Roberto Dieci

Curriculum Vitae

July 2019

PERSONAL DATA

Date and place of birth: 22 November 1963, Piacenza (Italy)
Citizenship: Italian
Family status: Married, two children

PROFESSIONAL ADDRESS

Department of Mathematics, University of Bologna
P.zza di Porta S. Donato 5 - I-40126 Bologna (Italy)
and
School of Economics and Management
Rimini Campus - University of Bologna
Via D. Angherà 22, I-47900 Rimini (Italy)
Phone: +39 0541 434140
Fax: +39 051 2094367
Email: roberto.dieci@unibo.it
Web:
https://www.unibo.it/sitoweb/roberto.dieci/cv-en
www.webalice.it/rdieci/
https://scholar.google.it/citations?user=hOJwatYAAAAJ&hl=en

EDUCATION

Doctorate (Ph.D.) in Mathematics for Financial Markets, University of Brescia (Italy), June 1994
Degree (M.Sc.) in Economics and Business "cum laude", University of Parma (Italy), July 1989

PERMANENT POSITIONS

since 2007/10 - Full Professor of Mathematics for Economics and Finance, Department of Mathematics and School of Economics and Management, University of Bologna
2002/10 - 2007/09: Associate Professor of Mathematics for Economics and Finance, Department of Mathematics for Economics and Social Science and Faculty of Economics Rimini, University of Bologna
1995/11 - 2002/09: Assistant Professor of Mathematics for Economics and Finance, Faculty of Economics, University of Parma

OTHER POSITIONS

2002-2005: Adjunct Professor, Faculty of Economics, University of Parma
2000-2003: Adjunct Professor, University "L. Bocconi", Milano
1994-1995: Adjunct Professor, Faculty of Economics, University of Parma
1993-1994: Adjunct Professor, Faculty of Economics, University of Sassari

VISITING APPOINTMENTS

August 2012: Visiting Professor, UTS Business School, University of Technology Sydney.

September 2001: Visiting Scholar, School of Finance and Economics, University of Technology Sydney

RESEARCH

PUBLICATIONS

Journal articles

CANDELA G., CASTELLANI M., DIECI R. (2019). In search of leisure time: An endogenous growth model with leisure services. METROECONOMICA, 70, 488-524.

DIECI R., SCHMITT N., WESTERHOFF F. (2018). Interactions between stock, bond and housing markets. JOURNAL OF ECONOMIC DYNAMICS & CONTROL, 91, 43-70.

DIECI R., SCHMITT N., WESTERHOFF F. (2018). Steady states, stability and bifurcations in multi-asset market models. DECISIONS IN ECONOMICS AND FINANCE, 41, 357-378.

BISCHI G.I., DAWID, H., DIECI R., MATSUMOTO, A. (2017). Introduction to the special issue 'Nonlinear Economic Dynamics'. JOURNAL OF EVOLUTIONARY ECONOMICS, 27, 825-830 (*Editorial*)

DIECI R., WESTERHOFF F. (2016) Heterogeneous expectations, boom-bust housing cycles, and supply conditions: A nonlinear economic dynamics approach, JOURNAL OF ECONOMIC DYNAMICS & CONTROL, 71, 21-44.

DIECI R., WESTERHOFF F. (2013) On the inherent instability of international financial markets: natural nonlinear interactions between stock and foreign exchange markets. APPLIED MATHEMATICS AND COMPUTATION, 221, 306-328.

CHIARELLA C., DIECI R., HE X.-Z., LI K. (2013) An evolutionary CAPM under heterogeneous beliefs. ANNALS OF FINANCE, 9, 185-215.

CHIARELLA C., DIECI R., HE X.-Z. (2013) Time-Varying Beta: A Boundedly Rational Equilibrium Approach. JOURNAL OF EVOLUTIONARY ECONOMICS, 23, 609-639.

DIECI R., WESTERHOFF F. (2012) A simple model of a speculative housing market. JOURNAL OF EVOLUTIONARY ECONOMICS, 22, 303-329.

DIECI R., GALLEGATI M. (2011) Multiple attractors and business fluctuations in a nonlinear macro-model with equity rationing. MATHEMATICAL AND COMPUTER MODELLING, 53, 1298-1309.

CHIARELLA C., DIECI R., HE X.-Z. (2011) Do heterogeneous beliefs diversify market risk? EUROPEAN JOURNAL OF FINANCE, 17, 241-258.

CHIARELLA C., DIECI R., HE X.-Z. (2011) The dynamic behaviour of asset prices in disequilibrium: A survey, INTERNATIONAL JOURNAL OF BEHAVIOURAL ACCOUNTING AND FINANCE, 2, 101-139.

DIECI R., WESTERHOFF F. (2010) Interacting cobweb markets. JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION, 75, 461-481.

DIECI R., WESTERHOFF F. (2010) Heterogeneous speculators, endogenous fluctuations and interacting markets: A model of stock prices and exchange rates. JOURNAL OF ECONOMIC DYNAMICS & CONTROL, 34, 743-764.

DIECI R., WESTERHOFF F. (2009) Stability analysis of a cobweb model with market interactions.

APPLIED MATHEMATICS AND COMPUTATION, 215, 2011-2023.

TRAMONTANA F., GARDINI L., DIECI R., WESTERHOFF F. (2009). The emergence of ‘bull' and ‘bear' dynamics in a nonlinear model of interacting markets. DISCRETE DYNAMICS IN NATURE AND SOCIETY, vol. 2009, doi:10.1155/2009/310471, 1-30.

ANGELINI N., DIECI R., NARDINI F. (2009) Bifurcation analysis of a dynamic duopoly model with heterogeneous costs and behavioural rules. MATHEMATICS AND COMPUTERS IN SIMULATION, 79, 3179 -3196.

CHIARELLA C., DIECI R., GARDINI L., SBRAGIA L. (2008) A Model of Financial Market Dynamics with Heterogeneous Beliefs and State-Dependent Confidence. COMPUTATIONAL ECONOMICS, 32, 55-72.

CANDELA G., CASTELLANI M., DIECI R. (2008) Economics of externalities and public policy. INTERNATIONAL REVIEW OF ECONOMICS, 55, 285-311.

AGLIARI A., DIECI R., GARDINI L. (2007) Homoclinic tangles in a Kaldor-like business cycle model. JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION, 62, 324-347.

CHIARELLA C., DIECI R., HE X.-H. (2007) Heterogeneous expectations and speculative behavior in a dynamic multi-asset framework. JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION, 62, 408- 427.

AGLIARI A., BISCHI G.I., DIECI R., GARDINI L. (2006) Homoclinic tangles associated with closed invariant curves in families of 2-D maps. GRAZER MATHEMATISCHE BERICHTE, 350, 1-14.

CHIARELLA C., DIECI R., GARDINI L. (2006) Asset price and wealth dynamics in a financial market with heterogeneous agents. JOURNAL OF ECONOMIC DYNAMICS & CONTROL, 30, 1755-1786.

DIECI R., FORONI I., GARDINI L., HE X.-Z. (2006) Market mood, adaptive beliefs and asset price dynamics. CHAOS, SOLITONS AND FRACTALS, 29, 520-534.

DIECI R., SORDI S., VERCELLI A. (2006) Financial fragility and global dynamics. CHAOS, SOLITONS AND FRACTALS, 29, 595-610.

WESTERHOFF F., DIECI R. (2006) The effectiveness of Keynes-Tobin transaction taxes when heterogeneous agents can trade in different markets: A behavioural finance approach. JOURNAL OF ECONOMIC DYNAMICS & CONTROL, 30, 293 -322.

AGLIARI A., BISCHI G.I., DIECI R., GARDINI L. (2005) Global bifurcation of closed invariant curves in two-dimensional maps: a computer-assisted study. INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS IN APPLIED SCIENCES AND ENGINEERING, 15, 1285-1328.

CHIARELLA C., DIECI R., GARDINI L. (2005) The dynamic interaction of speculation and diversification. APPLIED MATHEMATICAL FINANCE, 12, 17-52.

DIECI R., BISCHI G.I., GARDINI L. (2003) Routes to complexity in a macroeconomic model described by a noninvertible triangular map. CUBO, 5, 367-396.

CHIARELLA C., DIECI R., GARDINI L. (2002) Speculative behaviour and complex asset price dynamics: a global analysis. JOURNAL OF ECONOMIC BEHAVIOR & ORGANIZATION, 49, 173-197.

BISCHI G.I., DIECI R., GARDINI L. (2001) Multistability and role of noninvertibility in a business cycle model. CENTRAL EUROPEAN JOURNAL OF OPERATIONS RESEARCH, 9, 71-96.

BISCHI G.I., DIECI R., RODANO G., SALTARI E. (2001) Multiple attractors and global bifurcations in a Kaldor-type business cycle model. JOURNAL OF EVOLUTIONARY ECONOMICS, 11, 527-554.

CHIARELLA C., DIECI R., GARDINI L. (2001) Asset price dynamics in a financial market with fundamentalists and chartists. DISCRETE DYNAMICS IN NATURE AND SOCIETY, 6, 69-99.

DIECI R. (2001) Critical curves and bifurcation of absorbing areas in a financial model. NONLINEAR ANALYSIS, 47, 5265-5276.

DIECI R., BISCHI G.I., GARDINI L. (2001) From bi-stability to chaotic oscillations in a macroeconomic model. CHAOS, SOLITONS AND FRACTALS, 12, 805-822.

GALEOTTI M., DIECI R. (2000) A model of optimal financing decisions in a stochastic framework. JOURNAL OF STATISTICS & MANAGEMENT SYSTEMS, 3, 43-66

Edited volumes and Special Issues

BISCHI G.I., DAWID H., DIECI R., MATSUMOTO A. (Guest Editors). Special issue 'Nonlinear Economic Dynamics', JOURNAL OF EVOLUTIONARY ECONOMICS, 27(5), 2017.

DIECI R., HE X.-Z., HOMMES C. (Eds.). Nonlinear Economic Dynamics and Financial Modelling - Essays in Honour of Carl Chiarella. SPRINGER INTERNATIONAL PUBLISHING, SWITZERLAND 2014.

Book contributions

DIECI R., HE X.-Z. (2018) Heterogeneous-Agent Models in Finance. In: HOMMES C., LEBARON B. (Eds.) *Handbook of Computational Economics Volume IV – Heterogeneous-Agent Models*, Elsevier, 257 - 328.

DIECI R., WESTERHOFF F. (2013) Modeling House Price Dynamics with Heterogeneous Speculators. In: BISCHI G.I., CHIARELLA C., SUSHKO I. (Eds.) Global Analysis of Dynamic Models in Economics and Finance, Springer, 35-61.

ANGELINI N., DIECI R., NARDINI F. (2010) The role of market-clearing mechanisms in a simple heterogeneous-agent asset pricing model. In: PUU T., PANCHUK A. (Eds.) Nonlinear Economic Dynamics. NEW YORK: Nova Science Publishers, Inc, Chapter 5.

CHIARELLA C., DIECI R., HE X.-Z. (2010) A Framework for CAPM with Heterogeneous Beliefs. In: BISCHI G.I., CHIARELLA C., GARDINI L. (Eds.) Nonlinear Dynamics in Economics, Finance and the Social Sciences, Springer, 353-369.

TRAMONTANA F., GARDINI L., DIECI R., WESTERHOFF F. (2010) Global Bifurcations in a Three-Dimensional Financial Model of "Bull and Bear" Interactions. In: BISCHI G. I., CHIARELLA C., GARDINI L. (Eds.) Nonlinear Dynamics in Economics, Finance and the Social Sciences, Springer, 333- 352.

CHIARELLA C., DIECI R., HE X.-Z. (2009) Heterogeneity, Market Mechanisms, and Asset Price Dynamics. In: HENS T., SCHENK-HOPPÉ K.R. (Eds.) Handbook of Financial Markets: Dynamics and Evolution. North-Holland, 277-344.

AGLIARI A., DIECI R. (2006) Coexistence of attractors and homoclinic loops in a Kaldor-like bysiness cycle model. In: PUU T., SUSHKO I. (Eds.) Business Cycle Dynamics - Models and Tools, Springer, 223- 254.

CHIARELLA C., DIECI R., GARDINI L. (2005) Asset price dynamics and diversification with heterogeneous agents. In: LUX T., REITZ S., SAMANIDOU E. (Eds.) Nonlinear Dynamics and Heterogeneous Interacting Agents, LECTURE NOTES IN ECONOMICS AND MATHEMATICAL SYSTEMS, vol. 550, Springer, 251-267.

CHIARELLA C., DIECI R., GARDINI L. (2004) A dynamic analysis of speculation across two markets. In: GALLEGATI M., KIRMAN A., MARSILI M. (Eds.) The Complex Dynamics of Economic Interaction - Essays in Economics and Econophysics, LECTURE NOTES IN ECONOMICS AND MATHEMATICAL SYSTEMS, vol. 531, Springer, 197-212.

Working papers (unpublished)

DE GRAUWE P., DIECI R., GRIMALDI M. (2005). Fundamental and non-fundamental equilibria in the foreign exchange market: a behavioural finance framework. CESIFO WORKING PAPERS, vol. 1431. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=692021

PRESENTATIONS

Conferences and workshops (last 10 years)

ESHIA/WEHIA 2019 (24th Annual Workshop on Economic Science with Heterogeneous Interacting Agents), City University of London, UK, 24-26 June 2019.

CHAOS 2019 (12th Chaotic Modeling and Simulation International Conference), Chania, Crete, Greece, 18-21 June 2019.

Workshop MDEF 2018 (Dynamic Models in Economics and Finance), Urbino, September 2018.

ESHIA/WEHIA 2018 (23rd Annual Workshop on Economic Science with Heterogeneous Interacting Agents), International Christian University, Tokyo, 30 June - 2 July 2018.

CEF 2018 (24th International Conference on Computing in Economics and Finance), Catholic University, Milano, June 2018.

Workshop on "Interactions in complex economic systems: contagion, innovation and crises", Università Cà Foscari, Venezia, March 2018.

XLI AMASES Conference (Association for Mathematics Applied to Economics and Social Science), Cagliari, September 2017.

CEF 2017 (23rd International Conference on Computing in Economics and Finance), Fordham University, Lincoln Center Campus, New York City, June 2017.

ESHIA/WEHIA 2017 (22nd Annual Workshop on Economic Science with Heterogeneous Interacting Agents), Catholic University, Milano, June 2017.

Worhshop “Handbook of Computational Economics Volume IV – Heterogeneous-Agent Models”, Amsterdam School of Economics, University of Amsterdam, June 2017.

XXXVIII AMASES Conference (Association for Mathematics Applied to Economics and Social

Science), Reggio Calabria, September 2014.

"Symposium on return predictability in stock and real estate markets", Scuola Normale Superiore, Pisa, Italy, June 2014

Workshop on "Deterministic and Stochastic Dynamics in Economics and Finance", Scuola Normale Superiore, Pisa, Italy, December 2013.

NED13 (8th International Conference on Nonlinear Economic Dynamics), Siena, Italy, July 2013

ESHIA/WEHIA 2013 (18th Annual Workshop on Economic Science with Heterogeneous Interacting Agents), Reykjavik, Iceland, June 2013

Workshop MDEF 2012 (Dynamic Models in Economics and Finance), Urbino, September 2012.

ESHIA/WEHIA 2011 (16th Annual Workshop on Economic Heterogeneous Interacting Agents), Ancona, June 2011.

NED11 (7th International Conference on Nonlinear Economic Dynamics), Cartagena, Spain, June 2011.

International Conference on Nonlinear Economic Dynamics and Financial Market Modelling, Guangzhou, China, April 2011.

Workshop MDEF 2010 (Dynamic Models in Economics and Finance), Urbino, September 2010.

The Rimini Conference in Economics and Finance (RCEF), Rimini, June 2010.

Workshop "Evolution and Market Behavior in Economics and Finance", Scuola Superiore Sant'Anna, Pisa, October 2009.

Invited seminars

University of Technology Sydney, Catholic University of Leuven, University of Bielefeld, Catholic University “Sacro Cuore” (Milano, Piacenza), University of Siena, University of Urbino, University of Roma “La Sapienza”, University of Firenze, University of Calabria

CONFERENCE PROGRAM (SCIENTIFIC) COMMITTEE or ORGANISING COMMITTEE

MDEF 2018 (Dynamic Models in Economics and Finance), Urbino, September 2018
MDEF 2016 (Dynamic Models in Economics and Finance), Urbino, September 2016
MDEF 2014 (Dynamic Models in Economics and Finance), Urbino, September 2014
NED 2013 (Nonlinear Economic Dynamics), Siena, July 2013
International Workshop on: Nonlinear dynamics, agent-based models, and complex evolving systems in economics, Bologna, June 2013, http://nldabm2013.dm.unibo.it/ (***Organizer***)
MDEF 2012 (Dynamic Models in Economics and Finance), Urbino, September 2012
MDEF 2010 (Dynamic Models in Economics and Finance) Urbino, September 2010
MAFIN 09 (First International Workshop on Managing Financial Instability in Capitalistic Economies), Reykjavik, September 2009
MDEF 2008 (Dynamic Models in Economics and Finance) Urbino, September 2008

EDITORIAL BOARDS

Associate Editor, ***Journal of Economic Behavior & Organization*** (since November 2013).
Associate Editor, ***Journal of Economic Dynamics & Control*** (since July 2019)

Member of the Editorial Board, ***Nonlinear Dynamics, Psychology, and Life Sciences*** published by the Society for Chaos Theory in Psychology and Life Sciences (since 2010),

RESEARCH GRANTS AND COORDINATION OF RESEARCH GROUPS

2013-2015. Member of the COST Action (European Cooperation in Science and Technology) IS1104 "The EU in the new complex geography of economic systems: models, tools and policy evaluation", Chair Prof. Pasquale Commendatore, supported by the EU.

2011-2013. Head of the Research Unit of Bologna, National Project (MIUR-PRIN 2009): "Local interactions and global dynamics in economics and finance: models and tools", (National Coordinator: Prof. Laura Gardini, University of Urbino).

2008-2010. Scientific Coordinator of a Research Project on "Complexity and financial crises", under financial support from University of Bologna - Polo Scientifico-Didattico di Rimini.

2005-06. Head of the Research Unit of Bologna, National Project (MIUR-PRIN 2004): "Nonlinear models in Economics and Finance: interactions, complexity and forecasting" (National Coordinator: Prof. Laura Gardini).

2003-04. Head of the Research Unit of Bologna, National Project (MIUR-PRIN 2002): "Nonlinear models in Economics and Finance: complex dynamics, disequilibrium, strategic interaction" (National Coordinator: Prof. Laura Gardini).

2001-02. Head of the Research Unit of Parma, National Project (MIUR-PRIN 2000): "Dynamic models in Economics and Finance: evolution, uncertainty and forecasting" (National Coordinator: Prof. Laura Gardini)

OTHER PROFESSIONAL ACTIVITIES

Hiring committees

2014-2018: Member of hiring committees for positions of Associate Professor in Mathematics for Economics and Finance at: University of Bologna, University of Milano-Bicocca, Catholic University of Milano, Scuola Normale Superiore - Pisa, University of Firenze.

PhD thesis examiner / commitee member

PhD in Finance, UTS Business School, University of Technology Sydney, August 2014 (*Qi Nan Zhai*)
PhD in Finance, Leeds University Business School, June 2014 (*Tongya Wang*)
PhD in Economic Policy, Catholic University Milano, December 2013 (*Nicolò Pecora*)
PhD in Finance, School of Finance and Economics, University of Technology Sydney, Australia, August 2010 (*Lei Shi*)
PhD in Economic Policy, Catholic University Milano, June 2009 (*Alessandra Cornaro*)
PhD in Economic Policy, Catholic University Milano, March 2005 (*Lucia Sbragia*)
PhD in Economics, Katholieke Universiteit Leuven, September 2004 (*Marianna Grimaldi*)

Referee / reviewer services

Journals: The Manchester School; Economic Journal; Journal of Economic Behavior & Organization; Journal of Economic Dynamics & Control (*awarded as JEDC 'Outstanding Referee'* for 2012, 2014 and 2015); Macroeconomic Dynamics; Chaos Solitons & Fractals; Studies in Nonlinear Dynamics & Econometrics; European Journal of Operational Research; Journal of Economic Interaction and Coordination; Journal of Evolutionary Economics; Economics Letters; Economic Modelling; PLOS ONE; Nonlinear Dynamics Psychology and Life Sciences; Mathematics and Computers in Simulation; Applied Mathematics and Computation; Chaos; Mathematical Finance; Annals of Finance; Computational Economics; Decisions in Economics and Finance; Discrete Dynamics in Nature and Society; Complexity; International Journal of Bifurcation and Chaos; Mathematical Problems in Engineering; Quantitative Finance; The Quarterly Review of Economics and Finance; International Review of Economics and Finance; International Review of Financial Analysis; Economics E-Journal; JSTAT; Macroeconomics and Finance in Emerging Market Economies; The B.E. Journal of Theoretical Economics; Journal of Economic Theory; Eastern Economic Journal; American Journal of Agricultural Economics; Communications in Nonlinear Science and Numerical Simulation;

Other: ISF (Israel Science Foundation), Society for Computational Economics, Oxford University Press.
Reviewer for *Mathematical Reviews* (American Mathematical Society) since 2007

TEACHING EXPERIENCE

Lectures at undergraduate level
Mathematics I, Mathematical Methods for Economics, Financial Mathematics, Portfolio Theory

Lectures at graduate level
Financial Mathematics, Mathematics for Economics

PhD level
Member of the academic board of the PhD Program in Mathematics - University of Bologna, from 2013 to 2018
Lecturer within the Tutorial Workshop Discrete Dynamical Systems and Applications, Urbino, 2010
Lecturer within the 3rd International School Topics in Nonlinear Dynamics: Discrete Dynamical Systems and Applications, Urbino, 2004.

Bologna, 11July 2019

Roberto Dieci