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4.1 Linear Pricing in the BGM Model4.2 Linear Pricing of Swaptions in the HJM Model; 4.3 Universal Volatility Function; 4.4 Time Homogeneous Volatility; 4.5 Separated Volatility; Example of Separated Calibration; 4.6 Parametrized Volatility; 4.7 Parametric Calibration to Caps and Swaptions Based on Rebonato Approach; 4.8 Semilinear Pricing of Swaptions in the BGM Model; 4.9 Semilinear Pricing of Swaptions in the HJM Model; 4.10 Nonlinear Pricing of Swaptions; 4.11 Examples; 5 Smile Modelling in the BGM Model; 5.1 The Shifted BGM Model; 5.2 Stochastic Volatility for Long Term Options
5.3 The Uncertain Volatility Displaced LIBOR Market Model5.4 Mixing the BGM and HJM Models; 6 Simplified BGM and HJM Models; 6.1 CMS Rate Dynamics in Single-Factor HJM Model; 6.2 CMS Rate Dynamics in a Single Factor BGM Model; 6.3 Calibration; 6.4 Smile; Part II CALIBRATION; 7 Calibration Algorithms to Caps and Floors; 7.1 Introduction; 7.2 Market Data; Interpretation of ATM Swaption Quotes; 7.3 Calibration to Caps; 7.3.1 Caplet Values; 7.3.2 ATM Strikes for Caps; 7.3.3 Stripping Caplet Volatilities from Cap Quotes; 7.4 Non-Parametric Calibration Algorithms
7.4.1 Piecewise Constant Instantaneous Volatilities Depending on the Time to Maturity7.4.2 Piecewise Constant Instantaneous Volatilities Depending on the Maturity of the Underlying Forward Rate; 7.5 Conclusions; 8 Non-Parametric Calibration Algorithms to Caps and Swaptions; 8.1 Introduction; 8.2 The Separated Approach; 8.3 The Separated Approach with Optimization; 8.4 The Locally Single Factor Approach; 8.5 Calibration with Historical Correlations of Forward Rates; 8.6 Calibration to Co-Terminal Swaptions; 8.7 Conclusions
9 Calibration Algorithms to Caps and Swaptions Based on Optimization Techniques

Sommario/riassunto

The LIBOR Market Model (LMM) is the first model of interest rates dynamics consistent with the market practice of pricing interest rate derivatives and therefore it is widely used by financial institution for valuation of interest rate derivatives. This book provides a full practitioner's approach to the LIBOR Market Model. It adopts the specific language of a quantitative analyst to the largest possible level and is one of first books on the subject written entirely by quants. The book is divided into three parts - theory, calibration and simulation.
New and important issues are covered, su