Curriculum Vitae
MARIA ELVIRA MANCINO

Affiliation

Department of Economics and Management
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Education

• Degree in Mathematics - University of Pisa (1990). Summa cum Laude.

• PhD in Mathematics - University of Trento (1994). Field of study: Anticipative Stochastic Integrals and Malliavin Calculus.

Academic Positions

• Permanent Assistant Professor of Probability and Mathematical Statistics, Department of Mathematics for Decisions, University of Firenze, 1993 - 2000.

• Associate Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance, Department of Mathematics for Decisions, University of Firenze, 2000 - 2006

• Full Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance, Department of Mathematics for Decisions, University of Firenze, 2006 - 2012

• Full Professor of Mathematical Methods for Economics, Actuarial Sciences and Finance, Department of Economics and Management, University of Firenze, 2013 - present

• Adjunct Professor of Mathematical Finance, Scuola Normale Superiore Pisa, 2015 - present

Institutional Services

• Head of the Committee of *Indirizzo e Autovalutazione* of the Department of Economics and Management, University of Firenze (January 2017-present)

• Director of the Master of Science in Finance and Risk Management, University of Firenze (November 2012 -present)

• Head of Department of Mathematics for Decisions, University of Firenze (01/11/2008 - 31/12/2012)

• Member of the PhD Committee for the program *Matematica per la Finanza*, Scuola Normale Superiore di Pisa, since 2015

• Member of the PhD Committee for the Fibonacci PhD School, University of Pisa (2006-2012)

Visiting Professor

• Department of Mathematics, Univ. Paul Sabatier, Toulouse, France (2009), Joint collaboration with Prof Monique Pontier
• Department of Mathematical Sciences, Ritsumeikan University of Kusatsu, Japan (2003, 2010), Joint collaboration with Prof S. Ogawa and Prof J. Akahori

MIUR Funding

Local Coordinator (University of Firenze) Miur Research Project 2006, Credit Risk.

Prizes and Award

Best paper awards JSIAM Letters, (2012)

Post-doc supervision

2011-2012 Post-doc grant (1 year) co-founded by Comune di Firenze "Struttura di capitale delle imprese innovative nel territorio di Firenze", Dr Flavia Barsotti

2014-2015 Post-doc grant (1 year) "Modelli quantitativi per l'economia, la finanza e le scienze attuariali", Dr Valeria Bignozzi

2017-2018 Post-doc grant (1 year) "Modelli quantitativi per l'economia, la finanza e le scienze attuariali", Dr Erindi Allaj

Research activity

Member of: Econometric Society, Associazione per la matematica applicata alle scienze economiche e sociali (AMASES), Gruppo Nazionale Analisi Matematica, Probabilità e Applicazioni (INDAM-GNAMPA).

Invited Talks: Kanazawa (March 2002), Paris XIII (February 2007), Oslo (March 2009), Toulouse (June 2009), Kyoto (March 2010), Karlsruhe (September 2010), Wien (April 2011), Ascona (May 2011), Beppu (March 2012), Scuola Normale Superiore (March 2012), Oberwolfach (September 2013) , Dortmund (March 2014), Università Politecnica delle Marche (July 2014), Edinburgh (June 2016)

Referee for Peer Reviewed journals: Journal of Mathematical Economics; Quantitative Finance; Infinite Dimensional Analysis Quantum Probability and Related Topics; Decisions in Economics and Finance; Computational Statistics and Data Analysis; International Journal of Theoretical and Applied Finance; Journal of Econometrics; Mathematical Finance; Time Series Analysis Journal; Stochastic Processes and their Applications; Annals of Operational Research; Journal of Korean KS; Mathematical Problems in Engineering; Bollettino Unione Matematica Italiana; Mathematical Review; Bernoulli.

Projects and Research Evaluation

Referee for Firb projects 2012

Referee for research awards and local research projects 2013 (University of Venezia)

Monitoring and valuation for the project FutureInResearch, RTD-A SECS-S/06, 36 months (2017-2019) Regione Puglia and Department of Scienze per l'Economia University of Salento

Recruiting Boards

Associate Professor, University of Firenze 2014
Assistant Professor (RTD-A), Scuola Normale Superiore 2016
Senior Assistant Professor (RTD-B), University of Verona 2016
Associate Professor, University of Siena 2016
Full Professor, University of Firenze 2017
Assistant Professor (RTD-A), Scuola Normale Superiore 2017
Associate Professor, University of Torino 2017

Principal tutor for PhD dissertation:

Flavia Barsotti, "Optimal Capital Structure with Endogenous Bankruptcy: Payouts, Tax benefits Asymmetry and Volatility Risk", discussed on June 2011, Fibonacci PhD School, University of Pisa. Awarded with the 2nd edition of *Best PhD Thesis Award* of UniCredit & Universities Foundation. Co-supervised by Prof Monique Pontier.

Matteo Del Vigna, "Information Asymmetry and Equilibrium Models in Behavioral Finance", discussed on January 2012, Fibonacci PhD School, University of Pisa. Co-supervised by Prof Luciano Campi.

Imma Valentina Curato "Non parametric estimations of volatility of volatility and leverage using integral transforms", discussed on October 2013, Fibonacci PhD School, University of Pisa.

Committee for PhD dissertation:

Inga Baadshaug Eide, PhD in Mathematics, Oslo University, (2009)

Luca Sitzia, PhD in Economics University of Torino (2012)

Gianbiagio Curato, PhD in Mathematical Finance, Scuola Normale Superiore (2015)

Adam Majeski, PhD in Mathematical Finance, Scuola Normale Superiore (2015)

Tommaso Colozza, Fibonacci PhD School, University of Pisa (2015)

Marcello Rambaldi, PhD in Mathematical Finance, Scuola Normale Superiore (2017)

Principal tutor for Master's Thesis:

Katia Fiorucci, MsC in Statistics, University of Firenze

Emanuele Leoncini, MsC in Mathematics, University of Firenze

Flavia Barsotti, MsC in Economics, University of Pisa

Andrea Marzoli, MsC in Banking, Insurance, Financial Markets, University of Firenze

Francesca Zucchi, MsC in Banking, Insurance, Financial Markets, University of Firenze

Luca Paparella, MsC in Economics, University of Pisa

Dimitri Lorenzani, MsC in Corporate Finance and Financial Markets, Scuola Sant'Anna, Pisa

Emanuele Squillantini, MsC in Banking, Insurance, Financial Markets, University of Firenze

Elena Rapini, MsC in Banking, Insurance, Financial Markets, University of Firenze

Jacopo Fabiani, MsC in Finance and Risk Management, University of Firenze, (co-supervised by Dr Eric Reynolds, MPS)

Giacomo Toscano, MsC in Finance and Risk Management, University of Firenze

Irene Magni, MsC in Finance and Risk Management, University of Firenze (co-supervised by Dr Flavia Barsotti, UniCredit)

Cosimo Zangari, MsC in Finance and Risk Management, University of Firenze (co-supervised by Prof Claude Martini, Zeliade, Paris)

Yen Pham, MsC in Finance and Risk Management, University of Firenze

Alessio Brini, MsC in Finance and Risk Management, University of Firenze

Teaching Activities

• **Bachelor courses:** Basic Calculus, Linear Algebra, Financial Mathematics, Mathematical Statistics, Probability Theory (University of Firenze, University of Pisa)

• **Master courses:** Advanced Calculus, Measure Theory, Stochastic Processes, Stochastic Calculus for Financial Applications, Portfolio Theory, Quantitative Finance and Derivatives (University of Firenze, University of Pisa)

• **PhD courses:** Stochastic Processes, Mathematical Models of Financial Derivatives (Univ. of Pisa); Mathematical Finance 2015-2016 (20 hrs), 2016-17 (46 hrs), 2017-18 (30 hrs)(Scuola Normale Superiore - Pisa).

Selected publications

Journal Articles

Mancino M.E. with Curato I. and Recchioni M.C.: Spot Volatility Estimation using the Laplace Transform. **Econometrics and Statistics** (online 11 November 2016)

Mancino M.E. with Barsotti F. and Pontier M.: Switching Tax Structure and Payouts in Endogenous Bankruptcy Models. **Stochastics: An International Journal of Probability and Stochastic Processes**, 88 (2), (2016) pg.163-190
DOI: 10.1080/17442508.2015.1046874

Mancino M.E. with Recchioni M.C.: Fourier spot volatility estimator: asymptotic normality and efficiency with liquid and illiquid high-frequency data. **PLOS ONE**,
DOI:10.1371/journal.pone.0139041 (2015)

Mancino M.E. with Curato I. and Sanfelici S.: High frequency volatility of volatility estimation free from spot volatility estimates. **Quantitative Finance** 15 (8), (2015) pp. 1331-1345
DOI: 10.1080/14697688.2015.1032542

Mancino M.E. with Liu N.L.: Fourier Estimation Method Applied to Forward Interest Rates. **JSIAM Letters**, (2012) vol. 4, pp. 17-20, ISSN:1883-0609

Mancino M.E. with Barsotti F. and Pontier M.: The Role of a Firms Net Cash Payouts in Lelands (1994) Model. **Economics Notes**, vol. 41, no. 3-2012, pp. 115-144 (2012)

Mancino M.E. with Sanfelici S.: Estimation of Quarticity with High Frequency Data. **Quantitative Finance**, 12(4) (2012), 607-622

Mancino M.E. with Sanfelici, S.: Estimating covariance via Fourier method in the presence of asynchronous trading and microstructure noise. **Journal of Financial Econometrics**, 9(2) (2011), 367-408

Mancino, M.E. with Barucci E. and Magno D.: Fourier volatility forecasting with high frequency data and microstructure noise. **Quantitative Finance**, (2010) ISSN: 1469-7688, doi: 10.1080/14697680903413589

Mancino M.E. with Barucci, E.: Computation of volatility in stochastic volatility models with high frequency data. **International Journal of Theoretical and Applied Finance**, (2010) vol. 15, n.5.

Mancino, M.E. with Dorobantu, D., and Pontier, M.: Optimal strategies in a risky-debt context. **Stochastics: An International Journal of Probability and Stochastic Processes**, (2009) vol. 81:3; p. 269-277, ISSN: 1744-2508

Mancino, M.E. with Malliavin P.: A Fourier transform method for nonparametric estimation of multivariate volatility. **The Annals of Statistics**, vol. 37, n.4, 1983-2010, (2009) ISSN: 0090-5364, doi: 10.1214/08-AOS633.

Mancino, M.E. with Sanfelici S.: Robustness of Fourier Estimator of Integrated Volatility in the Presence of Microstructure Noise. **Computational Statistics and Data Analysis**, **52**(6), 2966–2989 (2008), ISSN: 0167-9473.

Mancino, M.E. with Malliavin P., Recchioni M.C.: A non parametric calibration of HJM geometry: an application of Itô calculus to financial statistics. **Japanese Journal of Mathematics,** Vol. 2, 55-77 (2007), ISSN: 0289-2316.

Mancino M.E. with Renó R.: Dynamic principal component analysis of multivariate volatility via Fourier analysis. **Applied Mathematical Finance,** Vol. 12 n.2 (2005), ISSN: 1350-486X, doi: 10.1080/1350486042000255861.

Mancino M.E. with Barucci E., Malliavin P., Renó R., Thalmaier, A.: The price volatility feedback rate: an implementable mathematical indicator of market stability. **Mathematical Finance**, **13** (2003), ISSN: 0960-1627.

Mancino M.E. with Malliavin P.: Instantaneous liquidity rate, its econometric measurement by volatility feedbacks. **Comptes Rendus de l'Academie des Sciences, Paris,** Ser.I 334 (2002), ISSN: 1631-073X.

Mancino M.E. with Malliavin P.: Fourier Series method for measurement of Multivariate Volatilities. **Finance and Stochastics** vol. VI, No. 1, 49–61 (2002), ISSN: 0949-2984.

Mancino M.E. with Antonelli F. and Barucci E.: Asset Pricing with Endogenous Aspirations. **Decisions in Economics and Finance**, vol.24, 21–39 (2001), ISSN: 1593-8883, doi: 10.1007/s102030170007.

Mancino M.E. with Antonelli F. and Barucci E.: Asset pricing with a forward-backward stochastic differential utility. **Economics Letters** , vol. 72, 151–157 (2001), ISSN: 0165-1765, doi: 10.1016/S0165-1765(01)00432-3.

Mancino M.E. with Antonelli F. and Barucci E.: A comparison result for Backward-Forward Stochastic Differential Equations with applications to decisions theory. **Mat. Met. Oper. Research** , vol. 54, 3 (2001), ISSN: 1432-2994.

Mancino M.E.: A Taylor Formula to Price and Hedge European Contingent Claims. **International Journal of Theoretical and Applied Finance**, Vol.4, No.4 (2001), ISSN: 0219-0249, doi: 10.1142/S021902490100119X.

Mancino M.E. with Pratelli L.: Some results of stable convergence for exchangeable random variables in Hilbert spaces. **Siam Journal Theory of Probability and its applications.** Tomo 42, Vol.5 (2000), ISSN: 0040-585X.

Mancino M.E.: Diffusion Processes with respect to Free Brownian Motion. **Infinite Dimensional Analysis, Quantum Probability and Related Topics**, Vol.3, No.3, 435-443 (2000).

Mancino M.E.: Dilatation Vector Fields on the Loop Group. **Journal of Functional Analysis 166**, 130-147 (1999).

Mancino M.E. with Barucci E.: Wiener Chaos and Hermite Polynomials Expansions for Pricing and Hedging Contingent Claims. **Advances in Futures and Options Research** (1998), ISBN/ISSN: 0-7623-0326-3.

Mancino M.E. with Majer P.: A counterexample concerning a condition of Ogawa integrability. **Seminaire de Probabilités XXXI** (1997), ISBN/ISSN: 3-540-62634-4.

Mancino M.E. with Pratelli L.: Skorohod Integral for a particular class of nonadapted processes. **Italian Journal of Pure and Applied Mathematics**, n.2, (1997), ISSN: 1126-8042.

Mancino M.E. with Fagnola F.: Free Noise Dilation of Semigroups of Countable State Markov Processes. **Quantum Probability and Related Topics**, vol.VII (1992).

Proceedings and Book Chapters

Mancino M.E. with Sanfelici S.: Multivariate volatility estimation with high frequency data using Fourier method. **Handbook of Modeling High-Frequency Data in Finance**, I. Florescu and F. Viens Eds., Wiley, New York, 2011.

Mancino, M.E. with Sanfelici S.: Covariance estimation and dynamic asset allocation under microstructure effects via Fourier methodology. **Handbook of Econometrics**, (2010) G. N. Gregoriou and R. Pascalau Eds., Palgrave-MacMillan, London, UK.

Mancino M.E. with Malliavin P. and Barucci E.: Harmonic analysis methods for non-parametric estimation of volatility: theory and applications. **Proceedings of the International Symposium "Stochastic Processes and Applications to Mathematical Finance" 2005 at Ritsumeikan University**, World Scientific (2006). Ed. J.Akahori, S.Ogawa, S.Watanabe.

Mancino M.E. with Ogawa S.: Non linear feedback effects of hedging strategies. **Proceedings of the International Symposium "Stochastic Processes and Applications to Mathematical Finance" 2003 at Ritsumeikan University",** World Scientific (2004).

Books

Mancino M.E. with Sanfelici S. and Recchioni M.C.: Fourier-Malliavin Volatility Estimation: theory and practice. SpringerBriefs in Quantitative Finance series, (2017) ISBN 978-3-319-50969-3

Working Papers and Reports

Mancino M.E. with Saidaoui T.: Central limit theorems for the Fourier estimator of multivariate volatility with highly asynchronous trading. Working paper (2017)

Mancino M.E. with Livieri, G.: Central limit theorems for the Fourier estimator of (multivariate) volatility fourth power. Working paper (2017)

Mancino M.E. with Akahori J., Liu N.-L. and Yasuda Y.: The Fourier estimation method with positive semi-definite estimators. Working paper (2015)

Mancino M.E. with Curato I. and Recchioni M.C.: Boundary Spot Volatility Estimation using the Laplace Transform. **Oberwolfach Report** No. 48/2013 Workshop "Statistical Inference for Complex Time Series Data" (2013) DOI: 10.4171/OWR/2013/48