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Titolo	Mastering R for quantitative finance : use R to optimize your trading strategy and build up your own risk management system // Edina Berlinger [and seventeen others]
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ISBN	1-78355-208-5
Edizione	[1st edition]
Descrizione fisica	1 online resource (362 p.)
Collana	Community Experience Distilled
Disciplina	332
Soggetti	Finance R (Computer program language)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Cover; Copyright; Credits; About the Authors; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Time Series Analysis; Multivariate time series analysis; Cointegration; Vector autoregressive models; VAR implementation example; Cointegrated VAR and VECM; Volatility modeling; GARCH modeling with the rugarch package; The standard GARCH model; Exponential GARCH model (EGARCH); Threshold GARCH model (TGARCH); Simulation and forecasting; Summary; References and reading list; Chapter 2: Factor Models; Arbitrage pricing theory; Implementation of APT Fama-French three-factor modelModeling in R; Data selection; Estimation of APT with principal component analysis; Estimation of the Fama-French model; Summary; References; Chapter 3: Forecasting Volume; Motivation; The intensity of trading; The volume forecasting model; Implementation in R; The data; Loading the data; The seasonal component; AR(1) estimation and forecasting; SETAR estimation and forecasting; Interpreting the results; Summary; References; Chapter 4: Big Data - Advanced Analytics; Getting data from open sources; Introduction to big data analysis in R K-means clustering on big dataLoading big matrices; Big data K-means clustering analysis; Big data linear regression analysis; Loading big

data; Fitting a linear regression model on large datasets; Summary; References; Chapter 5: FX Derivatives; Terminology and notations; Currency options; Exchange options; Two-dimensional Wiener processes; The Margrabe formula; Application in R; Quanto options; Pricing formula for call quanto; Pricing a call quanto in R; Summary; References; Chapter 6: Interest Rate Derivatives and Models; The Black model; Pricing a cap with Black's model; The Vasicek model The Cox-Ingersoll-Ross model Parameter estimation of interest rate models; Using the SMF15 package; Summary; References; Chapter 7: Exotic Options; A general pricing approach; The role of dynamic hedging; How R could help a lot; A glance beyond vanillas; Greeks - the link back to the vanilla world; Pricing the Double-no-touch option; Another way to price the Double-no-touch option; The life of a Double-no-touch option - a simulation; Exotic options embedded in structured products; Summary; References; Chapter 8: Optimal Hedging; Hedging of derivatives; Market risk of derivatives Static delta hedge Dynamic delta hedge; Comparing the performance of delta hedging; Hedging in the presence of transaction costs; Optimization of the hedge; Optimal hedging in the case of absolute transaction costs; Optimal hedging in the case of relative transaction costs; Further extensions; Summary; References; Chapter 9: Fundamental Analysis; The Basics of fundamental analysis; Collecting data; Revealing connections; Including multiple variables; Separating investment targets; Setting classification rules; Backtesting; Industry-specific investment; Summary; References Chapter 10: Technical Analysis, Neural Networks, and Logoptimal Portfolios

Sommario/riassunto

This book is intended for those who want to learn how to use R's capabilities to build models in quantitative finance at a more advanced level. If you wish to perfectly take up the rhythm of the chapters, you need to be at an intermediate level in quantitative finance and you also need to have a reasonable knowledge of R.
