Jeroen Rombouts

Professor, Department Information Systems, Decision Sciences and Statistics (IDS)
Co-Head of the Department

Contact

Mail:
rombouts@essec.edu
Avenue Bernard Hirsch.
BP 50105
95021 Cergy Pontoise cedex
FRANCE

Education

2000 - 2004 : PhD in Econometrics at CORE, UCL

2000 - 2001 : Master in Statistics, UCL

1999 - 2000 : Master in Econometrics, UCL

1995 - 1999 : Master in Economics, KUL

Biography

Ph.D. In Econometrics, CORE, Universite Catholique de Louvain. Currently CORE research associate and Elected Member of the International Statistical Institute. Joined ESSEC in 2013 and formerly professor at HEC Montreal (2004-2012).

Professor Jeroen VK Rombouts joined ESSEC Business School in January 2013. He combines rich data sets with statistical tools to answer financial questions. His research outcomes are published in international peer reviewed journals. He teaches courses of Basic Statistics and Econometrics in the Master and PhD programs. He has been Visiting Scholar at several universities (University of Pittsburg, Tilburg University, Erasmus University Rotterdam, Aarhus University (CREATES) and CORE as a research associate among others). He is an expert consultant in financial econometrics and macro-economic forecasting. Prior to joining ESSEC Business School, Jeroen was Associate Professor at HEC Montreal (2004-2012).

Research Areas

Financial econometrics
Quantitative risk management
Option pricing
Forecasting
Statistics
Time series analysis
Bayesian inference

Publications

Academic Publications

Articles

"Sparse Change-point HAR Models for Realized Variance" (J. Rombouts, A. Dufays,), *Econometric Reviews*, Issue Forthcoming

"Root-T consistent density estimation in GARCH models" (J. Rombouts, A. Delaigle, A. Meister), *Journal of Econometrics*, May 2016, Vol. 192, p. 55-63

"Option Pricing with Asymmetric Heteroskedastic Normal Mixture Models" (J. Rombouts, L. Stentoft), *International Journal of Forecasting*, Issue 3

"A Comparison of Forecasting Procedures for Macroeconomic Series: The Contribution of Structural Break Models" (J. Rombouts, L. Bauwens, G. Koop, K. Dimitris), *Journal of Applied Econometrics*, Mar 2015, Vol. 40, p. 596-620

"Bayesian option pricing using mixed normal heteroskedasticity models" (J. Rombouts, L. Stentoft), *Computational Statistics and Data Analysis*

"Marginal likelihood for Markov-switching and change-point GARCH models" (J. Rombouts, L. Bauwens, A. Dufays), *Journal of Econometrics*

"The Value of Multivariate Model Sophistication: An Application to pricing Dow Jones Industrial Average options" (J. Rombouts, L. Stentoft, F. Violante), *International Journal of Forecasting*

"On the Forecasting Accuracy of Multivariate GARCH Models" (J. Rombouts, S. Laurent, F. Violante), *Journal of Applied Econometrics*, Oct 2013, Vol. 27, Issue 6, p. 934-955

"On Loss Functions and Ranking Forecasting Performances of Multivariate Volatility Models" (J. Rombouts, S. Laurent, F. Violante), *Journal of Econometrics*, Mar 2013, Vol. 173, Issue 1, p. 1-10

"On Marginal Likelihood Computation in Change-Point Models" (J. Rombouts, L. Bauwens), *Computational Statistics and Data Analysis*, Nov 2012, Vol. 56, Issue 11, p. 3415-3429

"A Nonparametric Copula Based Test for Conditional Independence with Applications to Granger Causality" (J. Rombouts, T. Bouezmarni, A. Taamouti), *Journal of Business and Economic Statistics*, Apr 2012, Vol. 30, Issue 2, p. 275-287

"Multivariate Option Pricing with Time Varying Volatility and Correlations" (J. Rombouts, L. Stentoft), *Journal of Banking and finance*, Sep 2011, Vol. 35, Issue 9, p. 2267-2281

"Theory and Inference for a Markov Switching GARCH Model" (J. Rombouts, L. Bauwens, A. Preminger), *Econometrics Journal*, Jul 2010, Vol. 13, Issue 2, p. 218-244

"Nonparametric Density Estimation for Positive Time Series" (J. Rombouts, T. Bouezmarni), *Computational Statistics and Data Analysis*, Feb 2010, Vol. 54, Issue 2, p. 245-261

"Nonparametric Density Estimation for Multivariate Bounded Data" (J. Rombouts, T. Bouezmarni), *Journal of Statistical Planning and Inference*, Jan 2010, Vol. 140, Issue 1, p. 139-152

"Asymptotic Properties of the Bernstein Density Copula for Dependent Data" (J. Rombouts, T. Bouezmarni, A. Taamouti), *Journal of Multivariate Analysis*, Jan 2010, Vol. 101, Issue 1, p. 1-10

"Evaluating portfolio Value-at-Risk using semi-parametric GARCH models" (J. Rombouts, M. Verbeek), *Quantitative Finance*, Sep 2009, Vol. 9, Issue 6, p. 737-745

"Semiparametric Multivariate Density Estimation for Positive Data Using Copulas" (J. Rombouts, T. Bouezmarni), *Computational Statistics and Data Analysis*, Apr 2009, Vol. 53, Issue 6, p. 2040-2054

"Mixed Exponential Power Asymmetric Conditional Heteroskedasticity" (J. Rombouts), *Studies in Nonlinear Dynamics and Econometrics*, Jan 2009, Vol. 13, Issue 3, p. 1-30

"Nonparametric Density and Hazard Function Estimation for Censored Positive Time Series" (J. Rombouts, T. Bouezmarni), *Journal of Nonparametric Statistics*, Oct 2008, Vol. 20, Issue 7, p. 627-643

"Estimation of Temporally Aggregated Multivariate GARCH Models" (J. Rombouts), *Journal of Statistical Computation and Simulation*, Aug 2007, Vol. 77, Issue 8, p. 629-650

"Bayesian Inference for the Mixed Conditional Heteroskedasticity Model" (J. Rombouts, L. Bauwens), *Econometrics Journal*, Jul 2007, Vol. 10, Issue 2, p. 408-425

"Mixed Normal Multivariate Conditional Heteroskedasticity" (J. Rombouts, L. Bauwens), *Computational Statistics and Data Analysis*, Apr 2007, Vol. 51, Issue 7, p. 3551-3566

"Bayesian Clustering of Many GARCH Models" (J. Rombouts, L. Bauwens), *Econometric Reviews*, Apr 2007, Vol. 26, Issue 2, p. 365-386

"Semiparametric Multivariate Volatility Models" (J. Rombouts, C. Hafner), *Econometric Theory*, Mar 2007, Vol. 23, Issue 2, p. 251-280

"Multivariate GARCH Models: A Survey" (J. Rombouts, L. Bauwens, S. Laurent), *Journal of Applied Econometrics*, Jan 2006, Vol. 21, Issue 1, p. 79-109

"Clustered Panel data models: An Efficient Approach for Nowcasting from Poor Data" (J. Rombouts, M. Mouchart), *International Journal of Forecasting*, Jan 2005, Vol. 21, Issue -, p. 577-594

Book Chapters

Econometrics. In: *Handbook of Computational Statistics* (with L. Bauwens). : Springer, 2004, p. 951-980

Teaching

Teaching at ESSEC

Business Statistics (Grande Ecole)

Econometrics (PhD program)

Other Activities

Scientific Activities

Editorial Board Membership

Computational Statistics and Data Analysis, elsevier

International Journal of Forecasting, Elsevier

Conference Presentations

-2013 (May), Fast Density Estimation in Graph Models, CIREQ Econometrics Conference: Time Series and Financial Econometrics, Montreal, Canada
-2013 (May), The Value of Multivariate Model Sophistication: An Application

to Pricing Dow Jones Industrial Average Options, 30th International Conference of the French Finance Association, Lyons, France
-2013 (June), Mixtures Models, Jumps and Option Pricing, 33rd International Symposium on Forecasting, Seoul, Korea

S**eminar presentations:** Marseille IEA, Durham Business School, INRIA, St-Gallen

Consulting and Other Activities

Research Funding
Jeroen's research on financial econometrics requires funding for the following reasons. First, to hire students to help with data retrieval and developing/checking software programs. Second, to access data sources and work with high-end computers. Third, to invite or visit co-authors to collaborate on research papers. Finally, to organize workshops and conferences.

Current Funding
Institut Francais Singapour : Merlian Workshop
European Commission - Marie Curie Grant : BREAKMETRICS project
Institut Louis Bachelier : Price of volatility risk project
Institut Louis Bachelier : Semester in Financial Econometrics
Labex MME-DII : Support for ESOBE conference
Past Funding
CORE
HEC Montreal
FQRSC
Institut de Finance Mathématique

Multinational financial information company: Econometric modelling III (2012)
Multinational financial information company: Econometric modelling II (2011)
Multinational financial information company: Econometric modelling I (2011)
Implementation-backtesting of a trading rule II (2011)
Implementation-backtesting of a trading rule I (2010)

External consultant for an international commodity company (2007)

North American Bank: Selection of hedge fund managers II (2007)
North American Bank: Selection of hedge fund managers I (2006)
European Commission/Eurostat via a consultancy company: Updating and evaluating models for nowcasting R&D variables: 2004 Results (2004)
European Commission/Eurostat via a consultancy company: Updating and evaluating models for nowcasting R&D variables (2003)
US pipeline company: Development of a Bayesian model for financial products (2003)
European Commission/Eurostat via a consultancy company: Development of a model for nowcasting R&D variables (2002)

Professional Experience

- 2014 - Present : Full Professor, ESSEC Business School, Paris - Singapore

- 2014 - Present :Researcher at the Finance and Insurance Lab, CREST

- 2013 - 2014 : Associate Professor, ESSEC Business School

- 2004 - 2012 : Assistant and Associate Professor, HEC Montreal

Visiting professor: CORE, CREATES, KUL and Melbourne University