

NEWSLETTER

CRC 649

Collaborative Research Center 649 „Economic Risk“

Ot

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NL 10, OCTOBER

Editorial:

Collaborative Research Center 649:
“Economic Risk”
School of Business and Economics
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"There is no rain above the clouds"

NEWS OF THE CRC

RDC permanently established at Humboldt-Universität

The School of Business and Economics has decided to permanently establish the CRC 649's RDC as an integral part of the faculty as of January 2017.

NEWS OF THE PROJECTS

Michael C. Burda (C7) participated in the International Summer School of Economics and Management (ISSEM 2016) in Havana from the 19th of September to the 3rd of October and held courses in "International Economic Integration" at the Universidad de La Habana, Republic of Cuba.

Wolfgang Karl Härdle (B1) has given a talk at the Tunghai Universtiy, Taichung, Taiwan on „Sector Specific Sentiments and their stock reactions“ on the 14th of September.

On the 19th of September he spoke at the National Chenchi University, Dept. Statistics, Taipei, Taiwan on „The Econometrics of the CRIX family“.

On the 20th of September he gave a talk at the National Chiao-Tung University, Hsinchu, Taiwan on „Tropical Storms, Change points and Trends“.

Prof. Härdle spoke at the National Cheng Kung university, Tainan, Taiwan on „Local Multiplicative Error models“ the 21st of September. This was followed by CRIX-related talks, like the talk at the national Sun-Yat Sen University Kaoshiung, Taiwan on „CRIX a crypto currency index“, 22nd of September, and the talk at national Dong-Hwa University, Hualien, Taiwan on „CRIX and the blockchain method“, 23rd of September.

On the 26th of September he has given a talk at the Academia Sinica, Taipei, Taiwan on „FASTEC with FMRI data and RPID tasks“ and on the 30th of September at the HKUST, Hongkong on „FASTEC with expectiles“.

Simon Trimborn (B1) gave the talk "gofCopula" at the conference "Dependence Models and Copulas" in Salzburg from 19th to 22nd of September.

Alona Zharova (Z) participated in the international Summer School of Economics and Management (ISSEM 2016) in Havana from the 19th of September to the 3rd of October and held courses in "Management Simulation" at the Universidad de La Habana, Republic of Cuba.

GUESTS OF THE CRC 649

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

05.04.2016 -
28.02.2017

Karahanoglu, Ilhami

Development Bank of Turkey (TR)

Project: Copula Based Models for Financial Time Series
Including the Credit and Market Risk - Portfolio VaR

Contact:

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10178 Berlin

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01.07.2016 -
15.11.2016

Linton, Marco

York University (GB)

Project: Machine Learning and Applications, Natural Language
Processing, Text Mining

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10178 Berlin

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20.08.2016 -
21.08.2017

Zhu, Leo Jun

Nanjing University of Finance and Economics (CN)

Project: DSGE and Bayesian Methods, Dynamic Fiscal Policy,
Chinese Economy

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10178 Berlin

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**04.10.2016 -
10.10.2016** **Golubeva, Evgenia**
University of Oklahoma (US)

Project: Derivatives Usage in the Gold Mining Industry

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10178 Berlin
E-Mail: janya@ou.edu



**13.10.2016 -
18.10.2016** **Lee, Cheng-Few**
Rutgers University, Piscataway (US)

Project: Risk Management Series: Methods and Empirical Evidence

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NEW DISCUSSION PAPERS

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

2016-033

"Functional Principal Component Analysis for Derivatives of Multivariate Curves" ([File](#))
by Maria Grith, Wolfgang K. Härdle, Alois Kneip and Heiko Wagner

2016-034

"Blooming Landscapes in the West? - German reunification and the price of land" ([File](#))
by Raphael Schoettler and Nikolaus Wolf

2016-035

"Time-Adaptive Probabilistic Forecasts of Electricity Spot Prices with Application to Risk Management." ([File](#))
by Brenda López Cabrera and Franziska Schulz

2016-036

"Protecting Unsophisticated Applicants in School Choice through Information Disclosure" ([File](#))
by Christian Basteck and Marco Mantovani

2016-037

"Cognitive Ability and Games of School Choice" ([File](#))
by Christian Basteck and Marco Mantovani

2016-038

"The Cross-Section of Crypto-Currencies as Financial Assets: An Overview" ([File](#))
by Hermann Elendner, Simon Trimborn, Bobby Ong and Teik Ming Lee

PUBLICATIONS

Klein, T., Pham Thu, H. and Walther, T.

Evidence of long memory and asymmetry in the EUR/PLN exchange rate volatility Approach
Research Papers of Wroclaw University of Economics
DOI: 10.15611/pn.2016.428.11

Wang, Q., Zhang, T and Härdle, W.

An extended Single Index Model with Missing Response at Random
Scandinavian Journal of Statistics
DOI: 10.1111/sjos.12233

Zheng, S., Liu, R., Yang, L. and Härdle, W.

Statistical inference for generalized additive models: simultaneous confidence corridors and variable selection
An Official Journal of the Spanish Society of Statistics and Operations Research
DOI: 10.1007/s11749-016-0480-8

Guo, M.M. and Härdle, W.

Adaptive Interest Rate Modeling
Journal of Forecasting
DOI: 10.1002/for.2431



Functional Principal Component Analysis for Derivatives of Multivariate Curves

Project: VFAR

Authors present two methods based on functional principal component analysis (FPCA) for the estimation of smooth derivatives of a sample of random functions, which are observed in a more than one-dimensional domain. We apply eigenvalue decomposition to a) the dual covariance matrix of the derivatives, and b) the dual covariance matrix of the observed curves. To handle noisy data from discrete observations, we rely on local polynomial regressions. If curves are contained in a finite-dimensional function space, the second method performs better asymptotically. We apply our methodology in a simulation and empirical study, in which we estimate state price density (SPD) surfaces from call option prices. We identify three main components, which can be interpreted as volatility, skewness and tail factors. We also find evidence for term structure variation.

More details of results and methodology are described in the recent discussion paper Maria Grith, Wolfgang K. Härdle, Alois Kneip and Heiko Wagner (2016) "Functional Principal Component Analysis for Derivatives of Multivariate Curves", [SFB 649 DP 2016-033](#).

All corresponding Matlab codes can be found [here](#) in Quantnet on Github.

The Quantlet [FPCAexpiration](#) displays the effect of the expiration date on the level of estimated loadings corresponding to the second component. (see Fig. 1).

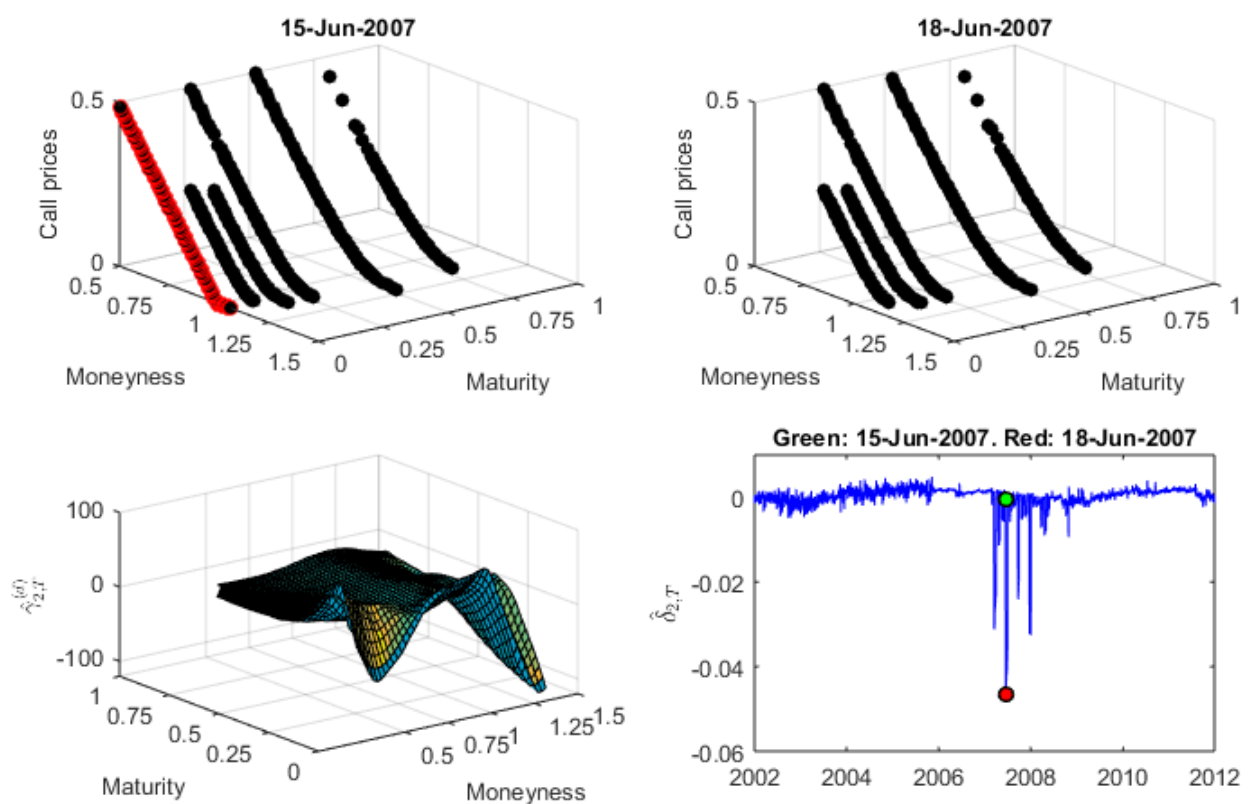


Fig. 1 The effect of expiration date on the level of estimated loadings $\hat{\delta}_{2,T}$



Even the mainstream media is full of information about cryptocurrencies such as Bitcoin. Our institute contributes to this by offering a scientifically backed index for this emerging market, called CRIX.

Our CRIX index, can be found here: <http://crix.hu-berlin.de/>

CRIX is updated at five minute intervals 24 hours a day.

The data on the website is available to all by a simple mouse click.

We are proud to announce that our recently developed CRIX index for the active cryptocurrency market is on Wikipedia now. Please feel free to consult our CRIX hu.berlin/crix pages for further updates.

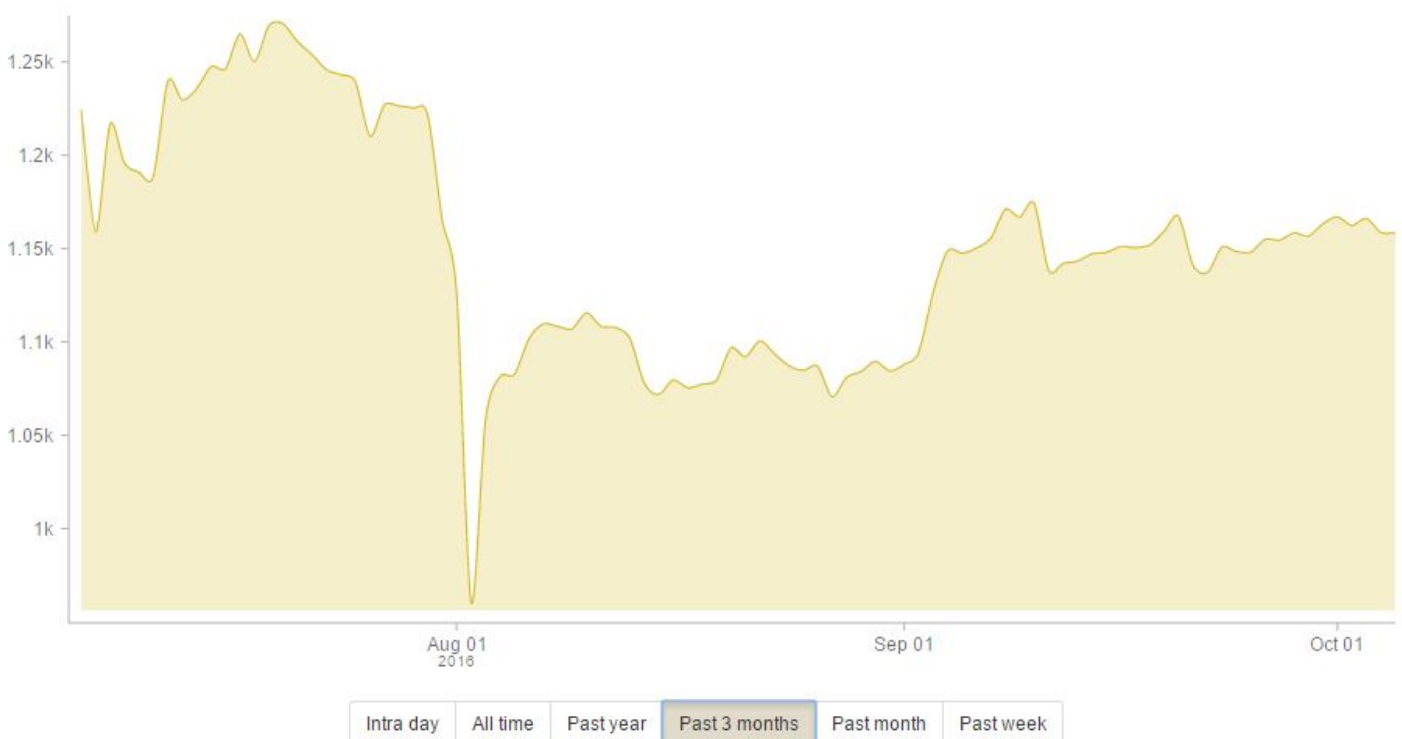


Figure. 2 CRYPTOINDEX showing past three months' progress.

financialriskmeter

Please visit the projects' website for further informations: <http://sfb649.wiwi.hu-berlin.de/frm/>

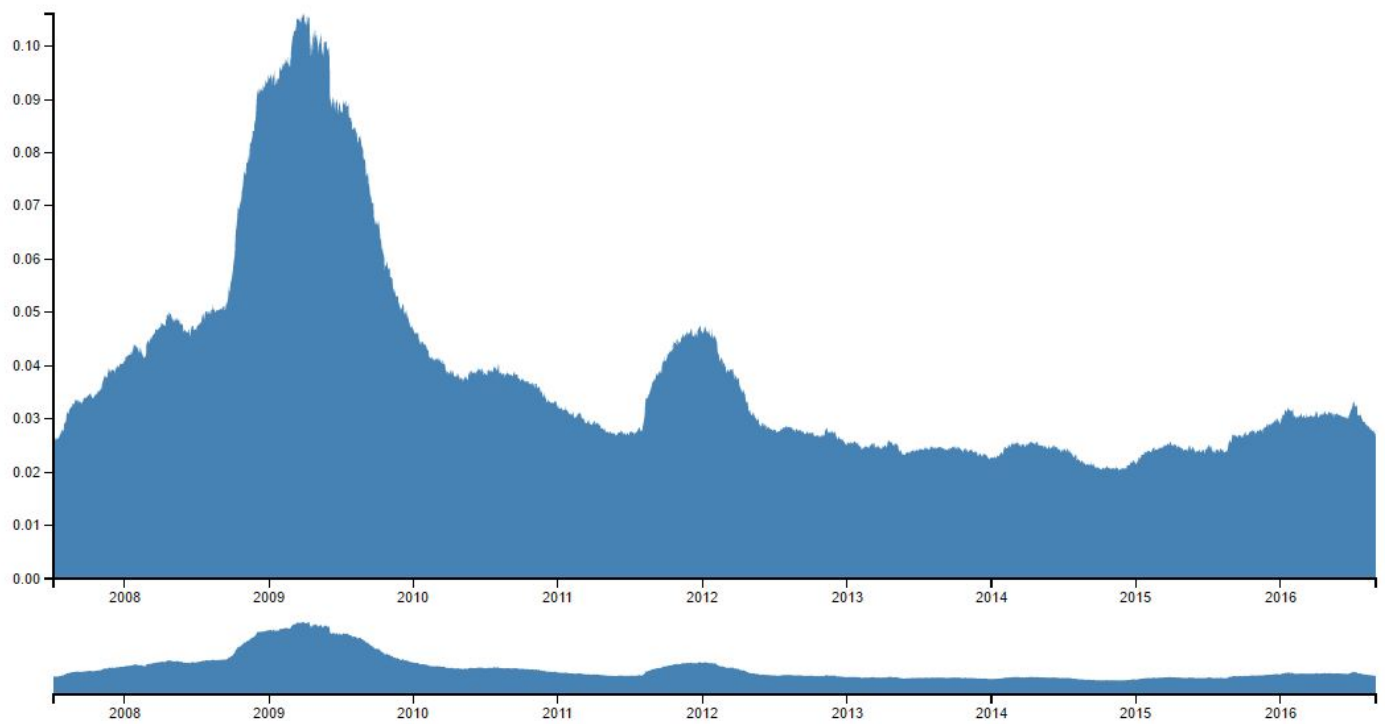


Figure. 3 Linear CoVaR Time series. Interactive moving time window available online.

QUOTE OF THE MONTH

“ If we knew what it was we were doing, it would not be called research, would it?”

Albert Einstein (14th of March 1879 – 18th of April 1955)

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

Editorial deadline for the Newsletter of November 2016 is 30.10.2016.