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6.4 The HJM Condition; 6.5 Markov Property of Short Rates; 6.6 The Hull-White Model; 6.7 Exercises; 7. The Forward Measure and Derivative Pricing; 7.1 Forward Measure; 7.2 Dynamics under the Forward Measure; 7.3 Derivative Pricing; 7.4 Inverse Change of Measure; 7.5 Exercises; 8. Curve Fitting and a Two-Factor Model; 8.1 Curve Fitting; 8.2 Deterministic Shifts; 8.3 The Correlation Problem; 8.4 Two-Factor Model; 8.5 Exercises; 9. A Credit Default Model; 9.1 Survival Probabilities; 9.2 Stochastic Default; 9.3 Defaultable Bonds; 9.4 Credit Default Swaps; 9.5 Exercises; 10. Pricing of Caps and Swaptions on the LIBOR; 10.1 Pricing of Caplets and Caps; 10.2 Forward Rate Measure and Tenor Structure; 10.3 Swaps and Swaptions; 10.4 The London InterBank Offered Rates (LIBOR) Model; 10.5 Swap Rates on the LIBOR Market; 10.6 Forward Swap Measures; 10.7 Swaption Pricing on the LIBOR Market; 10.8 Exercises; 11. The Brace-Gatarek-Musiela (BGM) Model; 11.1 The BGM Model; 11.2 Cap Pricing; 11.3 Swaption Pricing; 11.4 Calibration of the BGM Model; 11.5 Exercises; 12. Appendix A: Mathematical Tools; Measurability; Covariance and Correlation; Gaussian Random Variables; Conditional Expectation; Martingales in Discrete Time; Martingales in Continuous Time; Markov Processes; 13. Appendix B: Some Recent Developments; Infinite dimensional analysis; Extended interest rate models; Exotic and path-dependent options on interest rates; Sensitivity analysis and the Malliavin calculus; Longevity and mortality risk; 14. Solutions to the Exercises; Bibliography; Index; Author Index

Sommario/riassunto

Interest rate modeling and the pricing of related derivatives remain subjects of increasing importance in financial mathematics and risk management. This book provides an accessible introduction to these topics by a step-by-step presentation of concepts with a focus on explicit calculations. Each chapter is accompanied with exercises and their complete solutions, making the book suitable for advanced undergraduate and graduate level students. This second edition retains the main features of the first edition while incorporating a complete revision of the text as well as additional exercises wi
