# Curriculum Vitae Fabio Maccheroni February 2023

#### Education

- 1995 Laurea in Mathematics, Università di Milano, Milano (Italy)
- 1999 PhD in Applied Mathematics (joint program of Università di Brescia, Università Cattolica di Milano, Università di Milano, Università di Torino)

## **Professional Activities**

2005-current	Full Professor,	Università Bocconi,	Department of	<b>Decision Sciences</b>
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2008-current Fellow, IGIER research center, Università Bocconi

- 2001-2005 Associate Professor, Università Bocconi, Department of Economics
- 1999-2001 Assistant Professor, Università Bocconi, Department of Economics
- 1998-1999 Postdoctoral Fellow, Università Bocconi, Department of Economics

## Honors and Awards

- 2019 Economic Theory Fellow
- 2012 Cours Bachelier, Robust Decision Theory and Risk Management, Institut Henri Poincaré, Paris
- 2010 Carlo Alberto Medal, awarded to an Italian economist under the age of 40 for his/her outstanding research contributions to the field of economics

## Publications in Refereed Journals

- 1. "Equilibria of nonatomic anonymous games," with Simone Cerreia-Vioglio and David Schmeidler, *Games and Economic Behavior*, forthcoming.
- 2. "Multinomial logit processes and preference discovery: inside and outside the black box," with Simone Cerreia-Vioglio, Massimo Marinacci, and Aldo Rustichini, *Review of Economic Studies*, forthcoming.
- 3. "Star-shaped risk measures," with Erio Castagnoli, Giacomo Cattelan, Claudio Tebaldi, and Ruodu Wang, *Operations Research*, 70, 2637-2654, 2022.
- 4. "Ambiguity aversion and wealth effects," with Simone Cerreia-Vioglio and Massimo Marinacci, *Journal* of Economic Theory, 199, #104898, 2022.
- 5. "À characterization of the vector lattice of measurable functions," with Simone Cerreia-Vioglio and Paolo Leonetti, *Milan Journal of Mathematics*, 90, 291-301, 2022.
- 6. "On the cardinal utility equivalence of biseparable preferences," with Massimo Marinacci and Jingni Yang, *Theory and Decision*, 92, 689-701, 2022.
- 7. "Law of demand and stochastic choice," with Simone Cerreia-Vioglio, Massimo Marinacci, and Aldo Rustichini, *Theory and Decision*, 92, 513-529, 2022.
- 8. "A framework for the analysis of self-confirming policies," with Pierpaolo Battigalli, Simone Cerreia-Vioglio, Massimo Marinacci, and Thomas Sargent, *Theory and Decision*, 92, 455-512, 2022.
- 9. "On the equality of Clarke and Greenberg-Pierskalla differentials," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Journal of Convex Analysis*, 29, 459-480, 2022.
- 10. "A canon of probabilistic rationality," with Simone Cerreia-Vioglio, Per Olov Lindberg, Massimo Marinacci, and Aldo Rustichini, *Journal of Economic Theory*, 196, #105289, 2021.
- 11. "Sources of uncertainty and subjective prices," with Veronica Cappelli, Simone Cerreia-Vioglio, Massimo Marinacci, and Stefania Minardi, *Journal of the European Economic Association*, 19, 872-912, 2021.
- 12. "Axiomatic tests for the Boltzmann distribution," with Simone Cerreia-Vioglio, Massimo Marinacci, and Aldo Rustichini, Journal of Statistical Mechanics: Theory and Experiment, #013406, 2021.
- 13. "A behavioral characterization of the Drift Diffusion Model and its multi-alternative extension for choice under time pressure," with Carlo Baldassi, Simone Cerreia-Vioglio, Massimo Marinacci, and Marco Pirazzini, *Management Science*, 66, 5075-5093, 2020.
- 14. "Behavioral equivalence of extensive game structures," with Pierpaolo Battigalli and Paolo Leonetti, *Games and Economic Behavior*, 121, 533-547, 2020.

- 15. "Rational preference and rationalizable choice," with Simone Cerreia-Vioglio, Alfio Giarlotta, Salvatore Greco, and Massimo Marinacci, *Economic Theory*, 69, 61-105, 2020.
- "A characterization of probabilities with full support and the Laplace Method," with Simone Cerreia-Vioglio and Massimo Marinacci, *Journal of Optimization Theory and Applications*, 181, 470-478, 2019.
- 17. "Orthogonal decompositions in Hilbert A-modules," with Simone Cerreia-Vioglio and Massimo Marinacci, Journal of Mathematical Analysis and Applications, 470, 846-875, 2019.
- 18. "Commutativity, comonotonicity, and Choquet integration of self-adjoint operators," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Reviews in Mathematical Physics*, 30, issue 10, 2018.
- 19. "Risk analysis and decision theory: A bridge," with Emanuele Borgonovo, Veronica Cappelli, and Massimo Marinacci, European Journal of Operational Research, 264, 280-293, 2018.
- 20. "Stochastic dominance analysis without the independence axiom," with Simone Cerreia-Vioglio and Massimo Marinacci, *Management Science*, 63, 1097-1109, 2017.
- 21. "Mixed extensions of decision problems under uncertainty," with Pierpaolo Battigalli, Simone Cerreia-Vioglio, and Massimo Marinacci, *Economic Theory*, 63, 827-866, 2017.
- 22. "Hilbert A-modules," with Simone Cerreia-Vioglio and Massimo Marinacci, Journal of Mathematical Analysis and Applications, 446, 970-1117, 2017.
- 23. "A note on comparative ambiguity aversion and justifiability," with Pierpaolo Battigalli, Simone Cerreia-Vioglio, and Massimo Marinacci, *Econometrica*, 84, 1903-1916, 2016.
- 24. "Analysis of information feedback and selfconfirming equilibrium," with Pierpaolo Battigalli, Simone Cerreia-Vioglio, and Massimo Marinacci, *Journal of Mathematical Economics*, 66, 2016, 40-51.
- 25. "Ergodic theorems for lower probabilities," with Simone Cerreia-Vioglio and Massimo Marinacci, *Proceedings of the American Mathematical Society*, 144, 3381-3396, 2016.
- 26. "Conditional L<sub>p</sub>-spaces and the duality of modules over *f*-algebras," with Simone Cerreia-Vioglio, Michael Kupper, Massimo Marinacci, and Nicolas Vogelpoth, *Journal of Mathematical Analysis and Applications*, 444, 1045-1070, 2016.
- 27. "Choquet integration on Riesz spaces and dual comonotonicity," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Transactions of the American Mathematical Society*, 367, 8521-8542, 2015.
- 28. "Selfconfirming equilibrium and model uncertainty," with Pierpaolo Battigalli, Simone Cerreia-Vioglio, and Massimo Marinacci, American Economic Review, 105, 646-677, 2015.
- 29. "Put-call parity and market frictions," with Simone Cerreia-Vioglio and Massimo Marinacci, Journal of Economic Theory, 157, 730-762, 2015.
- 30. "The structure of variational preferences," with Simone Cerreia-Vioglio, Massimo Marinacci, and Aldo Rustichini, *Journal of Mathematical Economics*, 57, 12-19, 2015.
- "Niveloids and their extensions: Risk measures on small domains," with Simone Cerreia-Vioglio, Massimo Marinacci, and Aldo Rustichini, *Journal of Mathematical Analysis and Applications*, 413, 343-360, 2014.
- 32. "Pride and diversity in social economies," with Massimo Marinacci and Aldo Rustichini, American Economic Journal: Microeconomics, 6, 237-271, 2014.
- 33. "Alpha as ambiguity: robust mean-variance portfolio analysis," with Massimo Marinacci and Doriana Ruffino, *Econometrica*, 81, 1075-1113, 2013
- 34. "Classical subjective expected utility," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Proceedings of the National Academy of Sciences*, 110, 6754-6759, 2013.
- 35. "Ambiguity and robust statistics," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Journal of Economic Theory*, 148, 974-1049, 2013.
- 36. "Social decision theory: choosing within and between groups," with Massimo Marinacci and Aldo Rustichini, *Review of Economic Studies*, 79, 1591-1636, 2012.
- "Signed integral representations of comonotonic additive functionals," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Journal of Mathematical Analysis and Applications*, 385, 895-912, 2012.

- "Probabilistic sophistication, second order stochastic dominance and uncertainty aversion," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, Journal of Mathematical Economics, 48, 271-283, 2012.
- 39. "On the computation of optimal monotone mean-variance portfolios via truncated quadratic utility," with Ales Cerny, Massimo Marinacci, and Aldo Rustichini, *Journal of Mathematical Economics*, 48, 386-395, 2012.
- 40. "Uncertainty averse preferences," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, Journal of Economic Theory, 146, 1275-1330, 2011
- 41. "Complete monotone quasiconcave duality," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Mathematics of Operations Research*, 36, 321-339, 2011.
- 42. "Risk measures: rationality and diversification," with Simone Cerreia-Vioglio, Massimo Marinacci, and Luigi Montrucchio, *Mathematical Finance*, 21, 743-774, 2011.
- 43. "Rational preferences under ambiguity" with Simone Cerreia-Vioglio, Paolo Ghirardato, Massimo Marinacci, and Marciano Siniscalchi, *Economic Theory*, 48, 341-375, 2011.
- 44. "Objective and subjective rationality in a multiple prior model," with Itzhak Gilboa, Massimo Marinacci, and David Schmeidler, *Econometrica*, 78, 755-770, 2010.
- 45. "Portfolio selection with monotone mean-variance preferences," with Massimo Marinacci, Aldo Rustichini, and Marco Taboga, *Mathematical Finance*, 19, 487-521, 2009.
- 46. "Disputed lands," with Marco Dall'Aglio, Games and Economic Behavior, 66, 57-77, 2009.
- 47. "Ambiguity aversion, robustness, and the variational representation of preferences," with Massimo Marinacci and Aldo Rustichini, *Econometrica*, 74, 1447-1498, 2006.
- 48. "Dynamic variational preferences," with Massimo Marinacci and Aldo Rustichini, *Journal of Economic Theory*, 128, 4-44, 2006.
- 49. "Cores of non-atomic market games," with Massimiliano Amarante, Massimo Marinacci, and Luigi Montrucchio, International Journal of Game Theory, 34, 399-424, 2006.
- 50. "When an event makes a difference," with Massimiliano Amarante, *Theory and Decision*, 60, 119-126, 2006.
- 51. "A strong law of large numbers for capacities," with Massimo Marinacci, Annals of Probability, 33, 1171-1178, 2005.
- 52. "Certainty independence and the separation of utility and beliefs," with Paolo Ghirardato and Massimo Marinacci, *Journal of Economic Theory*, 120, 129-136, 2005.
- 53. "Fair division without additivity," with Marco Dall'Aglio, *The American Mathematical Monthly*, 112, 363-365, 2005.
- 54. "Monotone continuous multiple priors," with Alain Chateauneuf, Massimo Marinacci, and Jean-Mark Tallon, *Economic Theory*, 26, 973-982, 2005.
- 55. "Differentiating ambiguity and ambiguity attitude," with Paolo Ghirardato and Massimo Marinacci, Journal of Economic Theory, 118, 133-173, 2004.
- 56. "Random correspondences as bundles of random variables," with Adriana Castaldo and Massimo Marinacci, Sankhyā (Series A), 66, 409-427, 2004.
- 57. "Choquet insurance pricing: a caveat," with Erio Castagnoli and Massimo Marinacci, *Mathematical Finance*, 14, 481-485, 2004.
- 58. "Expected utility theory without the completeness axiom," with Juan Dubra and Efe Ok, Journal of Economic Theory, 115, 118-133, 2004.
- 59. "Yaari's dual theory without the completeness axiom," Economic Theory, 23, 701-714, 2004.
- 60. "A subjective spin on roulette wheels," with Paolo Ghirardato, Massimo Marinacci, and Marciano Siniscalchi, *Econometrica*, 71, 1897-1908, 2003.
- 61. "How to cut a pizza fairly: fair division with decreasing marginal evaluations," with Massimo Marinacci, *Social Choice and Welfare*, 20, 457-465, 2003.
- 62. "Coherence without additivity," with Enrico Diecidue, Journal of Mathematical Psychology, 47, 166-170, 2003.
- 63. "Insurance premia consistent with the market," with Erio Castagnoli and Massimo Marinacci, Insurance: Mathematics and Economics, 31, 267-284, 2002.
- 64. "BV as a dual space," with William Ruckle, Rendiconti del Seminario Matematico dell'Università di Padova, 107, 101-109, 2002.

- 65. "Maxmin under risk," Economic Theory, 19, 823-831, 2002.
- 66. "Homothetic preferences on star-shaped sets," Decisions in Economics and Finance, 24, 41-47, 2001.
- 67. "Restricting independence to convex cones," with Erio Castagnoli, Journal of Mathematical Economics, 34, 215-223, 2000.

#### Manuscripts

- 1. "Ergodic annealing," with Carlo Baldassi, Massimo Marinacci, and Marco Pirazzini. arXiv:2008.00234
- 2. "Making decisions under model misspecification," with Simone Cerreia-Vioglio, Lars Peter Hansen, and Massimo Marinacci. arXiv:2008.01071
- 3. "Time-constrained sequential search in multialternative choice problems," with Carlo Baldassi, Simone Cerreia-Vioglio, Massimo Marinacci, and Marco Pirazzini. <u>ArXiv:2005.01081</u>
- 4. "A diffusion model estimator reveals the utility functions for value-based choices," with Renato Berlinghieri, Ian Krajbich, Massimo Marinacci, and Marco Pirazzini.

#### **Invited Seminars Abroad**

Australian National University (Canberra), Bielefeld University, Bilkent University (Ankara), Boston University, CalTech, Cambridge University, Cass Business School (London), Central University of Finance and Economics (Beijing), Columbia University, Cornell University, Ecole Normale Supérieure de Cachan, HEC (Paris), EPFL (Lausanne), Erasmus University, ETH (Zurich), European University Institute (Florence), Humboldt University (Berlin), Imperial College (London), Indiana University, INSEAD (Fontainebleau), Institute for Advanced Study (Princeton), Johns Hopkins University, LMU (Munich), NES (Moscow), New York University, Northwestern University, Ohio State University, Oxford University, Princeton University, Tilburg University, UC Berkeley, UC Davis, UC Los Angeles, UC Santa Barbara, UC San Diego, Université de Cergy Pontoise, University of Leicester, Université Paris 1 "Panthéon-Sorbonne", Université Paris Dauphine, University of Pittsburgh, Universitat Pompeu Fabra (Barcelona), University of Southampton, University of St. Gallen, University of Warwick, University of Zurich, Vienna Institute of Finance, VirginiaTech, Yeshiva University

## **Editorial Activities**

Journal of Mathematical Economics (co-editor), Mathematics and Financial Economics (associate editor), Management Science (associate editor)

## **Teaching Experience**

Calculus, Decision Theory, Game Theory, Linear Algebra, Mathematical Finance, Measure Theory, Topology