

WEHIA 2018

23rd Annual Workshop on Economic Science with Heterogeneous Interacting Agents

International Christian University, Tokyo, Japan

June 30 (Sat) – July 2 (Mon), 2018

CONFERENCE PROGRAM

June 30th, Saturday

8:30 – 9:50 Registration

9:50 – 10:00 Conference welcome and announcements

Professor Mauro Gallegati and Taisei Kaizoji

10:00 – 10:50 Plenary Talk

Professor Thomas Lux, University of Kiel

Estimation of agent-based models using sequential Monte Carlo methods

Session 1A: Agent Based Models and Experiments (Room N220) (Session Chair: Alessio Emanuele Biondo)

11:00-11:20

Alessandro Caiani, Ermanno Catullo and Mauro Gallegati (Paper 5)

The Effects of Alternative Wage Regimes in a Monetary Union: a Multi-Country Agent Based-Stock Flow Consistent Model

11:20-11:40

Marco Gross, Björn Hilberg, Sander van der Hoog and Dirk Kohlweyer (Paper 59)

Macroprudential analysis using an agent-based macroeconomic model of the euro area

11:40-12:00

Alba Ruiz-Bufo, Simone Alfarano and Eva Camacho-Cuena (Paper 66)

Higher-order beliefs and overweighting of public information: an experimental study

Session 1B: Econophysics and Behavioral Studies (Room N332) (Session Chair: Lukas Pichl)

11:00-11:20

Masato Hisakado and Shintato Mori (Paper 31)

Phase transition in estimation of parameters of low default portfolio

11:20-11:40

Takaaki Ohnishi, Takayuki Mizuno and Tsutomu Watanabe (Paper 107)

Statistical laws of urban development and decline

11:40-12:00

Alberto Cardaci, Tiziana Assenza and Domenico Delli Gatti (Paper 14)

Cognitive biases and perceived wealth: an experimental analysis

Lunch break: 12:00 – 13:30

Session 2A: Agent-based models and Behavioral Strategies (Room N-220) (Session Chair: Sudhir Jain)

13:30-13:50

Alessio Emanuele Biondo (Paper 36)

Information vs Imitation: Stabilization Policies in a Real-Time Agent-Based Model of Financial Markets

13:50-14:10

Siew Ann Cheong and Mikhail Filippov (Paper 41)

From Housing Locale Theory to Agent-Based Modeling Approach

14:10-14:30

Saori Iwanaga (Paper 46)

Different Type of Interaction Plays a Role of Decision Error on Collective Behavior

14:30-14:50

Jacopo Staccioli and Mauro Napoletano (Paper 67)

An agent-based model of intra-day financial markets dynamics

14:50-15:10

Stephan Leitner and Friederike Wall (Paper 84)

On reciprocity in situations with hidden-action: Does one hand really wash the other?

15:10-15:30

Ben Vermeulen, Bin-Tzong Chie, Jamie Wallace, Shu-Heng Chen and Andreas Pyka (Paper 109)

Evolutionary programming of product design strategies under market and technological uncertainty: An agent-based and experimental economics study

Session 2B: Finance (Room N-332) (Session Chair: Takuya Kaneko)

13:30-13:50 (Keynote Speech)

Cheoljun Eom and Jong Won Park (Paper 25)

A New Method for Better Portfolio Investment: A Case of the Korean Stock Market

13:50-14:10

Ryuichi Yamamoto (Paper 16)

Information, locational, and speed advantages in a limit order market

14:10-14:30

Nicolò Pecora, Anna Agliari and Ahmad Naimzada (Paper 20)

A stock market participation model with heterogeneous traders: nonlinear dynamics and stylized facts

14:30-14:50

Zhenxi Chen (Paper 22)

Total Social Finance: Mutual Influences between Financial Markets and Macro Economy

14:50-15:10

Noemi Schmitt (Paper 12)

Heterogeneous expectations and asset price dynamics

15:10-15:30

Rong Ma and Honggang Li (Paper 47)

Index Pegging, Synchronization and the Downside Market

Break: 15:30 – 16:00

Session 3A: Macroeconomics and Finance (Room N-220) (Session Chair: Cheoljun Eom)

16:00-16:20

Maria Enrica Virgillito, Giovanni Dosi, Marcelo C. Pereira and Andrea Roventini (Paper 44)

If bad money drives out good money: deunionisation, productivity and wage dynamics

16:20-16:40

Alexey Ponomarenko and Sergei Seleznev (Paper 57)

Foreign exchange reserves accumulation: forecasting implications for the banking system's balance sheet

16:40-17:00

Guidon Fenig and Luba Petersen (Paper 97)

Improving Dynamic Optimization in Life-Cycle Consumption Experiments

17:00-17:20

Hungwen Lin, Jingbo Huang, Kunben Lin and Shuheng Chen (Paper 93)

Excess Media Coverage, Timely Loss Avoidance and Negative Momentum Profit in Chinese Stock Markets

17:20-17:40

Yuji Aruka (Paper 89)

Examining the Market Mechanism Similar to Class 4 of Turing's ICA

17:40-18:00

Morito Hashimoto and Setsuya Kurahashi (Paper 60)

Research on loss absorption of financial group

Session 3B: Networks (Room N-332) (Session Chair: Yoshi Fujiwara)

16:00-16:20 (Keynote Speech)

Anindya Chakrabarti and Sanjay Moorjani (Paper 10)

Connections: A theory of wedge between fundamentals and observed valuation

16:20-16:40

Hazem Krichene, Yoshiyuki Arata, Abhijit Chakraborty, Yoshi Fujiwara and Hiroyasu Inoue (Paper 30)

How firms choose their partners in the Japanese supplier-customer network?: An application of exponential random graph model

16:40-17:00

Seonho Shin (Paper 64)

Does it still matter in the new world where a refugee comes from? - Social network, Shocks, and Ethnicity - A multi-level analysis on the labor market of political refugees in the United States

17:00-17:20

Yoshiyuki Arata (Paper 73)

An Empirical Analysis of the Propagation of Corporate Bankruptcy

17:20-17:40

Abhijit Chakraborty (Paper 86)

Hierarchical Communities in Walnut Structure of Japanese Production Network

17:40-18:00

Chiara Perillo and Stefano Battiston (Paper 92)

A financial network approach to unconventional monetary policy assessment - the case of Quantitative Easing in the euro area

July 1st (Sunday)

09:00 – 09:50 **Plenary Talk (Room N-220)**

Professor Simone Alfarano, Universitat Jaume I

Analytical approaches to agent-based models

Session 4: Invited Special Session on Validation of Agent-Based Models (Room N-220)

(Session Chair: Thomas Lux)

10:00 – 10:20

Rama Cont and Amir Sani (Paper 4)

Parameter estimation and calibration methodology for agent-based models

10:20 – 10:40

Saskia Ter Ellen, Cars Hommes and Remco Zwinkels (Paper 6)

Comparing Behavioral Heterogeneity across Asset Classes

10:40 – 11:00

Tae-Seok Jang and Stephen Sacht (Paper 21)

Forecast Heuristics, Consumer Expectations, and New Keynesian Macroeconomics: A Horse Race

11:00 – 11:20

Philipp Mundt and Yoshiyuki Arata (Paper 32)

The formation of customer-supplier relationships: evidence from Japan

11:20 – 11:40

Jiri Kukacka and Ladislav Kristoufek (Paper 96)

Multifractality Properties of the Agent-Based Models of Financial Markets

Poster session: 11:40-12:20

1) Matthias Raddant and Hiroshi Takahashi (Paper 39)

The Japanese Corporate Board Network

2) Wataru Souma (Paper 49)

Application of machine learning to the creation of macro-sentiment index

3) Kazuaki Nakayama, Masato Hisakado and Shintaro Mori (Paper 72)

Nash Equilibrium and Optimal Strategy of Social-Learning Agents in a Restless Multiarmed Bandit Game

4) Akira Ishii, Noboru Ashida and Yasuko Kawahata (Paper 76)

Analysis of search actions on the Internet including the effect of blog and Twitter using sociophysics approach

5) Wen-Jen Hsu and Bin-Tzong Chie (Paper 78)

The Battle of Wits between Casinos and Skillful Players: Simulations and Solutions

6) Shintaro Mori, Fumiaki Sano, Masato Hisakado and Kazuaki Nakayama (Paper 51)

Mean field voter model on network and data analysis of U.S. presidential elections

7) Michiko Miyano and Taisei Kaizoji (Paper 79)

Company Fundamental Values for Stock Prices: An Empirical Study using Panel Data for Financial Indicators per Share

8) Zheng Nan and Taisei Kaizoji (Paper 117)

Market efficiency of the bitcoin exchange rate: evidence from cointegration test

9) Takuya Shintate, Lukas Pichl and Taisei Kaizoji (Paper 37)

Prediction of High Frequency Bitcoin Prices with Deep Learning Attention Mechanism

10) Yasuko Kawahata, Masanori Ajito and Akira Ishii (Paper 69)

Analysis of political communication on social media using computational social science method

11) Yasuko Kawahata, Masanori Ajito and Akira Ishii (Paper 70)

Study on method of social scientific analysis of calculation of political media information

Lunch break: 12:20 – 14:00 (Cafeteria)

The board meeting of ESHIA (7F of Cafeteria)

Session 5A: Finance(Room N-220) (Session Chair: Cheoljun Eom)

14:00 – 14:20

Frank Westerhoff and Noemi Schmitt (Paper 11)

Trend followers, contrarians and fundamentalists: explaining the dynamics of financial markets

14:20 – 14:40

Ping Chen Tsai and Chi Ming Tsai (Paper 18)

Estimating the Proportion of Informed and Speculative Traders in Financial Markets: Evidence from CHF/EUR Exchange Rate

14:40 – 15:00

Jakob Grazzini and Domenico Massaro (Paper 42)

Understanding Aggregate Volatility: an Empirical Study

15:00 – 15:20

Atushi Ishikawa, Shouji Fujimoto and Takayuki Mizuno (Paper 48)

Inactive rate and financial information of firms

15:20 – 15:40

Roberto Dieci, Noemi Schmitt and Frank Westerhoff (Paper 50)

Understanding the complex interplay between multiple asset markets: a simple evolutionary approach

15:40 – 16:00

Kawata Shinya, Yoon Hiwon and Fujiwara Yoshi (Paper 61)

Session 5B: Interdisciplinary topics (Room N-332) (Session Chair: Anindya Chakrabarti))

14:00 – 14:20 (Keynote Speech)

Ladislav Kristoufek and Miloslav Vosvrda (Paper 17)

Herding, minority game, market clearing and efficient markets in a simple spin model framework

14:20 – 14:40

Stephen Ashton, Enrico Scalas, Nicos Georgiou and Istvan Z. Kiss (Paper 19)

The Mathematics of Human Contact

14:40 – 15:00

Giulia Iori (Paper 201)

Academic Networks, Research Productivity and Research Assessment Exercises: A new approach to evaluate policy impact on connected entities

15:00 – 15:20

Luca Colombo, Herbert Dawid and Philipp Harting (Paper 62)

Innovation, Imitation, and Firms' Location Strategies

15:20 – 15:40

Sudhir Jain (Paper 112)

Property price distributions of Taiwan and the UK

15:40 – 16:00

Takayuki Mizuno, Takaaki Ohnishi and Tsutomu Watanabe (Paper 34)

Statistical analysis of a political demonstration using location-based big data

Break 16:00 – 16:20

Session 6A: Finance and Macroeconomics (Room N-220) (Session Chair: Ping Chen Tsai)

16:20 – 16:40

Nurlan Turdaliyev (Paper 33)

Heterogeneity and Monetary Policy

16:40 – 17:00

Qinghua Chen, Zhixin Liu, Tao Zheng and Xiaomeng Li (Paper 71)

The gap-filling phenomena in the stock market

17:00 – 17:20

Kevin Primicerio and Damien Challet (Paper 113)

Large large-trader activity weakens the long memory of limit order markets

17:20 – 17:40

Alessio Moneta and Gianluca Pallante (Paper 103)

Identification of SVAR models via Independent Component Analysis: A Comparative Study

17:40 – 18:00

Samar Garrab (Paper 100)

Impact of signatories leadership in static environmental agreements

Session 6B: AB-Models and Networks (Room N-332) (Session Chair: Eva Camacho-Cuena)

16:20 – 16:40

Emanuele Russo, Giovanni Dosi and Andrea Roventini (Paper 40)

The effect of technological and trade regimes upon international differentiation and catching up: results from a multi-country agent-based model

16:40 – 17:00

Andrea Gurgone, Giulia Iori and Saqib Jafarey (Paper 116)

The Effects of Interbank Networks on Efficiency and Stability in a Macroeconomic Agent-Based Model

17:00 – 17:20

Matteo Coronese, Francesco Lamperti, Francesca Chiaromonte and Andrea Roventini (Paper 87)

Natural Disaster Tail Risk and the Distributional Dynamics of Damages: a Global Analysis

17:20 – 17:40

Matteo Coronese, Martina Ocelli, Francesco Lamperti and Andrea Roventini (Paper 83)

No Land for old men: agriLOWE, an evolutionary approach to agriculture and climate change

17:40 – 18:00

Francesco Lamperti, Giovanni Dosi, Mariana Mazzucato, Mauro Napoletano and Andrea Roventini (Paper 85)

The Entrepreneurial State at Work: an Agent Based Model Exploration

Conference dinner: 18:30 – 20:30 (Dining Hall in Dialogue House, Area A near the cafeteria, please have 6000 JPY in cash per person to pay at the dinner reception desk; last-minute non-registered dinner participants are welcome)

July 2nd (Monday)

Session 7A: Finance and Networks (Room N-220) (Session Chair: Anindya Chakrabarti)

9:00 – 9:20 (Keynote speech)

Cheoljun Eom, Steven J. Jordan, Woo-Baik Lee and Jong Won Park (Paper 88)

Program Trading and Market Regulation

9:20 – 9:40

Akira Shimada (Paper 7)

The Transferability of Human Capital, the Brain Drain, and the Brain Gain

9:40 – 10:00

Takuya Kaneko and Masato Hisakado (Paper 74)

Additional Default Probability from Neighbor Entities

10:00 – 10:20

Hiroyasu Inoue and Yasuyuki Todo (Paper 75)

Firm-level simulation of supply chain disruption triggered by actual and predicted earthquakes

10:20 – 10:40

H. Dan Tran (Paper 80)

A dynamic model of bank-run: from individual to collective behavior

10:40 – 11:00

Yuji Sakurai and Tetsuo Kurosaki (Paper 65)

A simulation analysis of systemic counterparty risk in over-the-counter derivatives markets

Session 7B: Cryptocurrency (Room N-332) (Session Chair: Taisei Kaizoji)

9:00 – 9:20 (Keynote speech)

Naoyuki Iwashita

A Cryptocurrency Fraud Spill in Japan

9:20 – 9:40

Hiwon Yoon (Keynote speech)

May Crypto-Currency Impact Real Economy?

9:40 – 10:00

Rubaiyat Islam, Yoshi Fujiwara, Shinya Kawata and Hiwoon Yoon (Paper 110)

Analysis of Bitcoin Flow and Market Dynamics

10:00 – 10:20

Wei Zhang, Pengfei Wang, Xiao Li and Dehua Shen (Paper 38)

Some Stylized Facts of the Cryptocurrency Market

10:20 – 10:40

Wei Zhang, Pengfei Wang, Xiao Li and Dehua Shen (Paper 63)

Trading Volume and Return Volatility of Bitcoin Market: Evidence for the Sequential Information Arrival Hypothesis

10:40 – 11:00

Lukas Pichl, Zheng Nan and Taisei Kaizoji (Paper 81)

Ether Cryptocurrency: Arbitrage and Cointegration for Ether-derived Exchange Rates among CAD, CNY, GBP, EUR, JPY & USD

Session 8A: Finance (Room N-220) (Session Chair: Takuya Kaneko)

11:20-11:40

Mattia Guerini, Mauro Napoletano and Jean-Luc Gaffard (Paper 104)

Be patient enough to wait what you deserve: banks' time-horizons, borrowing constraints and the evolution of industries

11:40-12:00

Jun-Ichi Maskawa, Koji Kuroda and Joshin Murai (Paper 105)

Collective behavior in market participants with different time horizons

12:00-12:20

Joomi Jun and Takayuki Mizuno (Paper 115)

The effects of information reliability on financial market

Session 8B (Room N-332) Interdisciplinary topics (Session Chair: Lukas Pichl)

11:20-11:40

Annalisa Fabretti (Paper 101)

What does really drive a participant to a laboratory experiment?

11:40-12:00

Jun Sakazaki and Naoki Makimoto (Paper 106)

Financial Contagion through Asset Price and Interbank Networks

12:00-12:20

Mario Eboli and Fabio Castiglionesi (Paper 111)

Liquidity Flows in Interbank Networks

Conference closing remarks: Room N-220, 12:40 – 13:00

Lukas Pichl

End of conference: 13:00 (lunch available in Dialogue House until 14:00)