

Report from the XXXVIII Conference on Multivariate Statistical Analysis

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The 38th edition of the scientific conference on Multivariate Statistical Analysis 2019 (MSA 2019) was held on November 4–6, 2019 in Łódź, Poland. The conference was organized by the Department of Statistical Methods of the University of Łódź, the Institute of Statistics and Demography of the University of Łódź and the Committee on Statistics and Econometrics of the Polish Academy of Sciences, and was co-financed from the fund for popularization of scientific activities of the Minister of Science and Higher Education (in accordance with the agreement No 712/P-DUN/202019). The Organizing Committee was presided over by prof. Czesław Domański, while prof. Aleksandra Baszczyńska and Katarzyna Bolonek-Lasoń served as scientific secretaries of the conference.

Conference themes included multivariate distributions, statistical tests, non-parametric inference, factor analysis, cluster analysis, discrimination analysis, Bayesian methods, stochastic analysis and application of statistical methods in finance, economy, capital market and risk management.

The conference was attended by 72 participants from the following universities and research institutes: Adam Mickiewicz University in Poznań, Poznań University of Economics and Business, Wrocław University of Economics and Business, Cracow University of Economics, University of Gdańsk, University of Economics in Katowice, University of Łódź, Warsaw University of Technology, University of Szczecin, University of Information Technology and Management in Rzeszów, Warsaw School of Economics, Warsaw University of Life Sciences, The Pomeranian University in Słupsk, Poznań University of Life Sciences, University of Milan-Bicocca, University of Hagen, Statistics Poland, Statistical Office in Poznań and Statistical Office in Łódź. During the conference 42 papers were presented in 15 plenary and parallel sessions.

The opening addresses were delivered by prof. Czesław Domański, prof. Antoni Różalski, Rector of the University of Łódź, and prof. Michał Przybyliński, Vice Dean of the Faculty of Economics and Sociology of the University of Łódź.

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The sessions devoted to the memory of distinguished representatives of the statistical thought recalled Jakub Kazimierz Haur, who was portrayed by prof. Czesław Domański, Marcin Kromer, whose achievements were presented by prof. Jerzy T. Kowaleski, as well as more contemporary, eminent statisticians: prof. Krystyna Katulska, prof. Mirosław Krzysztofiak, prof. Józef Kolonko, prof. Stanisław Wydymus and prof. Michał Major.

The subsequent sessions were chaired by prof. Czesław Domański, prof. Marek Walesiak, prof. Iwona Markowicz, prof. Wojciech Gamrot, prof. Wojciech Zieliński, prof. Alina Jędrzejczak, prof. Grzegorz Kończak, prof. Tomasz Żądło, prof. Grażyna Dehnel, prof. Grażyna Trzpiot, prof. Andrzej Dudek, and prof. Andrzej Bąk.

The following papers were presented at the conference:

- Andrzej Bąk: *Methods of imputation of missing data using the R program on the example of the Local Data Bank*;
- Maciej Beręsewicz and Katarzyna Zadroga, *Estimation of the number of illegally residing foreigners in Poland in 2017–2018 using Bayesian non-linear mixed count regression models*;
- Michał Bernardelli: *Identification of turning points in time series from the cryptocurrency market*;
- Jacek Białek: *Chain drift problem in the CPI measurement based on scanner data*;
- Beata Bieszk-Stolorz: *Selected models of recurrent events in the assessment of the risk of re-registration in the labour office*;
- Katarzyna Budny, *Multivariate Chebyshev's inequality – some bounds on the probability of a random vector taking values in the Euclidean ball*;
- Second Bwanakare and Marek Cierpiat-Wolan: *Generalised Cross-Entropy Econometrics vs conflicting cross-border (Big) data sources. National accounts updating*;
- Grażyna Dehnel and Marek Walesiak: *An assessment of social cohesion of Poland's provinces based on classic and interval-valued data*;
- Anna Denkowska and Stanisław Wanat: *Linkages and systemic risk in the European insurances sector: Some new evidence based on dynamic spanning trees*;
- Czesław Domański: *Some remarks about normality tests based on characteristics of stochastic processes*;
- Józef Dziechciarz and Marta Dziechciarz-Duda: *Selected aspects of households' well-being measurement*;
- Wojciech Gamrot: *Skala Likerta i współczynnik regresji (The Likert scale and the slope of regression)*;
- Małgorzata Graczyk and Bronisław Ceranka: *Some remarks about highly D-efficient spring balance weighing designs*;

- Małgorzata Graczyk and Bronisław Ceranka: *New results regarding the construction method of D-optimal chemical balance weighing designs;*
- Francesca Greselin, Andrea Cappozzo and Thomas Brendan Murphy: *Advances in learning from contaminated datasets;*
- Wioletta Grzenda: *Bayesian multinomial logit models for disordered categories in the analysis of the situation of young people in the labour market in Poland;*
- Stanisław Jaworski: *Some remarks about estimation of Polish unemployment rate;*
- Alina Jędrzejczak and Kamila Trzcińska: *Application of the Zenga Distribution to the analysis of household income in Poland by socio-economic group;*
- Adam Juszczyk: *Application of web-scraping in inflation measurement;*
- Grzegorz Kończak: *On permutation multivariate extension of McNemar test;*
- Jerzy Korzeniewski: *Determining semantic relatedness of concepts – modifications proposals;*
- Małgorzata Krzciuk: *On EBLUP under some linear mixed model with correlated random effects;*
- Mirosław Krzyśko, Waldemar Wołyński, Waldemar Ratajczak and Anna Kierczyńska: *Kernel discriminant coordinates in the case of geographically weighted temporal-spatial data with variable selection;*
- Marta Małecka: *Asymptotic Properties of Duration-Based VaR Backtests;*
- Iwona Markowicz and Paweł Baran: *Divergences in intra-Community trade: the case of Poland;*
- Hans-Joachim Mittag: *A new virtual library containing interactive learning objects for statistics education;*
- Dominika Polko-Zajac: *On permutation tests for comparing multidimensional populations;*
- Aneta Ptak-Chmielewska: *Application of multidimensional classification to prediction of SME;*
- Elżbieta Roszko-Wójtowicz and Maria M. Grzelak: *Innovation activities and competitiveness of manufacturing divisions in Poland in the years 2009–2017;*
- Dominik Sieradzki and Wojciech Zieliński: *Sample allocation in estimation of proportion in finite populations;*
- Tomasz Stachurski: *On methods of median inference based on an estimator of the distribution function;*
- Agnieszka Stanimir: *Multivariate statistical methods in the analysis of multiple responses questions;*
- Piotr Sulewski: *Recognizing distributions rather than goodness-of-fit testing;*
- Krzysztof Szymoniak-Książek: *Properties of nonparametric isotropy tests;*
- Grażyna Trzpiot: *Seniors in cities and senior friendly cities analysis for selected Polish cities;*
- Łukasz Wawrowski: *Impact of dependent variable transformation on poverty rate estimates in poviats;*
- Jacek Wesołowski: *Optimal sample allocation in stratified sampling schemes - linear algebra methods and algorithms;*

- Ewa Wycinka and Beata Jackowska: *Competing risks models in estimation of companies life time*;
- Janusz L. Wywił and Grzegorz Sitek: *On variance of sample matrix eigenvalue*;
- Artur Zaborski: *Triads or tetrads? Comparison of incomplete methods for measuring similarity in preferences*;
- Łukasz Ziarko: *On the possibility of using association analysis to describe the behaviour of contractors in public tenders*;
- Tomasz Żądło: *On generalization of Quatember's bootstrap*.

The next MSA conference is scheduled for November 16–18, 2020 in Łódź, Poland.

More information about the conference is available at www.msa.uni.lodz.pl.