

CURRICULUM VITAE

Fabio Trojani

PERSONAL DATA

Birth: August 29, 1965

Nationality: Swiss

Family: Married, 1 Child

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EDUCATION

1991: Lizenziat der Wirtschaftswissenschaften (direction Political Economics, special direction Econometrics), University of Zurich.

1997: Ph. D. in Econometrics/Finance, University of Zurich, "From Uncovered Interest Rate Parity Towards the Identification of the Dynamics of Exchange Rates Risk Premia". Thesis supervisors: Prof. H. Garbers, University of Zurich, Switzerland, and Prof. H. Geman, University Paris IX Dauphine and ESSEC, France.

EMPLOYMENT

1991-1997: Assistant in Econometrics, Institute for Empirical Research in Economics, University of Zurich,

1996: Assistant in Statistics/Mathematics, University of Lugano (USI), Switzerland.

1997-2000: Maître assistant in Statistics/Econometrics, USI.

2000-2004: Assistant professor in Statistics-Econometrics-Quantitative Finance, USI, Grant of the Swiss National Science Foundation.

2004-2008: Professor of Finance, Head of the Chair in Empirical Finance and Director of the Swiss Institute of Banking and Finance, University of St. Gallen, Switzerland.

2009-. Professor of Statistics, University of Lugano, Switzerland, and faculty member of the Swiss Finance Institute.

LANGUAGES

Italian, french, german, english.

GRANTS

2001: Asset Management of Hedge Funds Investing in Developed and Emerging Markets, KTI/CTI Grant, CHF 120'000 (project director).

2002-2003: Robust Strategies for Risk Management, Asset Pricing and Option Pricing. Grant of the Swiss National Science Foundation, CHF 240'000 (project director).

2003-2005: Robust Bootstrap Methods, Grant of the Swiss National Science Foundation, NCCR FINRISK, Subproject 10, CHF 170'000 (project co-director with O. Scaillet).

2004-2005: Ambiguity and Robustness in Yield Curve Modelling, NCCR FINRISK, Subproject 2, CHF 86'000 (project co-director with R. Gibson).

2004-2005: Learning and Robustness in Time Series Models. Grant of the Swiss National Science Foundation, CHF 175'000 (project director).

2005-2006: New Empirical Approaches in Asset Pricing, Grant of the Swiss National Science Foundation, CHF 282'414 (project co-requirer).

2005-2009: New Methods in Theoretical and Empirical Asset Pricing, NCCR FIN-RISK subproject, CHF 900'000 (project director).

2006-2009: PhD in Economics and Finance, SNF Pro*Docs Training Module: CHF 243'000 (project director).

2006-2009: New Methods in Moments Based Econometric Methods, SNF Pro*Docs Research Module: CHF 387'000 (project co-requirer).

2006-2008: Statistical learning from imperfect observations under prior ignorance, Grant of the Swiss National Science Foundation, CHF 126'000 (project co-requirer).

HONOURS AND AWARDS

2003: German Finance Association best conference paper award for "Equilibrium Impact of Value-at-Risk", with M. Leippold and P. Vanini, German Finance Association Meeting, Mainz.

2005: Best Researcher Award of the Department of Economics, University of St. Gallen.

2006: Ranked 62th in the Handelsblatt Ranking of the top 100 researchers in Economics since 2002 (<http://www.handelsblatt.com/news/Default.aspx>). The ranking includes all researchers of Economics Departments of German speaking universities in Austria, Germany and Switzerland.

2007: Inquire Europe best paper award for "Correlation Risk and Optimal Portfolio Choice" (with A. Buraschi and P. Porchia).

2008: Inquire Europe Research Grant (10000 BP) for the project: "When There is No Place to Hide - Correlation Risk and the Cross-section of Hedge Fund Returns" (with A. Buraschi and R. Kosowski).

RESEARCH INTERESTS

Perturbation methods, theory of robust statistics, theory and computation of asymptotic expansions, saddlepoint techniques, asset pricing and portfolio theory, term structure modelling, option pricing, credit risk, time series econometrics, financial econometrics, learning theory, imprecise probabilities.

REFEREE

Australian Economic Papers, Automatica, Annals of Operations Research, Biometrika, Canadian Journal of Statistics, Computational Management Science, Economic Notes, Econometric Reviews, Econometric Theory, Finance Research Letters, Journal of Banking and Finance, Journal of Business and Economic Statistics, Journal of Finance, Journal of Financial Econometrics, Journal of Econometrics, Journal of Economic Dynamics and Control, Journal of International Money and Finance, Journal of Nonparametric Statistics, Journal of the American Statistical Association, Management Science, Mathematical Finance, Metron International Journal of Statistics, Swiss Journal of Economics and Statistics.

PHD STUDENTS

PhD Thesis directions: Lorian Mancini (2004, USI, now Assistant Professor, University of Zurich), Paolo Porchia (2004, USI, now Assistant Professor, University of St. Gallen, since 2006), Davide la Vecchia (2006, University Bocconi, now Post Doc Researcher, USI), Alberto Piatti (2006, USI, now Professor at Professional University of Southern Switzerland), Lorenzo Camponovo, Anna Cieslak, Peter Gruber, Ilaria Piatti, Alexandru Popescu, Pavol Povala, Andrea Vedolin, Johannes Wunsch (all in progress).

PhD Thesis committee member: Francesco Fierli, Stefano Sampietro and Katia Passarin (USI, until 2004); Lea Blöckli, Blaise Melly, Benita von Lindeiner (University of St. Gallen).

ACADEMIC VISITOR

2001: Tilburg University, the Netherlands, October 21-26, December 2-6.

2002: Cass Business School, London, September 2-7, December 2-7. University of Insubria, Varese, Italy, September-November.

2003: University of Insubria, Varese, Italy, February-March.

2004: University of Insubria, Varese, Italy, April-June.

2005: University of Insubria, Varese, Italy, April-June.

PUBLICATIONS IN ACADEMIC JOURNALS

2001

[1] Robust Inference with GMM Estimators, *Journal of Econometrics*, 101, 37-69 (with E. Ronchetti).

[2] Short-Term Volatility Timing Reduces Downside Risk, *International Journal of Finance*, 13, Nr. 2, 1794-1825 (with G. Barone Adesi and P. Gagliardini).

2002

[3] A Note on Robustness in Merton's Model of Intertemporal Consumption and Portfolio Choice, *Journal of Economic Dynamics and Control*, 26, 423-435 (with P. Vanini).

2003

[4] Robust GMM Analysis of Models for the Short Rate Process, *Journal of Empirical Finance*, 10, 373-397 (with R. Dell'Aquila and E. Ronchetti).

2004

[5] A Geometric Approach to Multiperiod Mean Variance Optimization of Assets and Liabilities, *Journal of Economic Dynamics and Control*, Volume 28, 1079-1113 (with M. Leippold and P. Vanini).

[6] Robustness and Ambiguity Aversion in General Equilibrium, *Review of Finance*, 279-324, (with P. Vanini).

2005

[7] Robust Efficient Method of Moments, *Journal of Econometrics*, 128, 69-97 (with C. Ortelli).

[8] Optimal Conditionally Unbiased Bounded-Influence Inference in Dynamic Location and Scale Models, *Journal of the American Statistical Association*, 100, 628-641 (with L. Mancini and E. Ronchetti).

[9] Robust GMM Tests for Structural Breaks, *Journal of Econometrics*, 129, 1-2, 139-182 (with P. Gagliardini and G. Urga).

2006

- [10] Estimating and Predicting Multivariate Volatility Thresholds in Global Stock Markets, *Journal of Applied Econometrics*, 2006, 21, 345-369 (with F. Audrino).
 [11] Equilibrium Impact of Value-at-Risk Regulation, *Journal of Economic Dynamics and Control*, 2006, 30, 1277-1313 (with M. Leippold and P. Vanini).

2007

- [12] Accurate Short Term Yield Curve Forecasting Using Functional Gradient Descent, *Journal of Financial Econometrics*, Fall 2007, 5, 591-623 (with F. Audrino).

2008

- [13] Learning and Asset Prices under Ambiguous Information, *Review of Financial Studies*, 2008, 21, 2565-2597 (with M. Leippold and P. Vanini).
 [14] Asset Prices with Locally-Constrained-Entropy Recursive Multiple Priors Utility, *Journal of Economic Dynamics and Control*, November 2008, Volume 32, Issue 11, 3695-3717 (with A. Sbuelz).

2009

- [15] Ambiguity Aversion and the Term Structure of Interest Rates, *Review of Financial Studies*, forthcoming (with P. Gagliardini P. Porchia).
 [16] Limits of Learning About a Categorical Latent Variable under Prior Near-Ignorance, *International Journal of Approximate Reasoning*, forthcoming (with A. Piatti and M. Zaffalon).

PUBLICATIONS IN REFEREED PRACTITIONERS JOURNALS

- [1] A Note on the Three-Portfolios Matching Problem, *European Financial Management Journal*, 2003, Vol. 9, 1 March (with P. Vanini and L. Vignola).

REFEREED BOOK CHAPTERS

- [1] A Review of Perturbative Approaches for Robust Optimal Portfolio Problems, 2002, "Computational Methods in Decision-Making, Economics and Finance", Kluwer Applied Optimization Series (with P. Vanini).
 [2] Robust Efficient Method of Moments Estimation, 2004, in: "Theory and Applications of Recent Robust Methods", M. Hubert, G. Pison, A. Struyf and S. Van Aelst eds., Series: Statistics for Industry and Technology, Birkhauser, Basel, p. 271-282 (with C. Ortelli).

PROCEEDINGS

- [1] Robust Statistical Analysis of Financial Models for the Short Term Rate, *Bulletin of the International Statistical Institute*, 2001, 53rd ISI Session Proceedings.
 [2] Optimization of Assets and Liabilities, *Proceeding of the International Scientific School "Modelling and Analysis of Safety, Risk and Quality in Complex Systems"*, 2002, Saint-Petersburg, Russian Foundation of Fundamental Research (with M. Leippold and P. Vanini).
 [3] Limits of Learning from Imperfect Observations under Prior Ignorance: the Case of the Imprecise Dirichlet Model, in: Cozman, F. G., Nau, B., Seidenfeld, T. (Eds), *ISIPTA '05: Proceedings of the Fourth International Symposium on Imprecise Probabilities and Their Applications*, 2005 (with A. Piatti and M. Zaffalon).

BOOK REVIEWS

- [1] *Statistics and Finance* (by D. Ruppert), Springer Texts in Statistics, 2004.

[2] Semiparametric Regression for the Applied Econometrician (by A. Yalchew), Journal of the American Statistical Association, 2006.

SUBMITTED PREPRINTS

[1] Efficient Portfolios with Endogenous Liabilities, submitted to Quantitative Finance (with M. Leippold and P. Vanini).

[2] A General Multivariate Threshold GARCH Model with Dynamic Conditional Correlations, revised for Journal of Business and Economic Statistics (with F. Audrino).

[3] Robust Value-at-Risk Prediction, revised for Journal of Financial Econometrics (with L. Mancini).

[4] Correlation Risk and Optimal Portfolio Choice, revised for Journal of Finance (with B. Buraschi and P. Porchia).

[5] Correlation Risk and the Term Structure of Interest Rates, submitted to Journal of Financial Economics (with A. Buraschi and A. Cieslak).

[6] The Joint Behavior of Credit Spreads, Stock Options and Equity Returns when Investors Disagree, submitted to Journal of Finance (with A. Buraschi and A. Vedolin).

[7] Robust Subsampling, revised for JASA (with L. Camponovo and O. Scaillet).

[8] Infinitesimal Robustness for Diffusions, revised for JASA (with L. Camponovo and D. La Vecchia).

TEACHING

University of St. Gallen

Theory in Finance, Advanced Time Series Econometrics, Financial Econometrics, Advanced Financial Decision Making and Asset Pricing, 2005-2008 (graduate courses, PhD level).

PhD and Literature Seminars, 2005-2008 (advanced seminars, PhD level).

Asset Pricing, 2004-2008 (graduate course, Master level).

Introduction to Econometrics, 2005-2008 (third year undergraduate course).

USI

Introduction to Probability Theory for Finance, 2005-2008 (graduate course, Master level).

Quantitative Methods for Finance, 2001-2004. Statistics for Economists, 1997-2004.

Portfolio Theory, 2003. Mathematics for Economists, 1997 (first-fourth year undergraduate courses).

University of Insubria

Asset Pricing, Introduction to Probability Theory and Stochastic Processes for Finance, 2002-2003 (third year undergraduate courses).

Continuous-Time Yield Curve Models, 2004. Asset Pricing, 2005 (graduate courses, Master level).

Cass Business School

Probability Theory and Stochastic Processes for Finance, 2002 (graduate course, PhD level).

Professional University of Southern Switzerland (SUPSI)

Portfolio Theory and Asset Pricing, 1997-2004. Derivative Securities, 2000. Statistics, 1998 (first-fourth year undergraduate courses).

University of Zurich

Mathematics and Stochastics for Econometricians, 1997 (second-fourth year undergraduate courses).

European Finance Training Program for Financial Analysts

Fixed Income Securities, Futures Contracts and International Economics, 1997 (courses for practitioners).

ORGANISATION OF SEMINARS AND WORKSHOPS

2001: European Courses in Advanced Statistics, "Bayesian Statistics and Financial Econometrics", USI, Lugano, October 8-12.

1998-2004: Doctoral finance seminar at USI.

2005-2006: Doctoral finance seminar at the University of St. Gallen.

2006: International Workshop "Risk Management: from Basel II to Basel III", Monte Verità, Ascona, Switzerland, February 26-March 3, 2006.

2007: Annual Meeting of the Swiss Society of Economics and Statistics, University of St. Gallen, Switzerland, March 22-23.

PROGRAM COMMITTEES

2003

International Symposium on Imprecise Probabilities and Their Applications, Lugano, Switzerland, July 14-17.

2006

International Workshop on Quantitative Finance, University of Perugia, Italy, January 26-27.

International Workshop on Grid Technology and Financial Modeling Simulation, Palermo, Italy, February 3-4.

European Finance Association Meeting, Zurich, Switzerland, August 23-26.

2007

International Workshop on Quantitative Finance, University of Venice, Italy, January 25-26.

Italian Congress of Econometrics and Empirical Economics, University of Bologna, Italy, January 25-26.

Chairman of the Program Committee of the Annual Meeting of the Swiss Society of Economics and Statistics, University of St. Gallen, Switzerland, March 22-23.

European Finance Association Meeting, Ljubljana, Slovenia, August 22-25.

2008

International Workshop on Quantitative Finance, University of Rome Tor Vergata, Italy, January 24-25.

European Finance Association Meeting, Athens, Greece, August 27-30.

INTERNAL SERVICE

2004-2006: Member of the PhD program committee, Department of Economics, University of St. Gallen.

2006-2008: Chairman of the PhD program committee, Department of Economics, University of St. Gallen.

PAPERS ACCEPTED AT CONFERENCES AND SEMINAR PRESENTATIONS

Credit Spreads, Stock Options and Equity Returns when Investors Disagree (with A. Buraschi and A. Vedolin): European Winter Finance Summit, Hemsedal, American Finance Association, New Orleans, 2008, Second Conference on Advances in the Analysis of Hedge Fund Strategies, Tanaka Business School, London, International Conference on Measuring Dependence in Finance, Cass Business School, London, Swiss Society of Economics and Statistics, St. Gallen, SFI Conference on Portfolio Management and Derivatives, Lugano, 2007. Finance Seminars: University Bocconi, 2007, London School of Economics, University of Zurich 2008.

Correlation Risk and the Term Structure of Interest Rates (with A. Buraschi and A. Cieslak): Adam Smith Asset Pricing Workshop, London, 2008, Western Finance Association, Montana, European Finance Association, Ljubiana, Swiss Society of Economics and Statistics, St. Gallen, Financial Econometrics Conference, London, 2007. Finance Seminars: University of Munich, NCCR-FINRISK research day, Gerzensee, 2007.

Robust Subsampling (with L. Camponovo and O. Scaillet): First International Conference in Memory of Carlo Giannini, Bergamo, Italy, 2008, European Meeting of the Econometric Society, Vienna, 2006.

Correlation Risk and Optimal Portfolio Choice (with A. Buraschi and P. Porchia): American Finance Association, New Orleans, 2008, European Financial Management, Vienna, Eastern Finance Association, New Orleans, Swiss Society of Economics and Statistics, St. Gallen, 2007, European Finance Association, EFA Symposium on Asset Allocation, Zurich, 2006. Finance Seminars: University of Lausanne, University of Lugano, NCCR-FINRISK research day, Gerzensee, 2006.

Robust Value at Risk Prediction (with L. Mancini): Statistics Seminar, University of Geneva, 2005; University of Bruxelles, 2006.

General Analytical Solutions for Merton's-Type Consumption-Investment Problems (with R. Ferretti): World Congress of the Econometric Society, London, 2005.

Learning and Asset Prices under Ambiguous Information (with M. Leipold and P. Vanini): Finance Seminars: University of Frankfurt, ETH Zurich, University of Basle, 2005; University of St. Gallen, University of Konstanz, 2004. Economics Seminar, University of Venice, 2004. CEPR/Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2004.

Historical Yield Curve Scenarios Generation with Functional Gradient Descent (with F. Audrino): Bachelier Finance Society, third World Congress, Chicago, 2004 Eastern Finance Association, Groton, Connecticut, 2004.

Robust GMM Tests for Structural Breaks (with P. Gagliardini and G. Urga): Computational Management Science Conference and Workshop on Computational Econometrics and Statistics, Neuchtel, Switzerland, 2004. Econometrics Seminar, University of Geneva, 2004.

Optimal Conditionally Unbiased Bounded-Influence Inference in Dynamic Location and Scale Models (with E. Ronchetti and L. Mancini): European Meeting of the Econometric Society, Madrid, 2004.

Robust Efficient Method of Moments (with C. Ortelli): European Meeting of the Econometric Society, Stockholm, 2003, International Workshop on Econometric Time Series Analysis - Methods and Applications, Linz, Austria, 2003, International Conference on Robust Statistics, Antwerp, the Netherlands, 2003. Econometrics Seminars: Ente Einaudi, Rome, London School of Economics, IGIER, Universit Bocconi, 2003.

Equilibrium Asset Pricing with Time Varying Pessimism (with A. Sbuelz): European Finance Association, Glasgow, 2003, European Mathematical Society Conference on Applied Mathematics and Applications of Mathematics, Nice, 2003, CEPR Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2002.

Equilibrium Impact of Value at Risk Regulation (with M. Leippold and P. Vanini): German Finance Association, Mainz, Germany, 2003, **best conference paper award**, International Workshop on Risk and Regulation, Collegium Budapest, 2003.

Saddlepoint Approximations and Test Statistics for Accurate Inference in overidentified Moment Conditions Models (with E. Ronchetti): European Meeting of the Econometric Society, Stockholm, 2003, International Conference on Current Advances and Trends in Nonparametric Statistics, Crete, 2002, Econometrics Seminar, Ente Einaudi, Rome, 2003. Seminar in Probability and Statistics, University of Pavia, Italy, 2002

Ambiguity Aversion, Bond Pricing and the non-Robustness of Some Affine Term Structures (with P. Gagliardini and P. Porchia): European Finance Association, Moscow, 2005, European Finance Association, Glasgow, 2003, CEPR Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2003, European Mathematical Society Conference on Applied Mathematics and Applications of Mathematics, Nice, 2003, Finance Seminars: ETH Zurich, 2005; University of St. Gallen, Stockholm School of Economics, 2003, NCCR-FINRISK research day, Bern, 2003

Estimating and Predicting Multivariate Volatility Thresholds in Global Stock Markets (with F. Audrino): Econometric Symposium on New Frontiers in Financial Volatility Modelling, Florence, 2003

Risk, Robustness and Knightian Uncertainty in Continuous-Time, Heterogenous Agents, Economies (with P. Vanini): European Finance Association, Berlin, 2002, CEPR/Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2002, Workshop on Knightian Uncertainty, City University Business School, London, 2002. Finance Research Seminars: University of Verona, Italy, 2003; University of Torino, Italy, 2002. Statistics and Probability Research Seminar, University of Insubria, Varese, Italy, 2002.

Perturbative Solutions of Hamilton Jacobi Bellman Equations in Robust decision Making (with P. Vanini): CEPR/Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2002.

A Geometric Approach To Multiperiod Mean Variance Optimization of Assets and Liabilities (with M. Leippold and P. Vanini): CEPR/Studienzentrum Gerzensee European Summer Symposium in Financial Markets, Gerzensee, Switzerland, 2002. Finance Seminars: BNP Paribas, London, University of Geneva, 2002

A Simplified Way of Incorporating Estimation Risk, Model Risk and Robustness in Mean Variance Portfolio Choice (with A. Sbuelz): European Investment Review Annual Meeting, Paris, 2001.

REFERENCES

Prof. Andrea Buraschi, Tanaka Business School, Imperial College, London, e-mail: a.buraschi@imperial.ac.uk.

Prof. Paolo Paruolo, Dept. of Economics, University of Insubria, Via Ravasi 2, 21100 Varese, Italy, tel. +39 0332 215500, e-mail: paolo.paruolo@uninsubria.it.

Prof. Franco Peracchi, Faculty of Economics, University of Rome Tor Vergata, Via Orazio Raimondo, 18 - 00173 Rome, Italy, tel. +39 06 7259 5934, e-mail: franco.peracchi@uniroma2.it.

Prof. Elvezio Ronchetti, Dept. of Econometrics, University of Geneva, Blv. Pont d'Arve 40, CH-1211 Geneva, tel. +41 (0)22 379 8131, e-mail: elvezio.ronchetti@metri.unige.ch.