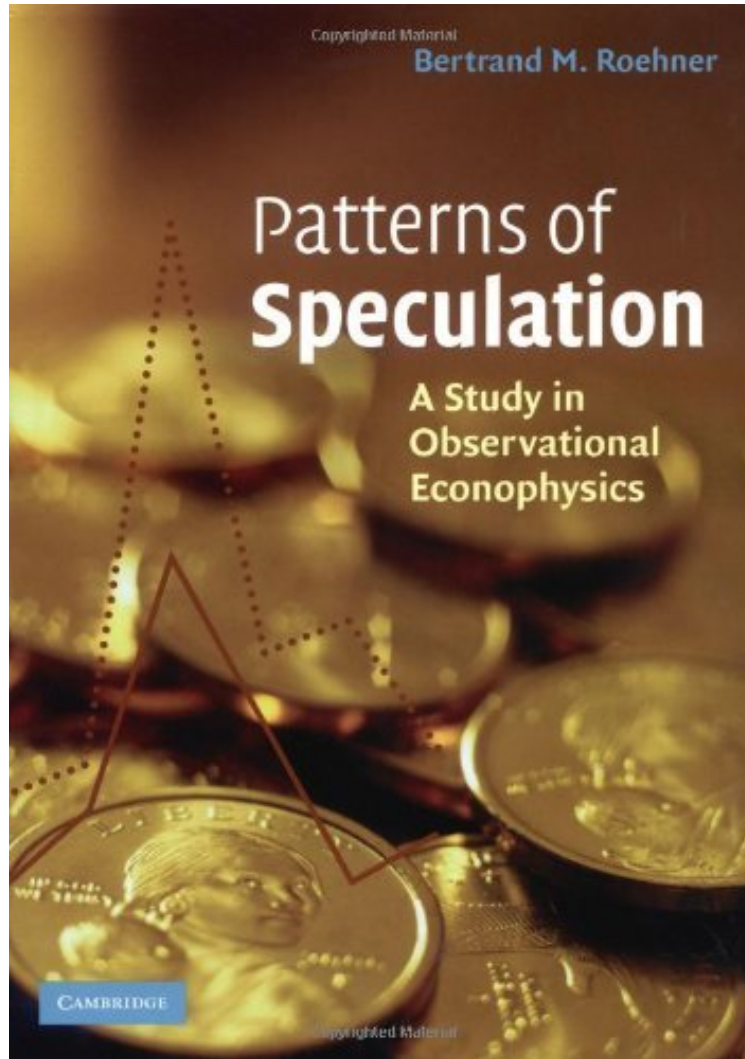


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# Patterns of Speculation: A Study in Observational Econophysics

*Bertrand M. Roehner*

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**Bertrand M. Roehner : Patterns of Speculation: A Study in Observational Econophysics** before purchasing it in order to gauge whether or not it would be worth my time, and all praised Patterns of Speculation: A Study in Observational Econophysics:

0 of 0 people found the following review helpful. not up to dateBy mommersjjmThis book is very technical and has good information, but it is not up to date as it was written in 2002.17 of 17 people found the following review helpful. Excellent, highly readable and disproves the myth!By G. D.Econophysics a relative, new and exciting field often (and justifiably?) suffers from bad press, as this definition taken from [...] points out:"It is the application of the principles of mathematical physics to the study of financial markets. Experts are beginning to discover that the world economy behaves like a collection of electrons or a group of water molecules that interact with each other. With new tools of

statistical analysis, like the recent breakthroughs in understanding chaotic systems, it is beginning to be possible to make sense of these hugely complicated systems (one year of the world's financial markets produces about 24 CD-ROMs' worth of data, so there's no shortage of material to number-crunch). As a result, specialists are addressing a variety of questions that are difficult or impossible to understand using conventional economic principles: Is the market random, or is there any underlying order? In particular, are there any long-term trends that can be foretold? Are financial crashes inevitable? Someone who is an expert in this arcane field is an econophysicist. "Here in lies its weakness, econophysics is perceived not only as mathematically, but also as conceptually non intuitive and difficult for anyone but the the seasoned physicist or mathematician who has had years of prior experience in statistics and mathematical physics in order to grasp both the qualitative and quantitative flavor of the burgeoning field! Perhaps this was true until the advent of books like this, it is simple, straightforward approach not only captures the essence of the field but also provides useful history on the evolution of the field as a new sub discipline. The text is remarkably readable and is accessible not only to graduate and undergraduate students in Physics and Economics but perhaps even to a good high school student with a working knowledge of statistics and calculus, with its focus on comparative empirical studies and the construction of models that reflect data as opposed to theory. Each chapter presents plenty of data and the author at each step explains not only economically but also physically what is occurring as he builds his models and explains his methods of analysis. This is an excellent self contained book and a joy to read. 21 of 25 people found the following review helpful. Do you care about real estate prices? By A Customer In their book on game theory John von Neumann and Oskar Morgenstern observe that it is the study of "free fall which brought forth mechanics". But, contrary to conventional wisdom, the study of free fall did not rest solely on observing the fall of an apple. The author aptly notes that it required the observation of a whole set of falling bodies in order to get rid of a bunch of unessential factors and to single out the influence of gravity. And of course it required Newton's genius to include into this set of falling bodies the "fall" of the moon. In short, by describing in detail a single stock market crash one will fail to understand what is common to ALL stock market crashes. The author extends the argument even further: by focusing solely on stock markets one will fail to recognize what is common to a broad variety of speculative episodes. One might think that there is a big difference between a price peak for postage stamps and one for stock prices but this difference maybe more apparent than real as indeed is the difference between the fall of an apple and that of the moon. What kind of results are brought about by this unconventional approach? At the present time (October 2002) we are particularly interested in real estate prices. Will they continue to rise, will they stabilize or are they going to fall in the coming years? The sections on real estate price peaks provide several clues: 1) It is in the most expensive markets (e.g. San Francisco as opposed to say Pittsburgh, PA) that prices begin to rise first at the start of the peak; it is in these markets that prices peak first which gives a hint about when the downturn will occur in other markets; and it is in expensive places that the price increases are the strongest. 2) Price peaks for real estate resemble those for stocks in that they are almost symmetrical with respect to the maximum; which means that where prices experienced strong increases, they also experience big declines. The last part of the book provides a theoretical framework. It begins with an insightful chapter that points out that there are in fact two classes of speculative peaks: the U- and the S-class. The first includes all bulky commodities, the second comprises real property, collector books, diamonds, bonds and in a general way all items for which transportation cost plays no role and for which investors can (at negligible cost) select the item that they want to buy. The last chapters show how these effects can be accounted for provided one uses a model which includes a memory effect. This means that one should use a dynamical equation of order at least equal to two. In addition, a basic parameter is the proportion of investors, i.e. people who buy in order to sell with a profit within a few years, with respect to the number of "users" who buy a house in order to live in it for a generation. A superb book. On almost every page, good ideas come swirling and densely packed.

The main objective of this 2002 book is to show that behind the bewildering diversity of historical speculative episodes it is possible to find hidden regularities, thus preparing the way for a unified theory of market speculation. Speculative bubbles require the study of various episodes in order for a comparative perspective to be obtained and the analysis developed in this book follows a few simple but unconventional ideas. Investors are assumed to exhibit the same basic behavior during speculative episodes whether they trade stocks, real estate, or postage stamps. The author demonstrates how some of the basic concepts of dynamical system theory, such as the notions of impulse response, reaction times and frequency analysis, play an instrumental role in describing and predicting speculative behavior. This book will serve as a useful introduction for students of econophysics, and readers with a general interest in economics as seen from the perspective of physics.

"The author presents an excellent description.... It is a very pleasant read.... the book is worth reading to anyone interested in these matters." Journal of Statistical Physics "Roehner... is to be congratulated on his pioneering contribution." EH.NET About the Author A theoretical physicist by education, Dr Bertrand M. Roehner has been investigating social and economic phenomena during the past 15 years. He is the author of Theory of Markets (1995) which explored the space-time structure of commodity prices, and also of Hidden Collective Factors in Speculative

Trading (2001). The approach used in these books demonstrates how the observational strategy invented by physicists and successfully applied in astrophysics and biophysics, can be fruitfully applied in the social sciences as well. Professor Roehner has been a visiting scholar at the Harvard Department of Economics (1994 and 1998) and at the Copenhagen Institute of Economics (1996); and he currently serves on the physics faculty of the University of Paris VII.