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EMPLOYMENT

Professor of finance and statistics
at [GFRI](#), [Université de Genève](#).



Co-director of the [Master of Science in Finance](#)



Senior Chair at [Swiss Finance Institute](#).

swiss:finance:institute



Head of Project 10 in [NCCR FINRISK](#).

Education

1996

Ph. D. Thesis from Université Paris IX Dauphine, U.F.R. Mathématiques de la décision : *"Modelling and Estimation of the Term Structure of Interest Rates"*

1993 - 1994

DEA MASE, Université Paris IX Dauphine

1991 - 1993

Master in statistics, Université Libre de Bruxelles

1986 - 1991 **Business degree** (Ingénieur Commercial), Finance Option, Ecole de Commerce Solvay, Université Libre de Bruxelles

Research interests

- Financial Econometrics
- Term Structure Modelling
- Risk Management in Finance and Insurance
- Derivative Pricing
- Asset Allocation
- Encompassing Theory
- Nonparametric Statistics
- Specification Tests

Books

- *Econométrie de la Finance : Analyses Historiques*, with C. Gouriéroux and A. Szafarz, Collection Economie et Statistiques Avancées, Editions Economica, Paris (1997). ISBN 2-7178-3502-4.

Publications in Econometrics

A. Econometric Theory

- "*Robust subsampling*", with L. Camponovo and F. Trojani, *Journal of Econometrics*, 167, (2012), 197-210. [Abstract pdf](#)
- "*Nonparametric instrumental variable estimators of quantile structural effects*", with P. Gagliardini, *Econometrica*, 80, (2012), 1533-1562. [Abstract pdf](#) [Technical report](#)
- "*Tikhonov regularisation for nonparametric instrumental variable estimators*", with P. Gagliardini, *Journal of Econometrics*, 167, (2012), 61-75. [Abstract pdf](#) [Technical report](#)
- "*Testing for equality between two copulas*", with B. Rémillard, *Journal of Multivariate Analysis*, 100, (2009), 377-386. [Abstract pdf](#)
- "*Local multiplicative bias correction for asymmetric kernel density estimators*", with M. Haggmann, *Journal of Econometrics*, 141, (2007), 213-249. [Abstract pdf](#)
- "*Multivariate wavelet-based shape preserving estimation for dependent observations*", with A. Cosma and R. von Sachs, *Bernoulli*, 13, (2007), 301-329. [Abstract pdf](#)
- "*A Kolmogorov-Smirnov type test for shortfall dominance against parametric alternatives*" with M. Denuit and A.-C. Goderniaux, *Technometrics*, 49, (2007), 88-99. [Abstract pdf](#)

- "Kernel based goodness-of-fit tests for copulas with fixed smoothing parameters", Journal of Multivariate Analysis, 98, (2007), 533-543. [Abstract pdf](#)
- "A fast subsampling method for nonlinear dynamic models", with H. Hong, Journal of Econometrics, 133, (2006), 557-578. [Abstract](#)
- "A Kolmogorov-Smirnov type test for positive quadrant dependence ", Canadian Journal of Statistics, 33, (2005), 415-427. [Abstract pdf ps](#)
- "Consistency of asymmetric kernel density estimators and smoothed histograms with application to income data", with T. Bouezmarni, Econometric Theory, 21, (2005), 390-412. [Abstract](#)
- "Density estimation using inverse and reciprocal inverse Gaussian kernels", Journal of Nonparametric Statistics, 16, (2004), 217-226. [Abstract pdf ps](#)
- "Indirect inference, nuisance parameter and threshold moving average models" with A. Guay, Journal of Business and Economic Statistics, 21, (2003), 122-132. [Abstract](#)
- "Instrumental models and indirect encompassing" with G. Dhaene and C. Gouriéroux, Econometrica, 66, (1998), 673-688. [Abstract](#)
- "Quasi indirect inference for diffusion processes" with L. Broze and J.M. Zakoïan, Econometric Theory, 14, (1998), 161-186. [Abstract](#)
- "Estimation d'équations de diffusion à partir d'observations discrètes et de méthodes fondées sur des simulations" with L. Broze and J.M. Zakoïan, Mélanges en l'honneur de Simone Huyberegts, Cahiers du CERO, Vol. 36, (1994), 43-55.

B. Econometrics applied to Finance and Insurance

- "Technical trading revisited: persistence tests, transaction costs, and false discoveries" with P. Bajgrowicz, forthcoming in Journal of Financial Economics. [Abstract pdf](#)
- "False discoveries in mutual fund performance: Measuring luck in estimated alphas" with L. Barras and R. Wermers, Journal of Finance, 65, (2010), 179-216, **Banque Privée Espirito Santo Award Prize 2008**. [Abstract pdf](#) [NYTimes 13/07/2008](#) [Le Temps 19/11/2008](#) [Le Temps 24/11/2008](#) [Forbes Investment Guide 08/12/2008](#) [L'Hebdo Supplement Finance Hiver 2009](#) [L'Agefi 30/03/2009](#) [La Libre Entreprise 13/06/2009](#) [Financial Times 21/10/2009](#) [Financial Times 02/05/2010](#) [Financial Times 09/05/2010](#) [National Post 29/06/2010](#)
- "Testing for stochastic dominance efficiency" with N. Topaloglou, Journal of Business and Economic Statistics, 28, (2010), 169-180. [Abstract pdf](#)
- "Testing for threshold effect in ARFIMA models: Application to US unemployment rate data" with A. Lahiani, International Journal of Forecasting, 25, (2009), 418-428. [Abstract pdf](#)
- "Local transformation kernel density estimation of loss distributions", with J. Gustafson, M. Hagmann and J.P Nielsen, Journal of Business and Economic Statistics, 27, (2009), 161-175. [Abstract pdf](#)
- "Assessing multivariate predictors of financial market movements: A latent factor framework for ordinal data" with P. Huber and Maria-Pia Victoria-Feser, Annals of Applied Statistics, 3, (2009), 249-271. [Abstract pdf](#)

- *"Business and financial indicators: what are the determinants of default probability changes?"* with F. Couderc and O. Renault, in *Credit Risk: Models, Derivatives, and Management*, Chapman & Hall, Financial Mathematics Series, (2008), 235-268. [Abstract pdf](#)
- *"The estimation of copulas: theory and practice"* with A. Charpentier and J.-D. Fermanian, in *Copulas: From theory to application in finance*, Ed: Rank J., Risk Publications, London, (2007), Section 2.
- *"Estimation of recovery rate densities: non-parametric and semi-parametric approaches versus industry practice"* with M. Hagmann and O. Renault, *Recovery Risk: The Next Challenge in Credit Risk Management*, Eds: Resti, A., Sironi, A., Altman E., Risk Publications, London, (2005), 323-346.
- *"Sensitivity analysis of VaR and Expected Shortfall for portfolios under netting agreements"* with J.D. Fermanian, *Journal of Banking and Finance*, 29, (2005), 927-958. [Abstract pdf ps](#)
- *"Some statistical pitfalls in copula modeling for financial applications"* with J.D. Fermanian, in *Capital Formation, Governance and Banking*, Nova Science Publishers (2005), 57-72. [Abstract pdf ps](#)
- *"Nonparametric estimation of conditional expected shortfall"*, *Revue Assurances et Gestion des Risques/Insurance and Risk Management Journal*, 74, (2005), 639-660. [Abstract pdf ps](#)
- *"Non parametric tests for positive quadrant dependence"* with M. Denuit, *Journal of Financial Econometrics*, 2, (2004), 422-450. [Abstract](#)
- *"On the way to recovery: A nonparametric bias free estimation of recovery rate densities"* with O. Renault, *Journal of Banking and Finance*, 28, (2004), 2915-2931. [Abstract pdf ps](#)
- *"Testing for concordance ordering"*, with A. Cebrian and M. Denuit, *Astin Bulletin*, 34, (2004), 151-173. [Abstract](#)
- *"Option pricing with discrete rebalancing"*, with J.L. Prigent and O. Renault, *Journal of Empirical Finance*, 11, (2004), 133-161. [Abstract](#)
- *"Nonparametric estimation and sensitivity analysis of expected shortfall"*, *Mathematical Finance*, 14, (2004), 115-129. [Abstract](#)
- *"The origin and development of VaR"*, in *Modern Risk Management: A History, 15th Anniversary of Risk Magazine*, Risk Publications, London, (2003), 151-158.
- *"Nonparametric estimation of copulas for time series"*, with J.D. Fermanian, *Journal of Risk*, 5, (2003), 25-54. [Abstract pdf ps](#)
- *"A nonparametric analysis of stock index return dependence through bivariate copulas"*, *European Investment Review*, 1, (2002), 7-16.
- *"The dynamics of US credit spread indices"*, with O. Renault, *European Investment Review*, 1, (2002), 45-49.
- *"An empirical investigation in credit spread indices"* with J.L. Prigent and O. Renault, *Journal of Risk*, 3, (2001), 27-55. [Abstract pdf ps](#)
- *"Sensitivity analysis of Values at Risk"*, with C. Gouriéroux and J.P. Laurent, *Journal of Empirical Finance*, **Bi-Annual Award Winning Paper of Best Paper published in JEF**, 7, (2000), 225-245. [Abstract](#)
- *"Multiregime term structure models"* with C. Gouriéroux, *Finance*, 19, (1998), 71-92.
- *"Analyse empirique de la théorie des anticipations de la structure par terme des taux d'intérêt"*, *Bulletin du Service d'Analyse Economique de l'IRES*, Janvier, (1998), 101-

127.

- "A new index of Belgian shares" with R. Anderson and D. Reinard, *Revue de la Banque*, 3, (1998), 126-130.
- "Unemployment insurance and mortgages" with C. Gouriéroux, *Insurance : Mathematics and Economics*, 20, (1997), 173-195. [Abstract](#)
- "Comparaison de la rentabilité historique de l'immobilier, des actions, des obligations et du monétaire" with T. de Roquemaurel, *Banque et Marchés*, 28, (1997), 16-20.
- "Estimation de modèles de la structure par terme des taux d'intérêt" with L. Broze and J.M. Zakoian, *Revue Economique*, XLIV Congrès de l'AFSE, Vol. 47, N° 3, (1996), 511-519.
- "Testing for continuous-time models of the short-term interest rate" with L. Broze and J.M. Zakoian, *Journal of Empirical Finance*, Vol. 2, (1995), 199-223. [Abstract](#)

Publications in Asset Pricing

A. Derivative Pricing

- "Pricing American options under stochastic volatility and stochastic interest rates" with A. Medvedev, *Journal of Financial Economics*, 98, (2010), 145-159. [Abstract pdf](#)
- "A primer on weather derivatives", with P. Barrieu, *Handbook on Uncertainty and Environmental Decision Making*, International Series in Operations Research and Management Science, Springer Verlag, forthcoming (2008). [Abstract pdf](#)
- "Weather derivatives", with P. Barrieu, *Encyclopedia of Quantitative Finance*, John Wiley & Sons Ltd, forthcoming (2008). [pdf](#)
- "CMS spread options", with S. Galluccio, *Encyclopedia of Quantitative Finance*, John Wiley & Sons Ltd, forthcoming (2008). [Abstract pdf](#)
- "Swap market models", with S. Galluccio, *Encyclopedia of Quantitative Finance*, John Wiley & Sons Ltd, forthcoming (2008). [Abstract pdf](#)
- "Linear-quadratic jump-diffusion modelling", with P. Cheng, *Mathematical Finance*, 17, (2007), 575-598. [Abstract pdf](#)
- "Approximation and calibration of short-term implied volatilities under jump-diffusion stochastic volatility", with A. Medvedev, *Review of Financial Studies*, 20, (2007), 427-459. [Abstract pdf](#)
- "Theory and calibration of Swap Market Models", with S. Galluccio, Z. Huang and J.-M. Ly, *Mathematical Finance*, 17, (2007), 111-141. [Abstract](#)
- "An autoregressive conditional binomial option pricing model" with J.L. Prigent and O. Renault, in *Selected Papers from the First World Congress of the Bachelier Finance Society*, eds. Geman, Madan, Pliska and Vorst, Springer Verlag, Heidelberg, (2001), Inquire UK prize 2001. [Abstract pdf ps](#)
- "Convergence of discrete time option pricing models under stochastic interest rates", with J.P. Lesne and J.L. Prigent, *Finance and Stochastics*, 4, (2000), 81-93. [Abstract](#)
- "A correction note on the first passage time of an Ornstein-Uhlenbeck process to a boundary", with B. Leblanc and O. Renault, *Finance and Stochastics*, 4, (2000), 109-111. [Abstract](#)

- *"Lookback and barrier options: A comparison between Black-Scholes and ACB pricing"* with J.L. Prigent and O. Renault, Finance, 20, (1999), 143-152. [Abstract](#) pdf ps
- *"Path dependent options on yields in the affine term structure model"*, with B. Leblanc, Finance and Stochastics, 2, (1998), 349-367. [Abstract](#)
- *"Compound and exchange options in the affine term structure model"*, Applied Mathematical Finance, Vol. 3, (1996), 75-92. [Abstract](#)
- *"Options on futures and forward contracts in the affine term structure model"*, with B. Leblanc, Advances in Futures and Options Research, Vol. 8, (1995), 241-261.

B. Asset Allocation

- *"Optimal asset allocation for pension funds under mortality risk during the accumulation and decumulation phases"*, with P. Battocchio and F. Menoncin, Annals of Operations Research, 142, (2007), 141-165. [Abstract](#) pdf ps
- *"Optimal asset management for pension funds"*, with F. Menoncin, Managerial Finance, Vol. 32, (2006), 347-374. [Abstract](#) pdf

Working Papers in Econometrics

A. Econometric Theory

- *"Testing for symmetry and conditional asymmetry with asymmetric kernels"*, with M. Fernandes and E. Mendes, HEC Genève DP 2011.01 and Swiss Finance Institute DP2011.32. [Abstract](#) pdf
- *"Robust resampling methods for time series"*, with L. Camponovo and F. Trojani, HEC Genève DP and Swiss Finance Institute DP 2009.38. [Abstract](#) pdf
- *"A specification test for nonparametric instrumental variable regression"*, with P. Gagliardini, HEC Genève DP 2007.06 and Swiss Finance Institute DP 2007.13. [Abstract](#) pdf [Technical report](#)
- *"Reverse score and likelihood ratio tests"* with G. Dhaene, IRES DP 2026 and CREST DP 2000-60. [Abstract](#) pdf ps
- *"Bartlett identities tests"* with A. Chesher, G. Dhaene and C. Gouriéroux, IRES DP 9919, CREST DP 9932 and CORE DP 9939. [pdf](#) ps
- *"Forecast intervals in ARCH exponential smoothing"* with L. Broze and G. Mélard, CORE DP 9481 and CREST DP 9502.
- *"Estimation of models with ARCH errors and applications"* with R. Azrak and G. Mélard, User's guide TSE Time Series Software, 1993.

B. Econometrics applied to Finance and Insurance

- *"Time-varying risk premium in large cross-sectional equity datasets"* with P. Gagliardini and E. Ossola, HEC Genève DP and Swiss Finance Institute DP 2011.40. [Abstract](#) pdf

- *"Jumps in high-frequency data: spurious detections, dynamics and news"* with P. Bajgrowicz, HEC Genève DP 2011.03 and Swiss Finance Institute DP 2011.36. [Abstract pdf](#)
- *"Reconstitution de la courbe des taux zéro-coupon et modèles d'arbitrage"* with A. Frachot, mimeo.
- *"Estimation of the term structure from bond data"* with C. Gouriéroux, CREST DP 9415 and CEPREMAP DP 9415.

Working Papers in Asset Pricing

A. Derivative Pricing

- *"Weak convergence of hedging strategies of contingent claims"* with J.L. Prigent, FAME DP 39 and HEC Genève DP 2002.02. [Abstract pdf ps](#)
- *"Variance optimal cap pricing models"*, with J.P. Laurent, IRES DP 9902 and CREST DP 9907. Abstract [pdf ps](#)

B. Asset Allocation

- *"Mortality risk and real optimal asset allocation for pension funds"*, with F. Menoncin, HEC Genève DP 2003.23 and FAME DP 101. [Abstract pdf ps](#)

EDITORIAL ACTIVITIES

- Associate Editor (2007-) of the [Journal of Business and Economic Statistics](#).
- Associate Editor (2011-) of [Econometric Theory](#).
- Associate Editor (2012-) of [Econometrics Journal](#).
- Associate Editor (2012-) of [Management Science](#). Distinguished Service Award 2013.
- Associate Editor (2011-) of the [Journal of Banking and Finance](#).
- Associate Editor (2012-) of [Stat](#).
- Associate Editor (2013-) of [Stochastic Analysis and Applications](#).
- Co-Editor of the special issue "(EC)2 Conference Econometrics of Financial and Insurance Risks", Vol 5, 1, Winter 2007, of the [Journal of Financial Econometrics](#).
- Co-Editor of the special issue "Semiparametric methods in econometrics", 2007, of the [Journal of Econometrics](#).