Practical Methods of Financial Engineering and Risk Management: Tools for Modern Financial Professionals

Rupak Chatterjee
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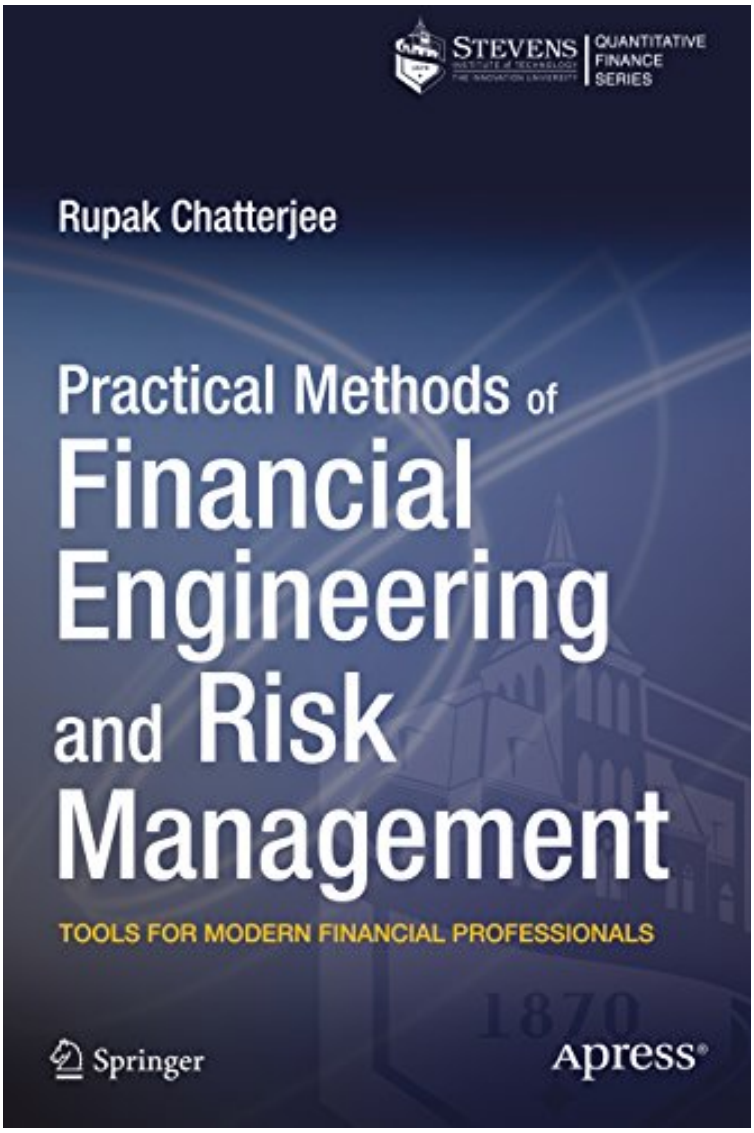

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Rupak Chatterjee : Practical Methods of Financial Engineering and Risk Management: Tools for Modern Financial Professionals before purchasing it in order to gage whether or not it would be worth my time, and all praised Practical Methods of Financial Engineering and Risk Management: Tools for Modern Financial Professionals:

10 of 11 people found the following review helpful. A great book for both experts and amateurs in quantitative financeBy kai liangWhen first time knowing this book, it was still a draft and used as notes in Professor Rupak

Chatterjeersquo;s course Financial Enterprise Risk Management. After glancing over the material, I found it containing more useful and interesting topics.The book is as self-contained as possible: basic notions about Financial Market and Instruments are recalled in the first chapter which helps reader envision a general picture about the whole field. At the same time, combining with Bloomberg Screens and Bloomberg Functions makes all these concepts and terminologies so close to the real industry. The second chapter explains fundamental knowledge and methods in common fixed income products. Chapter 3 and chapter 4 introduced many fundamental methods which are widely used in financial files about numeric methods, statistical analysis, stochastic processes and so on. All these topics are foundation bricks for building up a financial engineering building, for example Term Structure of Statistics, Monte Carlo Simulations, Geometric Brownian Motion and Black Scholes formula. These theories are explained comprehensively and clearly in a down to earth level. It really helped me, a graduate student with electronic engineering background, attempting to be familiar with financial field.Chapter 5 is one of the highlights of this book, which contains Professor Chatterjeersquo;s research topic: discrete time hedging problems using the Optimal Hedging Monte Carlo (OHMC) method. One of the main goals of the OHMC method is to quantify the question of risk capital using a fully simulated PL distribution of a hedging strategy for a derivative security. Standard option pricing methodologies ("risk neutral pricing", Black Scholes formulas) assume that dynamic hedging works perfectly and therefore the hedger has effectively replicated the option payoff with linear instruments. They make assumptions, which are largely inaccurate, of instantaneous perfect delta-hedging with no friction costs, no bid-offer spread, no transaction cost, no liquidity premium, and no hedge slippage. However, in real life delta hedging, the hedge is rarely perfect and cannot be changed continuously. Therefore, losses may occur between discrete delta hedging points. This hedge slippage needs to be quantified and this is exactly what the OHMC method provides.Chapter 6 introduces credit derivatives including CDS, CDO and the principles behind these financial instruments. The methodology and process in which a credit product is valuated, hedged and analyzed are explained clearly including default models, survival curve with hazard rates, credit triangle and so on.Chapter 7 covers one of the most popular topics in recent years, the risk management. In this chapter, not only the useful fundamental method and tools are introduced but also Basel II III and their effects are explained. Knowledge of these topics is strongly essential for risk management for recent years because the regulations change frequently and strictly.Chapter 8 and 9 introduce more advanced topics that help people working on relative fields.I have no doubt that this book will find many interested readers from quants and graduate students in quantitative finance and it can even serve as an introduction to quantitative finance for non-specialist readers with interests in quantitative finance.0 of 0 people found the following review helpful. GREAT book for learning risk, GREAT material for preparing for a job interview.By CustomerA VERY great book for learning basic risk types and for those who want to know what a financial risk world looks like. This book covers not only almost all the risk types and their modeling in details, but also some great examples of companies on Wall Street going down to these specific types of risk. Modeling in EXCEL is the main method. It's easy to learn for those who don't take Professor's Risk Management class, for the modeling process is detailed to every single step.I personally is a student in Professor Chatterjee's class, and my academic focus is Risk Management. I have NO finance background when I started taking his class, and 6 months later, I got the summer internship offer from a big bank on Wall Street for the position of Risk Management. I wouldn't say I became a Risk professional after I read his book. But the content in his book did help me A LOT in the interview, and by the time I got the offer, I've had only read half of his book.I would definitely recommend this book to anyone who is currently taking a finance related program, or who is about to.1 of 1 people found the following review helpful. Feels like a collection of student notes from reading a bunch ...By CJBriefly covered a lot of topics. Not particularly helpful in any of them in a practical way. Hard to believe it's from someone with extensive industry experience. Feels like a collection of student notes from reading a bunch of finance textbooks.

Risk control, capital allocation, and realistic derivative pricing and hedging are critical concerns for major financial institutions and individual traders alike. Events from the collapse of Lehman Brothers to the Greek sovereign debt crisis demonstrate the urgent and abiding need for statistical tools adequate to measure and anticipate the amplitude of potential swings in the financial marketsmdash;from ordinary stock price and interest rate moves, to defaults, to those increasingly frequent "rare events" fashionably called black swan events. Yet many on Wall Street continue to rely on standard models based on artificially simplified assumptions that can lead to systematic (and sometimes catastrophic) underestimation of real risks.In Practical Methods of Financial Engineering and Risk Management, Dr. Rupak Chatterjeemdash; former director of the multi-asset quantitative research group at Citimdash;introduces finance professionals and advanced students to the latest concepts, tools, valuation techniques, and analytic measures being deployed by the more discerning and responsive Wall Street practitioners, on all operational scales from day trading to institutional strategy, to model and analyze more faithfully the real behavior and risk exposure of financial markets in the cold light of the post-2008 realities. Until one masters this modern skill set, one cannot allocate risk capital properly, price and hedge derivative securities realistically, or risk-manage positions from the multiple perspectives of market risk, credit risk, counterparty risk, and systemic risk.The book assumes a working knowledge of calculus,

statistics, and Excel, but it teaches techniques from statistical analysis, probability, and stochastic processes sufficient to enable the reader to calibrate probability distributions and create the simulations that are used on Wall Street to valuate various financial instruments correctly, model the risk dimensions of trading strategies, and perform the numerically intensive analysis of risk measures required by various regulatory agencies.

About the AuthorRupakChatterjee,Ph.D., is an Industry Professor and the Deputy Director of the FinancialEngineering Division at the Stevens Institute of Technology. He is also theProgram Manager for the Accenture-Stevens Financial Services Analytics graduateprogram. Dr. Chatterjee has over fifteen years of experience as a quantitativeanalyst working for various Wall Street firms. His last role before returningto academia was as the Director of the Multi-Asset Hybrid DerivativesQuantitative Research group at Citi in New York. He was also the global BaselIII coordinator for all the modeling efforts needed to satisfy the newregulatory risk requirements. Previously, he was a quantitative analyst atBarclays Capital, a vice president at Credit Suisse, and a senior vice presidentat HSBC. His educational background is in theoretical physics, which he studiedat the University of Waterloo, Stony Brook University, and the University ofChicago. His research interests have included discrete time hedging problemsusing the Optimal Hedging Monte Carlo (OHMC) method and the design andexecution of systematic trading strategies that embody the hallmarks of capitalpreservation and measured risk-taking.