Economic And Financial Modeling With Mathematica

A Practical Guide to Investment Banking and Private Equity
Financial Modeling
Financial Modeling, Actuarial Valuation and Solvency in Insurance
A Guide for Students and Professionals
Financial Modeling
The Mathematics of Financial Modeling and Investment Management
Health Insurance Exchanges how Economic and Financial Modeling Can Support State Implementation
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Financial Econometrics
Analyzing Financial Data and Implementing Financial Models Using R
Financial Models with Levy Processes and Volatility Clustering
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Economic and Financial Modeling with Mathematica®

Applied Operations Research and Financial Modelling in Energy
Network Models in Economics and Finance
Corporate and Project Finance Modeling
Quantitative Methods in Banking, Finance, Insurance, Energy and Commodity Markets
The Basics of Financial Modeling
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Financial Modeling Using R
Financial Modeling and Valuation
Complex-Valued Modeling in Economics and Finance
Economic and Financial Modeling with Mathematica
From Basics to Advanced Modeling Techniques
Handbook of Recent Advances in Commodity and Financial Modeling
Financial Modeling, fifth edition
The Oxford Handbook of Computational Economics and Finance
How Financial Models Shape Markets
Structural Changes and their Econometric Modeling

An Introductory Guide to Excel and VBA Applications in Finance
FUNDAMENTAL MODELS IN FINANCIAL THEORY
Nonlinear Time Series Analysis of Economic and Financial Data
Financial Modeling Under Non-Gaussian Distributions
Economics with Heterogeneous Interacting Agents

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A Practical Guide to Investment Banking and Private Equity John Wiley & Sons
The risks of financial modeling : VaR and the economic meltdown : hearing before the Subcommittee on Investigations and Oversight, Committee on Science and Technology, House of Representatives, One Hundred Eleventh Congress, first session, September 10, 2009.

Financial Modeling Springer
This book/diskette package puts the powerful technology of Mathematica into the hands of the economic and financial community. Readers will find applications from 20 contributors written for the novice Mathematica user, with timely information for symbolic, numeric and graphical analysis of mathematical problems. Includes 3.5" diskette.

Financial Modeling, Actuarial Valuation and Solvency in Insurance MIT Press
Mathematica is a computer program

(software) for doing symbolic, numeric and graphical analysis of mathematical problems. In the hands of economists, financial analysts and other professionals in econometrics and the quantitative sector of economic and financial modeling, it can be an invaluable tool for modeling and simulation on a large number of issues and problems, besides easily grinding out numbers, doing statistical estimations and rendering graphical plots and visuals. Mathematica enables these individuals to do all of this in a unified environment. This book's main use is that of an applications handbook. Modeling in Economics and Finance with Mathematica is a compilation of contributed papers prepared by experienced, "hands on" users of the Mathematica program. They come from

A Guide for Students and Professionals

IGI Global

In An Engine, Not a Camera, Donald MacKenzie argues that the emergence of modern economic theories of finance affected financial markets in fundamental ways. These new, Nobel Prize-winning theories, based on elegant mathematical models of markets, were not simply external analyses but intrinsic parts of economic processes. Paraphrasing Milton Friedman, MacKenzie says that economic models are an engine of inquiry rather than a camera to reproduce empirical facts. More than that, the emergence of an authoritative theory of financial markets altered those markets fundamentally. For example, in 1970, there was almost

no trading in financial derivatives such as "futures." By June of 2004, derivatives contracts totaling $273 trillion were outstanding worldwide. MacKenzie suggests that this growth could never have happened without the development of theories that gave derivatives legitimacy and explained their complexities. MacKenzie examines the role played by finance theory in the two most serious crises to hit the world's financial markets in recent years: the stock market crash of 1987 and the market turmoil that engulfed the hedge fund Long-Term Capital Management in 1998. He also looks at finance theory that is somewhat beyond the mainstream—chaos theorist Benoit Mandelbrot's model of "wild" randomness. MacKenzie's pioneering work in the social studies of finance will interest anyone who wants to understand how America's financial markets have grown into their current form.

Princeton University Press

Backward stochastic differential equations (BSDEs) provide a general mathematical framework for solving pricing and risk management questions of financial derivatives. They are of growing importance for nonlinear pricing problems such as CVA computations that have been developed since the crisis. Although BSDEs are well known to academics, they are less familiar to practitioners in the financial industry. In order to fill this gap, this book revisits financial modeling and computational finance from a BSDE perspective,

presenting a unified view of the pricing and hedging theory across all asset classes. It also contains a review of quantitative finance tools, including Fourier techniques, Monte Carlo methods, finite differences and model calibration schemes. With a view to use in graduate courses in computational finance and financial modeling, corrected problem sets and Matlab sheets have been provided. Stéphane Crépey’s book starts with a few chapters on classical stochastic processes material, and then... fasten your seatbelt... the author starts traveling backwards in time through backward stochastic differential equations (BSDEs). This does not mean that one has to read the book backwards, like a manga! Rather, the possibility to move backwards in time, even if from a variety of final scenarios following a probability law, opens a multitude of possibilities for all those pricing problems whose solution is not a straightforward expectation. For example, this allows for framing problems like pricing with credit and funding costs in a rigorous mathematical setup. This is, as far as I know, the first book written for several levels of audiences, with applications to financial modeling and using BSDEs as one of the main tools, and as the song says: "it's never as good as the first time". Damiano Brigo, Chair of Mathematical Finance, Imperial College London While the classical theory of arbitrage free pricing has matured, and is now well understood and used by the finance industry, the theory of BSDEs

continues to enjoy a rapid growth and remains a domain restricted to academic researchers and a handful of practitioners. Crépey's book presents this novel approach to a wider community of researchers involved in mathematical modeling in finance. It is clearly an essential reference for anyone interested in the latest developments in financial mathematics. Marek Musiela, Deputy Director of the Oxford-Man Institute of Quantitative Finance

Financial Modeling MIT Press

Economic Modeling and Inference takes econometrics to a new level by demonstrating how to combine modern economic theory with the latest statistical inference methods to get the most out of economic data. This graduate-level textbook draws applications from both microeconomics and macroeconomics, paying special attention to financial and labor economics, with an emphasis throughout on what observations can tell us about stochastic dynamic models of rational optimizing behavior and equilibrium. Bent Jesper Christensen and Nicholas Kiefer show how parameters often thought estimable in applications are not identified even in simple dynamic programming models, and they investigate the roles of extensions, including measurement error, imperfect control, and random utility shocks for inference. When all implications of optimization and equilibrium are imposed in the empirical procedures, the resulting estimation problems are often nonstandard, with the estimators

exhibiting nonregular asymptotic behavior such as short-ranked covariance, superconsistency, and non-Gaussianity. Christensen and Kiefer explore these properties in detail, covering areas including job search models of the labor market, asset pricing, option pricing, marketing, and retirement planning. Ideal for researchers and practitioners as well as students, Economic Modeling and Inference uses real-world data to illustrate how to derive the best results using a combination of theory and cutting-edge econometric techniques. Covers identification and estimation of dynamic programming models Treats sources of error--measurement error, random utility, and imperfect control Features financial applications including asset pricing, option pricing, and optimal hedging Describes labor applications including job search, equilibrium search, and retirement Illustrates the wide applicability of the approach using micro, macro, and marketing examples

The Mathematics of Financial Modeling and Investment Management Createspace Independent Publishing Platform

Fixed Income Modelling offers a unified presentation of dynamic term structure models and their applications to the pricing and risk management of fixed income securities. It explains the basic fixed income securities and their properties and uses as well as the relations between those securities. The book presents and compares the classical affine models, Heath-Jarrow-

Morton models, and LIBOR market models, and demonstrates how to apply those models for the pricing of various widely traded fixed income securities. It offers a balanced presentation with both formal mathematical modelling and economic intuition and understanding. The book has a number of distinctive features including a thorough and accessible introduction to stochastic processes and the stochastic calculus needed for the modern financial modelling approach used in the book, as well as a separate chapter that explains how the term structure of interest rates relates to macro-economic variables and to what extent the concrete interest rate models are founded in general economic theory. The book focuses on the most widely used models and the main fixed income securities, instead of trying to cover all the many specialized models and the countless exotic real-life products. The in-depth explanation of the main pricing principles, techniques, and models as well as their application to the most important types of securities will enable the reader to understand and apply other models and price other securities. The book includes chapters on interest rate risk management, credit risk, mortgage-backed securities, and relevant numerical techniques. Each chapter concludes with a number of exercises of varying complexity. Suitable for MSc students specializing in finance and economics, quantitatively oriented MBA students, and first- or second-year PhD students, this book will also be a useful reference for researchers and

finance professionals and can be used in specialized courses on fixed income or broader courses on derivatives.

Health Insurance Exchanges how Economic and Financial Modeling Can Support State Implementation

Apress

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.

Tools and Emerging Applications Oxford University Press

A clear and comprehensive guide to financial modeling and valuation with extensive case studies and practice exercises Corporate and Project Finance Modeling takes a clear, coherent approach to a complex and technical topic. Written by a globally-recognized financial and economic consultant, this book provides a thorough explanation of financial modeling and analysis while describing the practical application of newly-developed techniques. Theoretical discussion, case studies and step-by-step guides allow readers to master many difficult modeling problems and also explain how to build highly structured models from the ground up. The companion website includes downloadable examples, templates, and hundreds of exercises that allow readers to immediately apply the complex ideas discussed. Financial valuation is an in-depth process, involving both objective and subjective parameters. Precise modeling is critical, and thorough, accurate analysis is what bridges the gap from model to value. This book allows readers to gain a true mastery of the principles underlying financial

modeling and valuation by helping them to: Develop flexible and accurate valuation analysis incorporating cash flow waterfalls, depreciation and retirements, updates for new historic periods, and dynamic presentation of scenario and sensitivity analysis; Build customized spreadsheet functions that solve circular logic arising in project and corporate valuation without cumbersome copy and paste macros; Derive accurate measures of normalized cash flow and implied valuation multiples that account for asset life, changing growth, taxes, varying returns and cost of capital; Incorporate stochastic analysis with alternative time series equations and Monte Carlo simulation without add-ins; Understand valuation effects of debt sizing, sculpting, project funding, re-financing, holding periods and credit enhancements. Corporate and Project Finance Modeling provides comprehensive guidance and extensive explanation, making it essential reading for anyone in the field.

Financial Econometrics Routledge This book provides an innovative, integrated, and methodical approach to understanding complex financial models, integrating topics usually presented separately into a comprehensive whole. The book brings together financial models and high-level mathematics, reviewing the mathematical background necessary for understanding these models organically and in context. It begins with underlying assumptions and progresses logically through increasingly complex models to operative

conclusions. Readers who have mastered the material will gain the tools needed to put theory into practice and incorporate financial models into real-life investment, financial, and business scenarios. Modern finance's most bothersome shortcoming is that the two basic models for building an optimal investment portfolio, Markowitz's mean-variance model and Sharpe and Treynor's Capital Asset Pricing Model (CAPM), fall short when we try to apply them using Excel Solver. This book explores these two models in detail, and for the first time in a textbook the Black-Litterman model for building an optimal portfolio constructed from a small number of assets (developed at Goldman Sachs) is thoroughly presented. The model's integration of personal views and its application using Excel templates are demonstrated. The book also offers innovative presentations of the Modigliani–Miller model and the Consumption-Based Capital Asset Pricing Model (CCAPM). Problems at the end of each chapter invite the reader to put the models into immediate use.
Fundamental Models in Financial Theory is suitable for classroom use or as a reference for finance practitioners.
Analyzing Financial Data and Implementing Financial Models Using R
Springer
System Dynamics in Economic and Financial Models Edited by Christiaan Heij, Hans Schumacher, Bernard Hanzon and Kees Praagman System Dynamics in Economic and Financial Models discusses different approaches for dynamic

modelling of economic and financial data, and includes empirical applications, particularly in finance and macroeconomics, to illustrate the methods discussed. Written by leading experts from a wide range of backgrounds, varying from econometries and finance to systems and control, each chapter is followed by a comments section that presents alternative and sometimes contrasting points of view. The authors look at the interface between economics and finance, and examine topics including non-linear dynamics chaos structural change trends and cointegration general methodologies in empirical modelling

Financial Models with Levy Processes and Volatility Clustering Springer

Financial Modelling in Commodity Markets provides a basic and self-contained introduction to the ideas underpinning financial modelling of products in commodity markets. The book offers a concise and operational vision of the main models used to represent, assess and simulate real assets and financial positions related to the commodity markets. It discusses statistical and mathematical tools important for estimating, implementing and calibrating quantitative models used for pricing and trading commodity-linked products and for managing basic and complex portfolio risks. Key features: Provides a step-by-step guide to the construction of pricing models, and for the applications of such models for the analysis of real data Written for scholars from a wide range of scientific fields,

including economics and finance, mathematics, engineering and statistics, as well as for practitioners Illustrates some important pricing models using real data sets that will be commonly used in financial markets

Complex-Valued Modeling in Economics and Finance Economic and Financial Modeling with Mathematica® Foundations of Real Estate Financial Modelling is specifically designed to provide an overview of pro forma modelling for real estate projects. The book introduces students and professionals to the basics of real estate finance theory before providing a step-by-step guide for financial model construction using Excel. The idea that real estate is an asset with unique characteristics which can be transformed, both physically and financially, forms the basis of discussion. Individual chapters are separated by functional unit and build upon themselves to include information on: Amortization Single-Family Unit Multi-Family Unit Development/Construction Addition(s) Waterfall (Equity Bifurcation) Accounting Statements Additional Asset Classes Further chapters are dedicated to risk quantification and include scenario, stochastic and Monte Carlo simulations, waterfalls and securitized products. This book is the ideal companion to core real estate finance textbooks and will boost students Excel modelling skills before they enter the workplace. The book provides individuals with a step-by-step instruction on how to construct a real estate financial model

that is both scalable and modular. A companion website provides the pro forma models to give readers a basic financial model for each asset class as well as methods to quantify performance and understand how and why each model is constructed and the best practices for repositioning these assets.
The Risks of Financial Modeling Telos Press
Economic and Financial Modeling with Mathematica® Springer
Springer
Complex-Valued Modeling in Economics and Finance outlines the theory, methodology, and techniques behind modeling economic processes using complex variables theory. The theory of complex variables functions is widely used in many scientific fields, since work with complex variables can appropriately describe different complex real-life processes. Many economic indicators and factors reflecting the properties of the same object can be represented in the form of complex variables. By describing the relationship between various indicators using the functions of these variables, new economic and financial models can be created which are often more accurate than the models of real variables. This book pays critical attention to complex variables production in stock market modeling, modeling illegal economy, time series forecasting, complex auto-aggressive models, and economic dynamics modeling. Very little has been published on this topic and its applications within the fields of economics and finance, and

this volume appeals to graduate-level students studying economics, academic researchers in economics and finance, and economists.

Economic and Financial Modeling with Mathematica® John Wiley & Sons

Written by the Founder and CEO of the prestigious New York School of Finance, this book schools you in the fundamental tools for accurately assessing the soundness of a stock investment. Built around a full-length case study of Wal-Mart, it shows you how to perform an in-depth analysis of that company's financial standing, walking you through all the steps of developing a sophisticated financial model as done by professional Wall Street analysts. You will construct a full scale financial model and valuation step-by-step as you page through the book. When we ran this analysis in January of 2012, we estimated the stock was undervalued. Since the first run of the analysis, the stock has increased 35 percent. Re-evaluating Wal-Mart 9months later, we will step through the techniques utilized by Wall Street analysts to build models on and properly value business entities. Step-by-step financial modeling - taught using downloadable Wall Street models, you will construct the model step by step as you page through the book. Hot keys and explicit Excel instructions aid even the novice excel modeler. Model built complete with Income Statement, Cash Flow Statement, Balance Sheet, Balance Sheet Balancing Techniques, Depreciation Schedule (complete with accelerating depreciation and deferring

taxes), working capital schedule, debt schedule, handling circular references, and automatic debt pay downs. Illustrative concepts including detailing model flows help aid in conceptual understanding. Concepts are reiterated and honed, perfect for a novice yet detailed enough for a professional. Model built direct from Wal-Mart public filings, searching through notes, performing research, and illustrating techniques to formulate projections. Includes in-depth coverage of valuation techniques commonly used by Wall Street professionals. Illustrative comparable company analyses - built the right way, direct from historical financials, calculating LTM (Last Twelve Month) data, calendarization, and properly smoothing EBITDA and Net Income. Precedent transactions analysis - detailing how to extract proper metrics from relevant proxy statements Discounted cash flow analysis - simplifying and illustrating how a DCF is utilized, how unlevered free cash flow is derived, and the meaning of weighted average cost of capital (WACC) Step-by-step we will come up with a valuation on Wal-Mart Chapter end questions, practice models, additional case studies and common interview questions (found in the companion website) help solidify the techniques honed in the book; ideal for universities or business students looking to break into the investment banking field.

Applied Operations Research and Financial Modelling in Energy John Wiley & Sons

This practical guide in Eviews is aimed at practitioners and students in business, economics, econometrics, and finance. It uses a step-by-step approach to equip readers with a toolkit that enables them to make the most of this widely used econometric analysis software. Statistical and econometrics concepts are explained visually with examples, problems, and solutions. Developed by economists, the Eviews statistical software package is used most commonly for time-series oriented econometric analysis. It allows users to quickly develop statistical relations from data and then use those relations to forecast future values of the data. The package provides convenient ways to enter or upload data series, create new series from existing ones, display and print series, carry out statistical analyses of relationships among series, and manipulate results and output. This highly hands-on resource includes more than 200 illustrative graphs and tables and tutorials throughout. Abdulkader Aljandali is Senior Lecturer at Coventry University in London. He is currently leading the Stochastic Finance Module taught as part of the Global Financial Trading MSc. His previously published work includes Exchange Rate Volatility in Emerging Markers, Quantitative Analysis, Multivariate Methods & Forecasting with IBM SPSS Statistics and Multivariate Methods and Forecasting with IBM® SPSS® Statistics. Dr Aljandali is an established member of the British Accounting and Finance Association and the Higher Education Academy.

Motasam Tatahi is a specialist in the areas of Macroeconomics, Financial Economics, and Financial Econometrics at the European Business School, Regent's University London, where he serves as Principal Lecturer and Dissertation Coordinator for the MSc in Global Banking and Finance at The European Business School-London.
Network Models in Economics and Finance John Wiley & Sons
This book is a comprehensive introduction to financial modeling that teaches advanced undergraduate and graduate students in finance and economics how to use R to analyze financial data and implement financial models. This text will show students how to obtain publicly available data, manipulate such data, implement the models, and generate typical output expected for a particular analysis. This text aims to overcome several common obstacles in teaching financial modeling. First, most texts do not provide students with enough information to allow them to implement models from start to finish. In this book, we walk through each step in relatively more detail and show intermediate R output to help students make sure they are implementing the analyses correctly. Second, most books deal with sanitized or clean data that have been organized to suit a particular analysis. Consequently, many students do not know how to deal with real-world data or know how to apply simple data manipulation techniques to get the real-world data into a usable form. This book will expose students to the notion of

data checking and make them aware of problems that exist when using real-world data. Third, most classes or texts use expensive commercial software or toolboxes. In this text, we use R to analyze financial data and implement models. R and the accompanying packages used in the text are freely available; therefore, any code or models we implement do not require any additional expenditure on the part of the student. Demonstrating rigorous techniques applied to real-world data, this text covers a wide spectrum of timely and practical issues in financial modeling, including return and risk measurement, portfolio management, options pricing, and fixed income analysis.

Corporate and Project Finance Modeling MIT Press

Learn to create and understand financial models that assess the value of your company, the projects it undertakes, and its future earnings/profit projections. Follow this step-by-step guide organized in a quick-read format to build an accurate and effective financial model from the ground up. In this short book, The Basics of Financial Modeling—an abridgment of the Handbook of Financial Modeling—author Jack Avon equips business professionals who are familiar with financial statements and accounting reports to become truly proficient. Based on the author's extensive experience building models in business and finance, and teaching others to do the same, this book takes you through the financial modeling process, starting with a

general overview of the history and evolution of financial modeling. It then moves on to more technical topics, such as the principles of financial modeling and the proper way to approach a financial modeling assignment, before covering key application areas for modeling in Microsoft Excel. What You'll Learn Understand the accounting and finance concepts that underpin working financial models Approach financial issues and solutions from a modeler's perspective Think about end users when developing a financial model Plan, design, and build a financial model Who This Book Is For Beginning to intermediate modelers who wish to expand and enhance their knowledge of using Excel to build and analyze financial models

Quantitative Methods in Banking, Finance, Insurance, Energy and Commodity Markets John Wiley & Son Limited

A comprehensive guide to financial econometrics Financial econometrics is a quest for models that describe financial time series such as prices, returns, interest rates, and exchange rates. In Financial Econometrics, readers will be introduced to this growing discipline and the concepts and theories associated with it, including background material on probability theory and statistics. The experienced author team uses real-world data where possible and brings in the results of published research provided by investment banking firms and journals. Financial Econometrics clearly explains the techniques presented and

provides illustrative examples for the topics discussed. Svetlozar T. Rachev, PhD (Karlsruhe, Germany) is currently Chair-Professor at the University of Karlsruhe. Stefan Mittnik, PhD (Munich, Germany) is Professor of Financial Econometrics at the University of Munich. Frank J. Fabozzi, PhD, CFA, CFP (New Hope, PA) is an adjunct professor of Finance at Yale University's School of Management. Sergio M. Focardi (Paris, France) is a founding partner of the Paris-based consulting firm The Intertek Group. Teo Jasic, PhD, (Frankfurt, Germany) is a senior manager with a leading international management consultancy firm in Frankfurt.