

Valeria Bignozzi

Curriculum Vitae

Office 4131
Dept. of Statistics and Quantitative Methods
University of Milano-Bicocca
Via Bicocca degli Arcimboldi, 8
20126 Milano, Italy
✉ valeria.bignozzi@unimib.it

🌐 <https://sites.google.com/site/valeriabignozzi/home>
Date and place of birth: 04-05-1983, Rome

Current Position

- 04.2017- **National Scientific Habilitation (ASN) for the position of Associate Professor**, SECS-S/06-Mathematical methods of economics, finance and actuarial sciences.
04.2023
10.2016- **Senior researcher (rtd b)**, Dept. Statistics and Quantitative Methods, present University of Milano-Bicocca, Italy.

Previous Positions

- 08.2016 **Winner of a junior research position (rtd a)**, Scuola Normale Superiore of Pisa, Italy, Position not fulfilled.
07.2015- **Postdoc position (12 months)**, Dept. of Methods and Models for Economics, Territory and Finance (MEMOTEF), Sapienza University of Rome, Italy. Supervisor: Prof. L. Petrella. Research project: Empirical and Bayesian elicitable risk measures.
06.2016
05.2014- **Postdoc position (12 months)**, School of Economics and Management, University of Florence, Italy. Supervisors: Prof. M. E. Mancino, Dr. G. Puccetti. Research project: Risk measures bounds under dependence uncertainty.
04.2015
01.2013- **Postdoc position (16 months)**, Dept. of Mathematics, ETH Zurich, Switzerland. Supervisor: Prof. P. Embrechts. Research project: Elicitable risk measures; Risk measure under dependence uncertainty.
04.2014
01.2012- **Research Assistant (8 months)**, Faculty of Actuarial Science and Insurance, Cass Business School, City University London, UK. Supervisor: Dr. A. Tsanakas. Research project: The impact of model error on capital adequacy.
08.2012

Education

- 2008-2012 **PhD**, Faculty of Actuarial Science and Insurance, Cass Business School, City University London, UK. Thesis: Contributions to solvency risk measurement. Supervisors: Dr. A. Tsanakas, Dr. L. Ballotta, **Declared equivalent ("equipolente") to the Italian title "Dottore di Ricerca" by the Italian Education, University and Research Ministry (MIUR).**

- 2005-2008 **Master Degree in Applied Mathematics**, *Dept. of Mathematics, Sapienza University of Rome, Italy. Thesis: Stochastic Integration for mixed Brownian-Poisson Processes with Application to Incomplete Markets. Supervisors: Prof. M. Isopi and Dr. E. Biffis (Imperial College, London), Grade: 110/110 cum laude.*
- 2005-2008 **Bachelor Degree in Mathematics**, *Dept. of Mathematics, Sapienza University of Rome, Italy. Thesis: Determinazione dei prezzi per i servizi di telecomunicazione (Service pricing in the telecommunication market). Supervisor: Prof. M. Isopi, Grade: 110/110 cum laude.*

Visiting Positions

- 03.2017 **Visiting Researcher**, *Faculty of Actuarial Science and Insurance, Cass Business School, City University London, UK, research project with Dr. A. Tsanakas, 1 week.*
- 10.2014 **Visiting Researcher**, *Dept. of Statistics and Actuarial Science, University of Waterloo, Canada, research project with Prof. R. Wang, 3 weeks.*
- 05-06.2014 **Visiting Researcher**, *Dept. of Mathematics, ETH Zurich, Switzerland, Research project with Prof. P. Embrechts, 6 weeks.*
- 08.2013 **Visiting Researcher**, *Dept. of Statistics and Quantitative Methods, University of Milano-Bicocca, research project with Prof. F. Bellini, one week.*

Attended Courses

- 02.2016 **Extremes, Copulas and Actuarial Science**, *Centre International de Rencontres Mathématiques, Marseille.*
- 11.2015 **Risk aggregation and Fréchet problems**, *Prof. R. Wang, Dependence and Risk Measures Workshop, Milan, Italy.*
- 06.2013 **Enterprise Risk Management**, *Prof. D. Ingram and Prof. S. Loisel, EPFL Lausanne, Switzerland.*
- 08.2011 **Learning, Teaching and Assessment**, *City University London, UK.*
- 08.2010 **3rd SMAI European Summer School in Financial Mathematics**, *Paris, France.*
- 08.2010 **Financial Modeling with Levy Processes**, *Prof. R. Cont, 6th Conference in Actuarial Science and Finance in Samos, Greece.*

Talks as Invited Speaker

- 05.2017 **"Recent Developments in Dependence Modeling with Applications in Finance and Insurance"**, *Aegina, Greece, On elicitable risk measures and dynamic expectiles.*
- 09.2016 **"Salzburg workshop on Dependence Models and Copulas"**, *Salzburg, Diversification limit of VaR under dependence uncertainty.*
- 07.2016 **"Workshop on Recent Advances in Quantile and M-Quantile Regression"**, *Pisa, On L_p -quantiles.*

- 04.2016 **"Scientific day of the DGVFM" Bremen, Germany, *On elicitable risk measures and backtesting.***
- 04.2016 **Dept. seminar series, University of Verona, *On elicitable risk measures.***
- 03.2016 **"Workshop on Applied Statistics" Technische Universität Dresden, Germany, *Diversification limit of VaR under dependence uncertainty.***
- 03.2016 **Dept. of Mathematics, Imperial College London, UK, *"Diversification limit of VaR under dependence uncertainty".***
- 10.2015 **Workshop: "Risk Measures: Frontiers of Mathematics and Regulation" University of Bologna, *"Diversification limit of VaR under dependence uncertainty".***
- 07.2015 **Politecnico of Milano, *"Risk measurement under dependence uncertainty".***
- 04.2015 **Dept. of Statistics and Quantitative Methods, University of Milano-Bicocca, *"Reducing model risk with positive and negative dependence assumptions".***
- 04.2015 **Prometeia seminar, Bologna, *"How superadditive can a risk measure be?".***
- 04.2015 **Workshop "Copulae: On the crossroads of Mathematics and Economics" Oberwolfach, *"Open problems in risk aggregation under dependence uncertainty".***
- 12.2014 **ETH Risk Center, Zurich, *"How superadditive can a risk measure be?".***
- 11.2014 **Dept. of Economics and Finance, Luiss Guido Carli, Rome, *"How superadditive can a risk measure be?".***
- 10.2014 **Dept. of Statistics and Actuarial Science, University of Waterloo, Canada, *"Reducing model risk with positive and negative dependence assumptions".***
- 10.2014 **Dept. of Statistics and Actuarial Science, University of Waterloo, Canada, *"On elicitable risk measures".***
- 05.2014 **Dept. of Mathematical Stochastics, University of Freiburg, *"How superadditive can a risk measure be?".***
- 05.2014 **Institute of Mathematical Stochastics, Leibniz University of Hannover, *"How superadditive can a risk measure be?".***
- 01.2014 **Workshop: "New trends in risk measures" Dept. of Statistics and Quantitative Methods, University of Milano-Bicocca, *"How superadditive can a risk measure be?".***
- 11.2013 **Faculty of Actuarial Science and Insurance, Cass Business School, City University London, *"Elicitable risk measures".***
- 11.2013 **Institute of Mathematical Statistics and Actuarial Science, University of Bern, *"Dynamic risk measurement and expectiles".***
- 08.2013 **Dept. of Statistics and Quantitative Methods, University of Milano-Bicocca, *"Dynamic risk measurement and expectiles".***
- 05.2013 **Dept. of Mathematics, ETH Zurich, *"Dynamic risk measurement and expectiles".***

05.2012 **Dept. of Mathematics, ETH Zurich**, “*Quantifying and controlling the impact of model uncertainty on risk measurement*”.

Contributed Talks at International Conferences

06.2016 **48th Scientific Meeting of the Italian Statistical Society**, *University Salerno*, “*On the L_p -quantiles and the Student t distribution*”.

12.2015 **8th International Conference of the ERCIM WG on Computational and Methodological Statistics**, *University of London, UK*, “*Bayesian Inference for generalised quantiles*”.

11.2015 **Dependence and Risk Measures**, *University of Milano-Bicocca, Italy*, “*On dynamic expectiles*”, (Poster presentation).

01.2015 **XVI Workshop on Quantitative Finance**, *University of Parma*, “*Reducing model risk with positive and negative dependence assumptions*”.

09.2014 **5th International Conference Mathematics in Finance**, *Skukuza, Kruger National Park South Africa*, “*How superadditive can a risk measure be?*”.

04.2014 **Imperial-ETH Zurich Workshop on Mathematical Finance**, *ETH Zurich*, “*How superadditive can a risk measure be?*”.

04.2014 **6th Mathematical and Statistical Methods for Actuarial Science and Finance**, *University of Salerno, Vietri sul Mare*, “*Elicitable risk measures*”.

01.2014 **XV Workshop on Quantitative Finance**, *University of Florence*, “*Elicitable risk measures*”.

07.2013 **The 17th International congress on Insurance: Mathematics and Economics**, *Copenhagen*, “*Risk measurement and model uncertainty: a simulation study*”.

01.2013 **Perspectives on Actuarial Risks in Talks of Young Researchers**, *Ascona*, “*Quantification and control of residual estimation risk*”.

04.2012 **5th Mathematical and Statistical Methods for Actuarial Science and Finance**, *Ca’Foscari University of Venice*, “*Quantifying and controlling the impact of probability distribution estimation on risk measurement*”.

06.2011 **The 15th International congress on Insurance: Mathematics and Economics**, *Trieste*.

06.2010 **6th Conference in Actuarial Science & Finance on Samos**, *University of the Aegean*, “*Sequentially consistent risk measures*”.

Research Interests

- Risk Measures.
- Quantitative Risk Management.
- Modeling with Copulae.
- Dependence Modeling.

- **Models for risk aggregation and diversification.**
- **Quantiles and generalised quantiles.**

Teaching and Thesis supervision

- 2016-2017 **Supervisor**, *Master thesis "Model risk: an important source of uncertainty" by M. Valenzano, DiSMeQ Department, University of Milano-Bicocca.*
- 2016-2017 **Supervisor**, *Master thesis "RVaR e sue proprietà" by M. Gilardoni, DiSMeQ Department, University of Milano-Bicocca.*
- 2016-17 **Teaching Assistant**, *Actuarial Mathematics, DISMEQ Department, University of Milano-Bicocca, Master level.*
- 2016-17 **Lecturer**, *Matematica Generale I, DISMEQ Department, University of Milano-Bicocca, for bachelor students.*
- 2016-17 **Teaching Assistant**, *Mathematical Finance, LUISS Guido Carli, for bachelor students.*
- 2015-16 **Lecturer**, *Introduction to risk measures, MEMOTEF Department, Sapienza University of Rome, for PhD students.*
- 2015-2016 **Co-supervisor**, *(with Prof. L. Petrella) of the Bachelor thesis " L_p -quantiles and expectiles for the Student t distributions" by L. Merlo, MEMOTEF Department, Sapienza University of Rome.*
- 2015-2016 **Co-supervisor**, *(with Prof. L. Petrella) of the Bachelor thesis "Backtesting of law-invariant risk measures" by D. Crosilla, MEMOTEF Department, Sapienza University of Rome.*
- 2013 **Co-supervisor**, *(with Prof. Dr. P. Embrechts) of the Bachelor thesis "On Expectiles" by M. Brautigam, RiskLab, Dept. of Mathematics, ETH Zurich.*
- 2015-16 **Teaching Assistant**, *Time series analysis, University of Rome, Italy, Master level.*
- 2014-15 **Teaching Assistant**, *Quantitative Finance and Derivatives, University of Florence, Italy, Undergraduate and Master level.*
- 2013-14 **Lecturer**, *Risk measures, Dept. of Mathematics, ETH Zurich, Undergraduate and Master level.*
- 2010-11 **Teaching Assistant**, *Statistics and Probability II, Cass Business School, City University London, UK, Undergraduate level.*
- 2009-10 **Teaching Assistant**, *Statistics and Probability II, Cass Business School, City University London, UK, Undergraduate level.*
- 2008-09 **Teaching Assistant**, *Statistics and Probability II, Cass Business School, City University London, UK, Undergraduate level.*

Other Activities

- 2017 **Member of the AMASES (Associazione per la matematica applicata alle scienze economiche e sociali).**

- 2016-present **Member of the GNAMPA (Gruppo Nazionale per la Analisi Matematica, la Probabilità e le loro Applicazioni).**
- 2016 **Member of the SIS (Società Italiana Statistica).**
- 2014 **Member of the organising committee for the conference Dependence in Risk Management and Risk Measurement, School of Economics and Management, University of Florence, Italy.**
- 2013-2014 **Organizer of the RiskLab PhD seminars, RiskLab, Dept. of Mathematics, ETH Zurich.**
- 2012-2014 **PhD Representative in the Research Committee, Cass Business School, City University London, UK .**

Grants, Scholarships and Awards

- 2017 **FFABR fundings for researchers, Eur 3000.**
- 2016 **GNAMPA fundings to participate at the 40th AMASES Meeting, Eur 200.**
- 2012 **Dimitris N. Chorafas foundation award for the PhD Thesis, US \$4000.**
- 2011 **Research funding, The impact of model error on capital adequacy, sponsored by the Institute of Actuaries (Primary investigator Dr A. Tsanakas), \$8000.**
- 2010 **Award for best contribution to the conference, 6th Conference in Actuarial Science and Finance in Samos, Greece.**
- 2008 **Cass Business School Doctoral Bursary, City University London, UK.**
- 2006 **Erasmus scholarship, Dept. of Mathematics, Royal Holloway University, London, UK.**

Journal services

- Referee for **Astin Bulletin; Journal of Mathematical Analysis and Applications; Stochastics and Risk Modeling; The European Journal of Finance; Scandinavian Actuarial Journal; Mathematics and Financial Economics; Operations Research Letters, Mathematical Finance, Risks, Methodology and Computing in Applied Probability, European Journal of Operational Research, Dependence Modeling.**
- 06.14-08.15 **Assistant Editor for Dependence Modeling (<http://www.degruyter.com/view/j/demo>), Editor: G. Puccetti; Associate Editors: F. Durante, M. Scherer, S. Vanduffel.**

Working papers

1. F. Bellini, V. Bignozzi and G. Puccetti. *Conditional expectiles, time consistency and mixture convexity properties.* **Submitted.**
2. V. Bignozzi, M. Burzoni and C. Munari. *Risk measures based on benchmark loss distributions.* **Submitted.**
3. V. Bignozzi, C. Macci and L. Petrella. *Large deviations for method-of-quantiles estimators of one-dimensional parameters.* **Submitted.**

Publications

1. V. Bignozzi, C. Macci and L. Petrella. *Large deviations for risk measures in finite mixture models*. **Insurance Math. Econ.** 80, 84-90, 2018.
2. A. V. Asimit, V. Bignozzi, K. C. Cheung, J. Hu and E-S. Kim. *Robust and Pareto optimality of insurance contracts*. **European J. Oper. Res.**, 262(2), 720-732, 2017. Impact Factor 2.595.
3. M. Bernardi, V. Bignozzi and L. Petrella. *On the L_p -quantiles for the Student t distribution*. **Statist. Probab. Lett.**, 128, 77-83, 2017. Impact Factor 0.6.
4. V. Bignozzi, A. Tsanakas. *Parameter uncertainty and residual estimation risk*. **Journal of Risk and Insurance**, 83(4), 949-978, 2016. Impact Factor 1.41.
5. V. Bignozzi. *On the L_p -quantiles and the Student t distribution*. **Peer-reviewed proceedings of the 48th Scientific Meeting of the Italian Statistical Society**. ISBN: 9788861970618, 2016.
6. V. Bignozzi, T. Mao, B. Wang and R. Wang. *Diversification limit of quantiles under dependence uncertainty*. **Extremes** 19(2), 143–170, 2016. Impact Factor 1.33
7. V. Bignozzi and A. Tsanakas. *Model uncertainty in risk capital measurement*. **The Journal of Risk** 18(3), 1-24, 2016. Impact Factor 0.34 .
8. F. Delbaen, F. Bellini, V. Bignozzi and J. Ziegel. *Risk Measures with $CxLS$* . **Finance Stoch.** 20(2), 433–453, 2016. Impact Factor 1.44.
9. V. Bignozzi, G. Puccetti and L. Rüschendorf. *Reducing model risk using positive and negative dependence assumptions*. **Insurance Math. Econ.** 61(1), 17-26, 2015. Impact Factor 1.13.
10. R. Wang, V. Bignozzi and A. Tsanakas. *How superadditive can a risk measure be?* **SIAM J. Finan. Math.** 6(1), 776-803, 2015. Impact Factor 1.01.
11. F. Bellini and V. Bignozzi. *On Elicitable Risk Measures*. **Quant. Finance** 15(5), 725-733, 2015. Impact Factor 0.65.
12. V. Bignozzi and G. Puccetti. *Studying mixability with supermodular aggregating functions*. **Statist. Probab. Lett.** 100, 48-55, 2015. Impact Factor 0.6.
13. V. Bignozzi. *Open problems in risk aggregation under dependence modelling*. **Oberwolfach Report (OBW) No. 20/2015**, DOI: 10.4171/OWR/2015/20 book series (ISSN 1660-8933).

“Le dichiarazioni rese nel presente curriculum sono da ritenersi rilasciate ai sensi degli artt. 46 e 47 del D.P.R. 445/2000”