

Emilio Barucci

PERSONAL INFORMATION

NAME : Emilio Barucci
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PLACE OF BIRTH : Florence
DATE OF BIRTH : 30.04.1968
CITIZENSHIP : Italian
LANGUAGES: English, French

FIELDS OF RESEARCH

Financial markets, Mathematical finance, Financial intermediation, Fintech-digital finance, Macroeconomics, Corporate finance, Corporate governance, Privatizations, Green finance.

EDUCATION and ACADEMIC ACTIVITY

- 1991: Degree in Economics, Florence University.
- 1991-1993: PhD student in Economics, Siena University.
- 1992-1993: G.Mortara Bank of Italy scholarship, visiting student at London School of Economics.
- 1993-1998: Lecturer at the Department of Mathematics for Economic, Financial, Actuarial and Social Decisions, Florence University.
- 1998-2001: Associate Professor of Financial mathematics, University of Pisa.
- 2001-2005: Full Professor of Financial mathematics, University of Pisa.
- 2005- : Full Professor of Financial mathematics, Politecnico di Milano.

PEER REVIEWED PUBLICATIONS

1. P.F. Asso, E. Barucci, "Ricardo on the National Debt and its redemption: some notes on an unpublished ricardian manuscript"; *Economic Notes*, 1988, 5-37. Reprinted in *Debt and Deficits*, L. Kaounides, G. Wood eds., Edward Elgar, Vol.I, 99-130, 1992.
2. P.F. Asso, E. Barucci, "Editing Ferrara's Complete Works: Technical and Scientific Issues"; *Revue Européenne des Sciences Sociales*, XXX, 47-68, 1992.
3. E. Barucci, P. Zezza, "Optimal Control Theory and the Reelection Problem: the Rise of a Political Business Cycle"; *Rivista di Matematica per le Scienze Economiche e Sociali*, 15, 25-45, 1992.
4. E. Barucci, P. Zezza, "Popularity and Reelection in a Macroeconomic Model"; *Economic Notes*, XXII, 17-36, 1993.
5. E. Barucci, L. Landi, "A neural network model for short term interest rate forecasting: the 12 months bot italian auction rate"; *Neural Network World - International Journal on Neural and Mass-Parallel Computing and Information Systems*, 6:625-656, 1993.
6. E. Barucci, "Note al margine del mercato dei BOT: analisi e proposte"; *Note Economiche*, XXIV, 213-238, 1994.
7. E. Barucci, G.M. Gallo, L. Landi, "Linear versus non-linear forecasting: a look at neural networks"; *Computational Economic Systems Models, Methods & Econometrics*, Gilli ed., 161-190, Kluwer, 1995.
8. E. Barucci, P. Zezza, "Optimality conditions for control systems and economic applications"; *Rivista Internazionale di Scienze Economiche e Commerciali*, Aprile, XLII, 257-284, 1995.
9. E. Barucci, U. Cherubini, L. Landi, "Computational Methods in Finance: Option Pricing"; *IEEE Computational Science & Engineering*, spring, p.66-80, 1996.
10. E. Barucci, L. Landi, "Learning non-Rational Expectations Equilibria"; *Rivista di Matematica per le Scienze Economiche e Sociali*, Anno 18, p.15 -31, 1996.
11. E. Barucci, L. Landi, "Speculative Dynamics with Bounded Rationality Learning"; *European Journal of Operational Research*, 91, 1996, p.284-300.
12. E. Barucci, U. Cherubini, L. Landi, "No-Arbitrage Asset Pricing with Neural Networks under Stochastic Volatility"; *Neural Networks in Financial Engineering*, Eds. A. Refenes et al., 1996, p.3-16, World Scientific.
13. E. Barucci, P. Zezza, "Does a Life Cycle Exist for a Hedonistic Consumer?"; *Mathematical Social Sciences*, 32, 1996, p.57-69.
14. E. Barucci, L. Landi, "Reti Neurali per l'Analisi delle Serie Storiche: Aspetti Metodologici ed Applicazioni"; *Ricerche Quantitative per la Politica Economica 1995*, Banca d'Italia-CIDE, p.275-337, 1997.

15. E.Barucci, U.Cherubini, L.Landi, "Neural Networks for Contingent Claim Pricing via the Galerkin Method"; *Advances in Computational Economics*, Amman, Rustem, Whinston eds., Kluwer, 1997.
16. E.Barucci, L.Landi, "Least Mean Squares learning in Self-Referential Linear Stochastic models"; *Economics Letters*, vol. 57 (3), p.313-317, 1997.
17. E.Barucci, L.Landi, "Nonlinear versus Linear learning models: a procedural perspective", *Computational Economics*, vol. 12 (2), p.171-191, 1998.
18. E.Barucci, F.Gozzi, "Investment in a Vintage Capital Model"; *Research in Economics*, vol.52 (2), p.159-188, 1998.
19. E. Barucci, "Optimal Investment Policy under Increasing Returns to Scale", *International Economic Review*, 1998, 789-808.
20. E.Barucci, F.Gozzi, V.Vespri, "On a Semigroup Approach to No-Arbitrage Pricing Theory"; *Proceedings of the Seminar on Stochastic Analysis, Random Fields and Applications*, Birckhauser Verlag, 1999.
21. E. Barucci, F. Gozzi, "Optimal Advertising with a Continuum of Goods", *Annals of Operations Research*, 88, 1999:15-29.
22. E.Barucci, M.E.Mancino, "Wiener Chaos and Hermite Polynomials Expansions for Pricing and Hedging Contingent Claims", *Advances in Futures and Options Research*, 10, 1999: 103-134.
23. E. Barucci, "Memory, learning and the selection of equilibria in a model with nonuniqueness", *Computational techniques for modelling learning in economics*, T. Brenner ed., 1999, Kluwer: 243-260.
24. E. Barucci, "Heterogeneous beliefs and learning in forward looking economic models", *Journal of Evolutionary Economics*, 9, 1999: 453-464.
25. E. Barucci, G. I. Bischi, L. Gardini, "Endogenous Fluctuations in a Bounded Rationality Economy: Learning non Perfect Foresight Cycles", *Journal of Economic Theory*, 1999, 87: 243-253.
26. E. Barucci e R. Monte, "Diffusion processes for asset prices under bounded rationality". *Trends in Contemporary Infinite Dimensional Analysis and Quantum probability. Essays in honour of Takeguki Hida, in the occasion of his 70-th birthday*, L. Accardi, H.H. Kuo, L. Streit, S. Si, K. Saito eds., Istituto Italiano di Cultura di Kyoto, 2000, 37-55.
27. E. Barucci, "Differential Games with Nonconvexities and Positive Spillovers"; *European Journal of Operations Research*, 2000, 121: 193-204.
28. E. Barucci, "Exponentially Fading Memory Learning in Forward Looking Economic Models"; *Journal of Economic Dynamics and Control*, 2000, 24: 1027-1046.

29. E. Barucci, F. Gozzi, A. Swiech, "Incentive Compatibility Constraints and Dynamic programming in continuous time"; *Journal of Mathematical Economics*, 2000, 34:471-509.
30. E. Barucci, "Fading memory learning in a class of forward looking models with an application to the hyperinflation dynamics"; *Economic Modelling*, 2001, 18: 233-252.
31. F. Antonelli, E. Barucci, M.E. Mancino, "Asset pricing with endogenous aspirations"; *Decisions in Economics and Finance*, 2001, 24: 21-41.
32. F. Antonelli, E. Barucci, M. Mancino, "Asset pricing with a backward and forward stochastic differential utility"; *Economics Letters*, 2001, 72, pp.151-157.
33. E. Barucci, S. Polidoro, V. Vespri, "Some Results on Partial Differential Equations and Asian Options"; *Mathematical Methods and Models in Applied Mathematics*, 2001, 11, 3, pp.475-497.
34. E. Barucci, F. Gozzi, "Technology Adoption and Accumulation in a Vintage Capital Model"; *Journal of Economics*, 2001, 74, 1, pp.1-38.
35. E. Barucci, R. Renò, "On Measuring Volatility of diffusion processes with high frequency data"; *Economics Letters*, 2001, 74, 371-378.
36. F. Antonelli, E. Barucci, M. E. Mancino, "A comparison result for backward stochastic differential equations with applications". *Mathematical Methods for Operations research*, 2001, 54, 3, 407-424.
37. E. Barucci, R. Renò "On measuring volatility and GARCH models forecasting performance"; *Journal of International Financial Markets, Institutions and Money*, 2002, 12: 183-200.
38. E. Barucci, R. Renò, "Value at risk with high frequency data". *New trends in banking management* Zopuonidis ed., Physica Verlag, 2002, 223-232.
39. E. Barucci, P. Malliavin, M.E. Mancino, R. Renò, A. Thalamier "The price-volatility feedback rate: an implementable mathematical indicator of market stability". *Mathematical Finance*, 2003, 13: 17-35.
40. E. Barucci, C. Impenna, R. Renò "The italian overnight market: microstructure effects, the martingale hypothesis and the payment system"; *Temì di Discussione*, 2003, nr. 475.
41. E. Barucci, C. Bianchi, S. Mancini "Una analisi dell'effetto degli studi degli analisti finanziari sulle serie storiche dei prezzi e dei volumi"; *Bancaria*, Dicembre, 2003.
42. E. Barucci, R. Monte, R. Renò "Asset prices anomalies under bounded rationality"; *Computational Economics*, 23, 2004: 255-269.

43. E.Barucci and V.Faralli, “Una metodologia per l’individuazione di fenomeni di market abuse nei mercati finanziari”, *Banca, Impresa e Società*, 2004: 515-532.
44. E.Barucci, C.Bianchi, A.Passaponti “Comportamenti imitativi tra gli analisti finanziari”, *Rivista di Politica Economica*, 2005: 103-137.
45. E.Barucci, A.Monti “Una analisi della reazione del mercato alle variazioni delle partecipazioni rilevanti delle società quotate nel mercato finanziario Italiano”, *Banca Impresa e Società*, 2005: 379-401.
46. E.Barucci, J. Falini “Determinants of corporate governance in the Italian financial market”, *Economic Notes*, 34, 2005: 371-405.
47. E. Barucci, C.Bianchi, M. Frediani “CEO turnover in the Italian financial market”, *Giornale degli Economisti*, 65, 2006: 127-154
48. E.Barucci, C.Bianchi, A.Manconi “Internal dealing regulations and insiders’ trades in the Italian financial market” *European Journal of Law and Economics*, 22, 2006: 107-119.
49. E. Barucci, C. Bianchi, F. Casciari, E. Squillantini “Definizione di una metodologia per l’individuazione di fenomeni di market abuse”, *Statistica Applicata*, 2006: 559-571.
50. E. Barucci e F. Mattesini, Bank shareholding and lending: complementarity or substitution? Some evidence from a panel of large Italian firms, *Journal of Banking and Finance*, 2008: 2237-2247 .
51. E. Barucci e M.E. Mancino, Computation of volatility in stochastic volatility models with high frequency data, *International Journal of Theoretical Finance*, 2010, 13, 767-787.
52. E. Barucci, D. Magno, M.E. Mancino, Fourier volatility forecasting with high frequency data and microstructure noise, *Quantitative Finance*, 2012, 2: 281-294.
53. E. Barucci e D. Marazzina, Optimal Investment, Stochastic Labor Income and Retirement, *Applied Mathematics and Computation*, 2012, 218: 5588- 5604.
54. E. Barucci e M. Tolotti, Identity, Reputation and social interaction with an application to sequential voting, *Journal of Economic Interaction and Coordination*, 2012, 7:79-98.
55. E. Barucci e L. Del Viva, Countercyclical Contingent Capital, forthcoming in *Journal of Banking and Finance*, 2012, 36: 1688-1709.
56. E.Barucci e M. Tolotti, Social interaction and conformism in a random utility model, forthcoming in *Journal of Economic Dynamics and Control*, 2012 36 (12): 1855-1866.

57. E. Barucci e L. Del Viva, Dynamic Capital Structure and the Contingent Capital Option, *Annals of Finance*, 2013, 9: 337-364.
58. E. Barucci e M. Casna, On the market selection hypothesis in a mean reverting environment, *Computational Economics*, 2014, 44, 101-126.
59. E. Barucci e F. Gazzola Prices in the utility function and demand monotonicity, *Kodai mathematical journal*, 2014, 37: 544-568.
60. E. Barucci e A. Cosso, Portfolio choices and VaR constraint with a defaultable asset, *Quantitative Finance*, 2015, 5: 853-864.
61. E. Barucci e D. Marazzina, Risk seeking, non convex remuneration and regime switching, *International Journal of Theoretical and Applied Finance*, 2015, 18: 12-37.
62. E. Barucci, R. Baviera, C. Milani, Is the comprehensive assessment able to capture banks' risks?, *Finance Research Letters*, 2016, 19: 98-104.
63. E. Barucci and D. Marazzina, Asset management, High Water Mark and flow of funds, *Operations Research Letters*, 2016, 44: 607-611.
64. E. Barucci, R. Baviera, C. Milani, Is the comprehensive assessment really comprehensive?, *European Journal of Finance*, 2018, 1: 1-19.
65. E. Barucci, D. Marazzina, G. La Bua, On relative performance, remuneration and risk taking of asset managers, *Annals of Finance*, 2018, 14: 517-545.
66. E. Barucci, C. Milani, Do European banks manipulate risk weights?, *International Review of Financial Analysis*, 2018, 59: 57-67.
67. E. Barucci, T. Colozza, C. Milani, The effect of bank bail-out in the European Union, *Journal of International Money and Finance*, 2019, 95: 14-26.
68. E. Barucci, T. Colozza, D. Marazzina, E. Rroji, The determinants of lapse rates in the Italian life insurance market, *European Actuarial Journal*, 10, 2020: 149-178.
69. E. Barucci, D. Marazzina, E. Mastrogiacomo, Asset allocation with minimum guarantee, *Annals of Operations Research*, 299, 2021: 215-239.
70. E. Barucci e T. Colozza, European financial systems through the crisis: patterns and convergence, *Review of International Economics*, 2021.
71. E. Barucci, D. Brigo, M. Francischello, D. Marazzina, On the design of Sovereign Bond-Backed Securities, *International Journal of Financial Engineering*, 2021.
72. E. Barucci, M. Bonollo, E. Rroji, F. Poli, A machine learning algorithm for stock picking based on information outliers, *Expert Systems with Applications*, 184, 2021.
73. E. Barucci, P. Dindo, F. Grasseti, Portfolio insurers and constant weight traders: who will survive? *Quantitative Finance*, 21, 1993-2004, 2021.

74. M. Azzone, E. Barucci, G. Giuffra, D. Marazzina, A machine learning model for lapse prediction in life insurance contracts, *Expert Systems with Applications*, 199, 2022.
75. E. Barucci, G. Giuffra, D. Marazzina, Cryptocurrencies and stablecoins: a high frequency analysis, forthcoming in *Digital Finance*.
76. E. Barucci, F. Grassetto, Pandemic crisis, power and the role of the State, forthcoming in *International Journal of Public Administration*.
77. E. Barucci, E. Biffis e D. Marazzina, Health Insurance, Portfolio Choice, and Retirement Incentives, forthcoming in *European Journal of Operational Research*.
78. E. Barucci, M. Brachetta, D. Marazzina, On the feasibility of a debt redemption fund, forthcoming in *Economic Modelling*.
79. E. Barucci, M. Brachetta, D. Marazzina, Debt Redemption Fund and fiscal policy, forthcoming in *Communications in Nonlinear Science and Numerical Simulation*.
80. T. Agasisti, E. Barucci, M. Canistra', D. Marazzina, M. Soncin, Online or on-campus? Comparing the effects of financial education on student achievement, forthcoming in *Evaluation and Programme Planning*
81. E. Barucci, G. Giuffra, D. Marazzina, Market impact and efficiency in cryptoasset markets, forthcoming in *Digital Finance*.
82. M. Azzone, E. Barucci, Evaluation of sight deposits and central bank digital currency, forthcoming *Journal of International Financial Markets, Institutions and Money*.
83. E. Barucci, D. Marazzina, E. Rroji (2023), An investigation of the Volatility adjustment, *Decisions in Economics and Finance*.

VOLUMES

1. E. Barucci, *Teoria dei Mercati Finanziari: Equilibrio, Efficienza, Informazione*. Il Mulino, 2000.
2. E. Barucci *Financial Markets Theory*, Springer&Finance, 2003. Translated in Chinese in 2006.
3. E.Barucci *Mercato dei capitali e corporate governance in Italia*, Carocci, 2006.
4. E.Barucci e F.Pierobon *Le privatizzazioni in Italia*, Carocci, 2007.
5. E. Barucci, C. Marsala, M. Nencini, C. Sgarra, *Ingegneria finanziaria*, EGEA, 2009.
6. E. Barucci e F. Pierobon, *Stato e mercato nella seconda repubblica*, Il Mulino, 2010.

7. E. Barucci e C. Fontana *Financial Markets Theory*, second edition, Springer&Finance, 2017.
8. E. Barucci *Chi salvera' la finanza*, EGEA, 2018.
9. E. Barucci *Who will save finance?*, Bocconi University Press, 2019.
10. E. Barucci, D. Marazzina, M. Nencini, *Finanza Matematica*, EGEA, 2020.
11. E. Barucci, F. Grasseti, D. Marazzina, *Finanza Matematica. Esercizi*, EGEA, 2020.
12. E. Barucci, *Euro Digitale*, EGEA, 2023.

EDITED VOLUMES

1. E. Barucci e M. Messori (editor), *Oltre lo shock*, EGEA editore, 2009.
2. E. Barucci, C. De Vincenti e M. Grillo (editor), *Idee per l'Italia. Mercato e Stato*, Brioschi Editore 2010.
3. J. Quiggin *Zombie Economics*, italian edition by E. Barucci e M. Messori, EGEA editore, 2012.
4. E. Barucci e M. Messori (editor), *Towards the European Banking Union*, Passigli editore, 2014.

PROFESSIONAL ACTIVITIES

- 2016- : Board member of DEA Capital Alternative Funds SGR (independent director).
- 2021-: Member of the scientific committee of EGEA/Bocconi University Press.
- 2024-: Member of the scientific committee of Comitato Educazione Finanziaria, Italian Finance Ministry.
- 2024: Member of the Committee for the exam to be registered as insurance intermediaries led by IVASS.
- 2018- 2023: Expert member of CNEL (appointment by the President of the Italian Republic).
- 2007 - 2021: Board member of Aviva Italia (independent director).
- 2011 - 2021: Member of the Audit Committee (Chairman 2020-2021), Risk Committee (Chairman 2013-2021), Remuneration Committee of Aviva Italia, (Chairman 2104-2018).

ORGANIZATION ACTIVITIES

- 2010- : Director of Master Finanza Quantitativa, POLIMI Graduate School of Management.
- 2011- : Director of QFinLab, Nicola Bruti Liberati Quantitative Finance Lab.
- 2014- : Director of the web site on financial information *www.fnriskalert.it*.
- 2019- : Coordinator of the financial education project (edufin@polimi) *www.imparalafinanza.it*.
- 2019- : Director of the International Master Fintech Digital Innovation and Finance, POLIMI Graduate School of Management.
- 2022- : Coordinator of the ESG data project (esg@polimi) *www.esgcorporatedata.it*.
- 2023- vice Dean of the Department of Mathematics, Politecnico di Milano.
- 2024-: Director of the Master in Management, Finance and Technology in partnership con Bayes Business School ed Emlyon Business School.
- 2020-2023 COST Action - Fintech and Artificial Intelligence (CA19130) network member.
- H2020 A FINancial supervision and TECHnology compliance training programme - FIN-TECH (2019-2021). Coordinator of the Italian unit (Politecnico di Milano): project in cooperation with CONSOB (Italian stock exchange authority).

OTHER ACTIVITIES

- Scientific seminars: Università di Bologna, Università di Firenze, Università di Modena, Università di Pescara, Università di Pisa, Università di Roma I, Università di Roma II, Università di Venezia, Università di Siena, Università di Trento, Università di Urbino, Università di Perugia, Università di Verona, Università di Udine, Università di Sassari, Università di Ancona, Politecnico di Milano, European University Institute (Firenze), Scuola Normale Superiore di Pisa, LUISS, Università Cattolica di Milano, Università di Pavia, Università di Lugano, Università di Rostock, Imperial College, ESADE, SOAS University of London, City University (London), UCL (London), King's College (London), University of Evry, Banca Commerciale Italiana, Unicredit, Allianz (Milano), Deutsche Bank (Milano), International Institute for Applied Systems Analysis (IIASA) (Vienna), Banca d'Italia, IVASS, Ministero dell'Economia e delle Finanze.
- Columnist of the web site *www.huffingtonpost.it*.

- He participated to public consultation: BIS (regulatory capital, 2010), ESMA (DLT in securities markets, 2017), EIOPA (SOLVENCY II, 2020), Consob (takeover 2010).
- 2012- : in cooperation with the Bachelier Society and Springer the Department of Mathematics promotes the Bruti Liberati international prize for the best PhD thesis in financial mathematics: member of the committee.
- Founder of the Italian quantitative finance workshop (2002-).
- Founder of the Fintech research network (2022-): <https://www.fintechlab.it/network/>.
- Editorial duties:
Guest editor of a special issue of the journal *Digital Finance* (deadline 31.12.2022).
- Referee for the following journals: *Economic Notes*, *Journal of Economic Dynamics and Control*, *European Journal of Operational Research*, *International Economic Review*, *Annals of Operations Research*, *Rivista di Politica Economica*, *Journal of Evolutionary Economics*, *Journal of Computational Intelligence and Finance*, *Economic Modelling*, *Journal of Economic Theory*, *Decisions in Economics and Finance*, *Journal of Economics*, *Rivista Italiana degli Economisti*, *Journal of Economic Behavior and Organization*, *Quantitative Finance*, *International Review of Financial Analysis*, *Physica A*, *European Journal of Political Economy*, *Annals of Finance*, *Journal of Financial Stability*, *Journal of Computational and Applied Mathematics*, *Journal of Banking and Finance*, *Physica A*, *Frontiers in Applied Mathematics and Statistics*, *Italian Economic Journal*, *Expert systems with applications*.
- Coordinator of the PhD in Mathematics for economic decisions, University of Pisa (1999-2003).