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Descrizione fisica	1 online resource (XVII, 588 p. 187 illus., 37 illus. in color.) : online resource
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Soggetti	Statistics Social sciences - Mathematics Statistics in Business, Management, Economics, Finance, Insurance Statistical Theory and Methods Mathematics in Business, Economics and Finance
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Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Revised edition of the author's Statistical analysis of financial data in S-PLUS, published in 2004.
Nota di bibliografia	Includes bibliographical references and indexes.
Nota di contenuto	Univariate Data Distributions -- Heavy Tail Distributions -- Dependence and Multivariate Data Exploration -- Parametric Regression -- Local and Nonparametric Regression -- Time Series Models -- Multivariate Time Series, Linear Systems and Kalman Filtering -- Nonlinear Time Series: Models and Simulation -- Appendices -- Indices.
Sommario/riassunto	Although there are many books on mathematical finance, few deal with the statistical aspects of modern data analysis as applied to financial problems. This book fills this gap by addressing some of the most challenging issues facing any financial engineer. It shows how sophisticated mathematics and modern statistical techniques can be used in concrete financial problems. Concerns of risk management are addressed by the control of extreme values, the fitting of distributions with heavy tails, the computation of values at risk (VaR), and other measures of risk. Data description techniques such as principal component analysis (PCA), smoothing, and regression are applied to the construction of yield and forward curve. Nonparametric estimation and nonlinear filtering are used for option pricing and earnings

prediction. The book is intended for undergraduate students majoring in financial engineering, or graduate students in a Master in finance or MBA program. Because it was designed as a teaching vehicle, it is sprinkled with practical examples using market data, and each chapter ends with exercises. Practical examples are solved in the computing environment of R. They illustrate problems occurring in the commodity and energy markets, the fixed income markets as well as the equity markets, and even some new emerging markets like the weather markets. The book can help quantitative analysts by guiding them through the details of statistical model estimation and implementation. It will also be of interest to researchers wishing to manipulate financial data, implement abstract concepts, and test mathematical theories, especially by addressing practical issues that are often neglected in the presentation of the theory.