Agent-Based Modelling in Economics

Description:

Agent-based modelling in economics

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New methods of economic modelling have been sought as a result of the global economic downturn in 2008. This unique book highlights the benefits of an agent-based modelling (ABM) approach. It demonstrates how ABM can easily handle complexity: heterogeneous people, households and firms interacting dynamically. Unlike traditional methods, ABM does not require people or firms to optimise or economic systems to reach equilibrium. ABM offers a way to link micro foundations directly to the macro situation.

Key features:

- Introduces the concept of agent-based modelling and shows how it differs from existing approaches.
- Provides a theoretical and methodological rationale for using ABM in economics, along with practical advice on how to design and create the models.
- Each chapter starts with a short summary of the relevant economic theory and then shows how to apply ABM.
- Explores both topics covered in basic economics textbooks and current important policy themes; unemployment, exchange rates, banking and environmental issues.
- Describes the models in pseudocode, enabling the reader to develop programs in their chosen language.
- Supported by a website featuring the NetLogo models described in the book.

Agent-Based Modelling in Economics provides students and researchers with the skills to design, implement, and analyze agent-based models. Third year undergraduate, master and doctoral students, faculty and professional economists will find this book an invaluable resource.

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