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	Titolo	Economics with heterogeneous interacting agents : a practical guide to agent-based modeling / / edited by Alessandro Caiani, Alberto Russo, Antonio Palestrini, Mauro Gallegati
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	ISBN	3-319-44058-6
	Edizione	[1st ed. 2016.]
	Descrizione fisica	1 online resource (XVIII, 205 p. 50 illus., 6 illus. in color.)
	Collana	New Economic Windows, , 2039-411X
	Disciplina	330.015195
	Soggetti	Macroeconomics Microeconomics Computer simulation Application software Macroeconomics/Monetary Economics//Financial Economics Simulation and Modeling Computer Appl. in Social and Behavioral Sciences
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Part I Introduction to Agent Based Economics (Editors) -- A brief historical and theoretical overview of the methodology -- From the micro to the macro -- Part II Getting started: The logical structure of an AB model -- Thinking agents and their behaviors -- Thinking market structures -- Defining the timing of the simulation model -- Part III Implementing the model -- A simple model of business fluctuations with heterogeneous interacting agents and credit networks -- Modeling financial markets in an agent-based framework -- Part IV Analyzing and validating the model -- Validation and calibration -- Scenario and policy analysis -- Economic networks analysis -- Testing micro heuristics in the lab -- Appendix/Website: Source codes of the applications presented.
	Sommario/riassunto	This book offers a practical guide to Agent Based economic modeling, adopting a "learning by doing" approach to help the reader master the fundamental tools needed to create and analyze Agent Based models.

After providing them with a basic "toolkit" for Agent Based modeling, it present and discusses didactic models of real financial and economic systems in detail. While stressing the main features and advantages of the bottom-up perspective inherent to this approach, the book also highlights the logic and practical steps that characterize the model building procedure. A detailed description of the underlying codes, developed using R and C, is also provided. In addition, each didactic model is accompanied by exercises and applications designed to promote active learning on the part of the reader. Following the same approach, the book also presents several complementary tools required for the analysis and validation of the models, such as sensitivity experiments, calibration exercises, economic network and statistical distributions analysis. By the end of the book, the reader will have gained a deeper understanding of the Agent Based methodology and be prepared to use the fundamental techniques required to start developing their own economic models. Accordingly, "Economics with Heterogeneous Interacting Agents" will be of particular interest to graduate and postgraduate students, as well as to academic institutions and lecturers interested in including an overview of the AB approach to economic modeling in their courses.