



PRINCIPLES OF

MACROECONOMICS

THIRD EDITION

N. GREGORY MANKI W



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MACROECONOMICS

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N. GREGORY MANKIW

HARVARD UNIVERSITY

THOMSON

SOUTH-WESTERN



Principles of Macroeconomics, 3e

N. Gregory Mankiw

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PRINCIPLES OF MACROECONOMICS: A GUIDED TOUR

INTRODUCTION

- | | | | |
|---|--|-------|---|
| 1 | Ten Principles of Economics | _____ | <i>The study of economics is guided by a few big ideas.</i> |
| 2 | Thinking Like A Economist | _____ | <i>Economists view the world as both scientists and policymakers.</i> |
| 3 | Interdependence and the Gains from Trade | _____ | <i>The theory of comparative advantage explains how people benefit from economic interdependence.</i> |

SUPPLY AND DEMAND I: HOW MARKETS WORK

- | | | | |
|---|---|-------|--|
| 4 | The Market Forces of Supply and Demand | _____ | <i>How does the economy coordinate interdependent economic actors? Through the market forces of supply and demand.</i> |
| 5 | Elasticity and Its Application | | |
| 6 | Supply, Demand, and Government Policies | _____ | <i>The tools of supply and demand are put to work to examine the effects of various government policies.</i> |

SUPPLY AND DEMAND II: MARKETS AND WELFARE

- | | | | |
|---|---|-------|---|
| 7 | Consumers, Producers, and the Efficiency of Markets | _____ | <i>Why is the equilibrium of supply and demand desirable for society as a whole? The concepts of consumer and producer surplus explain the efficiency of markets, the costs of taxation, and the benefits of international trade.</i> |
| 8 | Application: The Costs of Taxation | | |
| 9 | Application: International Trade | | |

THE DATA OF MACROECONOMICS

- | | | | |
|----|------------------------------|-------|---|
| 10 | Measuring a Nation's Income | _____ | <i>The overall quantity of production and the overall price level are used to monitor developments in the economy as a whole.</i> |
| 11 | Measuring the Cost of Living | | |

THE REAL ECONOMY IN THE LONG RUN

- 12 Production and Growth
- 13 Saving, Investment, and the Financial System
- 14 The Basic Tools of Finance
- 15 Unemployment and Its Natural Rate

These chapters describe the forces that in the long run determine key real variables, including growth in GDP, saving, investment, real interest rates, and unemployment.

MONEY AND PRICES IN THE LONG RUN

- 16 The Monetary System
- 17 Money Growth and Inflation

The monetary system is crucial in determining the long-run behavior of the price level, the inflation rate, and other nominal variables.

THE MACROECONOMICS OF OPEN ECONOMIES

- 18 Open-Economy Macroeconomics: Basic Concepts
- 19 A Macroeconomic Theory of the Open Economy

A nation's economic interactions with other nations are described by its trade balance, net foreign investment, and exchange rate.

A long-run model of the open economy explains the determinants of the trade balance, the real exchange rate, and other real variables.

SHORT-RUN ECONOMIC FLUCTUATIONS

- 20 Aggregate Demand and Aggregate Supply
- 21 The Influence of Monetary and Fiscal Policy on Aggregate Demand
- 22 The Short-Run Tradeoff between Inflation and Unemployment

The model of aggregate demand and aggregate supply explains short-run economic fluctuations, the short-run effects of monetary and fiscal policy, and the short-run linkage between real and nominal variables.

FINAL THOUGHTS

- 23 Five Debates over Macroeconomic Policy

A capstone chapter presents both sides of five major debates over economic policy.

ABOUT THE AUTHOR



JORDI CABRÉ

N. Gregory Mankiw is Professor of Economics at Harvard University. As a student, he studied economics at Princeton University and MIT. As a teacher, he has taught macroeconomics, microeconomics, statistics, and principles of economics. He even spent one summer long ago as a sailing instructor on Long Beach Island.

Professor Mankiw is a prolific writer and a regular participant in academic and policy debates. His work has been published in scholarly journals, such as the *American Economic Review*, *Journal of Political Economy*, and *Quarterly Journal of Economics*, and in more popular forums, such as *The New York Times*, *The Financial Times*, *The Wall Street Journal*, and *Fortune*. He is also author of the best-selling intermediate-level textbook *Macroeconomics* (Worth Publishers). In addition to his teaching, research, and writing, Professor Mankiw is a research associate of the National Bureau of Economic Research, an adviser to the Federal Reserve Bank of Boston and the Congressional Budget Office, and a member of the ETS test development committee for the advanced placement exam in economics.

Professor Mankiw lives in Wellesley, Massachusetts, with his wife and three children.

*To Catherine, Nicholas, and Peter,
my other contributions to the next generation*

P R E F A C E : T O T H E I N S T R U C T O R

During my 20-year career as a student, the course that excited me most was the two-semester sequence on the principles of economics that I took during my freshman year in college. It is no exaggeration to say that it changed my life.

I had grown up in a family that often discussed politics over the dinner table. The pros and cons of various solutions to society's problems generated fervent debate. But, in school, I had been drawn to the sciences. Whereas politics seemed vague, rambling, and subjective, science was analytic, systematic, and objective. While political debate continued without end, science made progress.

My freshman course on the principles of economics opened my eyes to a new way of thinking. Economics combines the virtues of politics and science. It is, truly, a social science. Its subject matter is society—how people choose to lead their lives and how they interact with one another. But it approaches the subject with the dispassion of a science. By bringing the methods of science to the questions of politics, economics tries to make progress on the challenges that all societies face.

I was drawn to write this book in the hope that I could convey some of the excitement about economics that I felt as a student in my first economics course. Economics is a subject in which a little knowledge goes a long way. (The same cannot be said, for instance, of the study of physics or the Japanese language.) Economists have a unique way of viewing the world, much of which can be taught in one or two semesters. My goal in this book is to transmit this way of thinking to the widest possible audience and to convince readers that it illuminates much about the world around them.

I believe that everyone should study the fundamental ideas that economics has to offer. One purpose of general education is to inform people about the world and thereby make them better citizens. The study of economics, as much as any discipline, serves this goal. Writing an economics textbook is, therefore, a great honor and a great responsibility. It is one way that economists can help promote better government and a more prosperous future. As the great economist Paul Samuelson put it, "I don't care who writes a nation's laws, or crafts its advanced treaties, if I can write its economics textbooks."

For Whom Is This Book Written?

It is tempting for a professional economist writing a textbook to take the economist's point of view and to emphasize those topics that fascinate him and other economists. I have done my best to avoid that temptation. I have tried to put myself in the position of someone seeing economics for the first time. My goal is to emphasize the material that *students* should and do find interesting about the study of the economy.

One result is that this book is briefer than many books used to introduce students to economics. As a student, I was (and unfortunately still am) a slow reader. I groaned whenever a professor gave the class a 1,000-page tome to read. Of course, my reaction was not unique. The Greek poet Callimachus put it succinctly: "Big book, big bore." Callimachus made that observation in 250 B.C., so he was probably not referring to an economics textbook, but today his sentiment is echoed around the world every semester when students first see their economics assignments. My

goal in this book is to avoid that reaction by skipping the bells, whistles, and extraneous details that distract students from the key lessons.

Another result of this student orientation is that more of this book is devoted to applications and policy—and less to formal economic theory—than is the case with many other books written for the principles course. Throughout this book I have tried to return to applications and policy questions as often as possible. Most chapters include case studies illustrating how the principles of economics are applied. In addition, “In the News” boxes (most of which are new to this edition) offer excerpts from newspaper articles showing how economic ideas shed light on current issues facing society. After students finish their first course in economics, they should think about news stories from a new perspective and with greater insight.

What’s New in the Third Edition?

Much has happened in the world since I wrote the last edition of this book. Over the past few years, another U.S. recession, a new president, a tax cut, corporate accounting scandals, a new European currency, and terrorist attacks have all altered the economic landscape. Because the teaching of economics has to stay current with an ever changing world, this new edition includes dozens of new case studies and boxes.

In addition to updating the book, I have also refined its coverage and pedagogy with input from many users of the previous edition. There are many changes, both large and small. For example, the basic presentation of supply and demand in Chapter 4 has been rearranged and improved. More important, this new edition contains two new chapters. A new chapter on the “Frontiers of Microeconomics” introduces students to the economics of asymmetric information, political economy, and behavioral economics. A new chapter on “The Basic Tools of Finance” develops the concepts of present value, risk management, and asset valuation. (Only the complete 36-chapter version of this book includes both of these chapters. See below for outlines of each of the five available versions.) These new chapters are optional, and instructors can skip them without loss of continuity. But adding these topics should give students a greater appreciation of the use and scope of economics.

All the changes that I made, and the many others that I considered, were evaluated in light of the benefits of brevity. Like most things that we study in economics, a student’s time is a scarce resource. I always keep in mind a dictum from the great novelist Robertson Davies: “One of the most important things about writing is to boil it down and not bore the hell out of everybody.”

How Is This Book Organized?

To write a brief and student-friendly book, I had to consider new ways to organize familiar material. What follows is a whirlwind tour of this text. The tour will, I hope, give instructors some sense of how the pieces fit together.

Introductory Material

Chapter 1, “Ten Principles of Economics,” introduces students to the economist’s view of the world. It previews some of the big ideas that recur throughout economics, such as opportunity cost, marginal decisionmaking, the role of incentives, the gains from trade, and the efficiency of market allocations. Throughout the book, I refer regularly to the *Ten Principles of Economics* introduced in Chapter 1 to



remind students that these ideas are the foundation for all economics. An icon in the margin calls attention to these key, interconnected principles.

Chapter 2, “Thinking Like an Economist,” examines how economists approach their field of study. It discusses the role of assumptions in developing a theory and introduces the concept of an economic model. It also discusses the role of economists in making policy. The appendix to this chapter offers a brief refresher course on how graphs are used and how they can be abused.

Chapter 3, “Interdependence and the Gains from Trade,” presents the theory of comparative advantage. This theory explains why individuals trade with their neighbors, as well as why nations trade with other nations. Much of economics is about how market forces coordinate many individual production and consumption decisions. As a starting point for this analysis, students see in this chapter why specialization, interdependence, and trade can benefit everyone.

The Fundamental Tools of Supply and Demand

The next three chapters introduce the basic tools of supply and demand. Chapter 4, “The Market Forces of Supply and Demand,” develops the supply curve, the demand curve, and the notion of market equilibrium. Chapter 5, “Elasticity and Its Application,” introduces the concept of elasticity and uses it to analyze events in three different markets. Chapter 6, “Supply, Demand, and Government Policies,” uses these tools to examine price controls, such as rent-control and minimum-wage laws, and tax incidence.

Chapter 7, “Consumers, Producers, and the Efficiency of Markets,” extends the analysis of supply and demand using the concepts of consumer surplus and producer surplus. It begins by developing the link between consumers’ willingness to pay and the demand curve, and the link between producers’ costs of production and the supply curve. It then shows that the market equilibrium maximizes the sum of the producer and consumer surplus. Thus, students learn early about the efficiency of market allocations.

The next two chapters apply the concepts of producer and consumer surplus to questions of policy. Chapter 8, “Application: The Costs of Taxation,” shows why taxation results in deadweight losses and what determines the size of those losses. Chapter 9, “Application: International Trade,” considers who wins and who loses from international trade and presents the debate over protectionist trade policies.

Macroeconomics

My overall approach to teaching macroeconomics is to examine the economy in the long run (when prices are flexible) before examining the economy in the short run (when prices are sticky). I believe that this organization simplifies learning macroeconomics for several reasons. First, the classical assumption of price flexibility is more closely linked to the basic lessons of supply and demand, which students have already mastered. Second, the classical dichotomy allows the study of the long run to be broken up in several, easily digested pieces. Third, because the business cycle represents a transitory deviation from the economy’s long-run growth path, studying the transitory deviations is more natural after the long-run equilibrium is understood. Fourth, the macroeconomic theory of the short run is more controversial among economists than the macroeconomic theory of the long run. For these reasons, most upper-level courses in macroeconomics now follow this long-run-before-short-run approach; my goal is to offer introductory students the same advantage.

Returning to the detailed organization, I start the coverage of macroeconomics with issues of measurement. Chapter 10, “Measuring the Nation’s Income,”

discusses the meaning of gross domestic product and related statistics from the national income accounts. Chapter 11, "Measuring the Cost of Living," discusses the measurement and use of the consumer price index.

The next four chapters describe the behavior of the real economy in the long run. Chapter 12, "Production and Growth," examines the determinants of the large variation in living standards over time and across countries. Chapter 13, "Saving, Investment, and the Financial System," discusses the types of financial institutions in our economy and examines their role in allocating resources. Chapter 14, "The Basic Tools of Finance," introduces present value, risk management, and asset pricing. Chapter 15, "Unemployment and Its Natural Rate," considers the long-run determinants of the unemployment rate, including job search, minimum-wage laws, the market power of unions, and efficiency wages.

Having described the long-run behavior of the real economy, the book then turns to the long-run behavior of money and prices. Chapter 16, "The Monetary System," introduces the economist's concept of money and the role of the central bank in controlling the quantity of money. Chapter 17, "Money Growth and Inflation," develops the classical theory of inflation and discusses the costs that inflation imposes on a society.

The next two chapters present the macroeconomics of open economies, maintaining the long-run assumptions of price flexibility and full employment. Chapter 18, "Open-Economy Macroeconomics: Basic Concepts," explains the relationship among saving, investment, and the trade balance, the distinction between the nominal and real exchange rate, and the theory of purchasing-power parity. Chapter 19, "A Macroeconomic Theory of the Open Economy," presents a classical model of the international flow of goods and capital. The model sheds light on various issues, including the link between budget deficits and trade deficits and the macroeconomic effects of trade policies. Because instructors differ in their emphasis on this material, these chapters are written so they can be used in different ways. Some may choose to cover Chapter 18 but not Chapter 19; others may skip both chapters; and still others may choose to defer the analysis of open-economy macroeconomics until the end of their courses.

After developing the long-run theory of the economy in Chapters 12 through 19, the book turns to explaining short-run fluctuations around the long-run trend. This organization simplifies teaching the theory of short-run fluctuations because, at this point in the course, students have a good grounding in many basic macroeconomic concepts. Chapter 20, "Aggregate Demand and Aggregate Supply," begins with some facts about the business cycle and then introduces the model of aggregate demand and aggregate supply. Chapter 21, "The Influence of Monetary and Fiscal Policy on Aggregate Demand," explains how policymakers can use the tools at their disposal to shift the aggregate-demand curve. Chapter 22, "The Short-Run Tradeoff between Inflation and Unemployment," explains why policymakers who control aggregate demand face a tradeoff between inflation and unemployment. It examines why this tradeoff exists in the short run, why it shifts over time, and why it does not exist in the long run.

The book concludes with Chapter 23, "Five Debates over Macroeconomic Policy." This capstone chapter considers five controversial issues facing policymakers: the proper degree of policy activism in response to the business cycle; the choice between rules and discretion in the conduct of monetary policy; the desirability of reaching zero inflation; the importance of balancing the government's budget; and the need for tax reform to encourage saving. For each issue, the chapter presents both sides of the debate and encourages students to make their own judgments.

Learning Tools

The purpose of this book is to help students learn the fundamental lessons of economics and to show how such lessons can be applied to the world in which they live. Toward that end, I have used various learning tools that recur throughout the book.

Case Studies Economic theory is useful and interesting only if it can be applied to understanding actual events and policies. This book, therefore, contains numerous case studies that apply the theory that has just been developed.

"In the News" Boxes One benefit that students gain from studying economics is a new perspective and greater understanding about news from around the world. To highlight this benefit, I have included excerpts from many newspaper articles, some of which are opinion columns written by prominent economists. These articles, together with my brief introductions, show how basic economic theory can be applied. Most of these boxes are new to this edition.

"FYI" Boxes These boxes provide additional material "for your information." Some of them offer a glimpse into the history of economic thought. Others clarify technical issues. Still others discuss supplementary topics that instructors might choose either to discuss or skip in their lectures.

Definitions of Key Concepts When key concepts are introduced in the chapter, they are presented in **bold** typeface. In addition, their definitions are placed in the margins. This treatment should aid students in learning and reviewing the material.

Quick Quizzes After each major section, students are offered a "quick quiz" to check their comprehension of what they have just learned. If students cannot readily answer these quizzes, they should stop and reread material before continuing.

Chapter Summaries Each chapter ends with a brief summary that reminds students of the most important lessons that they have just learned. Later in their study it offers an efficient way to review for exams.

List of Key Concepts A list of key concepts at the end of each chapter offers students a way to test their understanding of the new terms that have been introduced. Page references are included so that students can review the terms they do not understand.

Questions for Review At the end of each chapter are questions for review that cover the chapter's primary lessons. Students can use these questions to check their comprehension and to prepare for exams.

Problems and Applications Each chapter also contains a variety of problems and applications that ask students to apply the material they have learned. Some professors may use these questions for homework assignments. Others may use them as a starting point for classroom discussions.

Alternative Versions of the Books

The book you are holding in your hand is one of five versions of this book that are available for introducing students to economics. South-Western and I offer this menu of books because instructors differ in how much time they have and what topics they choose to cover. Here is a brief description of each:

- *Principles of Economics*: This complete version of the book contains all 36 chapters. It is designed for a two-semester introductory course that covers both microeconomics and macroeconomics.
- *Principles of Microeconomics*: This version contains 22 chapters and is designed for one-semester courses in introductory microeconomics.
- *Principles of Macroeconomics*: This version contains 23 chapters and is designed for one-semester courses in introductory macroeconomics. It contains a full development of the theory of supply and demand.
- *Brief Principles of Macroeconomics*: This shortened macro version of 18 chapters contains only one chapter on the basics of supply and demand. It is designed for those instructors who want to jump to the core topics of macroeconomics more quickly.
- *Essentials of Economics*: This version of the book contains 24 chapters. It is designed for one-semester survey courses that cover the basics of both microeconomics and macroeconomics.

The table on the next page shows precisely which chapters are included in each book. Instructors who wish more information about these alternative versions should contact their local South-Western representative.

Wall Street Journal Edition

One goal in teaching the principles of economics is to provide students with a better understanding of the world around them. Many instructors, therefore, encourage students to read about economic issues in the newspaper as they take the course. Those instructors may want to consider the special *Wall Street Journal Edition* of this text. This version is the same as the standard edition but includes a 15-week subscription to both the print and interactive versions of *The Wall Street Journal*. Students can activate their subscriptions simply by completing and mailing a business reply card inserted in the back of the book. Instructors with at least ten students who activate their subscriptions will automatically receive their own free subscription. Talk to your South-Western representative or call 1-800-423-0563 for details.

Supplements

South-Western offers various supplements for instructors and students who use this book. These resources make teaching the principles of economics easy for the professor and learning them easy for the student. David R. Hakes of the University of Northern Iowa, a dedicated teacher and economist, supervised the development of the supplements for this edition.

South-Western will provide copies of these supplements free of charge to those instructors qualified under its adoption policy. Please contact your sales

AVAILABLE VERSIONS

The Five Versions of This Book

<i>Principles of Economics</i>	<i>Principles of Microeconomics</i>	<i>Principles of Macroeconomics</i>	<i>Brief Principles of Macroeconomics</i>	<i>Essentials of Economics</i>
1 Ten Principles of Economics	X	X	X	X
2 Thinking Like an Economist	X	X	X	X
3 Interdependence and the Gains from Trade	X	X	X	X
4 The Market Forces of Supply and Demand	X	X	X	X
5 Elasticity and Its Application	X	X		X
6 Supply, Demand, and Government Policies	X	X		X
7 Consumers, Producers and the Efficiency of Markets	X	X		X
8 Applications: The Costs of Taxation	X	X		X
9 Application: International Trade	X	X		X
10 Externalities	X			X
11 Public Goods and Common Resources	X			X
12 The Design of the Tax System	X			
13 The Costs of Production	X			X
14 Firms in Competitive Markets	X			X
15 Monopoly	X			X
16 Oligopoly	X			
17 Monopolistic Competition	X			
18 The Markets for the Factors of Production	X			
19 Earnings and Discrimination	X			
20 Income Inequality and Poverty	X			
21 The Theory of Consumer Choice	X			
22 Frontiers of Microeconomics	X			
23 Measuring a Nation's Income		X	X	X
24 Measuring the Cost of Living		X	X	X
25 Production and Growth		X	X	X
26 Saving, Investment, and the Financial System		X	X	X
27 The Basic Tools of Finance		X	X	X
28 Unemployment and Its Natural Rate		X	X	X
29 The Monetary System		X	X	X
30 Money Growth and Inflation		X	X	X
31 Open-Economy Macroeconomics: Basic Concepts		X	X	
32 A Macroeconomic Theory of the Open Economy		X	X	
33 Aggregate Demand and Aggregate Supply		X	X	X
34 The Influence of Monetary and Fiscal Policy on Aggregate Demand		X	X	X
35 The Short-Run Tradeoff between Inflation and Unemployment		X	X	
36 Five Debates over Macroeconomic Policy		X	X	

Note: Chapter numbers refer to the complete book, *Principles of Economics*.

representative to learn how you may qualify, or call the Academic Resource Center at 1-800-423-0563.

For the Instructor Teaching the principles of economics can be a demanding job. Often, classes are large and teaching assistants in short supply. The supplements designed for the instructor make that job less difficult and more fun.

Instructor's Manual with Solutions Manual and Classroom Activities For lecture preparation, the Instructor's Manual, written by Linda Ghent (Eastern Illinois University), offers a detailed outline for each chapter of the text that provides learning objectives, identifies stumbling blocks that students may face, offers helpful teaching tips, and provides suggested in-classroom activities for a more cooperative learning experience. The Instructor's Manual also includes solutions to all end-of-chapter exercises, Quick Quizzes, Questions for Review, and Problems and Applications found in the text.

Instructor's Resource CD Included on this CD-ROM are the key supplements designed to aid instructors: Instructor's Integrated Resource Guide, Instructor's Manual with Solutions Manual and Classroom Activities, PowerPoint® Lecture and Exhibit Slides, Transparency Masters, and the Test Bank in both ExamView® Computerized Testing Software and Microsoft Word for ease of use.

Instructor's Integrated Resource Guide Intended for use in planning instruction, this laminated guide provides a quick reference to all of South-Western's resources for teaching a course in economic principles and makes suggestions for incorporating them into all phases of instruction.

Test Bank Daniel K. Biederman (University of North Dakota), Ken McCormick (University of Northern Iowa), Bryce Kanago (University of Northern Iowa), Penny Kugler (Central Missouri State University), and Andrew Parkes (University of Northern Iowa) have updated and revised the Test Bank. It consists of more than 200 questions per chapter. Every question has been checked to ensure the accuracy and clarity of the answers and painstakingly revised to address the main text revisions. Included are multiple-choice, true/false, and short-answer questions that assess students' critical thinking skills. Easy, medium, and difficult questions outline the process that students must use to arrive at their answers: recall, application, and integration. Questions are organized by text section to help instructors pick and choose their selections with ease.

Supplemental Test Banks In order to keep the pool of Test Bank questions fresh and relevant, an additional testing resource will be published annually.

ExamView® ExamView Computerized Testing Software contains all of the questions in the printed test bank. This program is an easy-to-use test creation software compatible with Microsoft Windows. Instructors can add or edit questions, instructions, and answers, and can select questions by previewing them on the screen, selecting them randomly, or selecting them by number. Instructors can also

create and administer quizzes on-line, whether over the Internet, a local area network (LAN), or a wide area network (WAN).

The “Ten Principles” Video Set Ken Witty, a talented documentary filmmaker, has produced a video series to illustrate the *Ten Principles of Economics* introduced in Chapter 1. Instructors can show these videos as an interesting and visually appealing introduction to topics discussed throughout the textbook.

PowerPoint Lecture and Exhibit Slides Available only on the Web site and the IRCD are two versions of the PowerPoint presentation. Professors can save valuable time as they prepare for class using this comprehensive lecture presentation. This supplement covers all the essential topics presented in each chapter of the book. Graphs, tables, lists, and concepts are developed sequentially, much as one might develop them on a blackboard. Additional examples and applications are used to reinforce major lessons. The slides are crisp, clear, and colorful. Instructors may adapt or add slides to customize their lectures. A separate exhibit presentation provides instructors with all of the tables and graphs from the main text. The slides are all available for download at the support Web site: <http://mankiw.swlearning.com>.

Transparency Acetates To help instructors build text images into their lectures, full-color transparency acetates for all important figures and tables in the third edition are available for use on an overhead projector. They are available to adopters upon request in both microeconomic and macroeconomic sets.

WebTutor WebTutor is an interactive, Web-based, student supplement on WebCT and/or BlackBoard that harnesses the power of the Internet to deliver innovative learning aids that actively engage students. The instructor can incorporate WebTutor as an integral part of the course, or the students can use it on their own as a study guide. Benefits to students include automatic and immediate feedback from quizzes and exams; interactive, multimedia-rich explanation of concepts; on-line exercises that reinforce what they’ve learned; flashcards that include audio support; and greater interaction and involvement through on-line discussion forums.

WebTutor Advantage More than just an interactive study guide, WebTutor Advantage delivers innovative learning aids that actively engage students. Benefits include automatic and immediate feedback from quizzes; interactive, multimedia-rich explanation of concepts, such as flash-animated graphing tutorials and graphing exercises that utilize an on-line graph-drawing tool; streaming video applications; on-line exercises; flashcards; and greater interaction and involvement through on-line discussion forums. Powerful instructor tools are also provided to assist communication and collaboration between students and faculty.

Instructor Resources on the Product Support Web Site This password-protected Web site (<http://mankiw.swlearning.com>) features the essential resources for instructors in downloadable format: the Instructor’s Manual in Word, the Test Bank in Word, and PowerPoint Lecture and Exhibit Slides.

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Favorite Ways to Learn Economics: Instructor's Edition Authors David Anderson of Centre College and Jim Chasey of Homewood Flossmoor High School use experiments to bring economic education to life. This is a lab manual for the classroom and for individual study that contains experiments and problem sets that reinforce key economic concepts.

Economics: HITS on the Web, Mankiw Edition with InfoTrac This resource booklet supports students' research efforts on the World Wide Web. This manual includes an introduction to the World Wide Web, browsing the Web, finding information on the World Wide Web, e-mail, e-mail discussion groups and newsgroups, and documenting Internet sources for research. It also provides Internet activities for each chapter of the Mankiw text as well as a list of the hottest economic sites on the Web. Each booklet provides the student with an access code for InfoTrac College Edition, a fully searchable on-line university library containing complete articles and their images. Its database allows access to hundreds of scholarly and popular publications—all reliable sources, including magazines, journals, encyclopedias, and newsletters.

Turner Learning/CNN Economics Video with Integration Guide Professors can bring the real world into the classroom by using the Turner Learning/CNN Economics Video. This video provides current stories of economic interest. The accompanying integration guide provides a summary and discussion questions for each clip. The video is produced in cooperation with Turner Learning, Inc. Contact your South-Western/Thomson Learning sales representative for ordering information.

For the Student South-Western also offers supplements for students who are studying the principles of economics. These supplements reinforce the basic lessons taught in this book and offer opportunities for additional practice and feedback.

Study Guide David R. Hakes (University of Northern Iowa) has prepared a study guide that will enhance student success. Each chapter of the study guide includes learning objectives, a description of the chapter's context and purpose, a chapter review, key terms and definitions, advanced critical thinking questions, and helpful hints for understanding difficult concepts. Students can develop their understanding by doing the practice problems and short-answer questions, then assess their mastery of the key concepts with the self-test, which includes true/false and multiple-choice questions. Solutions to all problems are included in the study guide.

Mankiw Xtra! Web Site This site (<http://mankiwxtra.swlearning.com>) offers a robust set of on-line multimedia learning tools to help the student gain a deeper and richer understanding of economics, including:

- Diagnostic Pretests offer diagnostic self-assessment on student comprehension of each chapter and an individualized plan for directed study.
- The MAP (Mankiw Learning Assistance Program) provides step-by-step instructions for each chapter's learning objectives to systematically guide the student to a deeper understanding of economic concepts.
- The Graphing Workshop is a one-stop learning resource for help in mastering the often difficult language of graphs. A unique learning system made up of graphing tutorials, interactive drawing tools, and exercises, it teaches the student how to interpret, reproduce, and explain graphs.
- CNN Video Clips and exercises let the student see economics in action in the real world, to help learn theoretical material by applying it to current events.
- Ask the Author Video Clips provide the student with an opportunity for review and clarification of difficult material.
- Xtra! Quizzing allows the student to create and to take randomly generated quizzes on the chapter of his or her choice.
- Economic Applications (e-con apps), including EconNews Online, EconDebate Online, and EconData Online, features help to deepen student understanding of theoretical concepts through hands-on exploration and analysis of the latest economic news stories, policy debates, and data.

PowerPoint Lecture Notes A booklet is available that contains the Lecture Presentation in PowerPoint (both the notes and the graphics) with space next to each slide for taking notes during class. This supplement allows students to focus on classroom activities by providing them with the confident knowledge that they have an excellent set of notes for future reference. Instructors who choose to customize their PowerPoint presentations and would like to do the same with their accompanying customized printed lecture notes can do so via South-Western/Thomson Learning's custom publishing program.

Web Site Valuable resources for students can be found on the Internet at the Mankiw textbook support site: <http://mankiw.swlearning.com>. Students will find links to economics-related Internet sites, PowerPoint slides for their review, and a sample chapter from the study guide. Also, career listings for students, leading economic indicator information, and an economic URL database can be found at <http://economics.swlearning.com>.

Economics Alive! CD-ROMS These interactive multimedia study aids for economics are the high-tech, high-fun way to study economics. Through a combination of animated presentations, interactive graphing exercises, and simulations, the core principles of economics come to life and are driven home in an upbeat and entertaining way. This product is available in both micro and macro economics versions. Find out more at <http://econalive.swlearning.com>.

Favorite Ways to Learn Economics Authors David Anderson of Centre College and Jim Chasey of Homewood Flossmoor High School use experiments to bring economic education to life. This is a lab manual for the classroom and for