

1. Record Nr.	UNINA9910255041503321
Autore	Röman Jan R. M
Titolo	Analytical Finance: Volume II [[electronic resource]] : The Mathematics of Interest Rate Derivatives, Markets, Risk and Valuation / / by Jan R. M. Röman
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Palgrave Macmillan, , 2017
ISBN	3-319-52584-0
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (XXXI, 728 p. 141 illus.)
Disciplina	332.6457
Soggetti	Financial engineering Economics, Mathematical Capital market Risk management Financial Engineering Quantitative Finance Capital Markets Risk Management
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Pricing via Arbitrage -- The Central Limit Theorem -- The Binomial model -- More on Binomial models -- Finite difference methods -- Value-at-Risk – VaR -- Introduction to probability theory -- Stochastic integration -- Partial parabolic differential equations and Feynman-Ka -- The Black-Scholes-Merton model -- American versus European options -- Analytical pricing formulas for American options -- Poisson processes and jump diffusion -- Diffusion models in general -- Hedging -- Exotic Options -- Volatility -- Something about weather derivatives -- A Practical guide to pricing -- Pricing using deflators -- Securities with dividends -- Some Fixed-Income securities and Black-Scholes.
Sommario/riassunto	Analytical Finance is a comprehensive introduction to the financial engineering of equity and interest rate instruments for financial markets. Developed from notes from the author's many years in

quantitative risk management and modeling roles, and then for the Financial Engineering course at Malardalen University, it provides exhaustive coverage of vanilla and exotic mathematical finance applications for trading and risk management, combining rigorous theory with real market application. Volume I – Equity Derivatives Markets, Valuation and Risk Management. Coverage includes: The fundamentals of stochastic processes used in finance including the change of measure with Girsanov transformation and the fundamentals of probability theory. Discrete time models, such as various binomial models and numerical solutions to Partial Differential Equations (PDEs) Monte-Carlo simulations and Value-at-Risk (VaR) Continuous time models, such as Black–Scholes-Merton and similar with extensions Arbitrage theory in discrete and continuous time models Volume II – Interest Rate Derivative Markets, Valuation and Risk Management Coverage includes: Interest Rates including negative interest rates Valuation and model most kinds of IR instruments and their definitions. Bootstrapping; how to create an interest curve from prices of traded instruments. The multi curve framework and collateral discounting Difference of bootstrapping for trading and IR Risk Models and risk with positive and negative interest rates. Risk measures of IR instruments Option Adjusted Spread and embedded optionality. Pricing theory, calibration and stochastic processes of interest rates Numerical methods; Binomial and trinomial trees, PDEs (Crank–Nicholson), Newton–Raphson in 2 dimension. Black models, Normal models and Market models Pricing before and after the credit crises and the multiple curve framework. Valuation with collateral agreements, CVA, DVA and FVA.
