

BRUNO FEUNOU

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EDUCATION

- Ph.D. in Economics, Université de Montréal, Canada, July 2009.
- Ingénieur Statisticien Économiste, ENSEA d'Abidjan, Ivory Coast, June 2003.
- Bachelor's in Mathematics, University of Yaoundé, Cameroon, June 2000.

FIELDS OF SPECIALIZATION

Financial Economics, Econometrics, Statistics.

PROFESSIONAL ACTIVITIES

- Principal Researcher, Financial Markets Department, Bank of Canada, April 2016-Present.
- Senior Analyst, Financial Markets Department, Bank of Canada, June 2011-March 2016.
- Postdoctoral Associate, Duke University, United States, July 2008-May 2011.
- Lecturer, Duke University, United States, Spring 2009, Spring 2010.
- Teaching Assistant, Université de Montréal, Canada, Fall 2005, Winter 2006.
- Research Assistant, CIRANO and CIREQ, Montreal, Canada, 2004-2006.
- Internship, UN-ECA, Addis Ababa, Ethiopia, Summer 2002.

ARTICLES IN REFEREED JOURNALS

- “Good Volatility, Bad Volatility and Option Pricing” with Cedric Okou. **Journal of Financial and Quantitative Analysis**, Forthcoming.
- “Downside Variance Risk Premium” with Jahan-Parvar Mohammad and Cedric Okou. **Journal of Financial Econometrics**, Forthcoming.
- “Implied Volatility and Skewness Surface” 2017, with Romeo Tedongap and Jean-Sebastien Fontaine. **Review of Derivatives Research**, Volume 20, Issue 2, Pages 167-202.
- “Gaussian Term Structure Models and Bond Risk Premia” with Jean-Sebastien Fontaine. **Management Science**, Forthcoming.
- “Option Valuation with Observable Volatility and Jump Dynamics” 2015, with Peter Christoffersen and Yoontae Jeon. **Journal of Banking and Finance**, Volume 61, Supplement 2, Pages S101–S120.
- “Fourier Inversion Formulas for Multiple Assets Option Pricing” 2015, with Ernest Tafolog. **Studies in Nonlinear Dynamics & Econometrics**, Volume 19, Issue 5, Pages 531–559.
- “Non-Markov Gaussian Term Structure Models: The Case of Inflation,” 2014, with Jean-Sebastien Fontaine. **Review of Finance**, 18 (5): 1953-2001.
- “Which parametric model for conditional skewness?” 2016, with Jahan-Parvar Mohammad and Romeo Tedongap. **European Journal of Finance**, Volume 22, Issue 13, pp. 1237-1271.
- “Equity Premium and the Maturity Structure of Uncertainty,” 2014, with Jean-Sebastien Fontaine, Abderahim Taamouti and Romeo Tedongap. **Review of Finance** 18 (1): 219-269.
- “The Economic Value of Realized Volatility: Using High-Frequency Returns for Option Valuation,” 2014, with Peter Christoffersen, Kris Jacobs and Nour Meddahi. **Journal of Financial and Quantitative Analysis**, volume 49, issue 03, pp. 663-697.
- “A Stochastic Volatility Model with Conditional Skewness,” October 2012, with Romeo Tedongap. **Journal of Business and Economic Statistics**, 30:4, 576-591.
- “Modeling Market Downside Volatility,” 2013, with Jahan-Parvar Mohammad and Romeo Tedongap. **Review of Finance**, 17(1): 443-481.
- “Option Valuation with Conditional Heteroskedasticity and Non-Normality,” 2010, with Peter Christoffersen, Redouane Elkamhi, Kris Jacobs. **Review of Financial Studies**. 23: 2139-2183.

OTHER ARTICLES/POLICY PUBLICATIONS

- “The Impacts of Monetary Policy Statements,” 2017, with Corey Garriott, James Kyeong, Raisa Leiderman. **Bank of Canada Staff Analytical Note 22.**
- “Foreign Flows and Their Effects on Government of Canada Yields,” 2015, with Jean-Sébastien Fontaine, James Kyeong, Jesus Sierra. **Bank of Canada Staff Analytical Note 1.**
- “Measuring Uncertainty in Monetary Policy Using Realized and Implied Volatility” spring 2014, with Bo Young Chang. **Bank of Canada Review.**

WORKING PAPERS

- Which Model to Forecast the Target Rate? 2017, with Jean-Sebastien Fontaine and Jianjian Jin.
- Variance Premium, Downside Risk, and Expected Stock Returns, 2017, with Ricardo Lopez Aliouchkin, Romeo Tedongap and Lai Xu.
- Time-varying Crash Risk: The Role of Market Liquidity, 2016, with Peter Christoffersen, Yoontae Jeon and Chayawat Ornthanalai.
- Risk-Neutral Moment-Based Estimation of Affine Option Pricing Models, 2015, with Cedric Okou. **R&R JAE**
- Tractable Term Structure Models: A New Approach, 2015, with Jean-Sebastien Fontaine, Anh Le and Christian Lundblad.
- Generalized Affine Models, 2009, with Nour Meddahi.

FELLOWSHIPS, SCHOLARSHIPS AND AWARDS

- Montreal Institute of Structured Finance and Derivatives (IFSID) Grant, Project title: Improving Market Risk Assessment by Dissecting the Variance Risk Premium into Downside and Upside components. Co-Applicant: Cedric Okou. CAD 40,000. 2015
- Honours list of the dean of the faculty of graduate and postdoctoral studies of Montreal University, 2009-2010.
- Research Fellowship, CREST, Paris, France, 2007.
- Research Fellowship, IFM2, Canada, 2006-2008.
- Research Fellowship, Banque Laurentienne, Canada, 2005-2006.
- Ph.D. Fellowship, CIREQ, Université de Montréal, Canada, 2003-2006.
- Scholarship, European Union, ENSEA, Abidjan, Ivory Coast, 2000-2003.
- Scholarship, Ministry of Finance, ISSEA, Yaounde, Cameroon, 1998-2000.
- Fellowship, Ministry of Higher Education, University of Dschang, Cameroon, 1997.

VISITING

1-Bank of Canada, May 2010. 2-Stockholm School of Economics, May 2009. 3-Toulouse School of Economics, May 2007, May 2009. 4-CREST, Paris, 2007. 5-Imperial College London, 2006.

PROFESSIONAL SERVICE AND ADMINISTRATIVE EXPERIENCE

- Member of the scientific committee of the Montreal Institute of Structured Finance and Derivatives (IFSID) 2017-Present.

REFEREEING FOR JOURNALS AND CONFERENCES

Journal of Applied Econometrics, Journal of Econometrics, Quantitative Finance, The IFAC journal Automatica, Journal of Empirical Finance, International Journal of Financial Markets & Derivatives, Revue Economique, The Financial Review, Journal of Business and Economic Statistics, Annales d'Economie et de Statistique, Journal of Applied Statistics, The European Journal of Finance, Studies in Nonlinear Dynamics & Econometrics, Review of Financial Economics. International Journal of Forecasting, Journal of Financial Econometrics, IFSID & Bank of Canada Second Conference on Derivatives: Tail Risk, Midwest Finance Association 2014 Annual Meeting, Empirical Economics, The Review of Financial Studies, The Journal of Finance, Journal of Financial and Quantitative Analysis, Review of Finance, Journal of Banking and Finance, Canadian Journal of Economics. Review of Derivatives Research, Northern Finance Association Conference 2016, 2017. Africa Meeting of the Econometric Society 2017.

COURSES TAUGHT

1-Junior Research Seminar, Spring 2009 (co-taught with Tim Bollerslev and George Tauchen), Duke University. 2-Time Series for Financial Analysis, Spring 2010, Duke University. 3-Time Series for Macroeconomics (Macroeconometrics), Winter 2016, Université de Montréal.

PAPERS PRESENTED IN CONFERENCES AND SEMINARS

1. Realized term structure of risk.
 - Workshop on realized Variance, Imperial College, London, UK, 2007.
 - Conference on Volatility and High Frequency Data, Chicago, US, 2007.
2. Option Valuation with Conditional Heteroskedasticity and Non-Normality.
 - European Economic Association Annual Congress, Budapest, Hungary, 2007.
3. Which model for conditional skewness?
 - Econometric Society Annual Congress, Budapest, Hungary, 2007.
 - Brown-Bag Seminar, Bank-of-Canada, Ottawa, Canada, December 2011.
4. Generalized Affine Models.
 - Econometric seminar, University of Toulouse, Toulouse, France, 2007.
 - Finance seminar, CREST, Paris, 2007.
 - Finance department, Laval University, Québec, Canada, 2007.
 - Annual Meeting Allied Social Science Associations, New Orleans US, 2007.
 - Seminar, Oxford-man Institute, Oxford University, UK, 2008.
 - Seminar, Board of governors, Washington, US, 2008.
 - Seminar, Duke University, Durham, US, 2008.
 - Finance Seminar, HEC de Montréal, Montréal, Canada, 2008.
 - Seminar, York University, Economics department, Toronto, Canada, 2008.
 - Seminar, Chicago GSB, Statistics and Econometrics Group, Chicago, US, 2008.
 - Financial Econometrics Conference, Imperial College London, UK, 2008.
 - Finance Seminar, University of Maryland, US, 2008.
5. Discrete Choice Term Structure Models: Theory and Applications.
 - Seminar, Bank-of-Canada, Ottawa, Canada, 2010.
 - Econometrics Conference, Toulouse School of Economics, Toulouse, France 2010.
 - Seminar, North Carolina State University, Economics, Raleigh, US, 2010.
 - Poster session at the 2010 NBER-NSF Time Series conference, Durham, US.
 - Seminar, West-Virginia University, US, 2011.
 - Seminar, Imperial College Business School, UK, 2011.
6. Modeling Market Downside Volatility.
 - Seminar, Bank-of-Canada, Ottawa, Canada, November 2010.
 - Seminar, Board of governors, Washington, US, December 2010.
 - Seminar, School of Finance, St-Gallen University, Switzerland, January 2011.
7. The Economic Value of Realized Volatility: Using High-Frequency Returns for Option Valuation
 - Fourth Annual SoFiE (The Society for Financial Econometrics) Conference, the University of Chicago, Chicago, US, June 2011.
 - Departmental Seminar, Bank-of-Canada, Ottawa, Canada, November 2011.
 - NFA Conference 2012, Niagara Falls, Canada, September 2012.
 - Seminar, Concordia University, Montreal, Canada, October 2012.
 - AFA Annual Meeting, San Diego, US, January 2013.
8. Non-Markov Gaussian Term Structure Models: The Case of Inflation
 - Brown-Bag Seminar, Bank-of-Canada, Ottawa, Canada, December 2011.
 - Departmental Seminar, Bank-of-Canada, Ottawa, Canada, June 2012.
 - Management Forum Seminar, Bank-of-Canada, Ottawa, Canada, September 2012.
 - CEMLA (Central Bank Researchers Network of the American Continent) Meeting, Montevideo, Uruguay, November 2012.
 - Seminar, OCC (Office of the Comptroller of the Currency), Washington, US, December 2012.
 - NFA Conference 2013, Quebec City, Canada, September 2013.

9. Equity Premium and the Maturity Structure of Uncertainty
 - Seminar, ESG, UQAM, Montreal, Canada, January 2013.
10. Bond Risk Premia and Gaussian Term Structure Models
 - NFA Conference 2014, Ottawa, Canada, September 2014.
11. Option Valuation with Observable Volatility and Jump Dynamics
 - 1st Conference on Recent Developments in Financial Econometrics and Applications, Geelong, Australia, December 2014.
12. Affine Term Structure of Risk-Neutral moments Models
 - Inaugural Financial Econometrics and Risk Management conference at Western University, London, Canada, March 2015.
13. Downside Variance Risk-Premium
 - BoC fellowship learning exchange, Ottawa, Canada, May 2015.
 - HEC of Montreal, Finance Department, September 2017.
14. Time-Varying Crash Risk: The Role of Stock Market Liquidity
 - IFSID 2016– FIFTH CONFERENCE ON DERIVATIVES, Montreal, Canada, September 2016.
15. Good Volatility, Bad Volatility and Option Pricing
 - HEC of Montreal, Finance Department, September 2017.
16. A Cross-Sectional Analysis of the Variance Risk Premium.
 - OptionMetrics Research Conference, October 2017.

DISCUSSIONS AT CONFERENCES AND PROFESSIONAL MEETINGS

17. The Affine Arbitrage-Free Class of Nelson-Siegel Term Structure Models, by Christensen, Diebold, Rudebusch, Financial Econometric Conference, Montreal, April 2009.
18. Exploring Time-Varying Jump Intensities: Evidence from S&P500 Returns and Options, by Peter Christoffersen, Kris Jacobs and Chayawat Ornthanalai, Financial Econometric Conference, Toulouse School of Economics, May 2009.
19. A Semiparametric Interest Rate Model Based on Reducible Stochastic Differential Equations and Pseudo Maximum Likelihood Estimation, by Ruijun Bu and Kaddour Hadri, Financial Econometric Conference, Toulouse School of Economics, May 2011.
20. Understanding Equity Option Prices, by Peter Christoffersen, Mathieu Fournier and Kris Jacobs, NFA Conference 2012, Niagara Falls, Canada, September 2012.
21. What determines Professional forecasters' expectations in Chile? The role of the Central Bank's projections, by Michael Pedersen. XVII annual meeting of the central bank researchers network 2012. Montevideo, Uruguay, November 2012.
22. Volatility of Volatility and Tail Risk Premiums, by Yang-Ho Park. IFSID & BANK OF CANADA second conference on derivative: Tail risk. Montreal, Canada. September, 2013.
23. Implied Risk Exposures, by Christophe Perignon, Christophe Hurlin, Sylvain Benoit. NFA Conference 2013, Quebec City, Canada, September 2013.
24. Resolution of Policy Uncertainty and Sudden Declines in Volatility, by Dante Amengual and Dacheng Xiu. The fifth risk management conference, Mont Tremblant, Quebec, Canada, February 2014.
25. Staying at Zero with Affine Processes: A New Dynamic Term-Structure Model, by Jean-Paul Renne, Alain Monfort, Fulvio Pegoraro and Guillaume Roussellet. Financial Econometrics Conference, May 16-17, 2014 - Toulouse School of Economics (TSE).
26. Aggregation of Information about the Cross Section of Stock Returns: A Latent Variable Approach, by Nathaniel Light, Denys Maslov and Oleg Rytchkov. NFA Conference 2014, Ottawa, Canada, September 2014.
27. Economically Implied Tail Risk from Equity Returns, by Caio Almeida, Kym Ardison, Rene Garcia, Jose Vicente and Osmani Guillen. CIREQ Montreal Econometrics Conference: Time Series and Financial Econometrics, Montreal, Canada, May 2015.
28. The Shadow Rate of Interest, Macroeconomic Trends and Time-Varying Uncertainty, by Elmar Mertens and Benjamin Johansson. The 6th Joint Conference by the Bank of Canada and the European Central Bank, Ottawa, Canada, June 2015.
29. Affine Option Pricing Model in Discrete Time, by Eric Renault. Rene Garcia's 65th Anniversary Conference, Montreal, Canada, August 2015.

30. Volatility and Expected Option Returns, by Guanglian Hu and Kris Jacobs. The Sixth Risk Management Conference, Mont Tremblant, Canada, March 2016.
31. Idiosyncratic Jump Risk Matters, by Jean-François Begin, Christian Dorion, Geneviève Gauthier, Sixth ITAM finance conference in Mexico City on June 2-3, 2017.
32. The Pricing of Tail Risk and the Equity Premium: Evidence from International Option Markets, by Torben Andersen, Nicola Fusari and Viktor Todorov; 4th Bank of Canada-Bank of Spain Workshop on International Financial Markets, Ottawa, September 2017.