Academic Curriculum Vitae

Jiri Kukacka

Contact Information

Charles University
Faculty of Social Sciences
Institute of Economic Studies
Dept. of Macroeconomics and Econometrics
Opletalova 26, CZ-110 00 Prague 1
Czech Republic
W: ies.fsv.cuni.cz/en/staff/kukacka

E: **jiri.kukacka@fsv.cuni.cz**
P: **+420 602 767 305**

Czech Academy of Sciences
Inst. of Information Theory and Automation
Dept. of Econometrics

Pod Vodarenskou vezi 4, CZ-182 08 Prague 8
Czech Republic
W: www.utia.cas.cz/people/kukacka

WoS ResearcherID: J-1974-2014
ORCID: 0000-0001-8680-2896

Current Position

Assistant Professor, Charles University & **Research Associate**, Czech Academy of Sciences

Research Interests

Financial Econometrics, Behavioral Finance and Macroeconomics, Heterogeneous Agent Models, Cryptoassets

Education

Charles University, Faculty of Social Sciences, Institute of Economic Studies

Ph.D., Economics (Financial Econometrics, Behavioral Finance) **2011–16**

- Thesis: *Estimation of Financial Agent-Based Models* (download)
- Supervisor: doc. Jozef Barunik, +420 776 259 273, barunik@fsv.cuni.cz
- Opponents: E. Gerba (LSE), L. Vacha (CAS), R. Zwinkels (VU Amsterdam)

PhDr. & Mgr. (M.Phil. & M.A. equivalent), Economics (Finance) **2008–12**

Bc. (B.A. equivalent), Economic Theories, *summa cum laude* **2005–08**

University of Bath, School of Management, United Kingdom

Erasmus Exchange Programme **Winter semester 2008/2009**

Academic Positions

Assistant Professor — **September 2017–current**
Postdoctoral Fellow — **May 2016–August 2017**
Member of the **Center for Doctoral Studies** — **October 2013–September 2015**

Charles University, Faculty of Social Sciences, Institute of Economic Studies, Dept. of Macroeconomics and Econometrics

Research Associate — **December 2021–current**
Postdoctoral Researcher — **May 2016–November 2021**
Ph.D. Candidate — **March 2013–April 2016**

Czech Academy of Sciences, Institute of Information Theory and Automation, Dept. of Econometrics

Research Experience

Research Visit — **2023**

University of Florence, Italy, working with L. Bargigli

Invited Research Visit — **2023**

Hamburg Institute of International Economics, Germany, invited by M. Berlemann, working with S. Sacht, R. Franke

Invited Research Visit — **2022**

Sant'Anna School of Advanced Studies, Pisa, Italy, Institute of Economics, invited by F. Lamperti

Research Visits — **2022, 2021, 2020, 2018, 2016 (7 weeks)**

University of Kiel, Germany, Dept. of Economics, working with S. Sacht, R. Franke, P. Zegadlo

Postdoctoral Research Visit — **July–October 2016**

University of California, Irvine, USA, Dept. of Economics, working with W. Branch

Assistant to Professor Michal Mejstrik — **February–June 2009**

Economic analyses of particular financial topics during the preparation of the National Crisis Packet

Publications

Citations (WoS): **120** — **Citations** (Google Scholar): **305**
H-index (WoS): **6** — **H-index** (Google Scholar): **8**

Articles in Journals with Impact Factor

Zila, E., Kukacka, J. (2023). Moment set selection for the SMM using simple machine learning. *Journal of Economic Behavior & Organization*, 212, pp. 366-391 DOI. 2022: IF = 2.2, AIS = 1.216 (Q2).

Kukacka, J., Kristoufek, L. (2023). Fundamental and speculative components of the cryptocurrency pricing dynamics. *Financial Innovation*, 9 (61), pp. 1-23, DOI. 2022: IF = 8.4 (**D1 Finance: 3/111**), AIS = 0.965 (Q2).

Kukacka, J., Sacht, S. (2023). Estimation of heuristic switching in behavioral macroeconomic models. *Journal of Economic Dynamics and Control*, 146, 104585, DOI. 2022: IF = 1.9, AIS = 0.994 (Q2).

Havlinova A., Kukacka, J. (2023). Corporate social responsibility and stock prices after the financial crisis: The role of strategic CSR activities. *Journal of Business Ethics*, 182, pp. 223-242, DOI. Published 2021: IF = 6.331 (**D1 Ethics: 2/56**, Q2 Business), AIS = 1.578 (Q2).

Kukacka J., Kristoufek, L. (2021). Does parameterization affect complexity of agent-based models? *Journal of Economic Behavior & Organization*, 192, pp. 324-356, DOI. IF = 2, AIS = 1.28 (Q2).

Vainer J., Kukacka, J. (2021). Nash Q-learning agents in Hotelling's model: Reestablishing equilibrium. *Communications in Nonlinear Science and Numerical Simulation*, 99, 105805, DOI. IF = 4.186 (**D1 Mathematics**, Applied; Interdiscipl.), AIS = 0.853 (Q2).

Kukacka J., Kristoufek, L. (2020). Do 'complex' financial models really lead to complex dynamics? Agent-based models and multifractality. *Journal of Economic Dynamics and Control*, 113, 103855, DOI. IF = 1.588, AIS = 1.062 (Q2).

Polach, J., Kukacka, J. (2019). Prospect Theory in the heterogeneous agent model, *Journal of Economic Interaction and Coordination*, 14 (1), pp. 147-174, DOI. IF = 1.565 (Q2), AIS = 0.403.

Stanek, F., Kukacka, J. (2018). The impact of the Tobin tax in a heterogeneous agent model of the foreign exchange market, *Computational Economics*, 51 (4), pp. 865-892, DOI. IF = 1.185, AIS = 0.305.

Kukacka, J., Barunik, J. (2017). Estimation of financial agent-based models with simulated maximum likelihood, *Journal of Economic Dynamics and Control*, 85, pp. 21-45, DOI. IF = 1.579 (Q2), AIS = 1.133 (Q2).

Barunik J., Kukacka, J. (2015). Realizing stock market crashes: Stochastic cusp catastrophe model of returns under the time-varying volatility. *Quantitative Finance*, 15 (6), pp. 959-973, DOI. IF = 0.794, AIS = 0.633 (Q2).

Kukacka, J., Barunik, J. (2013). Behavioural breaks in the heterogeneous agent model: The impact of herding, overconfidence, and market sentiment. *Physica A: Statistical Mechanics and its Applications*, 392 (23), pp. 5920–5938, DOI. IF = 1.722, AIS = 0.473.

Chapter in Book

Kukacka, J. (2019). Simulated maximum likelihood estimation of agent-based models in economics and finance. Springer, *Network Theory and Agent-Based Modeling in Economics and Finance*, DOI.

Working Papers

Franke R., Kukacka, J. (2020). Notes on the Neglected Premisses of the Hodrick-Prescott Detrending and the Hamilton Regression Filter. *SSRN Working Paper*, DOI.

Brakatsoulas P., Kukacka, J. (2020). Credit Rating Downgrade Risk on Equity Returns. *IES Working Papers*, DOI.

Kukacka, J, Jang, T.-S and S. Sacht (2018). On the Estimation of Behavioral Macroeconomic Models via Simulated Maximum Likelihood, *Kiel University Economics Working Paper* No 2018-11, DOI.

Submitted Work

Sila, J., Kocenda, E., Kristoufek, L., Kukacka, J. (2023). Good vs. Bad Volatility in Major Cryptocurrencies: The Dichotomy and Drivers of Connectedness. *Working Paper*, DOI.

Proano, C. R., Kukacka, J., Makarewicz, T. (2023). Belief-Driven Dynamics in a Behavioral SEIRD Macroeconomic Model with Sceptics. *Working Paper*, DOI. Resubmitted after second revision to J ECON BEHAV ORGAN.

Franke, R., Kukacka, J., Sacht, S. (2022). Is the Hamilton Regression Filter Really Superior to Hodrick-Prescott Detrending? *SSRN Working Paper*, DOI. Under review.

Franke, R., Kukacka, J., Sacht, S. (2022). Reconsidering Hodrick-Prescott Detrending and Its Smoothing Parameter: Extended Version. *SSRN Working Paper*, DOI. Under review.

Awards

Lindau Nobel Laureate Meeting participation

Selected among thousands of young researchers from over 70 countries to represent the Czech Republic in the prestigious **6th Lindau Nobel Laureate Meeting on Economic Sciences** that hosted 18 Nobel Laureates in Economics **2017**

Charles University, Institute of Economic Studies

IES Alumni Chair **2019**

Golden Course Faculty Teaching Award (best master level economic course) for Applied Econometrics, **2012+18+19+20+21**

Best Course Teaching Award (master level) for Applied Econometrics, **2014+17+20**

Best Course Teaching Award (master level) for Advanced Econometrics, **2015**

Dean's Award for an extraordinarily good masters diploma thesis, **2011**

RWE Scholarship for graduate students, **2009–11**

Dean's Award for an excellent Final State Exam performance and for an extraordinarily good bachelors diploma thesis, **2008**

Successes of my students

T. Bielakova: **Deloitte Outstanding Thesis** Award (bachelor level), **2023**

A. Macejovsky: **Deloitte Outstanding Thesis** Award (master level), **2022**

E. Zila: **Deloitte Outstanding Thesis** Award (bachelor level), **2021**

R. Wojnarova: **Deloitte Outstanding Thesis** Award (master level), **2020**

K. Havelkova: **Deloitte Outstanding Thesis** Award (master level), **2020**

S. Bolshakov: **Deloitte Outstanding Thesis** Award (bachelor level), **2020**

J. Vainer: **Deloitte Outstanding Thesis** Award (bachelor level), **2018**

A. Pintekova: **Josef Vavrousek Award** CUNI FSS, **2017**

J. Polach: MSc in Finance at the **London School of Economics**, **2016**

F. Stanek: **Dean's Award** for an extraordinarily good bachelors thesis, **2014**

Grant Support

23-06606S—Czech Science Foundation, **2023–25**, *team member*

Deep dive into decentralized finance: Market microstructure, and behavioral and psychological patterns

20-14817S—Czech Science Foundation, **2020–22**, ***principal investigator***

Linking financial and economic agent-based models: An econometric approach

20-17295S—Czech Science Foundation, **2020–22**, *team member*

Cryptoassets: Pricing, interconnectedness, mining, and their interactions

PRIMUS/19/HUM/017—Charles University, **2019–21**, *team member*

Behavioral finance and macroeconomics: New insights for the mainstream

UNCE/HUM/035—Charles University, **2018–current**, *participant*

Center for Advanced Economic Studies

UNCE 204005/2012—Charles University, **2016–17**, *participant*

Center for Advanced Economic Studies

17-12386Y—Czech Science Foundation, **2017–19**, *team member*

Multifractality analysis in finance: Extreme events, portfolio and risk management, and market complexity

Collaborative EU Project FinMaP—European Commission, **2014–16**, *particip.*

Financial distortions and macroeconomic performance: Expectations, constraints and interaction of agents, grant agreement No. FP7-SSH- 612955

G192215—Grant Agency of the Charles University, **2015**, ***principal investigator***

Simulated ML estimation of financial agent-based models

P402/12/G097 DYME—Czech Science Foundation, **2013–18**, *participant*

Dynamic Models in Economics (Excellence project)

588912—Grant Agency of the Charles University, **2012–14**, ***principal investigator***

Empirical validation of heterogeneous agent models

Academic Activities

Summer Schools and Academic Workshops

- Foundation course on DSGE Modelling (6-day course, University of Surrey) **2020**
- Behavioral Macro and Complexity (5-days course, Timbergen Institute) **2020**
- Workshop on Validation Methods for Agent-Based Models (Kent) **2017**
- WEHIA Doctoral Summer School (Paris, Reykjavik, Tianjin, Nice, Castellon) **2012–16**
- Collaborative EU Project FinMaP General Assembly Meeting (Rome) **2016**
- First Ancona-Milano Summer School on Agent-Based Economics (Ancona) **2015**
- CEF SCE Workshops on ABM and Compexity in Economics (Taipei) **2015**
- Conference on Behavioral Aspects in Macroeconomics and Finance (Milan) **2014**
- Agent-Based Modeling teaching course (Leipzig) **2014**
- First Bordeaux Workshop on Agent-Based Macroeconomics (Bordeaux) **2013**
- 4th Summer School of the European Social Simulation Association (Hamburg) **2013**

Organisation Memberships

- representative of FSV UK in **Rada vysokych skol** **2021–23**
- **Academic Senator FSV UK** **2014–16, 2018–21, 2022–23**
  Chair of the Legislative Commission 2019–21, 2022–23
- **Disciplinary Committee FSV UK** (alternate member) **2014–current**
- **CFEnetwork** **2014–current**
- **ESHIA** (Society for Economic Science with Heterogeneous Interacting Agents) **2012–current**
- **Society for Computational Economics** **2012–current**
- Charles University International Club **2009–11**
- E-Klub, students' economic club, Charles University **2007–12**

Presentations

Conferences and International Workshops (regular)

- 2nd DISEI Workshop on Heterogeneity, Evolution and Networks (Florence) **2023**
- International Conference on Computational Statistics (London) **2023**
- Int. Workshop in Financial Markets and Nonlinear Dynamics (Paris) **2023**
- Conference on Computational and Financial Econometrics (London, online) **2022**
- Workshop on Data-Driven Economic Agent-Based Models (Pisa) **2022**
- Workshop on Model Evaluation and Causal Search (Pisa) **2022**

International Conference on Computational Statistics (Bologna)	**2022**
Econophysics Colloquium (online)	**2022**
4th Behavioral Macroeconomics Workshop (Bamberg)	**2022**
Workshop on Computational and Experimental Economics (Barcelona)	**2022**
Int. Workshop in Financial Markets and Nonlinear Dynamics (Paris)	**2022**
CCS—Econophysics Colloquium (Lyon)	**2021**
Int. Conference on New Trends in Econometrics and Finance (online)	**2021**
1st DISEI Workshop on Heterogeneity, Evolution and Networks (Florence)	**2021**
First International Workshop on Agentization (online)	**2021**
WEHIA (online)	**2021**
International Conference on Econometrics and Statistics (online)	**2021**
Int. Symposium in Computational Economics and Finance (online)	**2020**
Int. Conference on New Trends in Econometrics and Finance (online)	**2020**
Econometric Research in Finance (online)	**2020**
Annual EAEPE Conference (online)	**2020**
Annual Conference of the Eastern Economic Association (Boston)	**2020**
Conference on Computational and Financial Econometrics (London)	**2019**
International CSR, Ethics and Sustainable Business (Braga)	**2019**
Annual EAEPE Conference 2019 (Warsaw)	**2019**
Computing in Economics and Finance (Ottawa, session chair)	**2019**
WEHIA (London, session chair)	**2019**
2nd Behavioral Macroeconomics Workshop (Bamberg)	**2019**
WEHIA (Tokyo)	**2018**
Computing in Economics and Finance (Milan)	**2018**
Computing in Economics and Finance (NY, session chair)	**2017**
WEHIA (Milan)	**2017**
WEHIA (Castellon)	**2016**
Computing in Economics and Finance (Bordeaux)	**2016**
Collaborative EU Project FinMaP General Assembly Meeting (Leuven)	**2016**
Conference on Computational and Financial Econometrics (London)	**2015**
Econophysics Colloquium (Prague, session chair)	**2015**
Computing in Economics and Finance (Taipei)	**2015**
First Bordeaux-Milano Joint Workshop on A-B Macro (Bordeaux)	**2015**
WEHIA (Nice)	**2015**
Conference on Computational and Financial Econometrics (Pisa)	**2014**
Social Modeling and Simulations + Econophysics Colloquium (Kobe)	**2014**
WEHIA (Tianjin)	**2014**
AESCS (Workshop on AB Approaches in Economic and Social Complex Systems) (Tokyo)	**2013**
WEHIA (Reykjavik)	**2013**
Conference on Computational and Financial Econometrics (Oviedo)	**2012**
Computing in Economics and Finance (Prague)	**2012**
Latsis Symposium and Workshop (Zurich)	**2012**
WEHIA (Paris)	**2012**

Teaching

Charles University, Institute of Economic Studies

Econometrics I (bachelor level) — **2022–current**
Course Leader and Lecturer from 2023

Introductory Econometrics (master level) — **2017–current**
Course Supervisor

Applied Econometrics (master level) — **2012–current**
Assistant, Course Supervisor: prof. Roman Horvath

Behavioral Economics and Finance (bachelor level) — **2018–23**
Lecturer, Course Supervisor: doc. Julie Chytilova

Advanced Econometrics (master level) — **2015–17**
Assistant, Course Supervisor: doc. Jozef Barunik

Econometrics II (bachelor level) — **2011–15**
Assistant, Course Supervisor: Dr. Barbara Pertold-Gebicka, doc. Jozef Barunik

Theses Supervising

2 Doctoral, 11 Master, 21 Bachelor Theses — **2013–current**

Professional Services

Refereeing

Review of Economic Dynamics, Journal of Economic Behavior & Organization (3×), Journal of Economic Dynamics and Control (2×), Quantitative Finance (2×), Financial Innovation, Macroeconomic Dynamics, Economic Modelling, Computational Economics (4×), Journal of Economic Interaction and Coordination (5×), Springer Nature Business & Economics, Advances in Complex Systems, Physica A, Review of Behavioral Finance, Metroeconomica, Emerging Markets Finance and Trade, International Review of Economics and Finance, PLOS One, e-journal Economics, Scottish Journal of Political Economy, Czech Journal of Economics and Finance (5×), Prague Economic Papers (3×), Czech National Bank Working Papers

Editorial Board

Springer Nature Business & Economics — **2021–current**
Prague Economic Papers — **2018–current**

References

doc. Jozef Barunik

Head of the Dept. of Econometrics at the Czech Academy of Sciences
Associate Professor at Charles University, Institute of Economic Studies
E: barunik@utia.cas.cz — P: +420 776 259 273

prof. Roman Horvath

Deputy Director at Charles University, Institute of Economic Studies
E: roman.horvath@fsv.cuni.cz — P: +420 222 112 317

Language Skills

English, advanced C1 level, CAE holder, work and study in English abroad (USA, UK)
German, intermediate passive level, exam in German for economists (Charles University)
Czech, native

Computer Skills

Julia, R, Matlab, Gretl, LaTeX, Jupyter, Git, parallel computing

Interests	Current affairs (financial markets, economy, politics)
	Sports and outdoor pursuits (MTB, long-distance cycling trips, jogging)
	Travelling (so far 54 countries visited, the most interesting: Tajikistan, Mountainous Karabakh, Japan)

updated September 21, 2023, Prague, Czech Republic