Ryoko Ito

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CURRENT POSITION

2015-present **Department of Economics and Nuffield College, Oxford University, Postdoctoral Research Fellow**

- Research interests: econometrics, time series analysis, high-frequency finance, non-linear heavy-tailed models in finance, macroeconometrics, macroeconomics.
- Lecturing a module on forecasting in high-frequency finance for the Masters in Financial Economics (MFE) at the Saïd Business School.
- The Junior Dean of Nuffield College (2016-), mentoring students.
- Member of the Oxford-Man Institute of Quantitative Finance.
- Member of the Economic Modelling group, the Institute for New Economic Thinking (INET) of the Oxford Martin School.

EDUCATION

Cambridge University, Trinity Hall (Faculty of Mathematics, Faculty of Economics):

2011-2016 **PhD in Economics (CPGS in 2011-2012)**

- Supervisor: Prof. Andrew Harvey, Research Advisor: Prof. Oliver Linton.
- Examiners: Prof. Mark Salmon (internal), Prof. Anders Rahbek (external).
- Thesis: *Dynamic Conditional Score: Some Asymptotic Theories and Applications to High-Frequency Financial Data*
- PhD chapters accepted as single-authored Cambridge Working Papers in Economics (CWPE1315, CWPE1606, CWPE1607).
- Distinction standard in the first-year (CPGS) coursework component.

2010-2011 **MPhil in Economic Research (Distinction)**

- Awarded *Stevenson Prize* for best overall performance in the MPhil.
- Awarded Trinity Hall's *Bateman Prize* for distinguished performance in the MPhil.
- Courses in time series and financial econometrics, asset pricing, macroeconomics, microeconomics, and a dissertation on volatility forecasting in high-frequency finance using Beta-t-EGARCH (with Prof. Harvey).

2009-2010 **Master of Advanced Study in Mathematics (Distinction)**

- Also known as *Part III of the Mathematical Tripos*.
- Awarded Trinity Hall's *Bateman Scholarship* and *Bateman Prize* for distinguished performance in Part III Mathematics.
- Courses in advanced mathematical finance, time-series analysis, Monte-Carlo inference, and other statistical subjects.

University of Canterbury, New Zealand (Department of Mathematics, Department of Economics):

2003-2006 **Bachelor of Science with Joint-Honours in Mathematics and Economics (First Class)**

- Courses in analysis, dynamical systems, optimization, and core economic subjects.

FORMER EMPLOYMENT / RESEARCH EXPERIENCE

2014-2015 **Morgan Stanley (London), FX Quant/Strats PhD Sponsorship**

- Working on a research project with the FX Strats/Quant team. Analysis of FX order book information. Modeling and forecasting liquidity and price path using high frequency observations of trade volume, quotes, and sizes of popular currency pairs.

2015 **International Monetary Fund, Summer Internship**

- Working on a research project in the European Department (Advanced Economies division). Network modeling and analysis of the propagation effect of banking shocks to non-financial sectors in the Eurozone. Supervisors: Andy Jobst and Kenneth Kang.

2007-2009 **New Zealand Institute of Economic Research (NZIER), Research Economist**

- Quarterly macroeconomic forecasting for NZIER's *Quarterly Survey of Business Opinion*, *Quarterly Predictions*, and *Consensus Forecasts* with Brent Layton (the chair of the New Zealand Electricity Commission)
- Research and consulting work for private and public-sector clients including the New Zealand Department of Labour, Air New Zealand, and the Commerce Commission.
- A weekly column for the *National Business Review* (New Zealand's largest business newspaper)
- Regular presentations to media, businesses, and government departments on macroeconomic outlook

ACADEMIC PAPERS

Harvey, A. and R. Ito, (2017). Modeling Time Series With Zero Observations, *Nuffield College Economics Working Paper 2017-W01*, Oxford University.

Ito, R., (2017). Long Memory and Fractional Differencing: Revisiting Clive W. J. Granger's Contributions and Further Developments, *European Journal of Pure and Applied Mathematics,* 10:82-103. In "Sir Clive W.J. Granger Memorial Special Issue on Econometrics" edited by D. Hendry and J. Castle.

Ito, R., (2016). Asymptotic Theory for Beta-t-GARCH, *Cambridge Working Papers in Economics CWPE1607*, University of Cambridge. [Revisory resubmission at *Econometric Theory*.]

Ito, R., (2016). Spline-DCS for Forecasting Trade Volume in High-Frequency Financial Data, *Cambridge Working Papers in Economics CWPE1606*, University of Cambridge.

Ito, R., (2013). Modeling dynamic diurnal patterns in high frequency financial data, *Cambridge Working Papers in Economics CWPE1315*, University of Cambridge.

James, A., Dungan, R., Plank, M., and Ito, R., (2007). A dynamical model of honeydew droplet production by sooty-beech scale insects (Ultracoelostoma spp.) in New Zealand Nothofagus forest, *Ecological Modelling,* 209, 323-332.

SCHOLARSHIPS AND PRIZES

University of Cambridge:

2014-2015	Royal Economic Society Junior Fellowship
2011-2014	Cambridge Overseas Trust: Cambridge International Scholarship (Honorary capacity in 2011-2013 due to IMF funding)
2011-2013	International Monetary Fund: JISP Scholarship for Advanced Studies
2011	Faculty of Economics: Stevenson Prize for best overall performance in the MPhil
	Trinity Hall: Bateman Prize for distinguished performance in the MPhil
	Toyota Trevelyan Scholarship for Advanced Studies
2010	Cambridge Overseas Trust: Cambridge International Scholarship
	Trinity Hall: Bateman Scholarship and Prize for distinguished performance in Part III Mathematics

University of Canterbury:

2006	Department of Economics Honours Scholarship
	Department of Mathematics and Statistics Honours Scholarship
2005-2006	Department of Mathematics and Statistics Summer Research Project Scholarship
2005	Department of Mathematics and Statistics final-year-level Scholarship

TEACHING EXPERIENCE

2015-2016 **Saïd Business School, University of Oxford**

- Lecturer of *Forecasting and Financial Time Series*, a module in the Masters in Financial Economics (MFE). Covering forecasting in high-frequency finance.

2013-2014 **Faculty of Economics, University of Cambridge**

- Lecturing MPhil *Mathematics Preparatory* Course (Linear Algebra)
- Teaching Assistant for MPhil *Econometric Methods* (M300, core module)
- Lecturing MPhil *Computer Package* Course (Eviews, STATA)
- Supervisions for Part IIA Paper 3 *Econometrics*
- Supervisions for Part IIA Paper 6 *Probability and Statistics*
- Designed and introduced a PhD module: *PhD Mathematical Analysis for Economists*
- Teaching MPhil *Mathematical Surgery* Course
- Teaching MPhil *Dissertation and Plagiarism* Course

2005-2007 **Department of Mathematics, Department of Economics, University of Canterbury**

- Teaching Assistant for MATH264 *Multivariate Calculus and Differential Equations*
- Teaching Assistant for MATH105 *Mathematics 1B* (introduction to advanced calculus and linear algebra)
- Teaching Assistant for ECON104 *Introduction to Microeconomics*

CONFERENCE/INVITED SEMINAR PRESENTATIONS

Mar. 2017 **Econometrics Seminar Series**, Faculty of Economics, Cambridge University, UK.

Mar. 2017 **Vienna-Copenhagen Conference on Financial Econometrics**, University of Vienna, Austria.

Dec. 2016 **The 10th International Conference on Computational and Financial Econometrics (CFE 2016)**, University of Seville, Spain.

Oct. 2016 **Conference on Econometric Models of Climate Change**, Aarhus University, Denmark.

Mar. 2016 **Econometrics Seminar Series**, Department of Economics, Copenhagen University, Denmark.

Jan. 2016 **Econometrics Seminar Series**, Nuffield College, Oxford University, UK.

Sep. 2014 **15th OxMetrics User Conference**, Cass Business School, London, UK.

Apr. 2014 **SoFiE-INET Workshop on Skewness, Heavy Tails, Market Crashes, and Dynamics**, Trinity College, Cambridge University, Cambridge, UK.

Jan. 2014 **Workshop on Score Driven Models**, La Laguna, Tenerife, Spain.

Dec. 2013 **6th International Conference of the ERCIM WG on Computational and Methodological Statistics**, University of London, London, UK.

Mar. 2013 **Humboldt-Copenhagen Conference**, Humboldt-Universität zu Berlin, Berlin, Germany.

Jan. 2013 **Workshop on Score Driven Models**, Tinbergen Institute, Amsterdam, the Netherlands.

SUMMER SCHOOL

2012 **OMI-SoFiE Financial Econometrics Summer School**, Oxford-Man Institute of Quantitative Finance, Oxford, UK. (Fully funded by the organizer. Lecturers: Prof. Francis Diebold and Prof. Peter Christoffersen)

OTHER

Bilingual (English and Japanese). Experience in writing academic research papers and newspaper articles within both Economics and Humanities.

Graduate Student Representative of the Cambridge Economics Faculty / Student Leadership Prize / Orchestra Music Outstanding Player prize / Rock Music Outstanding Player prize / Published rock musical recordings (one EP and one single) with band The New Originals / Winner of the Regional Finals of the Rock Quest in New Zealand