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7.5 Pathways to Chaos 7.6 Measuring Chaos; 7.7 References for Further Reading; 7.8 Exercises; Chapter 8. Scaling in Financial Time Series; 8.1 Introduction; 8.2 Power Laws in Financial Data; 8.3 New Developments; 8.4 References for Further Reading; 8.5 Exercises; Chapter 9. Option Pricing; 9.1 Financial Derivatives; 9.2 General Properties of Options; 9.3 Binomial Trees; 9.4 Black-Scholes Theory; 9.5 References for Further reading; 9.6 Appendix. The Invariant of the Arbitrage-Free Portfolio; 9.7 Exercises; Chapter 10. Portfolio Management; 10.1 Portfolio Selection
10.2 Capital Asset Pricing Model (CAPM) 10.3 Arbitrage Pricing Theory (APT); 10.4 Arbitrage Trading Strategies; 10.5 References for Further Reading; 10.6 Exercises; Chapter 11. Market Risk Measurement; 11.1 Risk Measures; 11.2 Calculating Risk; 11.3 References for Further Reading; 11.4 Exercises; Chapter 12. Agent-Based Modeling of Financial Markets; 12.1 Introduction; 12.2 Adaptive Equilibrium Models; 12.3 Non-Equilibrium Price Models; 12.4 Modeling of Observable Variables; 12.5 References for Further Reading; 12.6 Exercises; Comments; References; Answers to Exercises; Index

Sommario/riassunto

With more and more physicists and physics students exploring the possibility of utilizing their advanced math skills for a career in the finance industry, this much-needed book quickly introduces them to fundamental and advanced finance principles and methods. Quantitative Finance for Physicists provides a short, straightforward introduction for those who already have a background in physics. Find out how fractals, scaling, chaos, and other physics concepts are useful in analyzing financial time series. Learn about key topics in quantitative finance such as option pricing, portfolio
