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Nota di contenuto	Risk and Financial Management; Contents; Preface; Part I: Finance and Risk Management; Chapter 1 Potpourri; 1.1 Introduction; 1.2 Theoretical finance and decision making; 1.3 Insurance and actuarial science; 1.4 Uncertainty and risk in finance; 1.4.1 Foreign exchange risk; 1.4.2 Currency risk; 1.4.3 Credit risk; 1.4.4 Other risks; 1.5 Financial physics; Selected introductory reading; Chapter 2 Making Economic Decisions under Uncertainty; 2.1 Decision makers and rationality; 2.1.1 The principles of rationality and bounded rationality; 2.2 Bayes decision making; 2.2.1 Risk management 2.3 Decision criteria 2.3.1 The expected value (or Bayes) criterion; 2.3.2 Principle of (Laplace) insufficient reason; 2.3.3 The minimax (maximin) criterion; 2.3.4 The maximax (minimin) criterion; 2.3.5 The minimax regret or Savage's regret criterion; 2.4 Decision tables and scenario analysis; 2.4.1 The opportunity loss table; 2.5 EMV, EOL, EPPI, EVPI; 2.5.1 The deterministic analysis; 2.5.2 The probabilistic analysis;

Selected references and readings; Chapter 3 Expected Utility; 3.1 The concept of utility; 3.1.1 Lotteries and utility functions; 3.2 Utility and risk behaviour  
 3.2.1 Risk aversion 3.2.2 Expected utility bounds; 3.2.3 Some utility functions; 3.2.4 Risk sharing; 3.3 Insurance, risk management and expected utility; 3.3.1 Insurance and premium payments; 3.4 Critiques of expected utility theory; 3.4.1 Bernoulli, Buffon, Cramer and Feller; 3.4.2 Allais Paradox; 3.5 Expected utility and finance; 3.5.1 Traditional valuation; 3.5.2 Individual investment and consumption; 3.5.3 Investment and the CAPM; 3.5.4 Portfolio and utility maximization in practice; 3.5.5 Capital markets and the CAPM again  
 3.5.6 Stochastic discount factor, assets pricing and the Euler equation  
 3.6 Information asymmetry; 3.6.1 'The lemon phenomenon' or adverse selection; 3.6.2 'The moral hazard problem'; 3.6.3 Examples of moral hazard; 3.6.4 Signalling and screening; 3.6.5 The principal-agent problem; References and further reading; Chapter 4 Probability and Finance; 4.1 Introduction; 4.2 Uncertainty, games of chance and martingales; 4.3 Uncertainty, random walks and stochastic processes; 4.3.1 The random walk; 4.3.2 Properties of stochastic processes; 4.4 Stochastic calculus; 4.4.1 Ito's Lemma  
 4.5 Applications of Ito's Lemma 4.5.1 Applications; 4.5.2 Time discretization of continuous-time finance models; 4.5.3 The Girsanov Theorem and martingales\*; References and further reading; Chapter 5 Derivatives Finance; 5.1 Equilibrium valuation and rational expectations; 5.2 Financial instruments; 5.2.1 Forward and futures contracts; 5.2.2 Options; 5.3 Hedging and institutions; 5.3.1 Hedging and hedge funds; 5.3.2 Other hedge funds and investment strategies; 5.3.3 Investor protection rules; References and additional reading; Part II: Mathematical and Computational Finance  
 Chapter 6 Options and Derivatives Finance Mathematics

## Sommario/riassunto

Financial risk management has become a popular practice amongst financial institutions to protect against the adverse effects of uncertainty caused by fluctuations in interest rates, exchange rates, commodity prices, and equity prices. New financial instruments and mathematical techniques are continuously developed and introduced in financial practice. These techniques are being used by an increasing number of firms, traders and financial risk managers across various industries. Risk and Financial Management: Mathematical and Computational Methods confronts the many issues and controver