
BOOK REVIEWS

Review of Pension Structure and Design: New Lessons From Behavioral Finance and Financial Market Complexity: What Physics Can Tell Us About Market Behavior

Robert A. Olsen

Pension Structure and Design: New Lessons From Behavioral Finance, Olivia Mitchell and Stephen Utkus, 2004, New York: Oxford University Press, 294 pp.

Financial Market Complexity: What Physics Can Tell Us About Market Behavior, Neil Johnson, Paul Jefferies and Pak Ming Hui, 2003, New York: Oxford University Press, 254 pp.

Continuing its tradition of publishing expertly written and superbly edited books, Oxford University Press presents Behavioral Finance readers with two very different topics in these two books. “Pension Structure and Design” has a personal or micro focus and should be of interest to professional money managers concerned with the implications of recent behavioral decision research for the design and implementation of pension and individual retirement plans. Alternatively, “Financial Market Complexity” has a macro focus and should be of interest to researchers who are interested in the implications of complexity theory and dynamical systems for financial markets.

“Pension Structure and Design” is an edited collection of fifteen invited papers by known economists and pension experts. It is the first book to explore the implications of recent research in Behavioral Finance for the design and management of pension and retirement plans. More specifically, the book investigates the decision making behavior of “real people” and illustrates how investors lack of control, overconfidence, loss aversion and tendency to procrastinate, etc. should be taken into consideration when imple-

menting and managing retirement plans. The readings in the book are both descriptive and prescriptive and are grounded in the results of large scale studies of individual decision behavior. The readings also contain extensive footnotes and references making it possible for readers to investigate topics and themes of the book in greater detail. The book is divided into four parts: I. Research on Decision Making Under Uncertainty, II. Implications for Retirement Plan Design, III. Consequences for Retirement Education, IV. Implications for Retirement Payouts. The individual papers within each section are a pleasure to read because of their interesting topics, scholarship and excellent exposition. While the primary orientation of the book is pragmatic, it provides a plethora of useful information about individual decision behavior and it is pregnant with potential research topics.

“Financial Market Complexity” is a unique book analyzing the macro behavior of financial markets from a physicist’s perspective. Now you might rightly ask, “Why should I assume that physicists could tell me anything about financial markets that I couldn’t learn from economists”? Well the answer is that there is a rapidly expanding field of intellectual inquiry known as “Econophysics” which is populated by physicists /economists who argue that the traditional economic general equilibrium model should be replaced by the “complexity model” from dynamical systems theory. These econophysicists suggest that some significant stock market behaviors, such as stock price momentum, bubbles and crashes, and the poor performance of most expert professional investors cannot be adequately explained using the traditional economic model of market equilibrium. Traditional economic market models assume that individuals and institutions behave in a manner such that negative feedback prevails leading to stationary system equilibrium. In addition, economists generally assume that scientific reductionism may be employed to discover cause and effect relationships; thus potentially making possible full system understanding and perfect prediction. In contrast, complexity theorists point out that the statisti-

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cal behavior of stock prices and volumes suggest that the stock market has more of the character of a non linear complex dynamic system than of a linear equilibrium system. In this complex system outcomes need not be proportional to the magnitude of causes and positive feedback may prevail such that the system is in a constant state of adaptation. In addition, the system exhibits a high level of apparent randomness and the emergence of outcome states that are not simple composites of underlying system relationships. Also, the long run behavior of these complex systems is unpredictable. In summary, the standard economic market model assumes a closed system while the complexity model assumes an open system.

The authors have written this textbook in a pedagogical fashion, enabling readers to appreciate the practical

differences between the complexity model and the standard economic model. Towards this end the book contains many real world examples and utilizes data from a number of large scale stock market studies. In addition, the reader is introduced to the material in a paced, logical and orderly fashion beginning with a discussion of the general nature of a complex system followed by a review of standard finance theory. Succeeding chapters demonstrate how the complexity model better explains many stock market behaviors and identify new ways to define and hedge financial risk.

The book assumes a working knowledge of basic calculus and probability. While the book is not an “easy read” it compensates by providing a concise introduction to the new interdisciplinary field of Econophysics.

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