Macroeconomic Theory A Dynamic General Equilibrium Approach Second Edition

This rigorous but brilliantly lucid book presents a self-contained treatment of modern economic dynamics. Stokey, Lucas, and Prescott develop the basic methods of recursive analysis and illustrate the many areas where they can usefully be applied.

This graduate textbook is a primer in macroeconomics. It starts from essential undergraduate macroeconomics and develops the central topics of modern macroeconomic theory in a simple and rigorous manner. All topics essential for first year graduate students are covered. These include rational expectations, intertemporal dynamic models, exogenous and endogenous growth, nonclearing markets and imperfect competition, uncertainty, and money. The book also covers real business cycles and dynamic stochastic general equilibrium models, integrating growth and fluctuations, sticky wages and prices, consumption and investment, and unemployment. Lastly, it studies government policy, stabilization, credibility, and the connections between politics and the macroeconomy. Each topic is presented in the simplest model possible while still delivering the relevant answers and keeping rigorous foundations throughout the book. To make the book fully self-contained there is a mathematical appendix that gives all necessary mathematical results.

The classic introduction to the New Keynesian economic model This revised second edition of Monetary Policy, Inflation, and the Business Cycle provides a rigorous graduate-level introduction to the New Keynesian framework and its applications to monetary policy. The New Keynesian framework is the workhorse for the analysis of monetary policy and its implications for inflation, economic fluctuations, and welfare. A backbone of the new generation of medium-scale models under development at major central banks and international policy institutions, the framework provides the theoretical underpinnings for the price stability–oriented strategies adopted by most central banks in the industrialized world. Using a canonical version of the New Keynesian model as a reference, Jordi Galí explores various issues pertaining to monetary policy's design, including optimal monetary policy and the desirability of simple policy rules. He analyzes several extensions of the baseline model, allowing for cost-push shocks, nominal wage rigidities, and open economy factors. In each case, the effects on monetary policy are addressed, with emphasis on the desirability of inflation-targeting policies. New material includes the zero lower bound on nominal interest rates and an analysis of unemployment's significance for monetary policy. The most up-to-date introduction to the New Keynesian framework available A single benchmark model used throughout New materials and exercises included An ideal resource for graduate students, researchers, and market analysts

The last twenty years have witnessed tremendous advances in the mathematical, statistical, and computational tools available to applied macroeconomists. This rapidly evolving field has redefined how researchers test models and validate theories. Yet until now there has been no textbook that unites the latest methods and bridges the divide between theoretical and applied work. Fabio Canova brings together dynamic equilibrium theory, data analysis, and advanced econometric and computational methods to provide the first comprehensive set of techniques for use by academic economists as well as professional macroeconomists in banking and finance, industry, and government. This graduate-level textbook is for readers knowledgeable in modern macroeconomic theory, econometrics, and computational programming using RATS, MATLAB, or Gauss. Inevitably a modern treatment of such a complex topic requires a quantitative perspective, a solid dynamic theory background, and the development of empirical and numerical methods--which is where Canova's book differs from typical graduate textbooks in macroeconomics and econometrics. Rather than list a series of estimators and their properties, Canova starts from a class of DSGE models, finds an approximate linear representation for the decision rules, and describes methods needed to estimate their parameters, examining their fit to the data. The book is complete with numerous examples and exercises. Today's economic analysts need a strong foundation in both theory and application. Methods for Applied Macroeconomic Research offers the essential tools for the next generation of macroeconomists.

Modern business cycle theory and growth theory uses stochastic dynamic general equilibrium models. In order to solve these models, economists need to use many mathematical tools. This book presents various methods in order to compute the dynamics of general equilibrium models. In part I, the representative-agent stochastic growth model is solved with the help of value function iteration, linear and linear quadratic approximation methods, parameterised expectations and projection methods. In order to apply these methods, fundamentals from numerical analysis are reviewed in detail. In particular, the book discusses issues that are often neglected in existing work on computational methods, e.g. how to find a good initial value. In part II, the authors discuss methods in order to solve heterogeneous-agent economies. In such economies, the distribution of the individual state variables is endogenous. This part of the book also serves as an introduction to the modern theory of distribution economics. Applications include the dynamics of the income distribution over the business cycle or the overlapping-generations model. In an accompanying home page to this book, computer codes to all applications can be downloaded.

This volume of Advances in Econometrics contains articles that examine key topics in the modeling and estimation of dynamic stochastic general equilibrium (DSGE) models. Because DSGE models combine micro- and macroeconomic theory with formal econometric modeling and inference, over the past decade they have become an established framework for analy

In this book, Jean-Pascal Benassy attempts to integrate into a single unified framework dynamic macroeconomic models reflecting such diverse lines of thought as general equilibrium theory, imperfect competition, Keynesian theory, and rational expectations. He begins with a simple microeconomic synthesis of imperfect competition and nonclearing markets in general equilibrium under rational expectations. He then applies this framework to a large number of dynamic macroeconomic models, covering such topics as persistent unemployment, endogenous growth, and optimal fiscal-monetary policies. The macroeconomic methodology he uses is similar in spirit to that of the popular real business cycles theory, but the scope is much wider. All of the models are solved "by hand," making the underlying economic mechanisms particularly clear.

An attempt to revitalize the traditions of nonmarket clearing approaches to macroeconomics. Using tools from dynamic analysis, the text introduces a consistent, integrated framework for disequilibrium macroeconomic dynamics and explore its relationship to the competing equilibrium dynamics.

Suitable for students and researchers seeking coverage of the developments in macroeconomics, this title lays out the core ideas of modern macroeconomics and its links with finance. It presents the simplest general equilibrium macroeconomic model for a closed economy, and then gradually develops a comprehensive model of the open economy.

Macroeconomic Theory is the most up-to-date graduate-level macroeconomics textbook available today. This book truly offers something new by emphasizing the general equilibrium character of macroeconomics to explain effects across the whole economy, not just part. It is also the perfect resource for economists who need to brush up on the latest developments. Michael Wickens lays out the core ideas of modern macroeconomics and its links with finance. He presents the simplest general equilibrium macroeconomic model for a closed economy, and then gradually develops a comprehensive model of the open economy. Every important topic is covered, including growth, business cycles, fiscal policy, taxation and debt finance, current account sustainability, exchange-rate determination, and an up-to-date account of monetary policy through inflation targeting. Wickens addresses the interrelationships between macroeconomics and modern finance and shows how they affect stock, bond, and foreign-exchange

markets. While the mathematics needed for this book is rigorous, the author describes fundamental concepts in a way that helps make the book self-contained and easy to use. Accessible, comprehensive, and wide-ranging, Macroeconomic Theory will become the standard text for students and is ideal for economists, particularly those in government, central and commercial banking, and financial investment. The most up-to-date macroeconomics textbook available today Web-based exercises with answers (June 2008) Emphasis on general equilibrium macroeconomics addresses the whole economy Latest advances in macroeconomics covered fully and completely Gives up-to-date account of monetary policy Covers modern finance Extensive mathematical appendix for at-a-glance easy reference

This textbook offers a unique approach to macroeconomic theory built on microeconomic foundations of monetary macroeconomics within a unified framework of an intertemporal general equilibrium model extended to a sequential and dynamic analysis. It investigates the implications of expectations and of stationary fiscal policies on allocations, on the quantity of money, and on the dynamic evolution of the economy with and without noise. The text contrasts and compares the two main competing approaches in macroeconomics within the same intertemporal model of a closed monetary economy: the one postulating full price flexibility to guarantee equilibrium in all markets at all times under perfect foresight or rational expectations, versus the so called disequilibrium approach where trading occurs at non-market-clearing prices and wages when these adjust sluggishly from period to period in response to market disequilibrium signals.

The Oxford Handbook of Computational Economics and Finance provides a survey of both the foundations of and recent advances in the frontiers of analysis and action. It is both historically and interdisciplinarily rich and also tightly connected to the rise of digital society. It begins with the conventional view of computational economics, including recent algorithmic development in computing rational expectations, volatility, and general equilibrium. It then moves from traditional computing in economics and finance to recent developments in natural computing, including applications of nature-inspired intelligence, genetic programming, swarm intelligence, and fuzzy logic. Also examined are recent developments of network and agent-based computing in economics. How these approaches are applied is examined in chapters on such subjects as trading robots and automated markets. The last part deals with the epistemology of simulation in its trinity form with the integration of simulation, computation, and dynamics. Distinctive is the focus on natural computationalism and the examination of the implications of intelligent machines for the future of computational economics and finance. Not merely individual robots, but whole integrated systems are extending their "immigration" to the world of Homo sapiens, or symbiogenesis.

Macroeconomic TheoryA Dynamic General Equilibrium Approach (Second Edition)Princeton University Press

A concise but rigorous and thorough introduction to modern macroeconomic theory. This book offers an introduction to modern macroeconomic theory. It is concise but rigorous and broad, covering all major areas in mainstream macroeconomics today and showing how macroeconomic models build on and relate to each other. The self-contained text begins with models of individual decision makers, proceeds to models of general equilibrium without and with friction, and, finally, presents positive and normative theories of economic policy. After a review of the microeconomic foundations of macroeconomics, the book analyzes the household optimization problem, the representative household model, and the overlapping generations model. It examines risk and the implications for household choices and macroeconomic outcomes; equilibrium asset returns, prices, and bubbles; labor supply, growth, and business cycles; and open economy issues. It introduces frictions and analyzes their consequences in the labor market, financial markets, and for investment; studies money as a unit of account, store of value, and medium of exchange; and analyzes price setting in general equilibrium. Turning to government and economic policy, the book covers taxation, debt, social security, and monetary policy; optimal fiscal and monetary policies; and sequential policy choice, with applications in capital income taxation, sovereign debt and default, politically motivated redistribution, and monetary policy biases. Macroeconomic Analysis can be used by first-year graduate students in economics and students in master's programs, and as a supplemental text for advanced courses.

"This book tells the story of the search for non-Walrasian micro-foundations for macroeconomic theory, from the disequilibrium theories of Patinkin, Clower, and Leijonhufvud to recent dynamic stochaotic general equilibrium models with imperfect competition. Placing this search against the background of wider developments in macroeconomics, the authors contend that this was never a single research program, but involved economists with very different aims who developed the basic ideas about quantity constraints, spillover effects, and coordination failures in different ways. The authors contrast this with the equilibrium approach of Phelps and Lucas, arguing that equilibrium theories simply assumed away the problems that had motivated the disequilibrium literature. Although equilibrium Walrasian models came to dominate macroeconomics, non-Walrasian theories never went away and continue to exert an important influence on the subject. Although this book focuses on one strand in modern macroeconomics, it is crucial to understanding the origins of modern macroeconomic theory"--

Economies are constantly in flux, and economists have long sought reliable means of analyzing their dynamic properties. This book provides a succinct and accessible exposition of modern dynamic (or intertemporal) macroeconomics. The authors use a microeconomics-based general equilibrium framework, specifically the overlapping generations model, which assumes that in every period there are two generations which overlap. This model allows the authors to fully describe economies over time and to employ traditional welfare analysis to judge the effects of various policies. By choosing to keep the mathematical level simple and to use the same modeling framework throughout, the authors are able to address many subtle economic issues. They analyze savings, social security systems, the determination of interest rates and asset prices for different types of assets, Ricardian equivalence, business cycles, chaos theory, investment, growth, and a variety of monetary phenomena. Introduction to Dynamic Macroeconomic Theory will become a classic of economic exposition and a standard teaching and reference tool for intertemporal macroeconomics and the overlapping generations model. The writing is exceptionally clear. Each result is illustrated with analytical derivations, graphically, and by worked out examples. Exercises, which are strategically placed, are an integral part of the book.

This book retraces the history of macroeconomics from Keynes's General Theory to the present. Central to it is the contrast between a Keynesian era and a Lucasian - or dynamic stochastic general equilibrium (DSGE) - era, each ruled by distinct methodological standards. In the Keynesian era, the book studies the following theories: Keynesian macroeconomics, monetarism, disequilibrium macro (Patinkin, Leijongufvud, and Clower) non-Walrasian equilibrium models, and first-generation new Keynesian models. Three stages are identified in the DSGE era: new classical macro (Lucas), RBC modelling, and second-generation new Keynesian modeling. The book also examines a few selected works aimed at presenting alternatives to Lucasian macro. While not eschewing analytical content, Michel De Vroey focuses on substantive assessments, and the models studied are presented in a pedagogical and vivid yet critical way.

An advanced treatment of modern macroeconomics, presented through a sequence of dynamic equilibrium models, with discussion of the implications for monetary and fiscal policy. This textbook offers an advanced treatment of modern macroeconomics, presented through a sequence of dynamic general equilibrium models based on intertemporal optimization on the part of economic agents. The book treats macroeconomics as applied and policy-oriented general equilibrium analysis, examining a number of models, each of which is suitable for investigating specific issues but may be unsuitable for others. After presenting a brief survey of the evolution of macroeconomics and the key facts about long-run economic growth and aggregate fluctuations, the book introduces the main elements of the intertemporal approach through a series of two-period competitive general equilibrium models—the simplest possible intertemporal

models. This sets the stage for the remainder of the book, which presents models of economic growth, aggregate fluctuations, and monetary and fiscal policy. The text focuses on a full analysis of a limited number of key intertemporal models, which are stripped down to essentials so that students can focus on the dynamic properties of the models. Exercises encourage students to try their hands at solving versions of the dynamic models that define modern macroeconomics. Appendixes review the main mathematical techniques needed to analyze optimizing dynamic macroeconomic models. The book is suitable for advanced undergraduate and graduate students who have some knowledge of economic theory and mathematics for economists. The tasks of macroeconomics are to interpret observations on economic aggregates in terms of the motivations and constraints of economic agents and to predict the consequences of alternative hypothetical ways of administering government economic policy. General equilibrium models form a convenient context for analyzing such alternative government policies. In the past ten years, the strengths of general equilibrium models and the corresponding deficiencies of Keynesian and monetarist models of the 1960s have induced macroeconomists to begin applying general equilibrium models. This book describes some general equilibrium models that are dynamic, that have been built to help interpret time-series of observations of economic aggregates and to predict the consequences of alternative government interventions. The first part of the book describes dynamic programming, search theory, and real dynamic capital pricing models. Among the applications are stochastic optimal growth models, matching models, arbitrage pricing theories, and theories of interest rates, stock prices, and options. The remaining parts of the book are devoted to issues in monetary theory; currency-in-utility-function models, cash-in-advance models, Townsend turnpike models, and overlapping generations models are all used to study a set of common issues. By putting these models to work on concrete problems in exercises offered throughout the text, Sargent provides insights into the strengths and weaknesses of these models of money. An appendix on functional analysis shows the unity that underlies the mathematics used in disparate areas of rational expectations economics. This book on dynamic equilibrium macroeconomics is suitable for graduate-level courses; a companion book, Exercises in Dynamic Macroeconomic Theory, provides answers to the exercises and is also available from Harvard University Press.
In the early 1980s, rational expectations and new classical economics dominated macroeconomic theory. This essay evolved from theauthors' profound disagreement with that trend. It demonstrates notonly how the new classical view got macroeconomics wrong, but also howto go about doing macroeconomics the right way.
The substantially revised fourth edition of a widely used text, offering both an introduction to recursive methods and advanced material, mixing tools and sample applications. Recursive methods provide powerful ways to pose and solve problems in dynamic macroeconomics. Recursive Macroeconomic Theory offers both an introduction to recursive methods and more advanced material. Only practice in solving diverse problems fully conveys the advantages of the recursive approach, so the book provides many applications. This fourth edition features two new chapters and substantial revisions to other chapters that demonstrate the power of recursive methods. One new chapter applies the recursive approach to Ramsey taxation and sharply characterizes the time inconsistency of optimal policies. These insights are used in other chapters to simplify recursive formulations of Ramsey plans and credible government policies. The second new chapter explores the mechanics of matching models and identifies a common channel through which productivity shocks are magnified across a variety of matching models. Other chapters have been extended and refined. For example, there is new material on heterogeneous beliefs in both complete and incomplete markets models; and there is a deeper account of forces that shape aggregate labor supply elasticities in lifecycle models. The book is suitable for first- and second-year graduate courses in macroeconomics. Most chapters conclude with exercises; many exercises and examples use Matlab or Python computer programming languages.
The study of macroeconomics can seem a daunting project. The field is complex and sometimes poorly defined and there are a variety of competing approaches. It is easy for the senior bachelor and starting master student to get lost in the forest of macroeconomics and the mathematics it uses extensively. Foundations of Modern Macroeconomics is a guide book for the interested and ambitious student. Non-partisan in its approach, it deals with all the major topics, summarising the important approaches and providing the reader with a coherent angle on all aspects of macroeconomic thought. Each chapter deals with a separate area of macroeconomics, and each contains a summary section of key points and a further reading list. Using nothing more than undergraduate mathematical skills, it takes the student from basic IS-LM style macro models to the state of the art literature on Dynamic Stochastic General Equilibrium, explaining the mathematical tricks used where they are first introduced. Fully updated and substantially revised, this third edition of Foundations of Modern Macroeconomics now includes brand new chapters covering highly topical subjects such as dynamic programming, competitive risk sharing equilibria and the New Keynesian DSGE approach.
This is a book on stochastic dynamic macroeconomics from a Keynesian perspective. It shows that including Keynesian features in intertemporal models considerably contributes to resolve major puzzles arising in the context of the Dynamic General Equilibrium (DGE) model. It also demonstrates that including microeconomic intertemporal behavior of economic agents in macroeconomics is not inconsistent with Keynesian economics.
This book offers an introductory step-by-step course to Dynamic Stochastic General Equilibrium modelling. Modern macroeconomic analysis is increasingly concerned with the construction, calibration and/or estimation and simulation of Dynamic General Equilibrium (DGE) models. The book is intended for graduate students as an introductory course to DGE modelling and for those economists who would like a hands-on approach to learning the basics of modern dynamic macroeconomic modelling. The book starts with the simplest canonical neoclassical DGE model and then gradually extends the basic framework incorporating a variety of additional features, such as consumption habit formation, investment adjustment cost, investment-specific technological change, taxes, public capital, household production, non-ricardian agents, monopolistic competition, etc. The book includes Dynare codes for the models developed that can be downloaded from the book's homepage.
This collection of essays applies modern micro-founded macroeconomic models to some of the most important economic policy questions facing monetary and macroeconomic policymakers. Key issues surveyed include: consumption investment; growth and business cycles; the role of government; asset pricing; the interaction of monetary and fiscal policy; open-economy issues; stabilization policy and general equilibrium analysis of emerging market crises. The book includes specially commissioned chapters from recognized authorities.
Macroeconomics is evolving in an almost dialectic fashion. The latest evolution is the development of a new synthesis that combines insights of new classical, new Keynesian and real business cycle

traditions into a dynamic, stochastic general equilibrium (DSGE) model that serves as a foundation for thinking about macro policy. That new synthesis has opened up the door to a new antithesis, which is being driven by advances in computing power and analytic techniques. This new synthesis is coalescing around developments in complexity theory, automated general to specific econometric modeling, agent-based models, and non-linear and statistical dynamical models. This book thus provides the reader with an introduction to what might be called a Post Walrasian research program that is developing as the antithesis of the Walrasian DSGE synthesis.

In this collection of 17 articles, top scholars synthesize and analyze scholarship on this widely used tool of policy analysis, setting forth its accomplishments, difficulties, and means of implementation. Though CGE modeling does not play a prominent role in top US graduate schools, it is employed universally in the development of economic policy. This collection is particularly important because it presents a history of modeling applications and examines competing points of view. Presents coherent summaries of CGE theories that inform major model types Covers the construction of CGE databases, model solving, and computer-assisted interpretation of results Shows how CGE modeling has made a contribution to economic policy

A rigorous and example-driven introduction to topics in economic dynamics, with an emphasis on mathematical and computational techniques for modeling dynamic systems. This text provides an introduction to the modern theory of economic dynamics, with emphasis on mathematical and computational techniques for modeling dynamic systems. Written to be both rigorous and engaging, the book shows how sound understanding of the underlying theory leads to effective algorithms for solving real world problems. The material makes extensive use of programming examples to illustrate ideas. These programs help bring to life the abstract concepts in the text. Background in computing and analysis is offered for readers without programming experience or upper-level mathematics. Topics covered in detail include nonlinear dynamic systems, finite-state Markov chains, stochastic dynamic programming, stochastic stability and computation of equilibria. The models are predominantly nonlinear, and the emphasis is on studying nonlinear systems in their original form, rather than by means of rudimentary approximation methods such as linearization. Much of the material is new to economics and improves on existing techniques. For graduate students and those already working in the field, Economic Dynamics will serve as an essential resource.

A unified and comprehensive introduction to the analytical and numerical tools for solving dynamic economic problems; substantially revised for the second edition. This book offers a unified, comprehensive, and up-to-date treatment of analytical and numerical tools for solving dynamic economic problems. The focus is on introducing recursive methods—an important part of every economist's set of tools—and readers will learn to apply recursive methods to a variety of dynamic economic problems. The book is notable for its combination of theoretical foundations and numerical methods. Each topic is first described in theoretical terms, with explicit definitions and rigorous proofs; numerical methods and computer codes to implement these methods follow. Drawing on the latest research, the book covers such cutting-edge topics as asset price bubbles, recursive utility, robust control, policy analysis in dynamic New Keynesian models with the zero lower bound on interest rates, and Bayesian estimation of dynamic stochastic general equilibrium (DSGE) models. This second edition has been substantially updated. Responding to renewed interest in modeling with multiple equilibria, it incorporates new material on this topic throughout. It offers an entirely new chapter on deterministic nonlinear systems, and provides new material on such topics as linear planar systems, chaos, bifurcations, indeterminacy and sunspot solutions, pruning nonlinear solutions, the bandit problem, rational inattention models, bequests, self-fulfilling prophecies, the cyclical behavior of unemployment and vacancies, and the long-run risk model. The exposition of each chapter has been revised and improved, and many new figures, Matlab codes, and exercises have been added. A student solutions manual can be purchased separately.

This book is a companion volume to Dynamic Macroeconomic Theory by Thomas J. Sargent. It provides scrimmages in dynamic macroeconomic theory--precisely the kind of drills that people will need in order to learn the techniques of dynamic programming and its applications to economics. By doing these exercises, the reader can acquire the ability to put the theory to work in a variety of new situations, build technical skill, gain experience in fruitful ways of setting up problems, and learn to distinguish cases in which problems are well posed from cases in which they are not. The basic framework provided by variants of a dynamic general equilibrium model is used to analyze problems in macroeconomics and monetary economics. An equilibrium model provides a mapping from parameters of preferences, technologies, endowments, and rules of the game to a probability model for time series. The rigor of the logical connections between theory and observations that the mapping provides is an attractive feature of dynamic equilibrium, or rational expectations, models. This book gives repeated and varied practice in constructing and interpreting this mapping.

This reassessment of J. M. Keynes's The General Theory of Employment, Interest and Money results from the author's experience in using Keynes's book as the core of her macroeconomics courses for undergraduates. It is intended to encourage others to bring the General Theory back into mainstream teaching, because it "gives a far richer understanding of the structure of macroeconomic interactions and methods of analysing them than much of what has been written since."Victoria Chick is Lecturer in Economics at University College, London.

The General Theory of Employment, Interest, and Money, written by legendary author John Maynard Keynes is widely considered to be one of the top 100 greatest books of all time. This masterpiece was published right after the Great Depression. It sought to bring about a revolution, commonly referred to as the 'Keynesian Revolution', in the way economists thought—especially challenging the proposition that a market economy tends naturally to restore itself to full employment on its own. Regarded widely as the cornerstone of Keynesian thought, this book challenged the established classical economics and introduced new concepts. 'The General Theory of Employment, Interest, and Money' transformed economics and changed the face of modern macroeconomics. Keynes' argument is based on the idea that the level of employment is not determined by the price of labour, but by the spending of money. It gave way to an entirely new approach where employment, inflation and the market economy are concerned.

Just as macroeconomic models describe the overall economy within a changing, or dynamic, framework, the models themselves change over time. In this text Stephen J. Turnovsky reviews in depth several early models as well as a representation of more recent models. They include traditional (backward-looking) models, linear rational expectations (future-looking) models, intertemporal optimization models, endogenous growth models, and continuous time stochastic models. The author uses examples from both closed and open economies. Whereas others commonly introduce models in a closed context, tacking on a brief discussion of the model in an open economy, Turnovsky integrates the two perspectives throughout to reflect the increasingly international outlook of the field. This new edition has been extensively revised. It contains a new chapter on optimal monetary and fiscal policy, and the coverage of growth theory has been expanded substantially. The range of growth models considered has been extended, with particular attention devoted to transitional dynamics and nonscale growth. The book includes cutting-edge research and unpublished data, including much of the author's own work.

This title provides the student with key methodological tools for the dynamic analysis of a core selection of macroeconomic phenomena, including consumption and investment choices, employment and unemployment outcomes, and economic growth.

Introduction to Quantitative Macroeconomics Using Julia: From Basic to State-of-the-Art Computational Techniques facilitates access to fundamental techniques in computational and quantitative macroeconomics. It focuses on the recent and very promising software, Julia, which offers a MATLAB-like language at speeds comparable to C/Fortran, also discussing modeling

challenges that make quantitative macroeconomics dynamic, a key feature that few books on the topic include for macroeconomists who need the basic tools to build, solve and simulate macroeconomic models. This book neatly fills the gap between intermediate macroeconomic books and modern DSGE models used in research. Combines an introduction to Julia, with the specific needs of macroeconomic students who are interested in DSGE models and PhD students and researchers interested in building DSGE models Teaches fundamental techniques in quantitative macroeconomics by introducing theoretical elements of key macroeconomic models and their potential algorithmic implementations Exposes researchers working in macroeconomics to state-of-the-art computational techniques for simulating and solving DSGE models

Foreword by Guido Cozzi (University of St. Gallen, Switzerland)Advanced Macroeconomics covers selected topics in advanced macroeconomics at undergraduate level and bridges the gap between intermediate macroeconomics for undergraduates and advanced macroeconomics for postgraduates. By building on materials in intermediate macroeconomics textbooks and covering the mathematics of some classic dynamic general-equilibrium models, this book will give undergraduate students a firm appreciation of modern developments in macroeconomics. This book examines the implications of government policies (such as fiscal policy, monetary policy and innovation policy) and devotes several chapters to economic growth, covering the ideas for which Paul Romer was awarded the Nobel Memorial Prize in Economic Sciences in 2018.Dynamic general equilibrium is the foundation of modern macroeconomics. Chapter 1 begins with a simple static model to demonstrate the concept of general equilibrium. Chapters 2 to 4 cover the neoclassical growth model, exploring the effects of exogenous changes in technology: an important source of business cycle fluctuations. Chapters 5 to 7 use the neoclassical growth model to explore the effects of fiscal policy instruments such as government spending, labour income tax and capital income tax. Chapter 8 develops a simple New Keynesian model to analyse the effects of monetary policy. Chapter 9 begins the analysis of economic growth by reviewing the Solow growth model. Chapters 10 to 12 present the Ramsey model and introduce different market structures to the model to lay down the foundation of the Romer model. Chapter 13 incorporates an R&D sector into the Ramsey model with a monopolistically competitive market structure to develop the Romer model of endogenous technological change. Chapters 14 to 15 examine the implications of the Romer model. Chapter 16 concludes this book by presenting the Schumpeterian growth model and examining its different implications from the Romer model.

International Macroeconomic Dynamics provides extensive applications of important macroeconomic dynamic models to the international economy. For a long time, the study of macroeconomics has focused almost exclusively on a closed economy and downplayed the role of international transactions. Today, however, researchers recognize that one cannot fully understand domestic macroeconomic relationships without considering the global economy within which each country operates. Increasingly, economists are treating international transactions as an integral part of the macroeconomic system, and international macroeconomics has become an area of intensive research activity. International Macroeconomic Dynamics provides extensive applications of important macroeconomic dynamic models to the international economy. It adopts the main contemporary macroeconomic framework, the representative agent model, and develops a series of models of increasing complexity. The author considers both small and large economies and analyzes them in both deterministic and stochastic contexts. The emphasis is very much on the development of the analytical models; a novel feature is the extensive use of continuous-time stochastic methods. While the author applies the models to a range of important policy issues, particularly issues of fiscal policy, the reader is invited to view the analyses as blueprints for other applications.

Macroeconomic Theory, in its first edition, was widely adopted for use as a graduate text; this updated and expanded version should find even greater popularity as a text and as a research reference. It has been substantially revised to include three entirely new chapters: The Consumption Function, Government Debt and Taxes, and Dynamic Optimal Taxation. Significant additions have been made to three of the original chapters dealing with difference equations, stochastic difference equations, and investment under uncertainty.Key Features* This book has been substantially revised to include three entirely new chapters on consumption, government debt and taxes, and dynamic optimal taxation* Significant additions have been made to three of the original chapters dealing with difference equations, stochastic difference equations, and investment under uncertainty

Farmer argues for the future of macroeconomics as a branch ofapplied general equilibrium theory. His main theme is thatmacroeconomics is best viewed as the study of equilibrium environmentsin which the welfare theorems break down.

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