

# Recursive Methods In Economic Dynamics

Dynamic Economics  
 Recursive Methods in Economic Dynamics  
 Frontiers of Business Cycle Research  
 The Theory of Industrial Organization  
 Dynamic General Equilibrium Modeling  
 The Calculus of Variations and Optimal Control in Economics and Management  
 Discrete Time  
 An Introduction to the Theory of Mechanism Design  
 The ABCs of RBCs  
 Computational Methods and Applications  
 An Introduction to Economic Dynamics  
 Economic Dynamics  
 Recursive Methods in Economic Dynamics  
 Mathematical Methods and Models for Economists  
 Recursive Methods in Economic Dynamics  
 Dynamic Macroeconomic Theory  
 Asset Pricing  
 The Economics of Inaction  
 Game Theory  
 Quantitative Methods and Applications  
 Phase Diagrams and Their Economic Application  
 A First Course in Optimization Theory  
 Models and Tools  
 Microeconomic Foundations I  
 Solutions Manual for Recursive Methods in Economic Dynamics  
 Dynamic Economics  
 Economic Dynamics  
 Optimization by the Lagrange Method  
 Solutions Manual for Recursive Methods in Economic Dynamics  
 Student Solutions Manual to Accompany Economic Dynamics in Discrete Time  
 Macroeconomic Theory  
 Estimating the economic costs of COVID-19 in Nigeria  
 Business Cycle Dynamics  
 Handbook on Optimal Growth 1  
 Advanced Econometrics  
 Are Malawian Diets Changing? An assessment of nutrient consumption and dietary patterns using household-level evidence from 2010/11 and 2016/17  
 Economic Dynamics in Discrete Time  
 Numerical Methods in Economics  
 Dynamic Optimization, Second Edition

*Recursive Methods In Economic Dynamics* Downloaded from [ecobankpayservices.ecobank.com](https://ecobankpayservices.ecobank.com) by guest

## JOSIE FLORES

*Dynamic Economics* Cambridge University Press  
 The fundamental purpose of agriculture is not just to produce food and raw materials, but also to grow healthy, well-nourished people. One of the sector's most important tasks then is to provide food of sufficient quantity and quality to feed and nourish the world's population sustainably so that all people can lead healthy, productive lives. Achieving this goal will require closer collaboration across the sectors of agriculture, nutrition, and health, which have long operated in separate spheres with little recognition of how their actions affect each other. It is time for agriculture, nutrition, and health to join forces in pursuit of the common goal of improving human well-being. In *Reshaping Agriculture for Nutrition and Health*, leading experts, practitioners, and policymakers explore the links among agriculture, nutrition, and health and identify ways to strengthen related policies and programs. The chapters in this book were originally commissioned as background papers or policy briefs for the conference "Leveraging Agriculture for Improving Nutrition and Health," facilitated by the International Food Policy Research Institute's 2020 Vision Initiative in New Delhi, India, in February 2011.

*Recursive Methods in Economic Dynamics* MIT Press  
 Develops the basic methods of recursive analysis, covers stochastic dynamic programming, and presents two fundamental theorems of welfare economics

*Frontiers of Business Cycle Research* Cambridge University Press  
 Recursive Methods in Economic Dynamics Harvard University Press

**The Theory of Industrial Organization** Harvard University Press  
 There are many mathematics textbooks on real analysis, but they focus on topics not readily helpful for studying economic theory or they are inaccessible to most graduate students of economics. *Real Analysis with Economic Applications* aims to fill this gap by providing an ideal textbook and reference on real analysis tailored specifically to the concerns of such students. The emphasis throughout is on topics directly relevant to economic theory. In addition to addressing the usual topics of real analysis, this book discusses the elements of order theory, convex analysis, optimization, correspondences, linear and nonlinear functional analysis, fixed-point theory, dynamic programming, and calculus of variations. Efe Ok complements the mathematical development with applications that provide concise introductions to various topics from economic theory, including individual decision theory and games, welfare economics, information theory, general

equilibrium and finance, and intertemporal economics. Moreover, apart from direct applications to economic theory, his book includes numerous fixed point theorems and applications to functional equations and optimization theory. The book is rigorous, but accessible to those who are relatively new to the ways of real analysis. The formal exposition is accompanied by discussions that describe the basic ideas in relatively heuristic terms, and by more than 1,000 exercises of varying difficulty. This book will be an indispensable resource in courses on mathematics for economists and as a reference for graduate students working on economic theory.

*Dynamic General Equilibrium Modeling* Princeton University Press  
 Evaluation of the effects of a shift from maize to sugarcane on agricultural production, income, expenditures, consumption, and health and nutritional status

**The Calculus of Variations and Optimal Control in Economics and Management** Cambridge University Press  
 Since its initial publication, this text has defined courses in dynamic optimization taught to economics and management science students. The two-part treatment covers the calculus of variations and optimal control. 1998 edition.

**Discrete Time** Princeton University Press  
 This paper provides an updated analysis of the dietary patterns of Malawian households and their consumption of select nutrients - calories, protein, iron, vitamin A, zinc, and folate - using data from the third (2010/11) and fourth (2016/17) rounds of the Malawi Integrated Household Survey (IHS). Changes in food and nutrient consumption patterns between the two survey periods are examined across household wealth categories and across regions. Dietary diversity and patterns of food and nutrient consumption are found to differ significantly between rural and urban areas. Whereas urban households largely saw slightly increased or stable nutrient consumption between 2010/11 and 2016/17, most households in rural areas saw declines over this period. We also document small shifts in the relative amounts of foods consumed over this six-year period in both rural and urban households, with increased consumption of fish and pulses, legumes, and nuts, and decreases in meat, fruit, dairy, and root and tuber consumption. The contribution of animal-source foods as a share of total protein consumption remains low at between 10 and 20 percent, depending on the region, with the overall share of protein from animal-source foods falling slightly between the two surveys. With regards to adequacy of household diets for meeting nutrient requirements, in the absence of nutrient supplementation, many individuals will be subject to iron, vitamin A, and folate inadequacies. Of particular concern, the poorest households have very low nutrient consumption per person and have diets that rely on only a few foods from a small number of food groups. For all six nutrients, nationally just over half of the total amount of

nutrient consumed came from food that was purchased. While we would expect this for urban households, even for rural households more than half of all calories and protein consumed came from foods that were purchased. For micronutrients consumed by rural households, between 40 and 50 percent came from purchased foods. While in the past, own production of food may have provided most Malawian households with most of the nutrients they consumed, this is no longer the case. For most Malawian households, including in rural communities, their food security and dietary nutritional needs now are equally tied to the market as to their own farming, if not more so. Drawing lessons from the analysis here for improving the food consumption data collected in the IHS surveys, more detailed and further disaggregated data would be beneficial, particularly to help estimate nutrients derived from fortified and processed foods. Additional information on how food is shared within households would also allow for a better understanding of nutrient inadequacies at the individual level. Collecting more information on the content of the meals that household members eat away from home would also be helpful in removing some uncertainty in the nutrient consumption estimates made from the data. Finally, additional information on food gifts received could clarify aspects of household coping strategies, the performance of formal social safety nets, and food choice.

*An Introduction to the Theory of Mechanism Design* MIT Press  
 An integrated approach to the empirical application of dynamic optimization programming models, for students and researchers. This book is an effective, concise text for students and researchers that combines the tools of dynamic programming with numerical techniques and simulation-based econometric methods. Doing so, it bridges the traditional gap between theoretical and empirical research and offers an integrated framework for studying applied problems in macroeconomics and microeconomics. In part I the authors first review the formal theory of dynamic optimization; they then present the numerical tools and econometric techniques necessary to evaluate the theoretical models. In language accessible to a reader with a limited background in econometrics, they explain most of the methods used in applied dynamic research today, from the estimation of probability in a coin flip to a complicated nonlinear stochastic structural model. These econometric techniques provide the final link between the dynamic programming problem and data. Part II is devoted to the application of dynamic programming to specific areas of applied economics, including the study of business cycles, consumption, and investment behavior. In each instance the authors present the specific optimization problem as a dynamic programming problem, characterize the optimal policy functions, estimate the parameters, and use models for policy evaluation. The original

contribution of Dynamic Economics: Quantitative Methods and Applications lies in the integrated approach to the empirical application of dynamic optimization programming models. This integration shows that empirical applications actually complement the underlying theory of optimization, while dynamic programming problems provide needed structure for estimation and policy evaluation.

*The ABCs of RBCs* MIT Press

To harness the full power of computer technology, economists need to use a broad range of mathematical techniques. In this book, Kenneth Judd presents techniques from the numerical analysis and applied mathematics literatures and shows how to use them in economic analyses. The book is divided into five parts. Part I provides a general introduction. Part II presents basics from numerical analysis on  $R^n$ , including linear equations, iterative methods, optimization, nonlinear equations, approximation methods, numerical integration and differentiation, and Monte Carlo methods. Part III covers methods for dynamic problems, including finite difference methods, projection methods, and numerical dynamic programming. Part IV covers perturbation and asymptotic solution methods. Finally, Part V covers applications to dynamic equilibrium analysis, including solution methods for perfect foresight models and rational expectation models. A website contains supplementary material including programs and answers to exercises.

*Computational Methods and Applications* Intl Food Policy Res Inst

This introduction to modern business cycle theory uses a neoclassical growth framework to study the economic fluctuations associated with the business cycle. Presenting advances in dynamic economic theory and computational methods, it applies concepts to t

**An Introduction to Economic Dynamics** Princeton University Press

The standard theory of decision making under uncertainty advises the decision maker to form a statistical model linking outcomes to decisions and then to choose the optimal distribution of outcomes. This assumes that the decision maker trusts the model completely. But what should a decision maker do if the model cannot be trusted? Lars Hansen and Thomas Sargent, two leading macroeconomists, push the field forward as they set about answering this question. They adapt robust control techniques and apply them to economics. By using this theory to let decision makers acknowledge misspecification in economic modeling, the authors develop applications to a variety of problems in dynamic macroeconomics. Technical, rigorous, and self-contained, this book will be useful for macroeconomists who seek to improve the robustness of decision-making processes.

*Economic Dynamics* Harvard University Press

The Theory of Industrial Organization is the first primary text to treat the new industrial organization at the advanced-undergraduate and graduate level. Rigorously analytical and filled with exercises coded to indicate level of difficulty, it provides a unified and modern treatment of the field with accessible models that are simplified to highlight robust economic ideas while working at an intuitive level. To aid students at different levels, each chapter is divided into a main text and supplementary section containing more advanced material. Each chapter opens with elementary models and builds on this base to incorporate current research in a coherent synthesis. Tirole begins with a background discussion of the theory of the firm. In Part I he develops the modern theory of monopoly, addressing single product and multi product pricing, static and intertemporal price discrimination, quality choice, reputation, and vertical restraints. In Part II, Tirole takes up strategic interaction between firms, starting with a novel treatment of the Bertrand-Cournot interdependent pricing problem. He studies how capacity constraints, repeated interaction, product positioning, advertising, and asymmetric information affect competition or tacit collusion. He then develops topics having to do with long term competition,

including barriers to entry, contestability, exit, and research and development. He concludes with a "game theory user's manual" and a section of review exercises. Important Notice: The digital edition of this book is missing some of the images found in the physical edition.

**Recursive Methods in Economic Dynamics** Harvard University Press

"PRICES AND OPTIMIZATION 1.1 SUPPORTING PRICES 1.2 SHADOW PRICES 1.3 THE ENVELOPE THEOREM 1.4 FOUNDATIONS OF CONSTRAINED OPTIMIZATION 1.5 APPLICATION: MONOPOLY PRICING WITH JOINT COSTS 1.1 SUPPORTING PRICES Key ideas: convex and non-convex production sets, price based incentives, Supporting Hyperplane Theorem Pursuit of self-interest is central to economics. Thus a deep understanding of the theory of maximization is essential to effective theorizing. In particular, the theory of constrained maximization is so crucial that we explore it in this first chapter. In contrast to a purely mathematical exposition, the emphasis here is on prices"--

**Mathematical Methods and Models for Economists** Harvard University Press

Include chapters such as: The Consumption Function, Government Debt and Taxes, and Dynamic Optimal Taxation. This book also features chapters dealing with difference equations, stochastic difference equations, and investment under uncertainty.

**Recursive Methods in Economic Dynamics** Harvard University Press

Business cycle theory has been one of the fastest growing fields in modern nonlinear economic dynamics. This book presents new mathematical methods for global analysis which have not previously been available in this easily accessible form. In addition it contains a presentation of full analyses of several models left open in the 1950s when the tools then available did not permit more systematic analysis.

*Dynamic Macroeconomic Theory* Springer Science & Business Media

This advanced text introduces the principles of noncooperative game theory in a direct and uncomplicated style that will acquaint students with the broad spectrum of the field while highlighting and explaining what they need to know at any given point. This advanced text introduces the principles of noncooperative game theory—including strategic form games, Nash equilibria, subgame perfection, repeated games, and games of incomplete information—in a direct and uncomplicated style that will acquaint students with the broad spectrum of the field while highlighting and explaining what they need to know at any given point. The analytic material is accompanied by many applications, examples, and exercises. The theory of noncooperative games studies the behavior of agents in any situation where each agent's optimal choice may depend on a forecast of the opponents' choices. "Noncooperative" refers to choices that are based on the participant's perceived self-interest. Although game theory has been applied to many fields, Fudenberg and Tirole focus on the kinds of game theory that have been most useful in the study of economic problems. They also include some applications to political science. The fourteen chapters are grouped in parts that cover static games of complete information, dynamic games of complete information, static games of incomplete information, dynamic games of incomplete information, and advanced topics.

*Asset Pricing* Recursive Methods in Economic Dynamics

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. *The Economics of Inaction* Intl Food Policy Res Inst

*The ABCs of RBCs* is the first book to provide a basic introduction to Real Business Cycle (RBC) and New-Keynesian models. These models argue that random shocks—new inventions, droughts, and wars, in the case of pure RBC models, and monetary and fiscal policy and international investor risk aversion, in more open interpretations—can trigger booms and recessions and can account for much of observed output volatility. George McCandless works through a sequence of these Real Business Cycle and New-Keynesian dynamic stochastic general equilibrium models in fine detail, showing how to solve them, and how to add important extensions to the basic model, such as money, price and wage rigidities, financial markets, and an open economy. The impulse response functions of each new model show how the added feature changes the dynamics. The ABCs of RBCs is designed to teach the economic practitioner or student how to build simple RBC models. Matlab code for solving many of the models is provided, and careful readers should be able to construct, solve, and use their own models. In the tradition of the "freshwater" economic schools of Chicago and Minnesota, McCandless enhances the methods and sophistication of current macroeconomic modeling.

*Game Theory* MIT Press

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.

**Quantitative Methods and Applications** Harvard University Press

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.

Related with Recursive Methods In Economic Dynamics:

[© Recursive Methods In Economic Dynamics Phet Simulation Phet Forces And Motion Basics Answer Key](#)

[© Recursive Methods In Economic Dynamics Phet Concentration Simulation Worksheet](#)

[© Recursive Methods In Economic Dynamics Phet Balancing Chemical Equations Simulation Answer Key](#)