



NEWSLETTER

No. 05

11. May 2015

**Humboldt-Universität zu Berlin
Collaborative Research Center 649
Spandauer Straße 1
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<http://sfb649.wiwi.hu-berlin.de>

REGULAR RESEARCH SEMINARS

An overview is available at:

<http://sfb649.wiwi.hu-berlin.de/fedc/seminars.php>

ECONOMIC RISK SEMINAR

Location: Spandauer Str. 1, room 23
 Time: every Monday, 2.00 – 4.00 p.m.
 Schedule: [Website](#)

SCHUMPETER SEMINAR

Location: Spandauer Str. 1, room 23
 Time: every Tuesday, 4.00 – 6.00 p.m.
 Schedule: [Website](#)

WIAS RESEARCH SEMINAR MATHEMATICAL STATISTICS

Location: Weierstrass Institute for Applied Analysis and Stochastics,
 Mohrenstraße 39, 10117 Berlin, Erhard-Schmidt-Hörsaal
 Time: every Wednesday, 10.00 – 12.00 a.m.
 Schedule: [Website](#)

CURRENT EVENTS

More information can be found here:

http://sfb649.wiwi.hu-berlin.de/fedc/events_actual.php

21.-28.Mai 2015 **Short Course "Recent Advances in Dynamic Games" by Johannes Hörner (Yale University)**
 Organizer: BDPEMS, RTG 1659 and CRC 649
 Please consult the [website](#) of the BDPEMS for further informations.

NEWS OF THE CRC

22. April 2015 **Copulae:
 On the Crossroads of Mathematics and Economics**

Selected statisticians from Asia, Europe and North America met at the 'Mathematisches Forschungsinstitut Oberwolfach' (MFO) from 12th to 18th of April to discuss recent developments and future challenges of copulae - a flexible class of multivariate distribution functions. The MFO-workshop has been organized by Xiaohong Chen (New Haven), Wolfgang Karl Härdle (B1 & B10), Piotr Jaworski (Warsaw) and Johanna G. Nešlehová (Montréal). The introductory talks were given by Alexander J. McNeil (Edinburgh) and Claudia Czado (Munich), who reviewed the important role of copulae in financial risk management and presented an overview about Vine copulae respectively. Ostap Okhrin and Alexander Ristig (both B10) were also among the participants and were delighted to present research results of the sub-project B10 to this prominent scientific audience.

The third day of the workshop was highlighted by a joint session with another research group studying mathematical models for water waves. While Jerry L. Bona (Chicago) motivated studying water waves, our passion for different areas of cop-

ulae was illustrated by Christian Genest (Montréal). This inspiring session was followed by a joint hike through the beautiful Black Forest including a delicious piece of Schwarzwälder Kirschtorte.



Source: Bildarchiv des Mathematischen Forschungsinstituts Oberwolfach

To sum up; even though progress has been achieved in the broad area of copulae (modeling, estimation, validation) during the last decades, the workshop has shown that more scientific investigation is needed to fully understand the advantages and shortcomings of this mathematical object.

NEWS OF THE PROJECTS

Thomas Giebe (A6) visited the University of York, Department of Economics and Related Studies, United Kingdom from 12th to 19th of April.

Alexander Ristig (B10) attended the Oberwolfach workshop on "Copulae: On the Crossroads of Mathematics and Economics" from 13th to 17th of April. He presented the joint project with **Ostap Okhrin (B10)** and **Nikolaus Hautsch (former B8 and B11)** from University of Vienna on "Efficient Iterative Maximum Likelihood Estimation".

Michael C. Burda (C7) participated on the 2nd network-workshop of the DFG Priority Program 1764 "The German Labor Market in a Globalized World: Challenges through Trade, Technology and Demographics" on 9th of April and on the 1st international conference "The German Labor Market in a Globalized World: Trade, Technology and Demographics" from 10th to 11th April at the German Federal Employment Agency in Nuremberg.

Frank Heinemann (C10) participated in the "Séminaire 2015 du Programme franco-allemand (ANR-DFG) en sciences humaines et sociales" on the 30th and

31th of March in Paris. He presented a report on his project (joint with Camille Cornand) "Stabilizing Macroeconomic Shocks: Experiments on the Interaction between Central Bank and Private Sector."

Philipp Pfeiffer (C10) participated in the "19th Conference Theories and Methods in Macroeconomics" at the Humboldt-Universität zu Berlin, and presented his paper "Layoff Taxes, Unemployment Insurance, and Business Cycle Fluctuations" co-authored with **Steffen Ahrens** and **Nooshin Nejati (both C10)**.

GUESTS OF THE CRC 649

You find a summary about all guests here:
http://sfb649.wiwi.hu-berlin.de/fedc/guests_actual.php

05.05.2015 - **Canova, Fabio**

06.05.2015 European University Institute Florenz (IT)

Project: *Approximating time varying structural models with time invariant structures*

E-Mail: fabio.canova@eui.eu

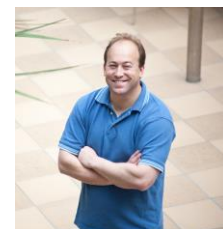


10.05.2015 - **Stillman, Steven**

13.05.2015 University of Otago (NZ)

Project: *Profits, Productivity, Competition and the Gender Wage Gap: Evidence from Longitudinal Linked Employ*

E-Mail: steven.stillman@otago.ac.nz



15.05.2015 - **Teo, Ernie**

14.06.2015 Singapore Management University (SG)

Project: *Applied microeconomics and game theory, financial technology, cryptocurrencies, industrial organizat*

E-Mail: ernieteo@smu.edu.sg



16.05.2015 - **Lu, Henry Horng-Shing**

25.06.2015 Singapore Management University (SG)

Project: *Scientific computing, Image science, Bioinformatics*

E-Mail: hslu@stat.nctu.edu.tw



NEW DISCUSSION PAPERS

More detailed information is available [here](#).

- 2015-021** "Characterizing the Financial Cycle: Evidence from a Frequency Domain Analysis" by Till Strohsal, Christian R. Proaño and Jürgen Wolters, April 2015.
- 2015-022** "Risk Related Brain Regions Detected with 3D Image FPCA" by Ying Chen, Wolfgang K. Härdle, He Qiang and Piotr Majer, April 2015.
- 2015-023** "An Adaptive Approach to Forecasting Three Key Macroeconomic Variables for Transitional China" by Linlin Niu, Xiu Xu and Ying Chen, April 2015.
- 2015-024** "How Do Financial Cycles Interact? Evidence from the US and the UK" by Till Strohsal, Christian R. Proaño, Jürgen Wolters, April 2015.
- 2015-025** "Employment Polarization and Immigrant Employment Opportunities" by Hanna Wielandt, April 2015.

QUANTILETS

More detailed information is available [here](#). 8 new Quantlets were uploaded in [April](#) 2015 (a total of 46 Quantlets in 2015).

Project: TERES

TERES - Tail Event Risk Expected Shortfall. A flexible framework for the definition of tail events is proposed. The framework contains tail moment measures that allow for Expected Shortfall estimation. Connecting the implied tail thickness of a family of distributions with the quantile and expectile estimation, a platform for risk assessment is provided. Expected Shortfall structure under different tail scenarios is investigated, particularly we discuss the implications of increased tail risk for given mixture distributions. Empirical results from the US, German and UK stock markets, as well as for the selected currencies indicate that Expected Shortfall can be successfully estimated on a daily basis using a one-year time horizon across different risk levels.

The corresponding quantlets with R code can be found in the Project [TERES](#).

More details of results and methodology are described at the talk [TERES - Tail Event Risk Expected Shortfall](#).

The quantlet [TERES ES Analytical](#) estimates the theoretical expected shortfall of a sample for a normal Laplace mixture. This is done using an expectile based method. The calculation requires an expectile level such that it is equal to the value at risk with the predetermined risk level. This and the relevant quantile are obtained from a normal Laplace mixture.

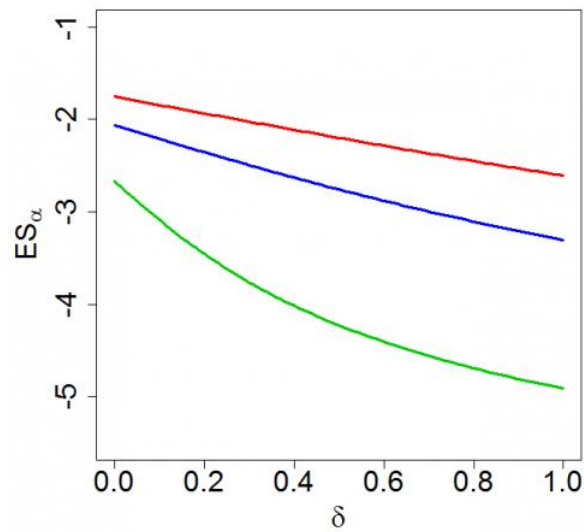


Figure 1: Expected shortfall, selected risk levels

QUOTE OF THE MONTH

"An investment in knowledge pays the best interest."

Benjamin Franklin (1706-1790)

Please also note that the newsletter is published on the homepage of the CRC 649.

**The CRC 649 – Newsletter is published at the beginning of each month.
Editorial deadline for the second Newsletter 2015 is 30.01.2015.**