

CURRICULUM VITAE

CONSTANTINOS KARDARAS

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EMPLOYMENT

- **London School of Economics and Political Science**, Department of Statistics.
Professor (January 2014 – present).
Associate Professor (Reader) (July 2012 – December 2013).
- **Boston University**, Department of Mathematics and Statistics .
Assistant Professor (January 2006 – June 2012).
- **Business University of Athens**
Instructor, M.Sc. in Business Mathematics (December 2000 – August 2001).

EDUCATION

- **Columbia University**, New York, NY, USA (September 2001 – December 2005).
Ph.D. Department of Statistics.
Thesis title: “*The Numéraire Portfolio and Arbitrage in Semimartingale Models of Financial Markets*.” Written under the supervision of I. KARATZAS.
- **Business University of Athens**, Athens, Greece (September 1999 – December 2000).
M.Sc. in Business Mathematics.
- **University of Athens**, Athens, Greece (September 1994 – September 1999).
B.Sc. in Mathematics.

PUBLICATIONS

- **Published and forthcoming papers in peer-reviewed journals**
 - (1) *Diversity and relative arbitrage in equity markets* (2005); with R. FERNHOLZ and I. KARATZAS. *Finance & Stochastics* 9, pages 1–27.

- (2) *The numéraire portfolio in semimartingale financial models* (2007); with I. KARATZAS. *Finance & Stochastics* 11, pages 447–493.
- (3) *Balance, growth and diversity of financial markets* (2008). *Annals of Finance*, volume 4, number 3, pages 369–397.
- (4) *No-Free-Lunch equivalences for exponential Lévy models of financial markets under convex constraints* (2009). *Mathematical Finance*, volume 19, issue 2, pages 161–187.
- (5) *Minimizing expected market time to reach a certain wealth level* (2010); with E. PLATEN. *SIAM Journal of Financial Mathematics*, volume 1, pages 16–29.
- (6) *The continuous behavior of the numéraire portfolio under small changes in information structure, probabilistic views and investment constraints* (2010). *Stochastic Processes and their Applications*, volume 120, issue 3, pages 331–347.
- (7) *Numéraire-invariant preferences in financial modeling* (2010). *Annals of Applied Probability*, volume 20, number 5, pages 1697–1728.
- (8) *Stability of the utility maximization problem with random endowment in incomplete markets* (2011); with G. ZITKOVIC. *Mathematical Finance*, volume 21, issue 2, pages 313–333.
- (9) *On the semimartingale property of discounted asset-price processes* (2011); with E. PLATEN. *Stochastic Processes and their Applications*, volume 121, issue 11, pages 2678–2691.
- (10) *Efficient estimation of diffusion first-passage-time densities via Monte-Carlo simulation* (2011); with T. ICHIBA. *Journal of Applied Probability*, volume 48, issue 3, pages 699–712.
- (11) *Maximum penalized quasi-likelihood estimation of the diffusion function* (2011); with J. HAMRICK, Y. HUANG and M. TAQQU. *Quantitative Finance*, volume 11, number 11, pages 1675–1684.
- (12) *Strict local martingale deflators and pricing American call-type options* (2012); with E. BAYRAKTAR and H. XING. *Finance & Stochastics*, volume 16, issue 2, pages 275–291.
- (13) *A structural characterization of numéraires of convex sets of nonnegative random variables* (2012). *Positivity*, volume 16, issue 2 (2012), pages 245–253.
- (14) *On the Dybvig-Ingersoll-Ross Theorem* (2012); with E. PLATEN. *Mathematical Finance*, volume 22, issue 4, pages 729–740.
- (15) *Market viability via absence of arbitrage of the first kind* (2012). *Finance & Stochastics*, volume 16, issue 4, pages 651–667.
- (16) *Robust maximization of asymptotic growth* (2012); with SCOTT ROBERTSON. *Annals of Applied Probability*, volume 22, number 4, pages 1576–1610.

- (17) *Valuation equations for stochastic volatility models* (2012); with E. BAYRAKTAR and H. XING. *SIAM Journal of Financial Mathematics*, volume 3, pages 351-373.
- (18) *Multiplicative approximation of wealth processes involving no-short-sale strategies via simple trading* (2013); with E. PLATEN. *Mathematical Finance*, volume 23, issue 3, pages 579–590.
- (19) *Forward-convex convergence in probability of sequences of nonnegative random variables* (2013); with G. ZITKOVIC. *Proceedings of the American Mathematical Society*, volume 141, number 3, pages 919–929.
- (20) *Generalized supermartingale deflators under limited information* (2013). *Mathematical Finance*, volume 23, number 1, pages 186–197.
- (21) *On the closure in the Emery topology of semimartingale wealth-process sets* (2013). Forthcoming in the *Annals of Applied Probability*.
- (22) *Abstract, classic, and explicit turnpikes* (2013); with P. GUASONI, S. ROBERTSON and H. XING. Forthcoming in the *Finance & Stochastics*.
- (23) *On the characterisation of honest times that avoid all stopping times* (2014). *Stochastic Processes and their Applications*, volume 124, issue 1, pages 373-384.
- (24) *On the stochastic behavior of optional processes up to random times* (2014). Forthcoming in the *Annals of Applied Probability*.
- (25) *Uniform integrability and local convexity in L^0* (2014). Forthcoming in the *Journal of Functional Analysis*.

- **Contributed papers and book chapters**

- (1) *Stochastic discount factors* (2009). *Encyclopedia of Quantitative Finance*, John Wiley and Sons.
- (2) *Free Lunches* (2009). *Encyclopedia of Quantitative Finance*, John Wiley and Sons.
- (3) *Arbitrage strategy* (2009). *Encyclopedia of Quantitative Finance*, John Wiley and Sons.
- (4) *Finitely additive probabilities and the Fundamental Theorem of Asset Pricing* (2010). *Contemporary Quantitative Finance (Platen Festschrift)*, pages 19–34.
- (5) *A time before which insiders would not undertake risk* (2013). *Inspired by Finance (Musielà Festschrift)*, pages 349–362.

- **Preprints of submitted papers**

- (1) *Strict local martingales and bubbles* (2013); with DÖRTE KREHER and ASHKAN NIKEGHBALI. Submitted
- (2) *Valuation and parity formulas for exchange options* (2012). Conditionally accepted (under revisions) in the *SIAM Journal of Financial Mathematics*

- (3) *The numéraire property and long-term growth optimality for drawdown-constrained investments* (2012); with JAN OBŁOJ and ECKHARD PLATEN.

PROFESSIONAL SERVICE

- **Editorial board member:** Associate Editor for the journal *Applied Stochastic Models in Business and Industry*, John Wiley & Sons, Ltd.
- **Panel member:** Reviewer of postgraduate research proposals for the program *Supporting Postdoctoral Researchers*, appointed by the Greek Ministry of Education.
- **Referee for the following academic journals:** Annals of Probability, Annals of Applied Probability, Finance & Stochastics, Mathematical Finance, Journal of the American Statistical Association, Economic Theory, Annals of Finance, Decisions in Economics and Finance, Quantitative Finance, Management Science, SIAM Journal of Financial Mathematics, Journal of Mathematical Analysis and Applications, Journal of Economic Dynamics and Control, Applied Mathematical Finance, Stochastics, Stochastic Processes and Applications, Journal of Risk, Methodology and Computing in Applied Probability, International Journal of Theoretical and Applied Finance.

TALKS

- **Plenary or invited speaker at conferences**
 - Quantitative Math Finance conference, Sydney (2007, 2008, 2009, 2010, 2011, 2013 & 2014 — plenary speaker for each conference).
 - Oberwolfach workshop in Stochastic Analysis (2008, 2011 & 2014 — invitation-only event).
 - Monash-Ritsumeikan Symposium on Probability and Related Fields (Monash University 2008 — invited speaker)
 - Fields Institute workshop on Foundations of Mathematical Finance (2010).
 - Bachelier conference — speaker (2010).
 - Analysis, Stochastics and Applications (Vienna University, 2010 — plenary speaker).
 - Advances in Portfolio Theory and Investment Management Workshop (Oxford-Man Institute, 2011).
 - UT-Austin Portugal Workshop in Mathematics (Lisbon, 2012 — plenary speaker).
 - Frontiers in Financial Mathematics (Dublin, 2013 — plenary speaker)
 - Advanced Finance and Stochastics (Moscow, 2013 — plenary speaker).
 - Innovation in Stochastic Analysis and Mathematical Finance, (Bergen, 2013 — plenary speaker).

- Banff workshop in Mathematical Finance: Arbitrage and Portfolio Optimization (2014 — organiser for invitation-only event).
- Conference on Robust Management in Finance (Paris, 2014 — plenary speaker).
- Stochastic analysis for risk modelling (France, 2014 — plenary speaker)
- **Invited speaker at university seminars:** Carnegie Mellon University, Boston University, Columbia University, University of Texas at Austin, Princeton University, Rutgers University, University of Michigan, University of Connecticut, Brown University, University of California at Santa Barbara, Worcester Polytechnic Institute, Osaka University, Academia Sinica (Taipei), Ritsumeikan University, Fields Institute Quantitative Finance Seminar, Humboldt University of Berlin, École Polytechnique (Paris), London School of Economics, Oxford University (Nomura lectures), Imperial College, King's College.

VISITING POSITIONS

- **University of Technology, Sydney:** Visiting professorship for the mid-December – mid-January period during the academic years 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, and 2013-2014.
- **Osaka University:** Visiting professorship during the summer of 2010.
- **Université Paris Dauphine:** Visiting professorship during the summers of 2011 and 2012.

TEACHING EXPERIENCE

- **London School of Economics and Political Science:** fully responsible for teaching the following courses: *Survival models* (undergraduate level) and *Stochastic Processes* (M.Sc. level).
- **Boston University:** fully responsible for developing and teaching the following courses: *Applied Statistics*, *Stochastic Processes* (undergraduate level), *Fundamentals of Finance*, *Stochastic Calculus and applications in Mathematical Finance*, *Computational Methods in Mathematical Finance*, *Optimal Control and Investment* (M.Sc. level), *Mathematical Finance Theory* (Ph.D. level).
- **Columbia University:** fully responsible for teaching and grading the course *Introduction to Statistical Reasoning* — Fall 2003. Teaching assistant for the courses *Introduction to Statistics* (elementary), *Introduction to Probability and Statistics* (advanced), *Real Analysis and Probability* (one-year graduate course).
- **M.Sc. program in Business Mathematics, Business University of Athens:** during 2001 and the summers of 2002 - 2005 gave seminars and classes on *Risk Theory*, *Stochastic Processes*, *Measure Theory* and *Stochastic Portfolio Theory*.

AWARDS AND GRANTS

- **Marie Curie Career Integration Grant:** for the project “Topics on Probability and Convexity in Finance” (covering four years, started in September 2013).
- **LSE Students’ Union Student-Led Teaching Award:** for the academic term 2012-2013.
- **National Science Foundation grant DMS-1204036:** for the “Workshop on Probability, Control and Finance,” to honour I. Karatzas’ 60th birthday. Co-PI.
- **Favourite Professor Award (Inaugural, second-year and third-year recipient; academic terms 2009-2010, 2010-2011, 2011-2012):** for the program in Mathematical Finance at Boston University.
- **National Science Foundation grant DMS-0908461:** for the project “The Numéraire in Stochastic Finance” (covering September 2009 – August 2012). PI.
- **Bruti-Liberati Fellowship (Inaugural recipient):** for visiting the Economics and Finance department of University of Technology, Sydney (2008).
- **Howard Levene Outstanding Teaching Award:** for teaching *Introduction to Statistical Reasoning* at Columbia University (2003).
- **Faculty Fellowship:** for graduate study at Columbia University (2001).
- **First of the class with honours:** graduation from M.Sc. “Business Mathematics”, University of Athens, class of 40 students (2000).
- **European Union Scholarship:** for graduate study at the Business University of Athens (1999).
- **First of the class with honours:** graduation from the Mathematics Department of the University of Athens, class of 100 students (1999).

SKILLS

- **Languages:** Greek (native), English (fluent), Spanish (intermediate), Korean (beginning).
- **Programming/Computing:** C/C++, Matlab, Mathematica, R, L^AT_EX.
- **Music:** Guitar.