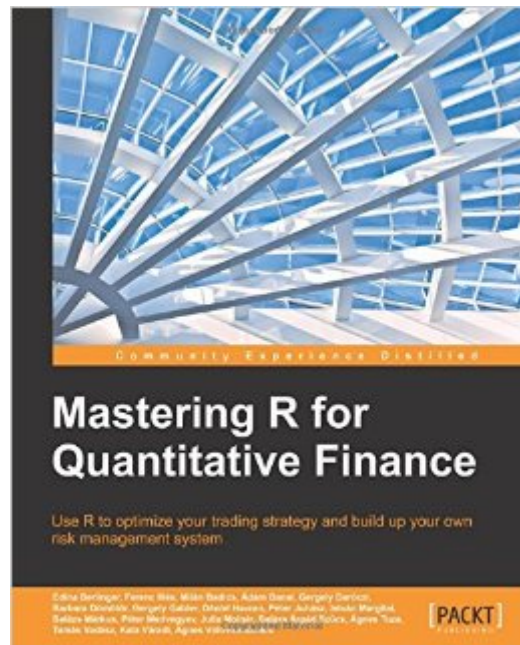


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# Mastering R For Quantitative Finance



## Synopsis

Use R to optimize your trading strategy and build up your own risk management system About This Book Learn to manipulate, visualize, and analyze a wide range of financial data with the help of built-in functions and programming in R Understand the concepts of financial engineering and create trading strategies for complex financial instruments Explore R for asset and liability management and capital adequacy modeling Who This Book Is For 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. What You Will Learn Analyze high frequency financial data Build, calibrate, test, and implement theoretical models such as cointegration, VAR, GARCH, APT, Black-Scholes, Margrabe, log optimal portfolios, core-periphery, and contagion Solve practical, real-world financial problems in R related to big data, discrete hedging, transaction costs, and more. Discover simulation techniques and apply them to situations where analytical formulas are not available Create a winning arbitrage, speculation, or hedging strategy customized to your risk preferences Understand relationships between market factors and their impact on your portfolio Assess the trade-off between accuracy and the cost of your trading strategy In Detail R is a powerful open source functional programming language that provides high level graphics and interfaces to other languages. Its strength lies in data analysis, graphics, visualization, and data manipulation. R is becoming a widely used modeling tool in science, engineering, and business. The book is organized as a step-by-step practical guide to using R. Starting with time series analysis, you will also learn how to forecast the volume for VWAP Trading. Among other topics, the book covers FX derivatives, interest rate derivatives, and optimal hedging. The last chapters provide an overview on liquidity risk management, risk measures, and more. The book pragmatically introduces both the quantitative finance concepts and their modeling in R, enabling you to build a tailor-made trading system on your own. By the end of the book, you will be well versed with various financial techniques using R and will be able to place good bets while making financial decisions.

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## Customer Reviews

First I should acknowledge that I'm just starting to get familiar with Quantitative Finance. I was always wondering what kind of topics I would need to learn if I wanted to go deeper. This book has answered that. Just look at the TOC. All thirteen chapters are well organized and self-contained; you can pick up one and start working on it. Each chapter gives you a clear introduction and explanation of the model and terminology that is required for further reading. I appreciate that there is no waste of space and time trying to teach you R. It is assumed that you have previous exposure to R. I still have not completed the book though, I'm half way thru, but I'm enjoying the exercises. There is math (grad level) but it is not overwhelming or too dry like reading some financial math papers. Also each chapter gives you several references for further reading. The R examples are enough to give you hands on experience in each topic. For example the chapter on Big Data gives you really good practical examples on how to handle large amount of data in R. In summary I would recommend this book if you want to dig deeper into Quantitative Finance and R. It will introduce you several R libraries with clear explanations and examples. Just don't expect to complete the whole book in a few weeks!

I found Mastering R for Quantitative Finance to be a very interesting and useful reference, touching on many topics in the field. I cannot remember the last time I came across a book that covered subjects in the financial realm as diverse as interest rate derivatives, optimal hedging, fundamental analysis, factor analysis and neural networks – all in one volume. The book is replete with the R code used in the examples which helps flesh-out the material.

A practical and concise guide for implementing analytics in R for key topics in quantitative finance, covering key topics like Volatility modelling, Arbitrage pricing theory, big data analytics, options

pricing, and many others. This is generally an advanced level book, helpful for those already familiar with R and provides the platform through which to understand the concepts and topics at hand. A must in the library of any quants, actual or aspiring.

The book is useful in that the chapters cover many relevant topics in quantitative finance. With 13 chapters you get the popular; for example Time Series Analysis or Factor Models, where a lot of readable material is free and abundant online, but also topics which are "off the beaten track" ; for example exotic options, FX derivatives and asset liability management. The book is well written with explanations that are mostly easy to follow. You also get the very valuable code to play around with. these 3 characteristics: compilation of many subjects (some are not readily accessible elsewhere with such clarity), easy to follow and access to code, makes this book a good value for money. The title of the book is somewhat exaggerated though, as you would probably not master R by reading (or rereading) it. What else to expect when you buy? The book is compact, which is a plus for some, but it also means you will not get the "full blown" rigorous introduction and analysis for each chapter. The author does not conceal that: "you need to be on an intermediate level in Quantitative Finance, and you also need to have a reasonable knowledge in R", this is exactly because of the conciseness of the book which may frustrate an absolute beginner. The reader is often encouraged to pursue further using references provided in the end of each chapter. Related to that, the code uses mostly built-in packages which means two things: code is not easily adaptable (for example if you need to add parameters to the functions), and it is not easy to understand exactly what is going on "behind the scenes" (as you get the name of the function, not the function itself so cannot exactly follow the steps in estimation..). In R most functions are publicly available, I recommend here to add an explanation as to how to access function's code for the interested reader. All in all, practical and useful.

This book has been very instrumental in helping me to apply quantitative methods taught in the book to actual live trading. In addition to the book, the author has posted code for all of the formulas on his Github page. A lot is to be learned and gained through reading this book and applying it to your own trading environment!

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