

CONTENTS

Part I.

	Preface	1
Jan Acedaňski	Asset pricing in DSGE models - comparison of different approximation methods	2
Tomáš Adam Jaromír Baxa	Rule-of-thumb households in the Czech Republic	8
David Bartl	Application of cooperative game solution concepts to a collusive oligopoly game	14
Jan Bartoška Tomáš Šubrt	Use of the three-point PERT estimate in Critical Chain method	20
Jitka Bartošová Vladislav Bína	Sensitivity of monetary poverty measures on the setting of parameters concerning equalization of household size	25
Jiří Benesch Hana Mihalčinová Radim Valenčík	Resolved and unresolved problems in theory of redistribution systems	31
Adam Borovička	The investment decision making under uncertainty	37
Josef Botlík Milena Botlíková	Criteria for evaluating the significance of transport infrastructure in precedence analysis	43
Milena Botlíková Josef Botlík	The usage of precedence in analysis of impact of the economic crisis for accommodation services	49
Milena Botlíková Šárka Čemerková	Analysis of factors influencing toll amount collected on the Czech roads	55
Martin Branda	Underwriting risk control in non-life insurance via generalized linear models and stochastic programming	61
Helena Brožová	AHP analysis of teacher's managerial competencies	67
Richard Cimler Eva Kautzká Kamila Olševičová Martin Gavalec	Agent-based model for comparison of aircraft boarding methods ...	73
Martin Cupal Oleg Deev Dagmar Linnertová	Network structures of the European stock markets	79

Jan Čapek	Comparison of recursive parameter estimation and non-linear filtration	85
Anna Černá Jan Černý	Note on optimal paths for non-motorized transport on the network	91
Michal Černý	A note on the choice of a sample of firms for reliable estimation of sector returns to scale	95
Ondřej Čížek	Identifiability issue in macroeconomic modelling	101
Oleg Deev Veronika Kajurová Daniel Stavárek	Stock market speculative bubbles: the case of Visegrad countries	107
Martin Dlouhý	Efficiency and resource allocation within a hierarchical organization	112
Michal Dorda Dušan Teichmann	About a modification of $E_r/E_s/1/m$ queueing system subject to breakdowns	117
Jitka Dupačová	Output analysis and stress testing for mean-variance efficient portfolios	123
Marek Dvořák	Efficient score test for change detection in vector autoregressive models	129
Peter Ďurka Silvia Pastoreková	ARIMA vs. ARIMAX – which approach is better to analyze and forecast macroeconomic time series?	136
Jan Fábry Maria Kobzareva	Multiple messenger problem	141
Eleonora Fendeková Michal Fendek	Microeconomic analysis of cartel equilibrium optimization model	148
Petr Fiala	Modeling of competition in revenue management	154
Jan Fiedor Jiří Mazurek	Optimizing permutation methods for the ordinal ranking problem	160
Martin Flégl Helena Brožová	Publication efficiency at DSI FEM CULS – an application of the Data Envelopment Analysis	166
Tomáš Formánek Roman Hušek	Monetary policy effects: comparing macroeconomic impulse responses for the Visegrad Group countries	172
Zdeněk Franěk Miloš Masařík	Quality optimization of slab casting with use of software monitoring tool and statistical methods	178
Richard Frensch Jan Hanousek Evžen Kočenda	Incomplete specialization and offshoring across Europe	184

Ludvík Friebeľ Jana Friebeľová	Quantitative evaluation of life quality of Czech districts	190
Lýdia Gábrišová Jaroslav Janáček	Polygon regular location problem	196
Zuzana Gallová	A causal relationship between foreign direct investment, economic growth and export for Central and Eastern Europe	201
Wojciech Gamrot	Simulation-assisted Horvitz-Thompson statistic and isotonic regression	207
Martin Gavalec Zuzana Němcová	Matrix period in max-drast fuzzy algebra	213
Roman Gavuliak	Relevance of the material deprivation indicator, evidence based on Slovak EU-SILC microdata	219
Nicolae Ghiba Diana Sadoveanu Anamaria Avadanei	Real exchange rate behavior in 4 CEE countries using different unit root tests under PPP paradigm	225
Agata Gluzicka Donata Kopańska- Bródka	Review of selected experiments related to the Allais paradox	231
Ladislava Grochová Petr Rozmahel	Business cycle correlation of the CEEC and the Euro area: some methodological controversy	237
David Hampel Jan Vavřina Jitka Janová	Predicting bankruptcy of companies based on the production function parameters	243
Jana Hančlová Milan Šimek Jiří Horák	Factors influencing the long-term unemployment level and development in the European Union	249
Jan Hanousek František Kopřiva	Do broker/analyst conflicts matter? Detecting evidence from internet trading platforms	255
Jelena Hartsenko Ako Sauga	Does financial support from the EU structural funds has impact on the firms' performance: evidence from Estonia	260
Simona Hašková Pavel Kolář	Determination of mutually acceptable price of used manufacturing equipment	266
Radek Hendrych	Different approaches to dynamic conditional correlation modelling: the case of European currencies	272
Tomáš Heryán	The credit market model with three parameters	278
Milan Hladík	An interval linear programming contractor	284
Robert Hlavatý	Interpretation of dual model for piecewise linear programming problem	290

Miroslav Hloušek	DSGE model with collateral constraint: estimation on Czech data	296
Jiří Hofman Ladislav Lukáš	Quantitative measuring of operational complexity of suppliercustomer system with control thresholds	302
Milan Horniaček	Collusive general equilibrium between aggregated industries	308
Michal Houda	Convexity in stochastic programming model with indicators of ecological stability	314
Tomáš Houška Jaroslav Bil	Definition of relevant market in beer industry: application of LA-AIDS model	320
Jiří Hřebíček	Mathematical modeling of economic phenomena with Maple	326
Radek Hřebík Jana Sekničková	ARIMA model selection in Matlab	332
Viktor Chrobok Miroslav Rada	Discontinuous optimization of harvesting natural resources	338
Silvie Chudárková Tomáš Verner	Relationship between human capital and economic growth: The case of Austria	344
Zuzana Chvátalová Jiří Hřebíček	Modelling of economic phenomena and dependences for corporate sustainable performance	350
Vladislav Chýna Martina Kuncová Jana Sekničková	Estimation of weights in multi-criteria decision-making optimization models	355
Kristýna Ivanková	Financial stability indicator predictability by support vector machines	361
Josef Jablonský	Data envelopment analysis models with network structure	367
Marta Janáčková Alžbeta Szendreyová	Territory decomposition parameters of distribution tasks	373
Jitka Janová Jan Vavřina David Hampel	DEA as a tool for bankruptcy assessment: the agribusiness case study	379
Filip Ježek	Mathematical methods in comparative economics	384
Jana Juriová	Influence of cyclical development of the most significant foreign-trade partners on small open economy (VAR approach)	390
Vlasta Kaňková	Empirical estimates in economic and financial problems via heavy tails	396
Zuzana Kiszová Jan Nevima	Usage of analytic hierarchy process for evaluating of regional competitiveness in case of the Czech Republic	402

Miroslav Klůčik	VAR model with current-optimal leading indicators	408
Evžen Kočenda Mathilde Maurel Gunther Schnabl	Short-term and long-term growth effects of exchange rate adjustment	414
Jan Kodera Jarmila Radová Tran Van Quang	A modification of Kaldor-Kalecki model and its analysis	420
Michal Kohání	Exact approach to the tariff zones design problem in public transport	426
Roman Kolář	Using technical analysis indicators in the terms of currency hedging	432
Pavel Kolman	Implementation of blending problem algorithm into information system	438
Miloš Kopa	Robustness and bootstrap approaches to SSD portfolio efficiency testing	443
Miloš Kopa Petr Lachout	Characterization of uniformly quasi-concave functions	449
Václav Kozmík	Multistage risk-averse asset allocation with transaction costs	455
Ondřej Krčál	An agent-based model of price flexing by chain-store retailers	461
Igor Krejčí Roman Kvasnička	Application of aging chain model on demographical data of the Czech Republic	467
Igor Krejčí Jaroslav Švasta	The impact of alternative approaches to the measurement of fixed capital	473
Michal Kreml	Allocation of trains to platforms optimization	478
Aleš Kresta	Backtesting of market risk estimation assuming various copula functions	484
Ladislav Křišťoufek	Non-stationary volatility with highly anti-persistent increments: An alternative paradigm in volatility modeling?	490
Ladislav Křišťoufek Miloslav Vošvrda	Measuring capital market efficiency with tools of statistical physics	496
Jiří Krtek	Comparing neural networks with other predictive models in artificial stock market	502
Petr Kučera	Multiple-criteria assessment of edges in vehicle routing problems ..	508
Zuzana Kučerová	The role of foreign trade in the process of financial integration: The case of European Union countries	512
Michal Kvasnička	Markets, social networks, and endogenous preferences	518

Part II.

Bohdan Linda Jana Kubanová	Bootstrap application of the Bornhuetter-Ferguson method	524
Ladislav Lukáš	Contribution to financial distress and default modeling and new 2-D aggregated model – SME case studies	530
Tomáš Machálek Kamila Olševičová Richard Cimler	Modelling population dynamics for archaeological simulations	536
Dušan Marček Alexandra Kotillová Michal Ulbricht	Managerial D-M: Measuring of risk scenes and tools of their reducing	540
Adrianna Mastalerz- Kodzis	Application of fundamental analysis methods to compare efficiency of complex portfolios consisting of values listed on stock exchange	546
Jiří Mazurek	The ordinal consensus ranking problem with uncertain rankings ...	552
Jiří Mazurek Zuzana Kiszová	Modeling dependence and feedback in ANP with fuzzy cognitive maps	558
Jan Melechovský	Evolutionary local search algorithm to solve the multi-compartment vehicle routing problem with time windows	564
Aleš Melecký Martin Melecký	Optimal allocation of government debt for the Czech Republic: Managing vulnerability of debt service charges to macroeconomic shocks	569
Lukáš Melecký Michaela Staničková	National efficiency evaluation of Visegrad countries in comparison with Austria and Germany by selected DEA models	575
Elena Mielcová	Shapley value of simple cooperative games with fuzzy coalitions applied on the real voting data	581
Hana Mihalčinová	Resource allocation among academic departments as a coalition game	587
Štěpán Mikula	Risk of abrupt changes in the property rights protection	593
Monika Molnářová Helena Myšková Ján Plavka	Efficient algorithm for checking periodicity of interval circulant fuzzy matrices	599
Monika Molnářová Helena Myšková Ján Plavka	Periodicity of interval matrices in fuzzy algebra	605
Tomáš Motl	Using nonstationary time series for estimating small open economy model with financial frictions	611

Petr Mynařík Martina Kuncová	Multi-criteria evaluation of alternatives applied to the mobile phone tariffs in comparison with Monte-Carlo simulation results	617
Helena Myšková	An algorithm for testing T5 solvability of max-plus interval systems	622
Kateřina Myšková	A simulation study on an approximate confidence region of parameters of a quadratic calibration function	628
Daniel Němec	Labour market frictions in a small open economy model of the Czech Republic	634
Pavla Nikolovová	The impact of FDI on the host economy	640
Martina Novotná	Modelling corporate bond rating with the use of market – based indicators	646
Anca-Elena Nucu	The relationship between monetary and financial stability: Evidence from Central and Eastern European countries	652
Vladěna Obrová	Construction and application of scoring models	658
Stanislav Palúch	A new (?) k-shortest path algorithm	664
Václava Pánková	Permanent income and consumption	670
Monika Papiież Sławomir Śmiech	Causality in mean and variance between returns of crude oil and metal prices, agricultural prices and financial market prices	675
Jan Pelikán	Skip pickup and delivery problem with vehicles circulation	681
Jan Pelikán Jiří Henzler	Double system parts optimization: statistic and dynamic model	686
Pavlına Pellešová	Selected econometric methods of optimization of economic policy	692
Radomir Perzina Jaroslav Ramik	DAME – Microsoft excel add-in for solving multicriteria decision problems with scenarios	697
Štefan Peško Michal Turek Richard Turek	Max-plus algebra at road transportation	703
Jakub Petrásek	Effects of heavy tails on optimal investment and consumption	709
Klára Plecítá Luboš Stěelec	Behavioral equilibrium exchange rate in Greece and Ireland	715
Jiří Polanský Jaromír Tonner Osvald Vašíček	The macro-financial linkages modelling for the Czech economy	721

Ondřej Popelka Jiří Hřebíček Michael Štencel Michal Hodinka Oldřich Trenz	Comparison of different non-statistical classification methods	727
Alena Pozdílková Richard Čimler	Usage of the external algebra in solving the travelling salesman problem	733
Pavel Pražák	Elimination of regional economic disparities as optimal control problem	739
Peter Princ Sára Bisová Adam Borovička	Forecasting financial time series	745
Jaroslav Ramík	Measuring transitivity of fuzzy pairwise comparison matrix	751
Jaroslav Ramík Milan Vlach	Fuzzy linear programming duality	757
Svetlana Ridala Ants Aasma	Consumption in the Baltic states: Myopia or liquidity constraints?	763
Michal Rusek	Possibilities of control congested intersections controlled by traffic lights	769
Jan Rydval	Quantification of framing effect using ANP	774
Iveta Řepková	Measuring the efficiency in the Czech banking industry: Data Envelopment Analysis and Malmquist index	781
Petr Sed'a	Impact of the global financial crisis on stock market volatility: evidence from Central European stock market	787
Veronika Skocdoplova	Construction of time schedules using integer goal programming ...	793
Karel Sladký	Risk-sensitive and average optimality in Markov Decision Processes	799
Lenka Slámová Lev B. Klebanov	Modeling financial returns by discrete stable distributions	805
Martin Slanicay	A proposal of flexible trend specification in DSGE models	811
Ivan Soukal Martina Hedvicakova	Classification of the electronic retail core banking market consumers	817
Jana Soukopová Jiří Kalina	Mathematical model of economics of municipal waste management	823
Rostislav Staněk	Price competition with capacity constraint and imperfect information	830

Radmila Stoklasová	Model of the unemployment rate in the Czech Republic	836
Tereza Suchánková Radka Bezděková	Crop production function - study	842
Milan Svoboda Ladislav Lukáš	Application of Markov chain analysis to trend prediction of stock indices	848
Irena Szarowská	Voracity effect and Wagner's law in the PIIGS	854
Petr Šenk Stanislav Biler	Estimation of value of travel time savings using Conditional Logit model	860
Jana Šimáková	Bilateral J-Curve between Slovakia and its major trading partners	864
Ondřej Šimpach	Faster convergence for estimates of parameters of Gompertz-Makeham function using available methods in solver MS Excel 2010	870
Irena Šindelářová	Exchange rate prediction: a wavelet-neural approach	875
Václav Školuda	Possibilities of computable general equilibrium techniques for analysis of the impact of selected government policies using the CGE of the Czech Republic	879
Roman Šperka Marek Spišák	Tobin tax introduction and risk analysis in the Java simulation	885
Dean Teneng	NIG-Levy process in asset price modeling: case of Estonian companies	891
Tomáš Tichý	Some findings about risk estimation and backtesting at the world FX rate market	897
Lubomír Toman	The use of the genetic algorithm for the upper bound calculation of the vehicle assignment problem	903
Hana Tomášková Martin Gavalec	Hankel max-min matrices and their applications	909
Filip Tošenovský	Comparison of two different approaches to stock portfolio analysis	915
Filip Tošenovský Elena Mielcová	Multivariate time-series model of GDPs of the Czech Republic and its major economic partners	921
Tran Van Quang Jarmila Radová	Managing monetary policy with fuzzy control	926
František Turnovec	Two-dimensional voting bodies: the case of European Parliament	932
Michal Tvrdoň Tomáš Verner	Regional unemployment disparities and their dynamics: evidence from the Czech Republic	938

Stanislav Tvrz Jaromír Tonner Osvald Vašíček	Financial accelerator mechanism in a small open economy: DSGE model of the Czech economy	944
Klára Václavinková Milena Botlíková Miroslava Kostková	Analysis of the impact of selected variables on the availability of accommodation facilities	950
Jiří Valecký	Fractional polynomials analysis of relation between insured accident and selected risk factors	956
Pavla Vodová	Determinants of commercial banks' liquidity in Poland	962
Petr Volf	On problem of optimization under incomplete information	968
Barbora Volná	Models of unexpected fluctuations of aggregate income or real interest rate	974
Alicja Wolny-Dominiak	Modeling of claim counts using data mining procedures R CRAN	980
Alicja Wolny-Dominiak Agnieszka Ornat-Acedańska Grażyna Trzpiot	Insurance portfolios rate making: quantile regression approach	986
Alicja Wolny-Dominiak Katarzyna Zeug-Żebro	Spatial statistics in the analysis of county budget incomes in Poland with the R CRAN	992
Joanna Wyrobek Zbigniew Stanczyk Marek Zachara	Synchronization of business cycles between Poland, the euro zone and the new member states of the European Union	998
Marek Zachara Dariusz Pałka Ewa Majchrzyk-Zachara	Agent based simulation of the selected energy commodity market	1004
František Zapletal Radek Němec	The usage of linear programming to constructing the ecologicoeconomical model for the industrial company profit optimization	1010
Jana Závacká	Constructing business cycle regime switching model for Czech economy	1016
Kateřina Zelinková	Application of methodology Value at Risk for market risk with normal mixture distribution	1021
Zdeněk Zmeškal	Modelling the sequential real options under uncertainty and vagueness (fuzzy-stochastic approach)	1027

Jan Zouhar Irena Havlová	Are fast food chains really that efficient? A case study on crew optimization	1033
Libor Žídek Daniel Němec	Impact of the real exchange rate on Czech trade	1039
Miroslav Žižka	Cluster analysis of the Liberec region municipalities	1045