

How Do Microscopic Models of Financial Markets Explain?

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Abstract

Financial theory is in trouble. Market crashes and high volatility are only too familiar to everyone, although the standard theories predict that they hardly ever occur. According to the well-known and (partly due to its simplicity) still widely used random-walk model, the probabilities for price changes of, say, stocks should result in a Gaussian distribution. However, experience tells us that large changes occur far more often than 'allowed' by a Gaussian distribution. New models are needed which lead to realistic probability distributions. 'Econophysicists' are particularly active in this field by constructing microscopic models of financial markets on the basis of various ideas and tools from physics. But in which sense do these models contribute scientific explanations? In this paper I will investigate what and how one exemplary econophysics model explains.

Keywords: Scientific explanation; complex systems; econophysics; mechanisms; models

[General Issues: Models and Idealization](#)

[Specific Sciences: Economics](#)

Subjects:

[General Issues: Explanation](#)

[Specific Sciences: Complex Systems](#)

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