

EKATERINA SMETANINA

CONTACT INFORMATION

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PLACEMENT INFORMATION

Placement Director:
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Placement Assistant:
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RESEARCH INTERESTS

Econometrics, Financial Economics, Empirical Finance and Forecasting

EDUCATION

Ph.D in Economics, University of Cambridge, UK

2013-2018

Expected Completion Date: May 2018

Thesis title: Essays in Financial Econometrics and Forecasting

Thesis advisor and references:

Professor Oliver Linton (Supervisor)
Department of Economics
University of Cambridge
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Professor Tim Bollerslev
Department of Economics
Duke University
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Professor Alexey Onatskiy
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01.2017-06.2017

Visiting PhD student, Duke University, Durham, USA

Host: Professor Tim Bollerslev

2010-2012

MSc in Economics, University of Bonn, Germany

2006-2010

BSc in Engineering, Bauman Moscow State Technical University, Moscow, Russia

TEACHING
EXPERIENCE

University of Cambridge, UK
Empirical Finance, (graduate course), 2015-2018
Mathematical surgery, (graduate course), 2014-2018
Lecturer for Linear Algebra, (graduate course), 2015-2017
Quantitative Methods in Economics, (undergraduate course), 2013-2014
Mathematics and Statistics for Economists, (undergraduate course), 2013-2014
University of Bonn, Germany
Mathematics for Economists, University of Bonn (graduate course), 2011-2012.

SCHOLARSHIPS
AND AWARDS

Cambridge INET Scholarship, 2017-2018
Junior Research Fellowship, The Royal Economic Society, 2016-2017
Cambridge Finance Best Student Paper Award, 2017
Cambridge-INET Full PhD Scholarship, 2013-2016

REFEREEING
ACTIVITIES

Journal of Econometrics, Econometric Theory, Journal of Applied Econometrics

PUBLICATIONS

Real-time GARCH, *Journal of Financial Econometrics*, September 2017, 15(4), 561-601.
Testing Martingale Hypothesis for Gross Returns (with Oliver Linton), 2016, *Journal of Empirical Finance*, Vol.38, 664-698.

WORKING
PAPERS

Forecast Evaluation Tests – A New Approach, *Job market paper*, October 2017.
Abstract: Out-of-sample tests are widely used for evaluating models' forecasts in economics and finance. Underlying these tests is often the assumption of constant relative performance between competing models, however this is invalid for many practical applications. In a world of changing relative performance, previous methodologies give rise to spurious and potentially misleading results, an example of which is the well-known "splitting point problem". We propose a new two-step methodology designed specifically for forecast evaluation in a world of changing relative performance. In the first step we estimate the time-varying mean and variance of the series for forecast loss differences, and in the second step we use these estimates to construct a new ranking for models in a changing world. We show that our tests have high power against a variety of fixed and local alternatives.

Asymptotic Theory for Real-time GARCH (1,1) model, May 2017, Working paper, University of Cambridge, *submitted to Econometric Theory*

Abstract: In this paper we investigate the asymptotic properties of the Gaussian Quasi-Maximum-Likelihood estimator (QMLE) for the Real-time GARCH (1,1) model of Smetanina (2017). We establish the ergodicity and β -mixing properties of the joint process for squared returns and the volatility process. We also prove strong consistency and asymptotic normality for the parameter vector at the usual \sqrt{T} rate. Finally, we demonstrate how the developed theory can be viewed as a generalization of the QMLE theory for the standard GARCH (1,1) model.

Misspecification testing of Dynamic Conditional Correlation Models, *April 2017*

Abstract: Underlying most current multivariate volatility models is the assumption of stationarity for the volatility and correlation processes. However, given the fast pace of changing economic and financial contexts, it is reasonable to consider that one or more structural changes may have occurred resulting in a deviation from stationarity. This paper develops several tests for detecting both abrupt and smooth structural changes in the parameters governing a multivariate volatility model. This therefore constitutes a substantial generalization of the work in detecting structural breaks in univariate volatility models. Our tests do not require any prior knowledge of the nature of structural changes under the alternative. Moreover, all tests are easily implementable as they have a standard normal distribution under the null of parameter constancy, and are consistent against a wide range of alternatives with possibly unknown break points.

Multivariate Real-time GARCH: Incorporating current information into covariance structure of asset returns, *March 2017*

Abstract: We present the multivariate extension of the univariate Real-time GARCH model of Smetanina(2017a), which incorporates current information into covariance structure of the asset returns. Similar to the univariate case, we show that most standard BEKK-GARCH type models turn out to be a special case of this more general model. We derive the multivariate conditional density for the returns, investigate the stationarity conditions and derive higher order moments structure. In the empirical application, we apply our model to three different bivariate series and show that the new model provides superior short and long-term volatility and correlations forecasts compared to the standard multivariate volatility models, including DCC-type models.

WORK IN
PROGRESS

Trading Volume and Return Volatility (with Tim Bollerslev), *May 2017*.

Conditional Predictive Ability Tests in Unstable Environments, *October 2017*

The Effect of Minimum Resting Times in a Glosten Model (with J.P. Zigrand and O. Linton), *June 2015*.

PRESENTATIONS

2017-2018: LSE (scheduled), University of Copenhagen (scheduled), Peking University, Cambridge Econometrics Workshop

2016-2017: University of Copenhagen Econometrics Seminar, Peking University Econometrics Seminar, Cambridge Econometrics Workshop

2014-2016: Workshop on on Tail Event Driven Risk Modelling (Cambridge, UK), Conference on Measuring and Modelling Financial Risk with High-Frequency Data (EUI, Italy), 4th Workshop on New Developments in Econometrics of Time Series (Rome, Italy).

PERSONAL
INFORMATION

Gender: F

Citizenship: Russian

Languages: Russian (native), English (fluent), German (advanced)