APPLICATIONS OF MATHEMATICS AND STATISTICS IN ECONOMY

The 11th International Scientific Conference

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The 11th international conference Applications of Mathematics and Statistics in Economy (AMSE) 2008 was organized by Department of Statistics of Wrocław University of Economics and it was held in Wisła, 28-29 August 2008. This conference is alternately organized by the Department of Statistics and Probability of the Faculty of Informatics and Statistics of Economic University in Prague, the Czech Republic, the Department of Quantitative Methods and Informatics of the Faculty of Economics, Matej Bel University in Banska Bystrica, the Slovak Republic and by the Department of Statistics of Wrocław University of Economics, Poland. The presentation of latest knowledge and applications of mathematics and statistics in economy and scientific results of participants from these universities were the main purpose of these conferences. The first such conference was held in Liptovsky Trnovec, the Slovac Republic in 1998. The initiator of the idea of AMSE was Professor M. Abraham from Matej Bel University.

There were the 19 contributions in 6 session at the 11th conference AMSE 2008. The contribution *Fluctuations in a Two-Regional Model with Fixed Exchange Rates* presented by R. Zimka and P. Malicky opened this conference. They investigated the two-regional nonlinear macrodynamic model done by Asada. The question of the existence of business cycles and tori in this model was solved. The paper *Increasing Level of Education in Selected Central European Countries: a Certain Advantage?* which was presented by P. Mazouch, S. Finardi and J. Fischer gave the comparison of the trends in tertiary education systems in the Chech Republic, Slovakia and Poland in the context of the general demographic trends in these countries. C. Kozyra in the contribution *Health-Oriented Lifestyle Research* presented the results of survey research of such issues: the awareness of influence of lifestyle on health and the assessment of practiced lifestyle. The presentation *Error Correction Models and Real Convergen-*

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ce – Case of Slovakia R. Gavliak, V. Uradnicek and E. Zimkova was devoted to the accession of the Slovak Republic to the Economic and Monetary Union. The authors investigated error correction models and convergence of the real economy to most advanced EU countries.

D. Blatna in contribution *European Countries Analysis using Robust Regression Methods* analyzed the dependences between the general economic background of European countries using the robust regression methods, which regards the presence of outliers. The paper *Modelling of Volatility at Czech Financial Markets* was devoted to analysis Czech capital market and exchange rates time series. The author applied the GARCH models to this end. P. Zavodsky in his paper *Foundations of Statistical Description of "Austrian" Silesia* concentrated on the statistical and topographic description of the "Astrian" part of Silesia done by R. Kneifel in the late of XVIII and early XIX century. The two versions of Hartwick's rule were treated and compared in the contribution *On Two Version of the Hartwick's Rule in an Exhaustible resource model* done by A. Dekret. These versions were compared both in the control and in the optimal control model with conditions of competivity and equity.

M. Kulesza in the paper *Aspects of Polish Entrepreneurship* presented characteristics of the Polish enterprises, their innovativeness and their environment. The place of Poland in international rankings of competitiveness were also analyzed. The contribution *Influence of Seasonality on Accommodation Facilities' Capacity Planning* was concerning seasonality in tourism, especially in accommodation facilities. The author P. Laco presented measures to reduce negative effects of seasonality on accommodation facilities' capacity usage.

The paper *Application the IRT Models with External and Internal Factors to Statistical Inference with Missing Data* presented by B. Zmyślona gave the examples of application of the item response theory to model the missing data mechanism and used latent variables to model the response propensity. In the contribution *Evolutionary Procedures in Analysis of Time series with missing data* A. Romowicz used the evolutionary procedures to make good forecast based on time series without filling up missing information. The presentation *The Capital Asset Pricing Model Overvied* done by M. Boda and M. Kanderova focused upon CAPM and discussed its appropriateness, with special attention being given to stability of its parameters over time.

S. Heilpern in his paper *Processes with Dependent Risks* concentrated on the risk processes when the assumption of the independence is omitted. These processes were investigated from ruin theory point of view. In the

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presentation *How to Transfer Between Different Quality Measures of Classification Models* author L. Hanusek gave the answer on this question. E. Mazurek and M. Kośny in the paper *Measuring Inequity in Polish Income Tax System* present a measurement system and a analysis of redistribution capability of the tax system. The author A. Wolny-Dominik in the paper *Minimum Bias Methods in A'priori Rate Making* analyzed the process a priori rating in casualty insurance with the emphasis on minimum bias methods for modeling the rating variables.

W. Ostasiewicz focused in his paper *Towards Information-based Welfare Society* on the new forms of social arrangement induced by globalization and discussed by various international organizations and institutions. The presentation *Assessment of Population Diversity and Heterogeneity* done by S. Ostasiewicz and W. Ostasiewicz is devoted to the impact of the economical inequality on the inequalities in health care. The aim of the contribution *Differentiation of HLE and Factors Influencing on HLE* which was presented by P. Ucieklak-Jeż was to answer how HLE (Healthy Life Expectancy) depended on economic development.