

Statistical Quantitative Methods in Finance

From Theory to Quantitative Portfolio Management

Statistical quantitative methods are vital for financial valuation models and benchmarking machine learning models in finance.

This book explores the theoretical foundations of statistical models, from ordinary least squares (OLS) to the generalized method of moments (GMM) used in econometrics. It enriches your understanding through practical examples drawn from applied finance, demonstrating the real-world applications of these concepts. Additionally, the book delves into non-linear methods and Bayesian approaches, which are becoming increasingly popular among practitioners thanks to advancements in computational resources. By mastering these topics, you will be equipped to build foundational models crucial for applied data science, a skill highly sought after by software engineering and asset management firms. The book also offers valuable insights into quantitative portfolio management, showcasing how traditional data science tools can be enhanced with machine learning models. These enhancements are illustrated through real-world examples from finance and econometrics, accompanied by Python code. This practical approach ensures that you can apply what you learn, gaining proficiency in the statsmodels library and becoming adept at designing, implementing, and calibrating your models.

By understanding and applying these statistical models, you enhance your data science skills and effectively tackle financial challenges.

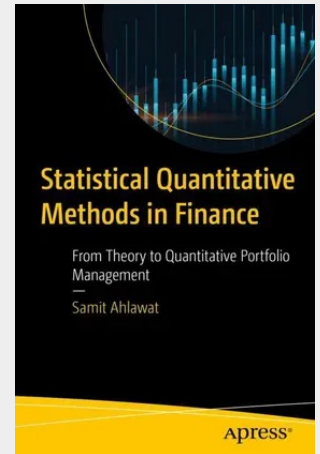
What You Will Learn

- Understand the fundamentals of linear regression and its applications in financial data analysis and prediction
- Apply generalized linear models for handling various types of data distributions and enhancing model flexibility
- Gain insights into regime switching models to capture different market conditions and improve financial forecasting
- Benchmark machine learning models against traditional statistical methods to ensure robustness and reliability in financial applications

Who This Book Is For

Data scientists, machine learning engineers, finance professionals, and software engineers

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