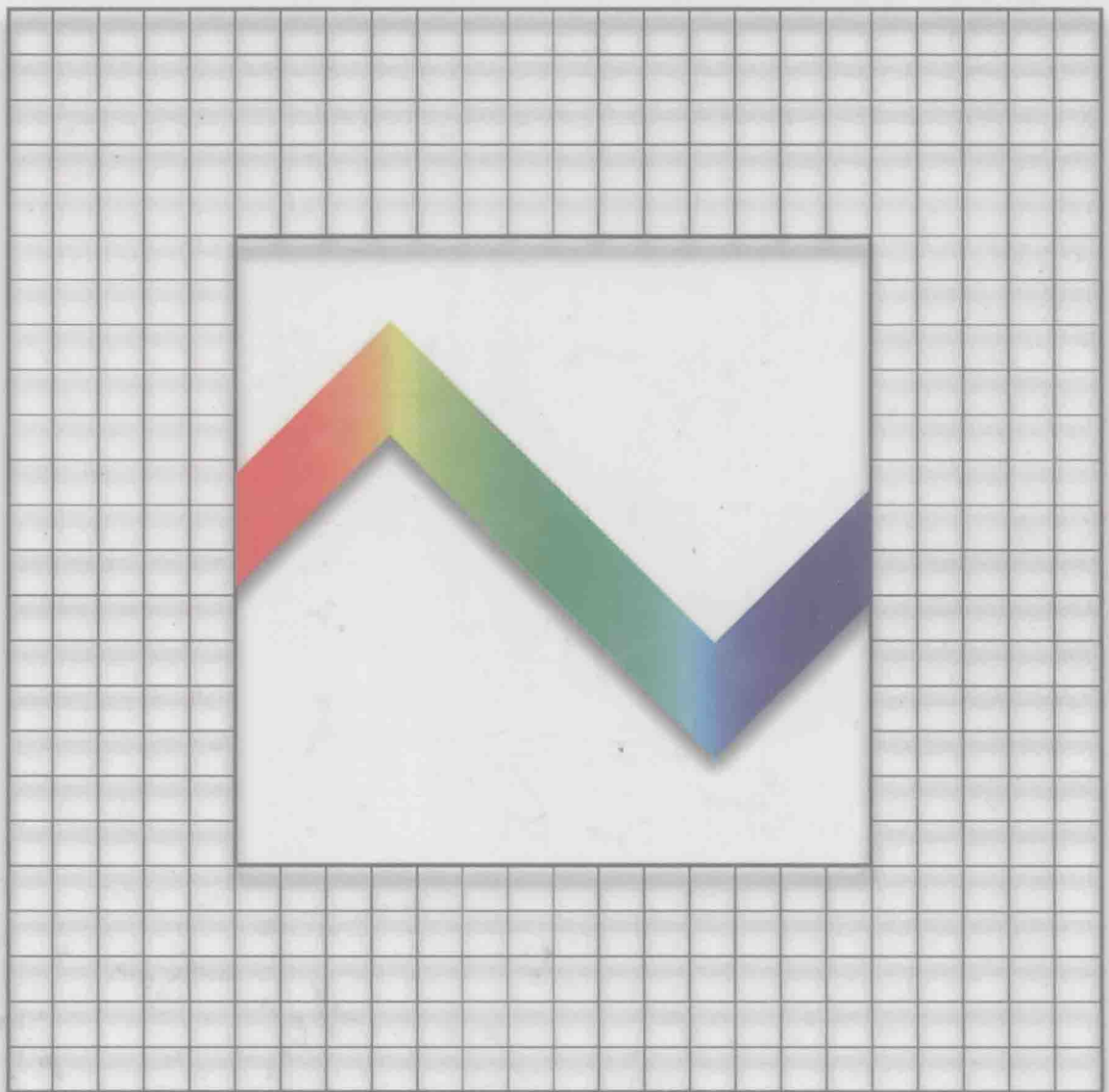


ECONOMICS

PRINCIPLES AND POLICY

NINTH EDITION

William J. Baumol and Alan S. Blinder



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William J. Baumol

New York University

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Princeton University

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SOUTH-WESTERN

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William J. Baumol and Alan S. Blinder

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ECONOMICS: PRINCIPLES AND POLICY

Letter from the Authors

Dear Instructors:

Thank you for your interest in and support of **Economics: Principles and Policy**. We are proud of the fact that over the past 23 years our book has introduced millions of students to the world of economics in a way that engages their interest and opens their eyes to aspects of real economic life that they did not understand before.

The economy changes all the time, but some economic principles endure. These principles are the same as those that have guided us now through nine editions. Ever since the First Edition, **Economics: Principles and Policy** was predicated on the view that practical issues and developments in the economy should influence the content of an introductory economics course. Issues should drive students to the principles rather than the other way around. This educational philosophy is most evident in our chapter-opening real-world problems, used as launching pads for subsequent analyses.

Over the many editions, the **Ideas for Beyond the Final Exam** have been a favorite element of students and instructors alike. We believe that certain economic ideas are so important that students should remember them for a long time. To help students identify the most crucial concepts, we have selected nine from among the many presented in this book. Each of the Ideas for Beyond the Final Exam is highlighted with an icon in the margin and discussed in depth as it occurs throughout the course of the book.

As we move into the Ninth Edition, we have refined our text and its ancillary components in numerous ways—all designed to provide today's students with the best possible ways to learn economics at the introductory level. But our philosophy remains unchanged: we seek to equip students with the tools they need to understand the world they live in. So, for example, after 10 years without a recession (1991–2001), and with little worry about inflation, it is no wonder that we found instructors asking us for more material on long-run growth. We have provided this—and even given it “first billing” in Chapters 13, 22 and 23. But we have not succumbed to the temptation to downplay the importance of recessions and the monetary and fiscal responses to them—aspects of reality which returned in 2001.

We are grateful to our reviewers, who helped us produce this edition. Some of the changes to the Ninth Edition consist of, but are not limited to:

- The introductory chapters, 1–3, have been condensed considerably. (They ran to 5 chapters in the Eighth Edition; some of this now appears in appendixes.)
- Chapters 6 & 7 contain significant revision of the examples used.
- A thoroughly revised Chapter 13 covers the so-called New Economy.
- Chapter 22 includes substantial changes on the coverage of economic growth.
- An all-new Chapter 23 adds material on economic growth that did not appear in previous editions.
- To make room for this new material, the early chapters on aggregate demand have been condensed, saving one chapter.
- Chapter 31 reflects extensive changes to bring the discussion of deficits *and* surpluses (and their relation to monetary policy) up to date.

Beyond the textbook itself, the Ninth Edition offers new and improved technology supplements. **Xtra!** is a student tutorial that is packaged with every new text. This interactive multimedia CD-ROM, provided at no additional cost, offers self-testing, graphing workshops, and CNN video lectures and applications. The Web site for the ninth edition is much improved, with added resources for both instructors and students. WebTutor is now available with the new edition of **Principles and Policy**. This online course management program allows the instructor to organize classroom support materials and communications with students easily and effectively. WebTutor also provides added tutorials to review critical text material chapter by chapter. Concepts are reinforced through extensive exercises, problems, cases, flashcards, self-tests, and other tools.

We thank the loyal adopters of our text for your continuing support and believe that you will enjoy this new edition. For those instructors who have not used our text, but are considering doing so, we believe that we have provided you with extremely valuable tools to launch your students into the world of economics and give them the opportunity to advance further in this exciting discipline.

We hope you enjoy teaching from the book as much as we have enjoyed writing it.

Sincerely,
William J. Baumol
Alan S. Blinder

ABOUT THE AUTHORS

WILLIAM J. BAUMOL

William J. Baumol was born February 26, 1922, in an area of New York City that has since come to be known as Fort Apache. He received his BSS at the College of the City of New York in 1942 and his Ph.D. at the University of London in 1949.

He is Professor of Economics at New York University and Professor Emeritus at Princeton University. He is a frequent consultant to the management of major firms in a wide variety of industries in the United States and other countries, as well as to a number of governmental agencies. In several fields, including the telecommunications and electric utility industries, current regulatory policy is based on his explicit recommendations. Among his many contributions to economics are research on the theory of the firm, the contestability of markets, the economics of the arts and other services—the “cost disease of the services” is often referred to as “Baumol’s disease”—and productivity convergence among nations. In addition to economics, he taught a course in wood sculpture at Princeton for about 20 years.

He has been president of the American Economic Association, and three other professional societies. He is an elected member of the National Academy of Sciences, created by the U.S. Congress, and of the American Philosophical Society, founded by Benjamin Franklin. He is also on the board of trustees of the National Council on Economic Education, and of the Theater Development Fund. He is the recipient of ten honorary degrees.

Baumol is the author of 30 books and hundreds of journal and newspaper articles, and his writings have been translated into more than a dozen languages.

ALAN S. BLINDER

Alan S. Blinder was born in New York City and attended Princeton University, where one of his teachers was William Baumol. After earning a master’s degree at the London School of Economics and a Ph.D. at MIT, Blinder returned to Princeton, where he has taught since 1971. He is currently the Gordon S. Rentschler Memorial Professor of Economics and co-director of Princeton’s Center for Economic Policy Studies, which he founded.

In January 1993, Blinder went to Washington as part of President Clinton’s first Council of Economic Advisers. Then, from June 1994 through January 1996, he served as vice chairman of the Federal Reserve Board. He thus played a role in formulating both the fiscal and monetary policies of the 1990s, topics discussed extensively in this book. Blinder has been involved with several financial businesses as a consultant, has served on the board of the American Stock Exchange, and is now a partner in the Promontory Financial Group.

For more than 10 years, Blinder wrote newspaper and magazine columns on economic policy, and his op-ed pieces still appear regularly in various newspapers. He also appears frequently on CNN and CNBC, and is a regular commentator on PBS’s “Nightly Business Report.”

Blinder has been vice president of the American Economic Association and is a member of both the American Philosophical Society and the American Academy of Arts and Sciences. He has two grown sons, two grandsons, and lives in Princeton with his wife, where he plays tennis as often as he can.

PREFACE

As *Economics: Principles and Policy* was being revised for its Ninth Edition, the U.S. economy was undergoing its first recession in a decade. And many other countries were in or near recession, too. Such an environment hardly seems the most propitious time to place greater emphasis on *growth* rather than on more immediately urgent problems such as *unemployment*. But there is good reason to hope that, by the time you read this book, the economy will be expanding; and it is virtually certain that the book will outlast the recession. In any event, it *is* still growth that matters most for standards of living in the long run—despite occasional business downturns. Indeed, surveys of users and potential users have indicated a desire for a more detailed treatment of economic growth, and we have been delighted to comply.

Accordingly, the Ninth Edition adds an entirely new chapter on the macroeconomics of growth (Chapter 23) and additional material on growth in several other chapters (especially Chapters 22 and 31). To make room for these additions, we have shortened some of the macroeconomic discussion that appeared in the Eighth Edition—for example, by collapsing three chapters into two. Furthermore, on the conviction that there is a fundamental microeconomic side to growth analysis, Chapter 13, which focused largely on the microeconomics of innovation in the Eighth Edition, has been fundamentally revised and expanded. Its emphasis is now on “the New Economy”—what it is and what it is not, to what new policy issues it gives rise, and on how those matters can be analyzed.

It has been said that economics is no laughing matter, and that an economist is a person who, having observed something that works in reality, wonders whether it works in theory! This book contains its share of theoretical material. But the theory is not merely an exercise in making students miserable; it is driven by issues that are real and current. And every discussion of theory is related to applications, so as to offer students a continuing sense of the relevance of the material to reality. As used by physicists, biologists, and economists—indeed in all the fields of research in colleges and universities—the word *theory* simply means a thorough and rigorous explanation. For example, economists believe that foreign trade can harm some workers but makes most members of the community better off. We need theory to explain why. Or another example: Average incomes of people who live in market economies have grown far faster than those of others in countries where the economy is directed by government planners. Again, theory can explain why.

To maintain prosperity, to offer a better future to those who are now less educated, and to deal with the enormous economic problems of the poorer nations of the world, we need to understand the effects of international trade and of improvements in technology. Do they make most of us better off by making products cheaper, so that our incomes go further? Or do they threaten our incomes by making us more vulnerable to foreign competition and labor-saving technology? Such crucial issues are addressed throughout this book.

In addition to its entirely new material, many parts of the book have been extensively rewritten and reorganized for easier comprehension. Quite a few of these changes were suggested by users of the book and by others whose opinions we solicited in an extensive survey. For example, we have abbreviated the introductory materials in Part I from the previous five chapters down to three. And we have substantially modified the core microeconomics chapters (Chapters 4–7) to improve readability. In each of these chapters, we were careful to retain the features that readers reported as being helpful in earlier editions.

NOTE TO THE STUDENT

May we offer a suggestion for success in your economics course? Unlike some of the other subjects you may be studying, economics is cumulative: Each week's lesson builds upon what you have learned before. You will save yourself a lot of frustration—and a lot of work—by keeping up on a week-to-week basis. To assist you in doing so, we provide a chapter summary, a list of important terms and concepts, and a selection of questions to help you review the contents of each chapter. Making use of these learning aids will help you to master the material in your economics course. For additional assistance, we have prepared student supplements to help reinforce the concepts in this book and provide opportunities for practice and feedback. The following list indicates the ancillaries that provide the learning tools designed specifically to be helpful to students.

THE SUPPORT PACKAGE

As economic education incorporates new technologies, we have expanded and improved our extensive learning package to accommodate instructor and student needs.

■ For the Instructor

Instructor's Manual David O'Hara of Metropolitan State University has extensively revised the *Instructor's Manual*. Every chapter includes detailed chapter outlines, teaching tips and suggestions, answers to end-of-chapter questions in the main text, and questions for classroom discussion. Included in this edition's *Instructor's Manual* is an Activities Manual, which provides instructors with classroom games, activities, and demonstrations designed to illustrate and enliven important economic concepts. These activities have been tremendously popular with instructors and are very useful for classroom learning. (ISBN 0-03-035502-8)

Microeconomics Test Bank The updated and revised *Microeconomics Test Bank* by Doug Kinneer of Colorado State University consists of more than 200 questions per chapter and covers Chapters 1–20 and 33 in the text. Every question has been checked to ensure the accuracy and clarity of the answers and painstakingly revised to address the main text revisions. The *Test Bank* includes true/false, multiple-choice, 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. (ISBN 0-03-035569-9)

Macroeconomics Test Bank The updated and revised *Macroeconomics Test Bank* by Edward F. Stuart of Northeastern Illinois University consists of more than 200 questions per chapter covering Chapters 1–3 and 21–35 in the text. Every question has been checked to ensure the accuracy and clarity of the answers and painstakingly revised to address the main text revisions. The *Test Bank* includes true/false, multiple-choice, 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. (ISBN 0-03-035562-1)

Computerized Test Banks ExamView—Computerized Testing Software contains all of the questions in the printed *Test Bank*. ExamView is an easy-to-use test creation software

compatible with both Microsoft Windows and Macintosh. Instructors can add or edit questions, instructions, and answers and select questions by previewing them on the screen, selecting them randomly, or selecting them by number. Instructors can also create and administer quizzes online, whether over the Internet, a local-area network (LAN), or a wide-area network (WAN). ExamView is available in both a microeconomics (ISBN 0-03-035479-X) and macroeconomics (ISBN 0-03-035472-2) version.

Instructor's Resource CD-ROM Get quick access to all instructor ancillaries from your desktop. This easy-to-use CD-ROM lets you review, edit, and copy exactly what you need in the format you want. The IRCD contains electronic versions of the *Instructor's Manual*, both *Test Banks*, both the lecture and resource PowerPoint presentations, ExamView Files, and Transparency Masters. (ISBN 0-03-035494-3)

Principles of Economics Video *Principles of Economics* is a 40-minute videotape that offers students an insightful overview of ten common economic principles: Tradeoffs, Opportunity Cost, Marginal Thinking, Incentives, Trade, Markets, Government's Role, Productivity, Inflation, and the Phillips Curve.

Principles of Economics shows viewers how to apply economic principles to their daily lives. This video is filled with interviews from some of the country's leading economists and includes profiles of real students facing economic choices, as well as showing the economy's impact on U.S. and foreign companies.

This video can be used at the beginning of a term to give students a general overview of economics, or used one section at a time prior to teaching one of these principles in your course. (ISBN 0-03-032626-5)

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. (ISBN 0-324-14778-3)

PowerPoint Lecture and Resource Slides Available only on the Web site and the IRCD are two versions of the PowerPoint presentation. The first is a comprehensive and user-friendly lecture presentation (ISBN 0-03-035532-X) for use in the classroom. This presentation consists of speaking points and chapter outlines that are accompanied by graphs and tables, many of which are animated, from the main text. The art and graphic resource slides (ISBN 0-324-17384-9) provide the instructor with all of the tables and figures from the main text.

Transparency Acetates Full-color transparency acetates for all important figures and tables in the ninth edition are available for use on an overhead projector. They are available to adopters upon request in microeconomic (ISBN 0-3-035524-9) and macroeconomic (ISBN 0-324-17385-7) sets.

Web Site Valuable resources for instructors can be found on the Internet at <http://baumol.swcollege.com>. For instructors, the PowerPoint presentations, *Instructor's Manual*, and a sample chapter of the printed *Test Bank* are available at the Instructor Resources section of the site.

Web Tutor/Web Tutor Advantage Online learning is growing at a rapid pace. Whether instructors are planning to offer courses at a distance, or to offer a Web-enhanced classroom, South-Western/Thomson Learning offers them a solution with WebTutor. WebTutor provides instructors with text-specific content that interacts in the two leading Course Management Systems available in Higher Education—WebCT and Blackboard. WebTutor is a turnkey solution for instructors who want to begin using

technology like Blackboard or WebCT but do not have Web-ready content available or do not want to be burdened with developing their own content. South-Western offers two levels of WebTutor—WebTutor and WebTutor Advantage.

WebTutor—An interactive study guide, WebTutor uses the Internet to turn everyone in your class into a front-row student. WebTutor offers quizzing, concept review, flashcards, discussion forums, and more. Instructor tools are also provided to assist communication between students and faculty.

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 online graph-drawing tool; streaming video applications; online exercises; flashcards; and greater interaction and involvement through online discussion forums. Powerful instructor tools are also provided to assist communication and collaboration between students and faculty.

For more information about the WebTutor products, please contact your local sales representative.

Favorite Ways to Learn Economics Instructor's Edition David Anderson of Centre College and Jim Chasey of Homewood Flossmoor High School have created an instructor's edition to accompany *Favorite Ways to Learn Economics*. Using experiments to bring economic education to life is a growing trend and for good reason. It works! Students are far more likely to retain new knowledge when it is reinforced with hands-on experiments. *Favorite Ways to Learn Economics* is a lab manual for the classroom and for individual study. This manual of experiments and problem sets reinforces the key principles of microeconomics and macroeconomics covered in most college and AP courses. Students will enjoy this active approach to learning and instructors will see improvement in their students' comprehension. Like a finely tuned lecture, these experiments and problem sets bring economics to life. (ISBN 0-03-032771-7)

■ For the Student

Study Guide Craig Swan of the University of Minnesota has revised the student *Study Guide* to make it an even more valuable tool for understanding the text's main concepts. The *Study Guide*, which is available in comprehensive (ISBN 0-03-035539-7), micro (ISBN 0-03-03554-0), and macro (ISBN 0-03-035547-8) split versions, includes:

- Learning objectives
- Lists of important terms and concepts for every chapter
- Quizzes that help students test their understanding and comprehension of concepts
- Multiple-choice tests for self-understanding
- Lists of supplementary readings and study questions for every chapter
- "Economics in Action" sections that use current news articles to illustrate economic concepts
- "Economics Online" exercises that outline useful Internet and Web sources for economic data and information. Periodic updates of these sources will be provided at <http://baumol.swcollege.com> within the Interactive Study Center.

The Wall Street Journal Edition *The Wall Street Journal* is synonymous with the latest word on business, economics, and public policy. *Economics: Principles and Policy* makes it easy for students to apply economic concepts to this authoritative publication, and for you to bring the most up-to-date, real-world events into your classroom. For a nominal additional cost, *Economics: Principles and Policy* can be packaged with a card entitling students to a 15-week subscription to both the print and interactive versions of *The Wall Street Journal*. Instructors who have at least ten students activate their subscrip-

tions will automatically receive their own free subscription. Contact your South-Western/Thomson Learning sales representative for package pricing and ordering information.

InfoTrac College Edition If you bought a new copy of the InfoTrac College Edition of this text, don't forget to take advantage of your subscription. With InfoTrac College Edition, you can receive anytime, anywhere, online access to a database of full-text articles from hundreds of scholarly and popular periodicals. You can use its fast and easy search tools to find what you're looking for among the tens of thousands of articles—updated daily and dating back as far as four years—all in this single Web site. It's a great way to locate resources for papers and projects without having to travel to the library. **To log on and get started, visit <http://www.infotrac-college.com>**

Xtra! CD-ROM Baumol Xtra! CD-ROM, packaged with every new text, provides students with complimentary access to the robust set of additional online learning tools found at the site. If students don't have the CD, they can purchase access to the online version at <http://baumolXtra.swcollege.com>. Here is a tour through some of the study support features you will find there:

The Graphing Workshop

For most students, graphing is one of the most difficult aspects of the Principles course. The Graphing Workshop is your one-stop learning resource for help in mastering the language of graphs. You'll explore important economic concepts through a unique learning system made up of tutorials, interactive tools, and exercises that teach you how to interpret, reproduce, and explain graphs:

- **SEE IT!** Animated graphing tutorials provide step-by-step graphical presentations and audio explanations.
- **TRY IT!** Interactive graphing exercises have you practice manipulating and interpreting graphs with GraphIt—a hands-on Java graphing tool. You can check your work online.
- **APPLY IT!** Interactive graphing assignments challenge you to apply what you have learned by creating your own graph from scratch to analyze a specific scenario. You can print out and/or e-mail answers to your instructor for grading.

Video Lecture and Applications

Via streaming video, difficult concepts from each chapter are explained and illustrated by an economics instructor. These “Ask the Instructor” video clips can be extremely helpful review and clarification tools if you had trouble understanding an in-class lecture or if you are more of a visual learner who sometimes has difficulty grasping concepts as they are presented in the text. In addition, CNN video segments bring the “real world” right to your desktop. The accompanying CNN video exercises help to illustrate how economics is an important part of your daily life.

Additional Self-Testing Opportunities

In addition to the open-access chapter-by-chapter quizzes found at the Baumol Product Support Web site (<http://baumol.swcollege.com>), Baumol Xtra! offers you an opportunity to practice for midterms and finals by taking online quizzes that span multiple chapters.

econ@pps: (Economic Applications)

These economic applications are also available through the Baumol Xtra! CD. EconDebate Online, EconNews Online, EconData Online, and EconLinks Online, all deepen your understanding of theoretical concepts through hands-on exploration and analysis of the latest economic news stories, policy debates, data and Web sites. These applications are updated on a regular basis.

Web Site Valuable resources for students can be found on the Internet at the Baumol textbook support site: <http://baumol.swcollege.com>. The Interactive Study Center provides students with links to economics-related Internet sites, automatically graded practice quizzes, and PowerPoint slides for their review. Also at the Web site are a sample chapter from the study guide, access to Baumol Xtra! and other resources. Also, career listings for students, leading economic indicator information, and an economic URL database can be found at <http://economics.swcollege.com>.

South-Western Economics Resource Center A unique, rich, and robust online resource for economics instructors and students, <http://economics.swcollege.com> provides customer service and product information, teaching and learning tips and tools, information about careers in economics, access to all of our text-supporting Web sites, and other cutting-edge educational resources.

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. *Macroeconomics Alive!* CD-ROM (ISBN 0-538-86850-3) *Microeconomics Alive!* CD-ROM (ISBN 0-538-84650-X)

For more details, visit the Economics Alive! Web site at <http://econalive.swcollege.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—a growing trend, for good reason. It works! Students are far more likely to retain new knowledge when it is reinforced with hands-on experiments. *Favorite Ways to Learn Economics* is a lab manual for the classroom and for individual study that contains experiments and problem sets that reinforce the key principles of microeconomics and macroeconomics covered in most college and AP courses. Students will enjoy this active approach to learning, and instructors will see improvement in their students' comprehension. Like a finely tuned lecture, these experiments and problem sets bring economics to life. (ISBN 0-03-032741-5)

Economics: Hits on the Web This resource booklet supports students' research efforts on the World Wide Web. This manual covers materials such as: an introduction to the World Wide Web, browsing the Web, finding information on the World Wide Web, email, email discussion groups and newsgroups, and documenting Internet sources for research. It also provides a list of the hottest economic sites on the Web. (ISBN 0-759-30740-7)

The New York Times Guide to Economics Written by Bernard F. Sigler, Cheryl Jennings, and Jamie Murphy, this is more than just a printed collection of articles. This guide provides access, via password, to an online collection of the most current and relevant *New York Times* articles that are continually posted as news breaks. Also included are articles from *CyberTimes*, the online technology section of *New York Times* on the Web. Correlation guides for many South-Western economics texts are available on the South-Western/*New York Times* Web site at <http://nytimes.swcollege.com>. (ISBN 0-324-04159-4)

The Tobacco Wars *The Tobacco Wars*, by Walter Adams of Michigan State University and James W. Brock of Miami University of Ohio, presents the economic theory surrounding the tobacco litigation as a creative dialogue between many key players in the debate—including tobacco industry executives, consumers, attorneys, economists, health care professionals, historians, and political activists. Their fictional conversa-

tions illustrate the real-life issues, controversies, and points of view currently at play, giving readers a balanced and provocative framework to reach their own conclusions. The text provides a unique way to illustrate microeconomic principles, such as:

- consumer behavior
- industrial organization and public policy
- antitrust policy
- externalities, social costs, and market imperfections

(ISBN 0-324-01296-9)

NOTE TO THE INSTRUCTOR

In trying to improve the book from one edition to the next, we rely heavily on our experiences as teachers. But our experience using the book is minuscule compared with that of the hundreds of instructors who use it nationwide. If you encounter problems or have suggestions for improving the book, we urge you to let us know by writing to us in care of South-Western / Thomson Learning, 5191 Natorp Blvd., Mason, OH 45040. Such letters are invaluable, and we are glad to receive both praise and suggestions for improvement. Many such suggestions that were accumulated since publication of the Eighth Edition have found their way into this new book. Suggested course outlines for both one-semester and one-quarter courses appear in the *Instructor's Manual*.

IN GRATITUDE

Finally, we are pleased to acknowledge our mounting indebtedness to the many who have generously helped us in our efforts through the more than quarter century of existence of this book. We have often needed help in dealing with some of the many subjects that an introductory textbook must cover. Our friends and colleagues Albert Ando, Charles Berry, Rebecca Blank, William Branson, the late Lester Chandler, Gregory Chow, Avinash Dixit, the late Robert Eisner, Susan Feiner, the late Stephen Goldfeld, Claudia Goldin, Ronald Grieson, Daniel Hamermesh, Yuzo Honda, Peter Kenen, Melvin Krauss, Herbert Levine, the late Arthur Lewis, Burton Malkiel, Edwin Mills, Janusz Ordover, Uwe Reinhardt, Harvey Rosen, Laura Tyson, and Martin Weitzman have all given generously of their knowledge in particular areas over the course of nine editions. We have learned much from them, and have shamelessly relied on their help.

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