

BOOK REVIEWS

An Introduction to Derivatives and Risk Management, 5th ed., by Don M. Chance, 2001, Fort Worth, Texas: Harcourt College Publishers.

Reviewer: Kevin C. Ahlgrim, Bradley University

Don Chance's textbook provides readers with a thorough initiation into the world of derivative securities. The book discusses options, forwards, futures, swaps, and related derivative instruments, their markets, and some applications. The book's importance has grown with the popularity of derivative contracts in recent years. As recent derivatives debacles illustrate, it is important for anyone in business to be conversant with the terminology in this area. This book helps fill the void in this area by providing a solid introduction to derivative securities and their uses.

The title of the current edition of the text (now in its 5th edition) includes the added-on phrase "and Risk Management." But the traditional concept of risk management is only loosely integrated in the book. Indeed, while the title of the text has changed, the structure of the text is virtually the same as the 4th edition, suggesting that no significant progress has been made to more formally link the area of derivatives and traditional risk management. While risk management concepts may be automatically embedded in any presentation of the subject (e.g., derivatives can be used as hedging instruments, or protective puts are essentially insurance on the value of a portfolio), this book is more directly an exposition on derivatives.

The presentation of the book is fairly straightforward. Case studies, vignettes, and other supplemental stories (such as "Derivatives in Practice") are kept to a minimum. After an introductory chapter that provides a foundation for some of the tools employed throughout the book (including arbitrage and short selling), the text is organized into three separate sections. The first part contains six chapters on options. It is interesting that Chance (and many other authors) begins the book with options rather than futures contracts, even though futures contracts have a longer history and are more similar to other financial transactions (i.e., futures have performance demands on both of the contracting parties).

Chapter 2 provides an overview of the options markets, including a description of contract specifications and an introduction to trading on options exchanges. Chapters 3 through 5 carefully develop the pricing of option contracts, starting with fundamental principles, working through the binomial pricing model, and ending with a presentation of the Black-Scholes model. Chapters 6 and 7 discuss basic and advanced strategies of options, including both speculative and hedging strategies. One advantage of this text relative to other books on derivatives is that when the author discusses option

strategies, he allows the time horizon of the investor to vary, while other authors too often assume that the user holds the position until the expiration date of the option.

The second part of the text contains four chapters on forward and futures contracts. As with the options section of the book, the presentation of forward-based contracts begins with a discussion of the contract details, futures exchanges, and regulation (Chapter 8). Chapter 9 then presents issues in pricing forward-based contracts, including the cost of carry approach and the risk premium hypothesis. Chapters 10 and 11 then discuss basic and advanced strategies using futures contracts.

The third part of the text contains five chapters on miscellaneous topics. Chapter 12 looks at a specific kind of option contract where the underlying security in the option is a futures contract (futures options). Chapter 13 discusses foreign currency derivatives. Given the increasing emphasis on the globalization of business, this chapter presents some of the common strategies used to hedge the currency risk of organizations. Chapter 14 looks at interest rate risk, another specific application of derivatives. For organizations exposed to fluctuations in interest rates, this chapter discusses interest rate derivatives including caps and floors, forward rate agreements, swaps, and related instruments. Chapter 15 looks at advanced derivative designs and strategies including portfolio insurance, customized products, and exotic options such as binary and path-dependent options. Finally, the book ends with a chapter entitled "Financial Risk Management," which discusses the structure of the derivatives industry (dealers) and miscellaneous issues, including accounting for derivatives. This last chapter includes an overview of the increasingly popular risk measurement tool called Value at Risk.

Perhaps the biggest strength of the text is its use of mathematics. For most introductory texts in this area, authors too often state in the preface that the use of mathematics will be kept to a minimum. The author may boldly state that no more mathematics is required for the text beyond that of a high-school algebra course. The presentation will later include elements of stochastic calculus to describe even basic concepts. This book is intended to be an *introduction* to derivatives that is appropriate for a variety of business professionals or students. Therefore, it contains little discussion about risk-neutral valuation, continuous time processes, or other complex material that would cause the author to deviate from his main objective—providing a clear description of derivative securities. Rather, the author provides an adequate introduction to the major issues in derivatives without clouding the main points through excessive mathematical formulas. This is not to imply that the text is without mathematics, as the subject of derivatives is necessarily a technical subject, especially in the area of pricing. However, the presentation is *supplemented* with the use of mathematics, which only reinforces the underlying concepts that have already been effectively explained. Chapter 3 is the only place where the author presents the upper and lower bounds for option prices solely in terms of formulas. In virtually every other case, he provides a numerical example as an illustration to his discussion.

Another strength of the book is that one can read many of the chapters interchangeably, without loss of continuity. As pointed out in the preface, the book is appropriate for either a one- or two-semester sequence in derivatives. (In this reviewer's opinion, a two-semester course may need to be supplemented with other materials.) For a single-semester course (perhaps the more common situation for undergraduate

education), a good portion of the book's first two sections will provide the foundations of derivatives study. Then, if time permits, the instructor can pick and choose from the array of advanced topics presented in the third section of the book.

The text balances the difficulties of writing about derivative securities. Many of the "introductory" derivatives texts in the market fall at two opposite ends of a spectrum. At one end, authors claim to be providing an introduction to the subject, but the presentation quickly resembles a dissertation on financial mathematics. The other end of the spectrum presents an overly abbreviated study of the complex issues that are an important part of the derivatives market. This text provides a good balance between these two extremes. The book initiates students to the subject of options and futures with an appropriate balance of fundamentals and rigor. In addition, the included specialized and advanced topics allow readers to gain further insight in the common application areas of currency and interest-rate risk. Anyone wanting to learn about derivatives will find the text a useful reference; and serious students of the area will find the author's presentation a firm foundation and helpful platform on which to pursue further studies.

Operational Risk, by Jack L. King, 2001, Chichester, England: Wiley.

Reviewer: James Kallman, School of Risk Management, Insurance, and Actuarial Science, St. John's University, New York City

This text is a nice review of managing financial risks for a bank. The author suggests that the book is appropriate for any organization and is written for those without prior knowledge of financial institution management. However, there is little that the nonfinancial institution manager can apply. Moreover, unless one is already familiar with the models and statistics presented in the text, the reading is quite rigorous. Compounding the pleasure is an assortment of typographical errors in the equations and illustrations. Finally, the author's style is different from the typical business style of writing. This difference frustrates the reader's ability to understand the models. One nice chapter does review error propagation (Chapter 10), but this chapter is intended to serve as an appendix or supplement to understanding the operational models. If you are a banker who already uses Extreme Value Theory (EVT) and Delta methodology, then you may find this a pleasant review.

In Chapter 1, the author asserts that financial firms pioneered risk management in the 1980s. These pioneers were effective at reducing the variability of financial risks such as interest rate risk, market risk, and credit risk. However, the variability of firm earnings continued because of, according to the author, operational risk. The purpose of this book is "to provide the motivation and appreciation for understanding what operational risk is, why it is important, and how to address it (p. 4)."

The author's basic premise is sound: By reducing operational risk, the manager reduces net income variability and consequently increases shareholder value. He alleges that the reason previous financial managers have been ineffective in managing operational risk is that their models were not objective, reliable, and accurate measures of operational risk. Thus he proposes a new model, the Delta-EVT. With this model, the variations in process activities are measured by the Delta model and the rare events are measured with the EVT model. Together, they can measure both risks for the financial firm.

