Wilcoxon and Sign Tests for Location" by Jerzy Korzeniewski was concerned with the numerical values of the breakdown points of the Wilcoxon and sign tests for location for the normal distribution.

The next section was devoted to the "Application of Statistical Methods" and it consists of six papers concerning different economic and biological problems.

The first paper "On Unemployment Investigation in Small Areas" by Czesław Domański and Krystyna Pruska presents the methods of small area statistics which can be applied to investigate the phenomenon of unemployment in a given subpopulation depending on sampling and additional information about the population.

Czesław Domański and Jarosław Kondrasiuk in the paper "Implementing of Analytic Hierarchy Process in Banking" used AHP methods to assign deposit and bank interest rates.

Zofia Hanusz in the paper "Relative Potency for the Multivariable Contaminated Normal Responses" considered the impact of the responses from contaminated normal distribution on the relative potency. The paper "Model of Connection Between Inflation and Interest Rate Based on the Polish Financial Market" by Stefania Ginalska and Beata Skowron-Grabowska focused on some empirical models of financial markets based on Frankel exchange rates.

Iwona Nowakowska in the presentation "The Production Analysis by Dual Dynamic Programming" considered the concept of duality theory for dynamic production process with constraints i.e. production process described by nonconvex dynamic mathematical models.

The paper entitled "On the Average Return Rate for a Group of Investment Funds" by Lesław Gajek and Marek Kałuszka was concerned with the definition of the average return rate which is derived via integration of the financial results of the group of funds during a given period of time.

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