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""Example of implementation in R""; ""Immunization of fixed income portfolios""; ""Net worth immunization""; ""Target date immunization""; ""Dedication""; ""Pricing a convertible bond""; ""Summary""; ""Chapter 5: Estimating the Term Structure of Interest Rates""; ""The term structure of interest rates and related functions""; ""The estimation problem""; ""Estimation of the term structure by linear regression""; ""Cubic spline regression""; ""Applied R functions""; ""Summary""; ""Chapter 6: Derivatives Pricing""; ""The Black-Scholes model""; ""The Cox-Ross-Rubinstein model""; ""Connection between the two models""; ""Greeks""; ""Implied volatility""; ""Summary""; ""Chapter 7: Credit Risk Management""; ""Credit default models""; ""Structural models""; ""Intensity models""; ""Correlated defaults the portfolio approach""; ""Migration matrices""; ""Getting started with credit scoring in R""; ""Summary""; ""Chapter 8: Extreme Value Theory""; ""Theoretical overview""; ""Application modeling insurance claims""; ""Exploratory data analysis""; ""Tail behavior of claims""; ""Determining the threshold""; ""Fitting a GPD distribution to the tails""; ""Quantile estimation using the fitted GPD model""; ""Calculation of expected loss using the fitted GPD model""; ""Summary""; ""Chapter 9: Financial Networks""; ""Representation, simulation, and visualization of financial networks""; ""Analysis of networks structure and detection of topology changes""; ""Contribution to systemic risk of identification of SIFIs""; ""Summary""; ""Appendix: References""

Sommario/riassunto

This book is a tutorial guide for new users that aims to help you understand the basics of and become accomplished with the use of R for quantitative finance. If you are looking to use R to solve problems in quantitative finance, then this book is for you. A basic knowledge of financial theory is assumed, but familiarity with R is not required. With a focus on using R to solve a wide range of issues, this book provides useful content for both the R beginner and more experience users.