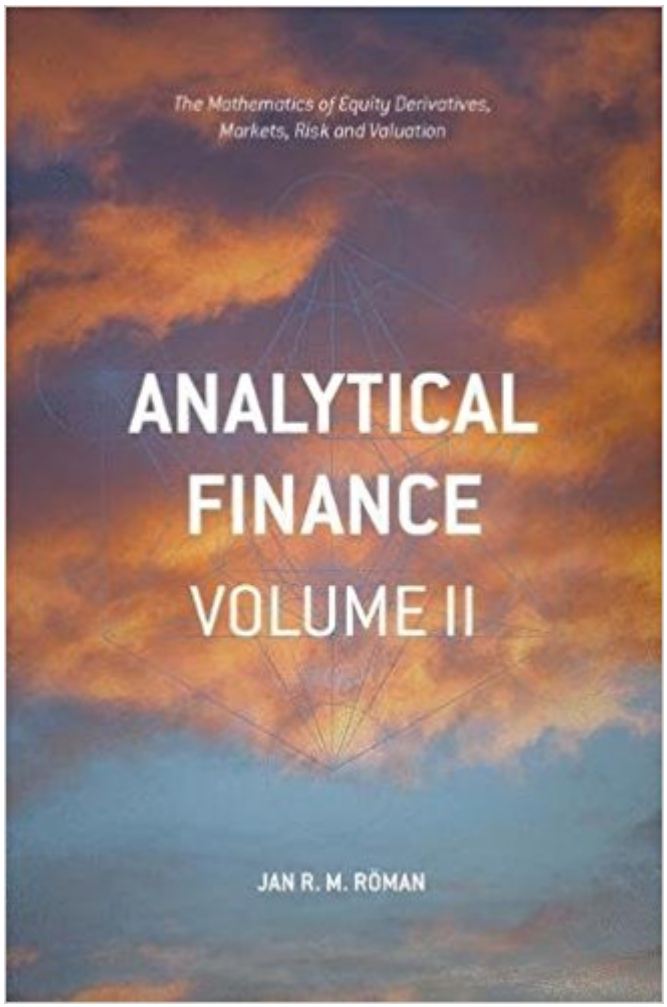
Analytical Finance: Volume II: The Mathematics Of Interest Rate Derivatives, Markets, Risk And Valuation



Synopsis

Analytical Finance is a comprehensive introduction to the financial engineering of equity and interest rate instruments for financial markets. Developed from notes from the authorÃ¢â ¬â„¢s many years in quantitative risk management and modeling roles, and then for the Financial Engineering course at MÃƒÂ¤lardaran University, it provides exhaustive coverage of vanilla and exotic mathematical finance applications for trading and risk management, combining rigorous theory with real market application. Coverage includes:Ã¢â ¬Â¢ Date arithmeticÃ¢â ¬â„¢s, quote types of interest rate instruments Ã Â Ã¢â ¬Â¢ The interbank market and reference rates, including negative ratesÃ¢â ¬Â¢ Valuation and modeling of IR instruments; bonds, FRN, FRA, forwards, futures, swaps, CDS, caps/floors and othersÃ Â Ã¢â ¬Â¢ Bootstrapping and how to create interest rate curves from prices of traded instrumentsÃ¢â ¬Â¢ Risk measures of IR instrumentsÃ¢â ¬Â¢ Option Adjusted Spread and embedded optionsÃ¢â ¬Â¢ The term structure equation, martingale measures and stochastic processes of interest rates; Vasicek, Ho-Lee, Hull-While, CIRÃ¢â ¬Â¢ Numerical models; Black-Derman-Toy and forward induction using Arrow-Debreu prices and NewtonÃ¢â ¬â œRaphson in 2 dimensionÃ¢â ¬Â¢ The Heath-Jarrow-Morton frameworkÃ¢â ¬Â¢ Forward measures and general option pricing modelsÃ¢â ¬Â¢ Black log-normal and, normal model for derivatives, market models and managing exotics instrumentsÃ¢â ¬Â¢ Pricing before and after the financial crisis, collateral discounting, multiple curve framework, cheapest-to-deliver curves, CVA, DVA and FVA

Book Information

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Analytical Finance is a comprehensive introduction to the financial engineering of equity and interest rate instruments for financial markets. Developed from notes from the authorÃ¢â ¬â„¢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. Ã Â Volume I Ã¢â ¬â œ Equity Derivatives Markets, Valuation and Risk Management. Coverage includes: Ã Â The fundamentals of stochastic processes used in finance including the change of measure with Girsanov transformation and the fundamentals of probability throry. 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 BlackÃ¢â ¬â œScholes-Merton and similar with extensions Arbitrage theory in discrete and continuous time models Ã Â Volume II Ã¢â ¬â œ Interest Rate Derivative Markets, Valuation and Risk Management Ã Â Coverage includes: Ã Â 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 (CrankÃ¢â ¬â œNicholson), NewtonÃ¢â ¬â œRaphson 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

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Analytical Finance: Volume II: The Mathematics of Interest Rate Derivatives, Markets, Risk and Valuation Interest Rate Derivatives Explained: Volume 1: Products and Markets (Financial Engineering Explained) The SABR/LIBOR Market Model: Pricing, Calibration and Hedging for Complex Interest-Rate Derivatives Interest Rate Swaps and Their Derivatives: A Practitioner's Guide Discounting, LIBOR, CVA and Funding: Interest Rate and Credit Pricing (Applied Quantitative Finance) Interest Rate Modelling in the Multi-Curve Framework: Foundations, Evolution and Implementation (Applied Quantitative Finance) Derivatives Markets (3rd Edition) (Pearson Series in Finance) Valuation Workbook: Step-by-Step Exercises and Tests to Help You Master Valuation + WS (Wiley Finance) Private Capital Markets: Valuation, Capitalization, and Transfer of Private Business Interests (Wiley Finance) Energy Finance and Economics: Analysis and Valuation, Risk Management, and the Future of Energy Fixed Income Securities: Valuation, Risk, and Risk Management Mortgage Loan Monthly Amortization Payment Tables: Easy to use reference for home buyers and sellers, mortgage brokers, bank and credit union loan ... of a given amount, term, and interest rate. Lessons in Corporate Finance: A Case Studies Approach to Financial Tools, Financial Policies, and Valuation (Wiley Finance) Interest Rate Cycles: An Introduction Minding Mr. Market: Ten Years on Wall Street With Grant's Interest Rate Observer Model Risk in Financial Markets:From Financial Engineering to Risk Management The Analytical Chemistry of Cannabis: Quality Assessment, Assurance, and Regulation of Medicinal Marijuana and Cannabinoid Preparations (Emerging Issues in Analytical Chemistry) Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions + Valuation Models Student Solutions Manual for Derivatives Markets Mathematics of Interest Rates and Finance