

Alessio Moneta

RESEARCH INTERESTS

Causal Inference, Applied Macroeconomics, Time Series Econometrics, Methodology of Economics, Empirical Demand Analysis

EMPLOYMENT

2024 – present	Full Professor of Economics, Institute of Economics, Scuola Superiore Sant'Anna, Pisa.
2017 – 2023	Associate Professor of Economics, Sant'Anna, Pisa.
2012 – 2016	Assistant Professor of Economic Policy, Sant'Anna Pisa
2006 – 2011	Research fellow, Max Planck Institute of Economics, Jena
2004 – 2006	Post doc, Sant'Anna Pisa

EDUCATION

2004	PhD in Economics and Management, Scuola Superiore Sant'Anna, Pisa. Thesis title: <i>Graphical causal models and VAR-based macroeconometrics</i> . Dissertation Committee: Marco Lippi, Peter Spirtes, Carlo Bianchi, Giorgio Fagiolo, Andrea Bonaccorsi.
2004 (Jan.-June)	Visiting student (Huygens fellowship), Erasmus Institute of Philosophy and Economics, Erasmus University of Rotterdam
2002-2003	Visiting student, Dept. of Philosophy, Carnegie Mellon University, Pittsburgh
2001-2002	Visiting Student (Marie Curie fellowship), Dept. of Business Economics, University Carlos III, Madrid
2001	Visiting student, Dept. of Philosophy, Carnegie Mellon University, Pittsburgh
1999	Master in Management of Innovation, Sant'Anna Pisa
1998	<i>Laurea</i> degree in Philosophy, University of Pisa
1996-1997	Erasmus student, Ruhr University Bochum

VISITING SCHOLARSHIP

2020	Munich Center for Mathematical Philosophy (Germany), January-February.
2017	Kansai University (Japan), Department of Economics, August-September
2017	Australian National University, Crawford School of Public Policy, February-March
2017	Griffith University (Australia), Department of Accounting, Finance and Economics, February

EDITORIAL ACTIVITIES, AFFILIATIONS and QUALIFICATIONS

2017 – present	Associate Editor, Behaviormetrika, Springer
2017 – 2018	Experts group, Industrial Development Report 2018, UNIDO
2017	Italian scientific <i>habilitation</i> (ASN) for full professorship, Economics (13/A1) and Economic Policy (13/A2)

- Chai, A., E. Stepanova, and A. Moneta (2023), Quantifying expenditure hierarchies and the expansion of global consumption diversity, *Journal of Economic Behavior & Organization*, 214, 860-886.
- Ciarli, T., A. Coad, and A. Moneta (2023), Does Exporting Cause Productivity Growth? Evidence from Chilean Firms, *Structural Change and Economic Dynamics*, 66, 228-239.
- Moneta, A. and G. Pallante (2022), Identification of Structural VAR Models via Independent Component Analysis: A Performance Evaluation Study, *Journal of Economic Dynamics and Control*, 144, 104530.
- Berner, A., S. Bruns, A. Moneta, and D. Stern (2022). Do energy efficiency improvements reduce energy use? Empirical evidence on the economy-wide rebound effect in Europe and the United States. *Energy Economics*, 110, 105939
- Brun, S., A. Moneta, and D. Stern (2021), Estimating the Economy-Wide Rebound Effect Using Empirically Identified Structural Vector Autoregressions, *Energy Economics*, 97, 105158.
- Casini, L., A. Moneta, and M. Capasso (2021), Variable Definition and Independent Components, *Philosophy of Science*, 88, 784-795.
- Brancaccio, E., A. Califano, M. Loprete, A. Moneta (2020), Nonperforming Loans and Competing Rules of Monetary Policy: a Statistical Identification Approach, *Structural Change and Economic Dynamics*, 53, 127-136.
- Guerini, M., A. Moneta, M. Napoletano, A. Roventini (2020), The Janus-Faced Nature of Debt: Results from a Data-Driven Cointegrated SVAR Approach, *Macroeconomic Dynamics*, 24, 24-54.
- Dosi, G., A. Moneta, E. Stepanova (2019), Dynamic increasing returns and innovation diffusion: bringing Polya Urn processes to the empirical data, *Industry and Innovation*, 26(4), 461-478.
- Guerini, M. and A. Moneta (2017), A Method for Agent-Based Models Validation, *Journal of Economic Dynamics and Control*, 82, 125-141.
- Brun, S. and A. Moneta (2017), Intertemporal propensity to consume, *Journal of Evolutionary Economics*, 27, 295-314.
- Barigozzi, M. and A. Moneta (2016), Identifying the independent sources of consumption variation, *Journal of Applied Econometrics*, 31(2), 420-449.
- Moneta, A. and F. Russo (2014), Causal models and evidential pluralism in econometrics, *Journal of Economic Methodology*, 21(1), 54-76.
- Manig, C., and A. Moneta (2014), More or better? Quality versus quantity in food consumption, *Journal of Bioeconomics*, 16(2), 155-178.
- Moneta, A. and A. Chai (2014), The evolution of Engel curves and its implications for structural change theory, *Cambridge Journal of Economics*, 38(4), 895-923.
- Chai, A. and A. Moneta (2014), Escaping satiation dynamics: some evidence from British household data, *Jahrbücher für Nationalökonomie und Statistik*, 34(2-3), 299-327.
- Moneta, A., D. Entner, P. Hoyer, and A. Coad (2013), Causal inference by independent component analysis: theory and applications, *Oxford Bulletin of Economics and Statistics*, 75(5), 705-730.
- Chai, A., and A. Moneta (2012), Back to Engel? Some evidence for the hierarchy of needs, *Journal of Evolutionary Economics*, 22, 649-676.
- Moneta, A., N. Chlaß, D. Entner, and P. Hoyer, Causal Search in Structural Vector Autoregressive Models, *Journal of Machine Learning Research: Workshop and Conference Proceedings*, 12: 95-114 (2011).
- Chai, A. and A. Moneta (2010), Retrospectives: Engel curves, *Journal of Economic Perspectives*, 24(1), 225-240.
- Chai, A. and A. Moneta (2009), Comparing shapes of Engel curve, *Economics Bulletin*, 29(2), 1164-1170.
- Moneta, A. (2008), Graphical causal models and VARs: an empirical assessment of the Real Business Cycles hypothesis, *Empirical Economics*, 35(2) 275-300.

- Fagiolo, G., A. Moneta, and P. Windrum (2007), A critical guide to empirical validation of agent-based models in economics: methodologies, procedures, and open problems, *Computational Economics*, 30, 195-226.
- Windrum, P., G. Fagiolo, and A. Moneta (2007), Empirical validation of Agent-Based Models: alternatives and prospects, *Journal of Artificial Societies and Social Simulation*, 10(2), 8.
- Moneta, A. (2005), Causality in macroeconometrics. Some considerations about reductionism and realism, *Journal of Economic Methodology*, 12(3), 433-453.
- Moneta, A. (2005), Some peculiarities of the concept of causality in macroeconometrics, *History of Economic Ideas*, 13(3), 57-82.
- Moneta, A. (2004), Identification of monetary policy shocks. A graphical causal approach, *Notas Económicas*, 20, 39-62.

BOOK CHAPTERS

- Doremus, N., A. Moneta, and S. Cattaruzzo (2019), Cause-Effect Pairs in Time Series with a Focus on Econometrics, in I. Guyon, A. Statnikov, B. Bakır Batu (eds.) *Cause-effect pairs in machine learning*, Springer, pp. 191-214.
- Fagiolo, G., M. Guerini, F. Lamperti, A. Moneta, and A. Roventini (2019), Validation of agent-based models in economics and finance. In Beisbart C., N. Saam (eds.) *Computer Simulation Validation. Fundamental Concepts, Methodological Frameworks, and Philosophical Perspectives*, Springer, pp. 763-787.
- Moneta A. (2019) Critical dilemmas in the methodology of economics facing the crisis, in T. Gabellini, S. Gasperin, A. Moneta (eds.) *Economic Crisis and Economic Thought: Alternative Theoretical Perspectives on the Economic Crisis*, Routledge, pp. 19-35.
- Chlaß, N. and A. Moneta (2009), Can Graphical Causal Inference Be Extended to Non-linear Settings? An Assessment of Conditional Independence Tests, in M. Dorato, M. Redei, M. Suarez (eds.) *Epistemology and Methodology of Science: Launch of the European Philosophy of Science Association*, Springer, pp. 63-72.
- Moneta, A. (2007), Mediating Between Causes and Probabilities: The Use of Graphical Models in Econometrics, in F. Russo and J. Williamson (eds.) *Causality and Probability in the Sciences*, College Publications, pp. 109-129.
- Fagiolo, G., A. Moneta, and P. Windrum (2006), Confronting Agent-Based Models with Data: Methodological Issues and Open Problems, in C. Bruun (ed.) *Advances in Artificial Economics. The Economy as a Complex Dynamic System*, Springer, Berlin Heidelberg, pp. 255-267

WORKING PAPERS

(only selected recent)

- Cordoni, F., Doremus, N. and A. Moneta (2023), Identification of Vector Autoregressive Models with Nonlinear Contemporaneous Structure, *LEM Working Paper 23/07*.
- Martinoli, M., Moneta, A. and G. Pallante (2022), Calibration and Validation of Macroeconomic Simulation Models: A General Protocol by Causal Search, *LEM Working Paper 22/33*.
- Ciarli, T., A. Coad, and A. Moneta (2019), Exporting and productivity as part of the growth process: Causal evidence from a data-driven structural VAR, *LEM Working Paper 19/39*.
- Moneta, A. and E. Stepanova (2018), Characterizing manufacturing Engel curves around the World, *UNIDO – Department of Policy, Research and Statistics Working Paper 14/18*.
- Moneta, A. and E. Stepanova (2018), Innovation, Demand and Growth. Changes in Consumption Patterns and Innovation: An Empirical Analysis, *ISIGrowth Working Paper, 22/18*.
- Capasso, A. and A. Moneta (2016), Macroeconomic responses to an independent monetary policy shock: a (more) agnostic identification procedure, *LEM Working Paper 16/36*.

OTHER PUBLICATIONS

- Gabellini, T., S. Gasperin, and A. Moneta (eds.) (2019) *Economic Crisis and Economic Thought: Alternative Theoretical Perspectives on the Economic Crisis*, Routledge (edited book).
- Moneta, A. and P. Spirtes (2006), Graphical Models for the Identification of Causal Structures in Multivariate Time Series Models, *Joint Conference on Information Sciences Proceedings*, Atlantis Press.
- Moneta, A. (2012), “Interazione” and “Idiosincratice”, entries in *Dizionario di Economia e Finanza*, Treccani.
- Moneta, A. (2006), “Causalità in economia” and “Econometria” in V. Melchiorre, *Enciclopedia Filosofica*, Bompiani Milano.
- Moneta, A. (2013), Review of *L'economia del bene e del male. Morale e denaro da Gilgamesh a Wall Street*, by T. Sedlacek, *Fenomenologia e società*, 34(1), 157-159.
- Moneta, A. (2010), Which structure do models represent? *Journal of Economic Methodology*, 17(3), 338-343. (Review of *Representation and structure in economics: the methodology of econometric models of the consumption function*, by Hsiang-Ke Chao).
- Moneta, A. (2008), Review of *Filosofia dell'economia. Modelli, causalità, previsione*, by F. Guala, 2R - *Rivista di Recensioni Filosofiche*, 9, 70-80.
- Moneta, A. (2008), Review of *Modern Macroeconomics: Its Origins, Development and Current State*, by B. Snowdon and H.R. Vane, *Journal of the History of Economic Thought*, 30(2), 271-274.
- Moneta, A. (2007), Review of *Theory and Measurement. Causality Issues in Milton Friedman's Monetary Economics*, by J.D. Hammond, *History of Economic Ideas*, 15(2), 175-178.

GRANTS

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| 2020-2023 | PRIN grant (Italian Ministry of Education, University and Research) on “How good is your model? Empirical evaluation and validation of quantitative models in economics”, <i>Principal Investigator</i> (354k EUR) |
| 2020 | DAAD (German Academic Exchange Service) scholarship on “Causal with Constitutive Discovery: Algorithms and Applications” |
| 2016-2018 | ARC (Australian research council) grant on “Energy Efficiency Innovation: Diffusion, Policy and the Rebound Effect”, <i>Partner Investigator</i> (273k AUD) |
| 2016-2017 | INET (Institute for New Economic Thinking) grant on “Causal Analysis in Economics: Philosophical Underpinnings and Econometric Tools for Nonstandard settings”, <i>Principal Investigator</i> (70k USD) |
| 2015-2018 | ISIGrowth (Innovation-fuelled, Sustainable, Inclusive Growth), European Union Horizon 2020 research and innovation programme (GA No. 649186). <i>Project member</i> |

TEACHING

Bachelor level: (IT: *in Italian*; EN: *in English*)

- *Methodology of economics*, Sant'Anna Pisa, each year from 2018 to 2023, 10h, IT
- *Topics in Macroeconometrics*, Sant'Anna Pisa, 2021(15h)-2022(15h), 2023(20h), IT
- *Causality in Macroeconometrics*, Sant'Anna Pisa, 2019, 10h, EN
- *Methodology of economics*, Sant'Anna Pisa, each year from 2012 to 2017, 20h, IT (except 2017 EN)
- *Causality in econometrics*, Sant'Anna Pisa, 2016, 10h, IT
- *Methodology of economics: advanced topics*, Sant'Anna Pisa, 2015, 10h, IT
- *Methodology of social sciences*, Sant'Anna Pisa, 2005, IT
- *Introduction to probability theory*, Sant'Anna Pisa, 2004, IT

Master level: (*always EN*)

- *Economic Methodology*, Sant'Anna - University of Pisa, spring 2020 (36h), fall 2020 and -21 (28h)
- *Advanced Macroeconomics*, Sant'Anna - University of Pisa, each year from 2013 to 2019, 28h

PhD level: (*always* EN)

- *Causal inference in macroeconometrics*, PhD in economics, Sant'Anna Pisa, 2022, 10h
- *Causality in macroeconometrics*, PhD in economics, Sant'Anna Pisa, 2021, 12h
- *History of Economic Analysis (J.S.Mill's and M. Friedman's economic methodology)*, PhD in economics, Sant'Anna Pisa, 2021-2022, 4h
- *Models of causality and explanation*, PhD in economics, Sant'Anna, each year from 2013 to 2020, 15h
- *Causality in Econometrics*, AETEA Summer School, Procida, 2013
- *Causality in Econometrics*, University of Marburg, 2012
- *Causality in Econometrics*, Max Planck Institute of Economics - Friedrich Schiller University, Jena, 2011
- *Econometrics for Consumption and Demand*, Max Planck Institute of Economics, Jena, 2008

SUPERVISION

MSc dissertation supervision at the joint Sant'Anna-University of Pisa program in Economics (20 students since 2015). PhD students, at FSU University of Jena: Stephan Bruns (co-supervisor, defended 2013); at Sant'Anna: Mattia Guerini (co-supervisor, defended 2016), Damiano Di Francesco (current); at IUSS-Pavia: Nicolas Dorémus (supervisor, defended 2019), Andrea Califano (supervisor, defended 2019). Post-docs: Marco Capasso (2016), Elena Stepanova (2016-20), Milena Lopreite (2017-19), Mario Martinoli (2020-22), Lorenzo Casini (2021-22), Nicolas Doremus (2021-22).

INVITED SEMINARS/TALKS

2021 IMT Lucca, workshop on “Causal inference, aggregation, and heterogeneity”. Sapienza University of Rome, Department of Computer, Control and Management Engineering, webinar; University of Insubria, Department of economics, webinar. **2020** University of Calabria, Dep. of Economics, webinar. **2019** GREDEG, University of Nice – Sophia Antipolis; Politecnico di Milano, School of Management; **2018** Workshop on “Causation vs. constitution: loosening the friction”, University of Bergen (Norway); Universitat Rovira i Virgili, Reus (Spain), Dep. of Economics. **2017** Kansai University (Japan), Faculty of Economics; Shiga University (Japan), Faculty of Data Science; NIFU (Nordic Institute for Studies in Innovation, Research and Education), Oslo; Critical Economics Summit, University of Bologna; La Sapienza University of Rome, Department of Computer, Control and Management Engineering; Workshop on Demand Analysis, Griffith University (Australia). **2016** University of Bologna, Department of Philosophy. **2015** University of Kassel, Department of Economics. **2014** Free University of Berlin, Department of Economics. **2013** Workshop on Case Studies of Causal Discovery with Model Search, Carnegie Mellon University, Pittsburgh. **2012** Department of Statistics, London School of Economics. **2011** Workshop on Complexity: Theoretical Foundations and Practical Implications, Altonaer Stiftung für philosophische Grundlagenforschung; Department of Economics, University of Münster. **2010** NIPS Symposium on Causality and Time Series Analysis, Vancouver. **2009** University of Milan, Department of Economics. **2008** University of Verona, Department of Economics; Workshop on the role of evidence in economics, University of Bologna. **2007** University of Milan, Department of Economics. **2006** Erasmus Institute for Philosophy and Economics, Erasmus University of Rotterdam; Department of Engineering, University of Pisa. **2005** University Carlos III of Madrid, Department of Statistics and Econometrics; Department of Economics Bilkent University Ankara.

CONFERENCE PRESENTATIONS

2024 IWEEE (Italian Workshop of Econometrics and Empirical Economics), Bozen. **2023** INEM (International Network for Economic Method), Venice. **2022** PSA (Philosophy of Science Association), INEM symposium, Pittsburgh; IAEE (International Association for Applied Econometrics) Conference, King's College London; IWEEE (Italian Workshop of Econometrics and Empirical Economics), Rimini. **2021** EMCC-V: Econometric Models of Climate Change Conference (online). **2019** EAEPE (European Association for Evolutionary Political Economy) Conference, University of Warsaw. **2018** International Conference on Computational and Financial Econometrics (CFE 2018), University of Pisa; Workshop on Information, Causal Models and Model Diagnostics, Carnegie Mellon University, Pittsburgh. **2017**

Erasmus Institute for Philosophy and Economics (EIPE) 20th Anniversary Conference, Erasmus University Rotterdam; MuST10 (10th Munich-Sydney-Tilburg Conference in the Philosophy of Science): Causation and Complexity, University of Sydney; ICEEE (Italian Congress of Econometrics and Empirical Economics), University of Messina. **2016** IWCEE16 (International Workshop on Computational Economics and Econometrics), CNR Rome. **2015** STOREP conference (Italian Association for the History of Political Economy), University of Turin. **2014** Causality and Complexity in the Sciences, University of Cologne; IAEE (International Association for Applied Econometrics) Conference, Queen Mary University London; International Schumpeter Society Conference, University of Jena. **2013** INEM (International Network for Economic Method) Conference, Rotterdam. **2012** INEM Conference, Saint Petersburg. **2011** Causality and Explanation in the Sciences, Ghent; INEM Conference, University of Helsinki; ICEEE, University of Pisa. **2010** Causality in the Biomedical and Social Sciences, Rotterdam; STOREP, University of Trento. **2009** EAEPE (European Association for Evolutionary Political Economy) Conference, University of Amsterdam; Australasian meeting of the Econometric Society, Australian National University, Canberra; EMAEE (European Meeting on Applied Evolutionary Economics), Jena. **2008** INEM Conference, Madrid; Causality and Probability in the Sciences, Kent. **2007** EPSA (European Philosophy of Science Association), University Complutense of Madrid; STOREP Conference, Pollenzo; EMAEE Conference, University of Manchester. **2006** Artificial Economics Conference University of Aalborg; New Philosophy of the Social Sciences Summer School, San Sebastian; Causality and Probability in the Sciences Conference, University of Kent; Models and Simulations Conference, CNRS Paris; STOREP Conference, University of Lecce. **2004** INEM Conference, University of Amsterdam; Economic Policies in the New Millennium Conference, University of Coimbra. **2003** EC2 Conference on Identification and Instruments in Econometrics, University College of London; Middle East Technical University Conference on Economics, Ankara; Research in Economics Conference, University of Siena.

WORKSHOP ORGANIZATION AND SCIENTIFIC COMMITTEES

Co-organizer of the following workshops: “Model Evaluation and Casual Search: Empirical and Experimental Approach” (funded by PRIN grant, Pisa 2022); Phd in Economics Workshop, Sant’Anna Pisa (years 2012-2015); “The role of consumption for structural change,” Max Planck Institute of Economics, Jena (2008); co-organizer of the IV PhD Conference “Research in Economics”, Volterra, 2006. Organiser of the department’s internal seminars, Institute of Economics, Sant’Anna, years 2012-16

Member of the scientific/program committee in the following conferences: Uncertainty in Artificial Intelligence (UAI) 2023; Causal Learning and Reasoning (CLear) 2024, 2023, 2022; NeurIPS 2022 Workshop on Causality for Real-world Impact; European Society for Ecological Economics Conference 2022 (special session on econometrics for climate and energy); International Network for Economic Method (2019), International workshop on Advanced Methodologies of Bayesian Networks (2015-2017), Munich-Sydney-Tilburg (MuST) conference in the Philosophy of Science (2015), Probabilistic Graphical Models and its Applications (2015); Conference on Uncertainty in Artificial Intelligence (UAI).

UNIVERSITY ADMINISTRATION

2021-present	Coordinator of the PhD Programme in Economics, Sant’Anna Pisa
2021-present	Deputy director of the Institute of Economics, Sant’Anna Pisa
2012-present	Member of the PhD in Economics faculty committee (<i>collegio docenti</i>), Sant’Anna Pisa
2012-present	Post-doc hiring committees, Sant’Anna Pisa
2013-present	Selection committee for PhD students, Economics, Sant’Anna Pisa
2023	Hiring committee for assistant professor, University of Barcelona
2022	Hiring committee, postdoc, University of Milan
2019-2020	Selection committee for Master students, Economics, Sant’Anna School-University of Pisa

- 2018 Hiring committee for assistant professor, Dept. of Economics and Management, University of Pisa
- 2014-2016 Elective member of the Italian National University Council (CUN)
- 2012-13,-19-21 Selection committee for undergraduate students, Economics, Sant'Anna Pisa

REFEREE ACTIVITY

British Journal for the Philosophy of Science, Central European Journal of Economic Modelling and Econometrics, Disputatio, Econometrics and Statistics, Economic Bulletin, Economic History Review, Economic Inquiry, Economics and Philosophy, Empirical Economics, Entropy, Erasmus Journal for Philosophy and Economics, European Economic Review, European Journal for Philosophy of Science, History of Economic Ideas, Filozofia Nauki, Industrial and Corporate Change, International Studies in the Philosophy of Science, Journal of Applied Econometrics, Journal of Applied Economics, Journal of Business & Economic Statistics, Journal of Economic Interaction and Coordination, Journal of Economic Methodology, Journal of Evolutionary Economics, Journal of Futures Markets, Journal of the History of Economic Thought, Journal of Machine Learning Research, Journal of Macroeconomics, Journal of Socio-Economics, Metroeconomica, Journal of Time Series Analysis, Oxford Bulletin of Economics and Statistics, Research Policy, Review of Keynesian Economics, Rivista di Storia Economica, Structural Change and Economic Dynamics, Studies in History and Philosophy of Science, Synthese, Theory and Decision, Topoi.

College Publications, MIT Press, Oxford University Press.

National Science Center (Poland), Israel Science Foundation; Italian Ministry of Education, University and Research (MIUR).

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