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Nota di contenuto	Financial Modelling; Contents; Introduction; 1 Introduction and Management Summary; 2 Why We Have Written this Book; 3 Why You Should Read this Book; 4 The Audience; 5 The Structure of this Book; 6 What this Book Does Not Cover; 7 Credits; 8 Code; PART I FINANCIAL MARKETS AND POPULAR MODELS; 1 Financial Markets - Data, Basics and Derivatives; 1.1 Introduction and Objectives; 1.2 Financial Time-Series, Statistical Properties of Market Data and Invariants; 1.2.1 Real World Distribution; 1.3 Implied Volatility Surfaces and Volatility Dynamics; 1.3.1 Is There More than just a Volatility? 1.3.2 Implied Volatility 1.3.3 Time-Dependent Volatility; 1.3.4 Stochastic Volatility; 1.3.5 Volatility from Jumps; 1.3.6 Traders' Rule of

Thumb; 1.3.7 The Risk Neutral Density; 1.4 Applications; 1.4.1 Asset Allocation; 1.4.2 Pricing, Hedging and Risk Management; 1.5 General Remarks on Notation; 1.6 Summary and Conclusions; 1.7 Appendix - Quotes; 2 Diffusion Models; 2.1 Introduction and Objectives; 2.2 Local Volatility Models; 2.2.1 The Bachelier and the Black-Scholes Model; 2.2.2 The Hull-White Model; 2.2.3 The Constant Elasticity of Variance Model; 2.2.4 The Displaced Diffusion Model  
2.2.5 CEV and DD Models 2.3 Stochastic Volatility Models; 2.3.1 Pricing European Options; 2.3.2 Risk Neutral Density; 2.3.3 The Heston Model (and Extensions); 2.3.4 The SABR Model; 2.3.5 SABR - Further Remarks; 2.4 Stochastic Volatility and Stochastic Rates Models; 2.4.1 The Heston-Hull-White Model; 2.5 Summary and Conclusions; 3 Models with Jumps; 3.1 Introduction and Objectives; 3.2 Poisson Processes and Jump Diffusions; 3.2.1 Poisson Processes; 3.2.2 The Merton Model; 3.2.3 The Bates Model; 3.2.4 The Bates-Hull-White Model; 3.3 Exponential Levy Models; 3.3.1 The Variance Gamma Model  
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5.1 Introduction and Objectives

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#### Sommario/riassunto

Financial Modelling - Theory, Implementation and Practice is a unique combination of quantitative techniques, the application to financial problems and programming using Matlab. The book enables the reader to model, design and implement a wide range of financial models for derivatives pricing and asset allocation, providing practitioners with complete financial modelling workflow, from model choice, deriving prices and Greeks using (semi-) analytic and simulation techniques, and calibration even for exotic options. The book is split into three parts. The first part considers

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