A unique resource of simulation techniques designed for financial risk managers

Simulation Techniques in Financial Risk Management takes a unique approach to the field of simulations by focusing on techniques needed by practitioners in the financial and risk management industries. Key concepts are illustrated with extensive use of examples and case studies in finance and risk management; readers can then reproduce the results of the studies using either S-PLUS® or Visual Basic®.

The book consists of three parts:

- **Part One** presents the basic ideas of Wiener processes and Itô's calculus. These two topics are discussed from an operational perspective, which helps readers to appreciate the complexity and importance of stochastic calculus and its relationship to simulations.

- **Part Two** constitutes the core of an introductory course in risk management. Standard topics from a traditional course in simulation are covered. Examples are provided throughout to illustrate the use of simulation techniques in risk management.

- **Part Three** introduces advanced topics in simulations and risk management. Helpful case studies address practical issues, such as the pricing of exotic options, simulations of Greeks in hedging, and the use of Bayesian ideas to assess the impact of jumps.

Readers become well versed in many of the recent innovations in simulations and risk management, such as Gibbs sampling, the use of heavy-tailed distributions in VaR calculations, construction of volatility smile, and state space modeling. Exercises at the end of each chapter provide the opportunity for readers to apply new concepts and test their knowledge. Answers for selected exercises offer additional insights to help readers consolidate their understanding.

This text is an invaluable resource for risk managers in the financial and actuarial industries and will help them to better gauge risk and make more informed decisions. Moreover, it is recommended as a coursebook for upper-level undergraduate and graduate courses in simulation and risk management.

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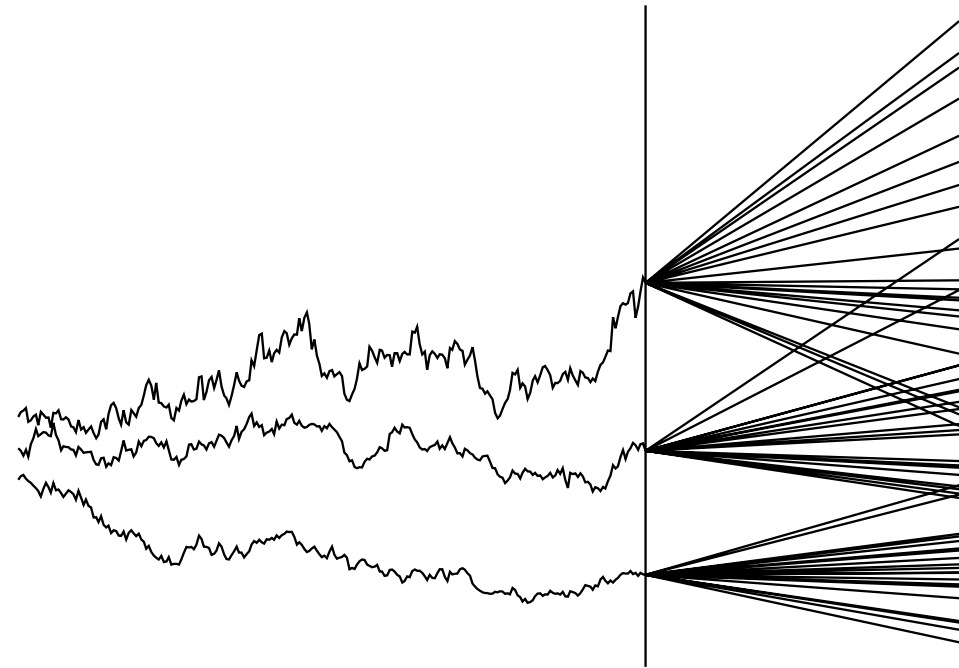
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