

Risk And Asset Allocation Springer Finance

Financial Risk Modelling and Portfolio Optimization with R, 2nd Edition Bernhard Pfaff, Invesco Global Asset Allocation, Germany A must have text for risk modelling and portfolio optimization using R. This book introduces the latest techniques advocated for measuring financial market risk and portfolio optimization, and provides a plethora of R code examples that enable the reader to replicate the results featured throughout the book. This edition has been extensively revised to include new topics on risk surfaces and probabilistic utility optimization as well as an extended introduction to R language. Financial Risk Modelling and Portfolio Optimization with R: Demonstrates techniques in modelling financial risks and applying portfolio optimization techniques as well as recent advances in the field. Introduces stylized facts, loss function and risk measures, conditional and unconditional modelling of risk; extreme value theory, generalized hyperbolic distribution, volatility modelling and concepts for capturing dependencies. Explores portfolio risk concepts and optimization with risk constraints. Is accompanied by a supporting website featuring examples and case studies in R. Includes updated list of R packages for enabling the reader to replicate the results in the book. Graduate and postgraduate students in finance, economics, risk management as well as practitioners in finance and portfolio optimization will find this book beneficial. It also serves well as an accompanying text in computer-lab classes and is therefore suitable for self-study.

CreditRisk+ is a widely implemented default-mode model of portfolio credit risk, based on a methodology borrowed from actuarial mathematics. This book gives an account of the status quo as well as of new and recent developments of the credit risk model CreditRisk+, which is widely used in the banking industry. It gives an introduction to the model itself and to its ability to describe, manage and price credit risk. This timely book will be an indispensable tool.

Matlab is used within nearly all investment banks and is a requirement in most quant job ads. There is no other book written for finance practitioners that covers this Enables readers to implement financial and econometric models in Matlab All central concepts and theories are illustrated by Matlab implementations which are accompanied by detailed descriptions of the programming steps needed All concepts and techniques are introduced from a basic level Chapter 1 introduces Matlab and matrix algebra, it serves to make the reader familiar with the use and basic capabilities of Matlab. The chapter concludes with a walkthrough of a linear regression model, showing how Matlab can be used to solve an example problem analytically and by the use of optimization and simulation techniques Chapter 2 introduces expected return and risk as central concepts in finance theory using fixed income instruments as examples, the chapter illustrates how risk measures such as standard deviation, Modified duration, VaR, and expected shortfall can be calculated empirically and in closed form Chapter 3 introduces the concept of diversification and illustrates how the efficient investment frontier can be derived - a Matlab is developed that can be used to calculate a given number of portfolios that lie on an efficient frontier, the chapter also introduces the CAPM Chapter 4 introduces econometric tools: principle component analysis is presented and used as a prelude to yield-curve factor models. The Nelson-Siegel model is used to introduce the Kalman-Filter as a way to add time-series dynamics to the evolution of yield curves over time, time series models such as Vector Autoregression and regime-switching are also presented Supported by a website with online resources - www.kennyholm.com where all Matlab programs referred to in the text can be downloaded. The site also contains lecture slides and answers to end of chapter exercises

Developed over 20 years of teaching academic courses, the Handbook of Financial Risk Management can be divided into two main parts: risk management in the financial sector; and a discussion of the mathematical and statistical tools used in risk management. This comprehensive text offers readers the chance to develop a sound understanding of financial products and the mathematical models that drive them, exploring in detail where the risks are and how to manage them. Key Features: Written by an author with both theoretical and applied experience Ideal resource for students pursuing a master's degree in finance who want to learn risk management Comprehensive coverage of the key topics in financial risk management Contains 114 exercises, with solutions provided online at www.crcpress.com/9781138501874

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Risk budgeting models set risk diversification as objective in portfolio allocation and are mainly promoted from the asset management industry. Albina Unger examines the portfolios based on different risk measures in several aspects from the academic perspective (Utility, Performance, Risk, Different Market Phases, Robustness, and Factor Exposures) to investigate the use of these models for asset allocation. Beside the risk budgeting models, alternatives of risk-based investment styles are also presented and examined. The results show that equalizing the risk across the assets does not prevent losses, especially in crisis periods and the performance can mainly be explained by exposures to known asset pricing factors. Thus, the advantages of these approaches compared to known minimum risk portfolios are doubtful. This collection of essays spans pure and applied mathematics. Readers interested in mathematical research and historical aspects of mathematics will appreciate the enlightening content of the material. Highlighting the pervasive nature of mathematics today in a host of different areas, the book also covers the spread of mathematical ideas and techniques in areas ranging from computer science to physics to biology.

This book constitutes the refereed proceedings of the 9th International Conference on Modeling Decisions for Artificial Intelligence, MDAI 2012, held in Girona, Catalonia, Spain, in November 2012. The 32 revised full papers were carefully reviewed and selected from 49 submissions and are presented with 4 plenary talks. The papers are organized in topical sections on aggregation operators, integrals, data privacy and security, reasoning, applications, and clustering and similarity.

This book covers all aspects of modern finance relating to portfolio theory and risk–return relationship, offering a comprehensive guide to the

importance, measurement and application of the risk–return hypothesis in portfolio management. It is divided into five parts: Part I discusses the valuation of capital assets and presents various techniques and models used in this context. Part II then addresses market efficiency and capital market models, particularly focusing on measuring market efficiency, which is a crucial factor in making correct investment decisions. It also analyzes the major capital market models like CAPM and APT to determine to what extent they are suitable for use in developing economies. Part III highlights the significance of risk–return analysis as a prerequisite for investment decisions, while Part IV examines the selection and performance appraisals of portfolios against the backdrop of the risk–return relationship. It also examines new tools such as the value-at-risk application for mutual funds and the applications of the price-to-earnings ratio in portfolio performance measurement. Lastly, Part V explores contemporary issues in finance, including the relevance of Islamic finance in the increasingly volatile global financial system. New developments in assessing and managing risk are discussed in this volume. Addressing both practitioners in the banking sector and research institutions, the book provides a manifold view on the most-discussed topics in finance. Among the subjects treated are important issues such as: risk measures and allocation of risks, factor modeling, risk premia in the hedge funds industry and credit risk management. The volume provides an overview of recent developments as well as future trends in the area of risk assessment.

Following the Great Financial Crisis, the S&P 500 advanced more than 17 percent annualized from February 2009 through June 2018. At this pace, a buy-and-hold investor in the stock market would see their money double in 5 years and more than triple in 7 years. This performance has lulled many investors into thinking that such above-average returns will be with us into perpetuity. Unfortunately, this may not be the case. Far more likely, the return an investor may receive from the stock market will be slightly better than half the long-term average, about 5% to 7%. Most investment portfolios hold a greater allocation to stocks than any other class of investment asset. Massive amounts of wealth were created from the bull market since early 2009 providing institutions and individuals with a rising tide that lifted their portfolios above their goals without much effort. The environment of the future stands to be far less accommodating, so finding suitable investments (other than U.S. stocks) that can achieve the necessary returns (or make up the shortfall) will be a critical component of achieving goals in years to come. This book will explore those solutions.

This book identifies and discusses the most successful investing practices with an emphasis on the academic articles that produced them and why this research led to popular adoption and growth in \$AUM. Investors are bombarded with ideas and prescriptions for successful investing every day. Given the steady stream of information on stock tips, sector timing, asset allocation, etc., how do investors decide? How do they judge the quality and reliability of the investment advice they are given on a day-to-day basis? This book identifies which academic articles turned investment ideas were the most innovative and influential in the practice of investment management. Each article is discussed in terms of the asset management process: strategy, portfolio construction, portfolio implementation, and risk management. Some examples of topics covered are factor investing, the extreme growth of trading instruments like Exchange Traded Funds, multi-asset investing, socially responsible investing, big data, and artificial intelligence. This book analyzes a curated selection of peer-reviewed academic articles identified among those published by the scientific investment community. The book briefly describes each of the articles, how and why each one changed the way we think about investing in that specific asset class, and provides insights as to the nuts and bolts of how to take full advantage of this successful investment idea. It is as timely as it is informative and will help each investor to focus on the most successful strategies, ideas, and implementation that provide the basis for the efficient accumulation and management of wealth.

Book Description The present book is a statistical course for undergraduate students in all fields of social and economic sciences. The book presents a manual on the course "General Theory of Statistics", including a series of not quite traditional topics. First of all, it concerns the mathematical bases of statistics and use of computer technologies in statistical probing. Thematic choice of the chapters and sections of the book is caused not only by interests and tastes of the authors, but also by modern tendencies in applied statistics and orientation of the given work. The book is based on a course of lectures given by the first author for undergraduates in social and economic sciences along with three books published in Russian and English in Estonia, Lithuania and Byelorussia. This book has been written for a large enough audience of teachers, researchers, statisticians, students, collegians and users of statistics in behavioral and social sciences. Above all, the book is directed to a wide circle of the readers studying statistical disciplines in high schools and colleges; however, it can be useful also to persons independently studying statistics. **Author Biography (Aladjev V.Z.)** Professor Aladjev V.Z. was born on June 14, 1942 in the town Grodno (Byelorussia). Now, he is the First vice-president of the International Academy of Noosphere and the president of Tallinn Research Group, whose scientific results have received international recognition, first, in the field of mathematical theory of Cellular Automata (CA). He is member of a series of Russian and International Academies. Aladjev V. Z. is the author of more than 330 scientific publications, including 63 books, published in many countries. He participates as a member of the organizing committee and/or a guest lecturer in many international scientific forums in mathematics and cybernetics. **Author Biography (Haritonov V.N.)** Dr. Haritonov V.N. was born on August 2, 1946 in the town Nizhni Novgorod (Russia). On successful graduation from Tallinn Technical University, he has acquired a profession of economics. Since 1972, Haritonov V.N. has the respectable positions in the Estonian banking system. Now, he is the Chairman of the Board of Tallinn Business Bank. Most considerable methodological projects and practical results of Haritonov V.N. are related to economic sciences, and, above all, to banking field, including automation of banking system, banking statistics, etc. Along with a series of publications, Haritonov V.N. has participated in many scientific and applied forums on banking economics.

Stocks and bonds? Real estate? Hedge funds? Private equity? If you think those are the things to focus on in building an investment portfolio, Andrew Ang has accumulated a body of research that will prove otherwise. In his new book *Asset Management: A Systematic Approach to Factor Investing*, Ang upends the conventional wisdom about asset allocation by showing that what matters aren't asset class labels but the bundles of overlapping risks they represent. Making investments is like eating a healthy diet, Ang says: you've got to look through the foods you eat to focus on the nutrients they contain. Failing to do so can lead to a serious case of malnutrition - for investors as well as diners. The key, in Ang's view, is bad times, and the fact that every investor's bad times are somewhat different. The notion that bad times are paramount is the guiding principle of the book, which offers a new approach to the age-old problem of where do you put your money? Years of experience, both as a finance professor and as a consultant, have led Ang to see that the traditional approach, with its focus on asset classes, is too crude and ultimately too costly to serve investors adequately. He focuses instead on factor risks, "the peculiar sets of hard times that cut across asset classes, and that must be the focus of our attention if we are to weather market turmoil and receive the rewards that come with doing so. Optimally harvesting factor premiums - on our own or by hiring others - requires identifying your particular set of hard times, and exploiting the difference between them and those of the average investor. Clearly written yet chock-full of the latest research and data, *Asset Management* will be indispensable reading for trustees, professional money managers, smart private investors, and business students who want to understand the economics behind factor risk premiums, harvest them efficiently in their portfolios, and embark on the search for true alpha."

Portfolio construction is fundamental to the investment management process. In the 1950s, Harry Markowitz demonstrated the benefits of efficient diversification by formulating a mathematical program for generating the "efficient frontier" to summarize optimal trade-offs between expected return and risk. The Markowitz framework continues to be used as a basis for both practical portfolio construction and emerging research in financial economics. Such concepts as the Capital Asset Pricing Model (CAPM) and the Arbitrage Pricing Theory (APT), for example, provide the foundation for setting benchmarks, for predicting returns and risk, and for performance measurement. This volume showcases original essays by some of today's most prominent academics and practitioners in the field on the contemporary application of

Markowitz techniques. Covering a wide spectrum of topics, including portfolio selection, data mining tests, and multi-factor risk models, the book presents a comprehensive approach to portfolio construction tools, models, frameworks, and analyses, with both practical and theoretical implications.

Targeted towards institutional asset managers in general and chief investment officers, portfolio managers and risk managers in particular, this practical book serves as a comprehensive guide to quantitative portfolio optimization, asset allocation and risk management. Providing an accessible yet rigorous approach to investment management, it gradually introduces ever more advanced quantitative tools for these areas. Using extensive examples, this book guides the reader from basic return and risk analysis, all the way through to portfolio optimization and risk characterization, and finally on to fully fledged quantitative asset allocation and risk management. It employs such tools as enhanced modern portfolio theory using Monte Carlo simulation and advanced return distribution analysis, analysis of marginal contributions to absolute and active portfolio risk, Value-at-Risk and Extreme Value Theory. All this is performed within the same conceptual, theoretical and empirical framework, providing a self-contained, comprehensive reading experience with a strongly practical aim.

This book focuses on the concepts and applications of risk-based asset allocation. Markowitz's traditional approach to asset allocation suffers from serious drawbacks when implemented. These mainly arise from the estimation risk associated with the necessary input the most critical being expected returns. With the financial crisis, there has been an increasing interest in asset allocation approaches that don't need expected returns as input, known as risk-based approaches. The book provides an analysis of the different solutions that fit this description: the equal-weighting approach, the global minimum-variance approach, the most diversified portfolio approach and the risk parity approach. In addition to a theoretical discussion of these, it presents practical applications in different investment environments. Three different evaluation dimensions are considered to put these approaches to the test: financial efficiency, diversification and portfolio stability.

The central research objective of the dissertation is to assess the suitability of Social Responsible Investments (SRIs) as well as alternative investments for the strategic asset allocation of German Pension Insurance Funds (Pensionskassen). Using a Vector Error Correction model, we estimate the data generating process of the underlying input variables. A bootstrap simulation allows generating future return paths of the underlying portfolios. These return distributions will subsequently be used as input for different asset allocation strategies. The empirical results of our research study offer valuable conclusions: (1) SRI-structured portfolios consistently perform better than conventional portfolios, (2) including alternative investments has a beneficial effect on the risk-return distribution and (3) derivative overlay structures mitigate downside risk exposure without impacting average fund performance. In terms of alternative allocation models, (1) high-equity portfolios lead to an increase in return volatility without sufficiently compensating investors with higher returns, (2) hedging against price increases by engineering a portfolio with inflation-suitable assets yields mixed results, (3) a portfolio composition that combines derivative overlay strategies for both equities and corporate bonds and uses SRI-screened assets as underlying generates the best results.

This volume provides practical solutions and introduces recent theoretical developments in risk management, pricing of credit derivatives, quantification of volatility and copula modeling. This third edition is devoted to modern risk analysis based on quantitative methods and textual analytics to meet the current challenges in banking and finance. It includes 14 new contributions and presents a comprehensive, state-of-the-art treatment of cutting-edge methods and topics, such as collateralized debt obligations, the high-frequency analysis of market liquidity, and realized volatility. The book is divided into three parts: Part 1 revisits important market risk issues, while Part 2 introduces novel concepts in credit risk and its management along with updated quantitative methods. The third part discusses the dynamics of risk management and includes risk analysis of energy markets and for cryptocurrencies. Digital assets, such as blockchain-based currencies, have become popular but are theoretically challenging when based on conventional methods. Among others, it introduces a modern text-mining method called dynamic topic modeling in detail and applies it to the message board of Bitcoins. The unique synthesis of theory and practice supported by computational tools is reflected not only in the selection of topics, but also in the fine balance of scientific contributions on practical implementation and theoretical concepts. This link between theory and practice offers theoreticians insights into considerations of applicability and, vice versa, provides practitioners convenient access to new techniques in quantitative finance. Hence the book will appeal both to researchers, including master and PhD students, and practitioners, such as financial engineers. The results presented in the book are fully reproducible and all quantlets needed for calculations are provided on an accompanying website. The Quantlet platform quantlet.de, quantlet.com, quantlet.org is an integrated QuantNet environment consisting of different types of statistics-related documents and program codes. Its goal is to promote reproducibility and offer a platform for sharing validated knowledge native to the social web. QuantNet and the corresponding Data-Driven Documents-based visualization allows readers to reproduce the tables, pictures and calculations inside this Springer book.

This edited volume contains essential readings for financial analysts and market practitioners working at Central Banks and Sovereign Wealth Funds. It presents the reader with state-of-the-art methods that are directly implementable, and industry 'best-practices' as followed by leading institutions in their field.

This book is a practical and concise guide to major asset classes, investment strategies, and foreign markets. For investors familiar with one "box" of investments, this book serves as a non-technical introduction to other "boxes" worth diversifying into, such as bonds, real estate, private equity, cryptocurrencies, and Chinese A-shares. Readers with no prior finance background will find this book an accessible entry point to investing. Written by a practitioner, this volume can serve as course material for introductory investing classes or as an on-the-job guidebook for professionals and practicing investors.

The idea of writing this book arose in 2000 when the first author was assigned to teach the required course STATS 240 (Statistical Methods in Finance) in the new M. S. program in financial mathematics at Stanford, which is an

interdisciplinary program that aims to provide a master's-level education in applied mathematics, statistics, computing, finance, and economics. Students in the program had different backgrounds in statistics. Some had only taken a basic course in statistical inference, while others had taken a broad spectrum of M. S. - and Ph. D. -level statistics courses. On the other hand, all of them had already taken required core courses in investment theory and derivative pricing, and STATS 240 was supposed to link the theory and pricing formulas to real-world data and pricing or investment strategies. Besides students in the program, the course also attracted many students from other departments in the university, further increasing the heterogeneity of students, as many of them had a strong background in mathematical and statistical modeling from the mathematical, physical, and engineering sciences but no previous experience in finance. To address the diversity in background but common strong interest in the subject and in a potential career as a "quant" in the financial industry, the course material was carefully chosen not only to present basic statistical methods of importance to quantitative finance but also to summarize domain knowledge in finance and show how it can be combined with statistical modeling in financial analysis and decision making. The course material evolved over the years, especially after the second author helped as the head TA during the years 2004 and 2005.

In answer to the intense development of new financial products and the increasing complexity of portfolio management theory, *Portfolio Optimization and Performance Analysis* offers a solid grounding in modern portfolio theory. The book presents both standard and novel results on the axiomatics of the individual choice in an uncertain framework, contains a precise overview of standard portfolio optimization, provides a review of the main results for static and dynamic cases, and shows how theoretical results can be applied to practical and operational portfolio optimization. Divided into four sections that mirror the book's aims, this resource first describes the fundamental results of decision theory, including utility maximization and risk measure minimization. Covering both active and passive portfolio management, the second part discusses standard portfolio optimization and performance measures. The book subsequently introduces dynamic portfolio optimization based on stochastic control and martingale theory. It also outlines portfolio optimization with market frictions, such as incompleteness, transaction costs, labor income, and random time horizon. The final section applies theoretical results to practical portfolio optimization, including structured portfolio management. It details portfolio insurance methods as well as performance measures for alternative investments, such as hedge funds. Taking into account the different features of portfolio management theory, this book promotes a thorough understanding for students and professionals in the field.

Valuable insights on the major methods used in today's asset and risk management arena Risk management has moved to the forefront of asset management since the credit crisis. However, most coverage of this subject is overly complicated, misunderstood, and extremely hard to apply. That's why Steven Greiner—a financial professional with over twenty years of quantitative and modeling experience—has written *Investment Risk and Uncertainty*. With this book, he skillfully reduces the complexity of risk management methodologies applied across many asset classes through practical examples of when to use what. Along the way, Greiner explores how particular methods can lower risk and mitigate losses. He also discusses how to stress test your portfolio and remove the exposure to regular risks and those from "Black Swan" events. More than just an explanation of specific risk issues, this reliable resource provides practical "off-the-shelf" applications that will allow the intelligent investor to understand their risks, their sources, and how to hedge those risks. Covers modern methods applied in risk management for many different asset classes Details the risk measurements of truly multi-asset class portfolios, while bridging the gap for managers in various disciplines—from equity and fixed income investors to currency and commodity investors Examines risk management algorithms for multi-asset class managers as well as risk managers, addressing new compliance issues and how to meet them The theory of risk management is hardly ever spelled out in practical applications that portfolio managers, pension fund advisors, and consultants can make use of. This book fills that void and will put you in a better position to confidently face the investment risks and uncertainties found in today's dynamic markets.

This handbook includes contributions related to optimization, pricing and valuation problems, risk modeling and decision making problems arising in global financial and commodity markets from the perspective of Operations Research and Management Science. The book is structured in three parts, emphasizing common methodological approaches arising in the areas of interest: - Part I: Optimization techniques - Part II: Pricing and Valuation - Part III: Risk Modeling The book presents to a wide community of Academics and Practitioners a selection of theoretical and applied contributions on topics that have recently attracted increasing interest in commodity and financial markets. Within a structure based on the three parts, it presents recent state-of-the-art and original works related to: - The adoption of multi-criteria and dynamic optimization approaches in financial and insurance markets in presence of market stress and growing systemic risk; - Decision paradigms, based on behavioral finance or factor-based, or more classical stochastic optimization techniques, applied to portfolio selection problems including new asset classes such as alternative investments; - Risk measurement methodologies, including model risk assessment, recently applied to energy spot and future markets and new risk measures recently proposed to evaluate risk-reward trade-offs in global financial and commodity markets; and derivatives portfolio hedging and pricing methods recently put forward in the financial community in the aftermath of the global financial crisis.

Although portfolio management didn't change much during the 40 years after the seminal works of Markowitz and Sharpe, the development of risk budgeting techniques marked an important milestone in the deepening of the relationship between risk and asset management. Risk parity then became a popular financial model of investment after the global financial crisis in 2008. Today, pension funds and institutional investors are using this approach in the development of smart indexing and the redefinition of long-term investment policies. Written by a well-known expert of asset management and risk parity, *Introduction to Risk Parity and Budgeting* provides an up-to-date treatment of this alternative method to Markowitz optimization. It builds financial exposure to equities and commodities, considers credit risk in the management of bond portfolios, and designs long-term investment policy. The first part of the book gives a theoretical account of portfolio optimization and risk parity. The author discusses modern portfolio

theory and offers a comprehensive guide to risk budgeting. Each chapter in the second part presents an application of risk parity to a specific asset class. The text covers risk-based equity indexation (also called smart beta) and shows how to use risk budgeting techniques to manage bond portfolios. It also explores alternative investments, such as commodities and hedge funds, and applies risk parity techniques to multi-asset classes. The book's first appendix provides technical materials on optimization problems, copula functions, and dynamic asset allocation. The second appendix contains 30 tutorial exercises. Solutions to the exercises, slides for instructors, and Gauss computer programs to reproduce the book's examples, tables, and figures are available on the author's website.

This encyclopedic, detailed resource covers all the steps of one-period allocation from the foundations to the most advanced developments. It includes a large number of figures and examples as well as real trading and asset management case studies. This book presents a consistent and complete framework for studying the risk management of a pension fund. It gives the reader the opportunity to understand, replicate and widen the analysis. To this aim, the book provides all the tools for computing the optimal asset allocation in a dynamic framework where the financial horizon is stochastic (longevity risk) and the investor's wealth is not self-financed. This tutorial enables the reader to replicate all the results presented. The R codes are provided alongside the presentation of the theoretical framework. The book explains and discusses the problem of hedging longevity risk even in an incomplete market, though strong theoretical results about an incomplete framework are still lacking and the problem is still being discussed in most recent literature.

Advances in Quantitative Asset Management contains selected articles which, for the most part, were presented at the 'Forecasting Financial Markets' Conference. 'Forecasting Financial Markets' is an international conference on quantitative finance which is held in London in May every year. Since its inception in 1994, the conference has grown in scope and stature to become a key international meeting point for those interested in quantitative finance, with the participation of prestigious academic and research institutions from all over the world, including major central banks and quantitative fund managers. The editor has chosen to concentrate on advances in quantitative asset management and, accordingly, the papers in this book are organized around two major themes: advances in asset allocation and portfolio management, and modelling risk, return and correlation.

Credit Portfolio Management is a topical text on approaches to the active management of credit risks. The book is a valuable, up to date guide for portfolio management practitioners. Its content comprises of three main parts: The framework for managing credit risks, Active Credit Portfolio Management in practice and Hedging techniques and toolkits.

A rigorous presentation of a novel methodology for asset allocation in financial portfolios under conditions of market distress. This book demonstrates how quantitative country-level investment strategies can be successfully employed to manage money in international markets. It offers a range of state-of-the-art quantitative strategies, describing their theoretical bases, implementation details, and performance in over 70 countries between 1995 and 2015. International diversification has long been a key to stable investing. However, the increased integration and openness of global financial markets has led to rising correlations between stock market returns in particular countries, driving down the benefits of diversification and increasing the importance of country selection strategies as part of an investment process. Zaremba and Shemer explain the efficiency of quantitative investing, which captures huge amounts of data of limited scope very quickly. In the traditional approach, this data compilation is an immense undertaking, limited in scope and vulnerable to behavioral errors, but this can be overcome with the help of a new paradigm of quantitative investment at the country level. Quantitative country asset allocation can be efficiently accomplished by using wealth insights that have been generated in the academic literature, discovering many anomalies and regular patterns in asset prices. Armed with this information, investors and managers can process large amounts of data more efficiently when deciding to invest in ETFs, index funds, or futures markets.

Risk is the main source of uncertainty for investors, debtholders, corporate managers and other stakeholders. For all these actors, it is vital to focus on identifying and managing risk before making decisions. The success of their businesses depends on the relevance of their decisions and consequently, on their ability to manage and deal with the different types of risk. Accordingly, the main objective of this book is to promote scientific research in the different areas of risk management, aiming at being transversal and dealing with different aspects of risk management related to corporate finance as well as market finance. Thus, this book should provide useful insights for academics as well as professionals to better understand and assess the different types of risk.

This book is a guide to asset and risk management from a practical point of view. It is centered around two questions triggered by the global events on the stock markets since the middle of the last decade: - Why do crashes happen when in theory they should not? - How do investors deal with such crises in terms of their risk measurement and management and as a consequence, what are the implications for the chosen investment strategies? The book presents and discusses two different approaches to finance and investing, i.e., modern portfolio theory and behavioral finance, and provides an overview of stock market anomalies and historical crashes. It is intended to serve as a comprehensive introduction to asset and risk management for bachelor's and master's students in this field as well as for young professionals in the asset management industry. A key part of this book is the exercises to further demonstrate the concepts presented with examples and a step-by-step business case. An Excel file with the calculations and solutions for all 17 examples as well as all business case calculations can be downloaded at extras.springer.com.

This is an advanced text on the theory of forward and futures markets which aims at providing readers with a comprehensive knowledge of how prices are established and evolve over time, what optimal strategies one can expect from the participants, what characterizes such markets and what major theoretical and practical differences distinguish futures from forward contracts. It should be of interest to students (majoring in finance with quantitative skills) academics (both theoreticians and empiricists), practitioners, and regulators.

The increasing complexity of financial problems and the enormous volume of financial data often make it difficult to apply traditional modeling and algorithmic procedures. In this context, the field of computational intelligence provides an arsenal of particularly useful techniques. These techniques include new modeling tools for decision making under risk and uncertainty, data mining techniques for analyzing complex data bases, and powerful algorithms for complex optimization problems. Computational intelligence has also evolved rapidly over the past few years and it is now one of the most active fields in operations research and computer science. This volume presents the recent advances of the use of computation intelligence in financial decision making. The book covers all the major areas of computational intelligence and a wide range of problems in finance, such as portfolio optimization, credit risk analysis, asset valuation, financial forecasting, and trading.

This self-contained book presents the main techniques of quantitative portfolio management and associated statistical methods in a very didactic and structured way, in a minimum number of pages. The concepts of investment portfolios, self-financing portfolios and absence of arbitrage opportunities are extensively used and enable the translation of all the mathematical concepts in an easily interpretable way. All the results, tested with Python programs, are demonstrated rigorously, often using geometric approaches for optimization problems and intrinsic approaches for statistical methods, leading to unusually short and elegant proofs. The statistical methods concern both parametric and non-

parametric estimators and, to estimate the factors of a model, principal component analysis is explained. The presented Python code and web scraping techniques also make it possible to test the presented concepts on market data. This book will be useful for teaching Masters students and for professionals in asset management, and will be of interest to academics who want to explore a field in which they are not specialists. The ideal pre-requisites consist of undergraduate probability and statistics and a familiarity with linear algebra and matrix manipulation. Those who want to run the code will have to install Python on their pc, or alternatively can use Google Colab on the cloud. Professionals will need to have a quantitative background, being either portfolio managers or risk managers, or potentially quants wanting to double check their understanding of the subject.

This book offers an overview of the best-working strategies in the field of equity and fixed income mutual fund-based portfolio management. This timely research considers different market conditions, such as global financial crises, across various geographical regions such as the USA and Europe. Combining academic and practical findings, the author presents a practitioner perspective on mutual fund-based portfolio strategies, appealing not only to finance scholars but also professionals within the asset management industry. This book synthesizes a large part of the academic research to date on the mutual fund industry by drawing from the most widely cited academic journals. The author makes a systematic use of numerical examples to facilitate the understanding of Investment themes organized around several important topics: size, diversification, flows, active management, volatility, performance persistence and rating.

Intelligent Investing is first ever practical guide for investors on how to initiate and conduct a strategic planning exercise. Guy Fraser-Sampson explains the concepts and behavioural factors likely to be encountered, and shows how a clear understanding of an investor's strategic positioning flows naturally into good asset allocation practice.

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