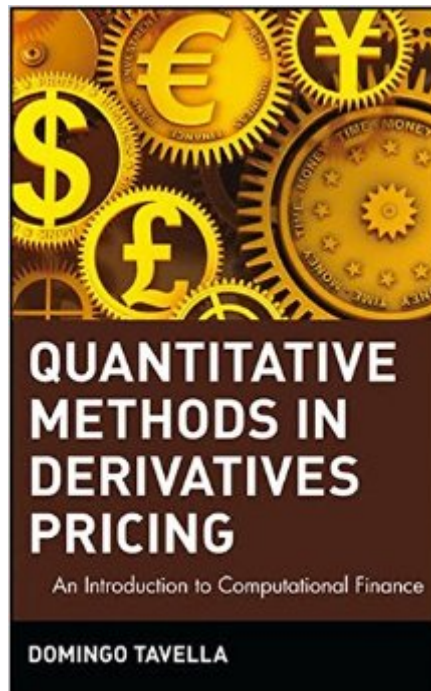# Quantitative Methods In Derivatives Pricing: An Introduction To Computational Finance

Synopsis

This book presents a cogent description of the main methodologies used in derivatives pricing. Starting with a summary of the elements of Stochastic Calculus, Quantitative Methods in Derivatives Pricing develops the fundamental tools of financial engineering, such as scenario generation, simulation for European instruments, simulation for American instruments, and finite differences in an intuitive and practical manner, with an abundance of practical examples and case studies. Intended primarily as an introductory graduate textbook in computational finance, this book will also serve as a reference for practitioners seeking basic information on alternative pricing methodologies. Domingo Tavella is President of Octanti Associates, a consulting firm in risk management and financial systems design. He is the founder and chief editor of the Journal of Computational Finance and has pioneered the application of advanced numerical techniques in pricing and risk analysis in the financial and insurance industries. Tavella coauthored Pricing Financial Instruments: The Finite Difference Method. He holds a PhD in aeronautical engineering from Stanford University and an MBA in finance from the University of California at Berkeley.

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Customer Reviews

The book covers pricing of derivatives and the underlying computational methods. This broad range of topics covers aspects like stochastic calculus, risk neutral pricing and computational methods. The communication of this broad range of topics is a challenge and the book might be fine tuned to better teach the reader besides the intuition of the methods, the detailed implementation. It is suitable for people with a very strong mathematics and programming background, but is a tough

read if one wants to learn these subjects. In order to become a good how -to book, the examples provided need to be expanded and ideally worked out in a more detailed fashion. One great add on might be to have a disk with sample code, that shows how the different methods work and how to implement them.Positive is:- Good section on stochastic calculus- Good introduction to risk free pricingAreas for improvement- Expand examples- Better quality check to avoid typos, that are especially annoying in formulas- If this book is to be used as a textbook or for self study, practice examples with solutions would be great, as the reader can then work through these to internalize the material and in addition check if he has fully understood the materialOverall I can only recommend the book to people with strong liking of a mathematical treatment of a subject, strong programming skills and little need for detailed examples. It does not go into sufficient detail on how to implement the different simulation strategies into code (provides only "pseudo code") to teach the computational aspects.

First, the book is a landmine of typos. It's mainly elementary concepts covered in other books as well. Skip it and find a more mainstream book. Most of the stuff here are covered in books by Veronesi or Stefanica, or even a pure stochastic calculus book such as Shreve's. There is a reason the book has only one edition in over 10 years.

Slapped together and little better than his original book. The original and a few downloaded PDFs are a better value. I'm beginning to think JW&S specializes in adding slipcovers with fancy graphics and nice new clean typefaces onto stale old previous material. Like middle-aged men who suddenly start dressing bizarrely younger in an unsuitable style, the result is neither value added, becoming, or informative.

This is an excellent introduction book on computational finance. It covers Monte Carlo simulation for pricing and scenario generations and finite difference methods very well. I really like the part on Monte Carlo simulation with various variance reduction techniques such as Brownian Bridge.The author not only presents the methodologies, but he also tells the readers their limitations. This book is also a good resource for basics of stochastic processes most commonly needed in practice. I think the book is beneficial both to practitioners and students who really wants to consider financial engineering as a career.

This introductory book is clearly written and goes directly to the essence of every subject it covers. It

focuses on important numerical methods (simulation and finite-differences) that are used extensively in practice. It makes good use of examples by applying the techniques to standard and complex derivatives to illustrate the need for various numerical methods. After a succint and practical introduction to foundational concepts on stochastic processes and continuous time pricing, numerous techniques with applications are given next. Throughout, the author does a good job in contrasting the different numerical approaches through discussions on computational barriers and accuracy.The book is definitely a good introduction to numerical methods in finance. It is easily accessible to practitioners and students with standard notions of calculus and probability.

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