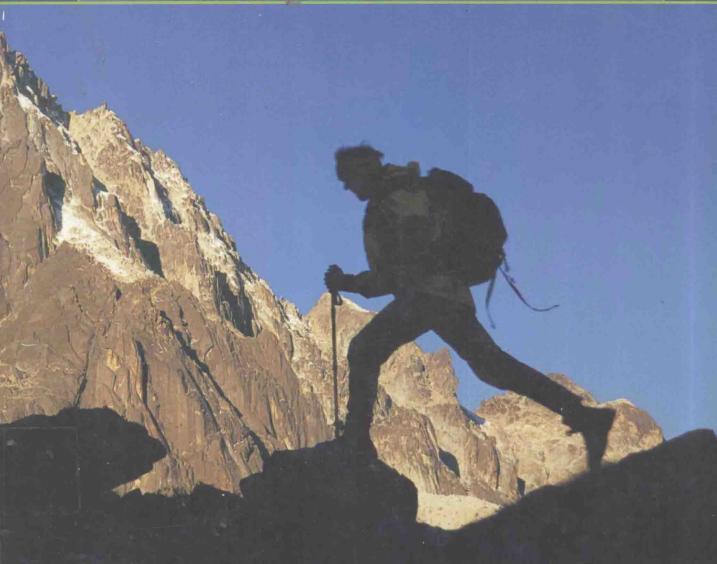
# MICROECONOMICS

Explore of Apply



Ronald M. Ayers Robert A. Collinge

# **MICROECONOMICS**

EXPLORE
&
PPLY

#### Library of Congress Cataloging-in-Publication Data

Avers, Ronald M.

Microeconomics: explore & apply / Ronald Avers, Robert Collinge.

n. cm.

Also issued as part of the author's Economics. Includes bibliographical references and index.

ISBN 0-13-016424-0

1. Microeconomics. I. Collinge, Robert A. II. Ayers, Ronald M. Economics. III. Title.

HB 172.5 .A94 2004 338.5--dc21

2002042548

Executive Editor: Rod Banister Editor-in-Chief: P. J. Boardman

Senior Development Editor: Lena Buonanno Director of Development: Steve Deitmer

Managing Editor: Gladys Soto Assistant Editor: Marie McHale Editorial Assistant: Joy Golden

Project Manager, Media: Victoria Anderson Executive Marketing Manager: Kathleen McLellan

Marketing Assistant: Christopher Bath

Managing Editor (Production): Cynthia Regan

Production Editor: Michael Reynolds Production Assistant: Joe DeProspero Permissions Supervisor: Suzanne Grappi

Associate Director, Manufacturing: Vinnie Scelta

Production Manager: Arnold Vila Design Manager: Maria Lange Art Director: Steve Frim Interior Design: Karen Quigley Cover Design: Kathryn Foot

Cover Illustration/Photo: Boby Model/National Geographic/Getty Images

Manager, Print Production: Christy Mahon Composition: Carlisle Publishers Services

Full-Service Project Management: Carlisle Publishers Services

Printer/Binder: R.R. Donnelley/Willard

Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on appropriate page within text (or on page 455).

#### Copyright @ 2004 by Pearson Education, Inc., Upper Saddle River, New Jersey,

**07458.** All rights reserved. Printed in the United States of America. This publication is protected by Copyright and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise. For information regarding permission(s), write to: Rights and Permissions Department.

Pearson Education LTD.

Pearson Education Australia PTY, Limited Pearson Education Singapore, Pte. Ltd

Pearson Education North Asia Ltd Pearson Education, Canada, Ltd

Pearson Educación de Mexico, S.A. de C.V.

Pearson Education-Japan

Pearson Education Malaysia, Pte. Ltd



# **ABOUT THE AUTHORS**



## RONALD M. AYERS

Ronald Ayers is Associate Professor of Economics and Director of the Teaching and Learning Center at the University of Texas, San Antonio. He teaches principles of microeconomics and macroeconomics, as well as the university's core curriculum course in political economy and various field

courses, including labor economics, money and banking, and industrial organization. His classes have ranged from small honors sections to lecture sections of 300.

After receiving Bachelor's and Master's degrees from the University of New Orleans, he subsequently received his Ph.D. in economics from Tulane University. Earlier in his career, Dr. Ayers served as a faculty member at Loyola University (New Orleans), Ohio State University, and Texas A & M University. He has also worked as a consultant for the City of San Antonio and several private consulting firms and attorneys. In recent years he was awarded the President's Distinguished Achievement Award for Core Curriculum Teaching, the College of Business Teaching Award, and the U.T. System Chancellor's Council Teaching Award. He also was named a Senior Fellow, Texas Higher Education Coordinating Board, in 2000. In 2001–2002, Professor Ayers was elected to serve as the Chair of the University's Faculty Senate.

Dr. Ayers has published chapters in *Putting the Invisible Hand to Work: Concepts and Models for Service-Learning in Economics* (University of Michigan Press) and *U.S.-Mexican Economic Relations: Prospects and Problems* (Praeger Publishing Company). In addition, he has published articles in many different journals, including the *National Social Science Journal*, and the *Journal of Urban and Regional Information Systems*. Along with Robert Collinge, Professor Ayers has written *Economics by Design: Principles and Issues*, forthcoming in its third edition. When he is not pursuing his interest in how people learn, Dr. Ayers enjoys spending time with his dogs, collecting books, and tinkering.



# ROBERT A. COLLINGE

Robert Collinge is Professor of Economics at the University of Texas, San Antonio. Among other courses at the graduate and undergraduate levels, Dr. Collinge has taught micro principles, macro principles, or the combined survey/issues class in each of his 16 years at UTSA. In the last few years,

Professor Collinge has twice been awarded his University President's Outstanding Achievement Award, once for overall teaching and once for teaching at the core curriculum level. Most recently, he has received his College's Combined Teaching, Research, and Service Excellence Award. Along with Ronald Ayers, Professor Collinge co-directed his University's Center for Economic Education.

After undergraduate studies at the State University of New York at Buffalo, Bob enrolled at the University of Maryland at College Park, where he went on to receive his B.A., M.A., and Ph.D. degrees. In 1982, he joined the Economics faculty at the University of Louisville. To gain experience outside of academia, Dr. Collinge worked in Washington, D.C., first as a Visiting Economist with the U.S. International Trade Commission, and then as an Economist in the Policy Analysis Department of the American Petroleum Institute.

Professor Collinge's research focuses on the design and analysis of public policies, such as his recent articles in the *Journal of Environmental Economics and Management* and the *Canadian Journal of Economics*. He has contributed to an array of other books and journals, including *The Economic Journal, The Journal of Public Economics*, and *World Development*. Professor Collinge currently serves as a member of the editorial board of *Public Works Management and Policy*. In his free time, Bob enjoys hiking through the woods near his Texas Hill Country home.

# PRFFACE



# A BOOK FOR TODAY'S STUDENTS

Taking your first course in economics can be like finding yourself in a foreign country where you do not know the language. You want the freedom to explore various interesting spots, but you cannot read the street signs for direction and you struggle when trying to communicate with the locals. There may be several different, exciting paths you can choose, but you are not sure which is best. To get your bearings in the country and reach your destinations, you need to learn something about the country's language.

Students in a principles of economics course face many of the same challenges as a wandering traveler. They have registered for the course, but they face the hurdle of learning a new language that includes many new terms and concepts. They also face the challenge of learning how to read and interpret graphs. *Microeconomics: Explore & Apply* was written to help students learn the language of economics. We engage students with familiar real-world examples and applications that bring economics to life. Our goal is to encourage students to apply the concepts they learn in this book to personal, business, and social issues that will face them long after their economics course is over. We teach students how to analyze events in the world around them and draw their own conclusions. To achieve our goal, we implement three key tools:

- 1. Real-world applications
- 2. Sound pedagogy
- 3. Straightforward presentation

# REAL-WORLD APPLICATIONS

Principles of economics is often a required course for a variety of majors, since its subject matter relates to so many of life's issues: Should I stay in school, or quit and get a full-time job? Which major should I select? Why does it matter if Microsoft is a monopoly? To help students find the answers to such questions and fulfill the purpose of this course, we emphasize both economic tools and the application of those tools. Many of our applications deal with recent events that underscore the importance of economics, such as electricity shortages in California, the war on drugs and its associated violence, and shortages of drinking water. Such economic issues make it all the more important for students to understand the market economy and the principles that underlie effective public policy.

# **Explore & Apply**

We continually motivate learning and retention of concepts with examples and brief applications throughout this book. Additionally, each chapter concludes with an in-depth *Explore & Apply* section that drives students to use the economic principles they have just learned. Each *Explore & Apply* looks at a current issue and places the student in the position of analyzing the issue using the economic tools presented in the chapter. Whether in class or over coffee, debating these policy issues can be both interesting and instructive. The result is that students retain the concepts and are ready to apply them to the many additional issues they will encounter beyond the confines of this textbook and the course.



The *Explore & Apply* sections include domestic and international topics, and several interweave technology-related issues. Sample topics include:

- What has motivated China to transition toward a market economy?
- What are the economic implications of unethical business practices?
- How do incentives shape the U.S. healthcare system?
- Would a tax on oil imports enhance U.S. energy security?

Each *Explore & Apply* includes two *Thinking Critically* questions that promote economic reasoning and encourage students to debate a policy issue. A compass icon, located in the chapter-opening learning objectives and various places in the chapter, identifies material and questions related to the *Explore & Apply* sections. Below are excerpts of narrative, a graph, and

3.4 DEMANDING BETTER SCHOOLS, SUPPLYING BETTER SCHOOLS

Some people know the importance of education because they have it. I know the importance of education because I didn't.

-Frederick Douglass, ex-slave and abolitionist

"Our schools must be improved!" From kindergarten through the twelfth grade, the education of America's youth is a top concern of both the president and parents. There is less concern, however, about improving colleeses; the reasons relate to demand and supply

College students shoulder the high cost of college, with cost playing a major role in college choice. Consistent with the law of demand, the lower the price of a college education, certeris puribus, the greater the number of students who will apply and the more education they will choose. To promote college education, government offers tax deductions, subsidies, and financial aid that in effect lowers its price.

High school seniors choose among a varied assortment of colleges. In lower grades, however, there is normally a powerful financial incentive to choose only the government-provided local public school. The reason is that taxpayer financing makes those schools free to the student.

Free public schooling was established in the nineteenth century to promote equal opportunity—an equal start in life. However, public schools are not all the same, and the gap between the best and the worst is not likely to close on its own. Schools in wealthy neighborhoods often spend more per pupil than schools in poor ones. Some schools are bureau-cratic, inefficient, and ineffective, while others have strong academic reputations. Inefficient

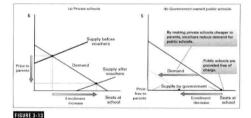




To keep the *Explore & Apply* sections up to date and to strengthen class discussions, we offer two kinds of web support materials at www.prenhall.com/ayers:

questions from the Chapter 3 Explore & Apply.

- **1.** Updates on each *Explore* & *Apply* section and supporting exercises.
- **2.** Five custom-filmed videos that further explore the issues at hand. Current statistical information and interviews with professionals and students highlight the various viewpoints on each policy issue. Tips on how to use these videos appear in the book's instructor's manual.



EFFECTS OF SCHOOL VOUCHERS Vouchers lower the price of private schooling, which increases the quantity demanded. The effect in the inariest for justilis schooling, a substitute, is to decrease demand and entollinests. Vouchers increase competition among schools, providing them with the incentive to provide the best value for movers sent in enducation.

Should educational quality be allowed to differ based on family income? Should vouchers be allowed to supplement a tuition payment at a private school, with the result that some children's quality of education would differ from other children's? Discuss.

2. Myra: I think voucher amounts should vary with household income. The more income, the less help—it's only fair.
Fred.! I think education should be free for everyone. Your income shouldn't have anything to do with how much voucher power you have.

Evaluate Myra's and Fred's ideas. If a voucher plan is to be used, should the voucher amount depend upon a person's income?

amount depend upon a person's income?



THINKING

RITICALLY

Visit www.prenhall.com/ayers for updates and web exercises on this Explore & Apply topic.

# PEDAGOGY

Our pedagogical features support our goal of helping students learn the language of economics and apply what they have learned.

■ **Learning Objectives.** Each chapter opens with a list of objectives that establishes the goals and organization of the chapter. We repeat these learning objectives and use them as an organizational tool for the end-of-chapter summary. The linking of the learning objectives and summary provides students with a helpful and coherent way to review the concepts

in each chapter. One learning objective per chapter supports the Explore & Apply section.

- Snapshots. Students retain economic concepts best when they see how these concepts relate to their immediate world. We include three Snapshots in each chapter to reinforce key concepts that have been presented. -
- OuickChecks. Three or more questions with answers interspersed throughout each chapter allow students to check their knowledge of key concepts before moving on. \_
- Margin Definitions. This running glossary allows students to check their understanding of key terms.
- **Graphs.** Reading and interpreting graphs is a key part of understanding economic concepts. Colors are used consistently to reinforce key concepts. For example, the supply and aggregate supply curves are red, the demand and aggregate demand curves are blue.

and shifts in curves are shown with a different shade of color. Call-out boxes are inserted into the graphs to help students interpret them. Graph captions are clear and self-contained so that students can understand how and why curves are shifting.

- Extensive Array of End-of-Chapter Pedagogy. Each chapter ends with a wide array of summary and self-test materials that appeal to a variety of teaching and learning styles:
  - Summary and Learning Objectives summarize the key points of the chapter and tie those points back to the learning objectives that opened the chapter.
  - Key Terms List gives students an opportunity to review the concepts they have learned in the chapter. A page reference is included next to

each term so that students can easily locate the definitions.

- Test Yourself questions in true/false and multiple-choice formats give students selfassessment opportunities and support the Explore & Apply section. Solutions appear at the end of the book.
- Questions and Problems are annotated by topic. The annotation appears before each question and problem so that instructors can easily make assignment choices. Solutions to even-numbered items appear in the back of the book. All solutions appear in the Instructor's Manual.
- Web Support Materials encourage students to visit www.prenhall.com/ayers to access more self-test quizzes, Exploring the Web exercises, news articles, and much more.



Many great athletes are multitalented, possessing strength, speed, and muscle coordination that dwarf that of the general population. These qualities are needed for success in a variety of sports, yet few athletes play more than one sport professionally, even though they might he able to do so. Simply look at the sporte pages. Venus Williams makes headlines by swing.

ing a tennis racket, while Tiger Woods swings a golf club and Barry Bonds swings a bat

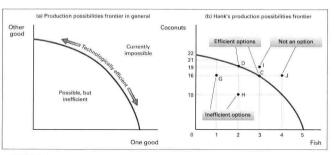
Their choices tell the rest of us about their comparative advantages.

The best teams exploit the comparative advantages of their players. Each player has a job to do and specializes in doing it well. Whatever the sport, owners and fans expect this principle of comparative advantage to be followed and demand coaches who will best exploit the talents of their players. But even the best coaches can err, as when Cleveland Indians' baseball coach Tris Speaker said in 1921, "Babe Ruth made a great mistake when he gave up pitching. Working once a week, he might have lasted a long time and become a

#### DUICKCHECK

List three cases in which shifts in demand and/or supply would result in a lower price and a greater quantity.

Adswer: One case occurs when supply shifts to the right and demand does not change. A second case is when both supply and demand both shift to the right, but the shift in supply is larger. A third case is when supply shifts right and demand shifts left, with the shift in y being larger than the shift in demand. These cases are shown in Figures 3-10 3-11(b) and 3-12, respectively.



POSSIBILITIES FOR EFFICIENCY All points on the production possibilities frontier are output combina-

POSSIBILITIES FOR EFFICIENTY All points on the production possibilities frontier are output combina-tions that are technologically efficient and feasible, as shown in GJ. Points within the production pos-sibilities frontier are also feasible, but are not efficient. Points outside the frontier cannot be reached with current resources and technology. For example, (b) shows Hank's production possibilities on Castaway Island. On this graph, point G represents 16 coconuts and a 1 fish. That combination of outputs is possible, but Hank could do better at point D by producing 19 occonuts and 2 fish. Likewise, point C is more efficient than point H. Bolt Cand D are efficient in a technological sense, meaning that at either point, Hank cannot produce more of one good without giving up some of the other. Hank would like to achieve points I or J, but does not have the resources and technology to do so.



XXII Preface

# STRAIGHTFORWARD PRESENTATION

One of the most frequent complaints about many existing textbooks is that they offer more material than can be covered adequately during the term. *Microeconomics: Explore & Apply* responds to this concern by covering essential concepts without bogging down the reader in too much detail. The book accomplishes this objective by emphasizing the intuition of economic concepts and focusing on those topics that are at the heart of economics. The result is an 18-chapter book that can easily be read and taught from, with an ample, but not excessive amount of material.

# MICROFCONOMICS ORGANIZATION

*Microeconomics: Explore & Apply* follows the traditional layout that has for many years served economics students well. We emphasize incentives and choice, the foundations for a vibrant market economy. Please see the *Alternative Sequences* chart on page xxvi to see two options for organizing chapters.

Part 1, "A Journey Through the Economy" (Chapters 1–4), covers the goals of economics, various economic systems, production possibilities, comparative advantage, demand and supply, market efficiency, and price controls. Part 2, "Microeconomic Foundations" (Chapters 5–8), covers elasticity, consumer behavior, and how firms make production decisions. Part 3, "Output Markets" (Chapters 9–11), covers the market structures of pure competition, monopoly, oligopoly, and monopolistic competition. Part 4, "Input Markets" (Chapters 12–13), shows that input markets also have their structures, with the labor market of particular significance to our earnings. Market economies sometimes fail to produce the goods we value and other times send price signals that misguide our choices. In Part 5, "Market Failure and Government Action" (Chapters 14–16), we show that government actions can help remedy market failures, but those actions often have failures of their own. We include a full chapter on public choice to emphasize the economic significance of incentives within government.

#### THE GLOBAL ECONOMY

Whether it be economic incentives in China, the multinational nature of the work force, or treaties on the global environment, international economic issues are integrated throughout the book. Furthermore, they appear in many of the *Explore & Apply* sections, Snapshots, and comparative tables and figures. Our book concludes by looking at the global marketplace. In Chapter 17, "Into the International Marketplace," and Chapter 18, "Policy Toward Trade," we examine the balance of payments, exchange rates, free-trade agreements, and arguments for trade restrictions.

#### CURRENCY AND ACCURACY

At all times, we strive for currency of content. Graphs and tables include the most recent data available. Throughout the book, we apply economic analysis to genuinely current issues—the ones that appear in headlines today and promise to continue making headlines in years to come. We will also keep the *Explore & Apply* sections current via the book's web site.

*Microeconomics: Explore & Apply* was developed based on our forty years' combined experience teaching the principles of economics course, as well as the input of approximately 100 professors. We realize the extreme importance of accurate graphs, equations, questions

and problems, and solutions. To ensure the highest level of accuracy, we carefully and painstakingly evaluated each chapter and also formed an *Accuracy Review Board* of four economics professors who checked every word, number, equation, and figure in the book. The board members were Paul Comolli, University of Kansas; Barry Kotlove, Edmonds Community College; Matthew Marlin, Duquesne University; and Garvin Smith, Daytona Beach Community College.

The supplement package was checked by: Warren Bilotta, Louisiana State University, Alexandria; Jack Bucco, Austin Community College; Ronald Elkins, Central Washington University; Garvin Smith, Daytona Beach Community College; and John C. Wassom, Western Kentucky University.

# SUPPLEMENTS ADVISOR AND COORDINATOR

We understand how important it is for instructors to have a supplement package that is comprehensive, coordinated with the main text, and easy to use. Professor Mary Lesser of Iona College, who has taught the principles of economics course for 20 years, served as the advisor and coordinator for the extensive print and technology supplement package that accompanies *Microeconomics: Explore & Apply*. Professor Lesser ensured that each supplement, including the test banks, instructor's manual, study guide, and PowerPoint presentations, met the highest standards of quality. Her script ideas and overall direction on the *Explore & Apply* custom video series helped the film crew focus on topics that resonate with today's students. She also helped develop many of the media supplements, including the *Explore & Apply* Active Book.



# PRINT SUPPLEMENTS

Microeconomics: Explore & Apply has a comprehensive supplements package that is coordinated with the main text through the numbering system of the headings in each chapter. The major sections of the chapters are numbered (1.1, 1.2, 1.3, and so on), and that numbering system is used consistently in the supplements to make it more convenient and flexible for instructors to develop their course assignments.

# Study Guide

The authors have personally prepared the comprehensive study guide that accompanies the text. Tied directly to sections of the text, the study guide enhances and reinforces economic concepts for increased student comprehension. Each chapter of the study guide includes approximately 90 questions. Each chapter features the following elements:

- **Chapter Reviews.** A comprehensive summary of the key concepts of the chapter, including the *Explore & Apply* sections.
- **Study Checks.** Problems included throughout the chapter review for quick practice with the concepts just covered.
- **Self-Tests.** 25 true/false/explain, 25 fill-in-the-blanks, and 25 multiple choice, questions give students an opportunity to test their knowledge.
- **Grasping the Graphs.** This section provides students with practice in labeling and analyzing key graphs from the book.
- **Solutions.** Detailed answers to all study guide questions.

XXIV Preface

# Instructor's Manual

The instructor's manual, written by Peter Mavrokordatos of Tarrent County College, provides the following teaching support materials:

- Summaries
- **Detailed Chapter Outlines** integrating the following:
  - Key Terminology
  - **Topics for Class Discussion** that feature real-world ideas that appeal to students and help the instructors explore and reinforce the concepts in the text.
  - **Teaching Tips** that help the instructor coordinate the text and its online offerings and present the *Explore & Apply* sections.
- Extended Applications that help make economics relevant to students.
- **Experiments and Exercises** to use in the classroom.
- Sample Syllabi
- **Solutions** to all problems in the book.
- **Video Guide** to help integrate the *Explore & Apply* videos into the classroom.

# Test Banks

Two test banks were prepared by Andrew Dane of Angelo State University and Kathy Wilson of Kent State University. The test banks include *over 5,000 questions*, organized by chapter section. Each question is keyed by degree of difficulty as easy, moderate, or difficult. *Easy* questions involve straightforward recall of information in the text. *Moderate* questions require some analysis on the student's part. *Difficult* questions usually entail more complex analysis. To help instructors select questions quickly and efficiently, we have also used the skill descriptors of fact, definition, conceptual, and analytical. A question labeled *fact* tests a student's knowledge of factual information presented in the text. A *definition* question asks the student to define an economic term or concept. *Conceptual* questions test a student's understanding of a concept. *Analytical* questions require the student to apply an analytical procedure to answer the question.

The test banks include questions with tables that provide students with the numbers that they need to use in solving for numerical answers. It also contains questions based on the graphs that appear in the book. The questions ask students to interpret the information presented in the graph. There are also many questions in the test bank that require students to sketch out a graph on their own and interpret curve movements. Test bank questions also support the *Explore & Apply* sections.

# **Color Transparencies**

All figures and tables from the text are reproduced as full-page, four-color acetates.

## INTERNET RESOURCES

Prentice Hall's Internet Resources provide students with a variety of interactive graphing and self-assessment tools. It also supplies numerous current news articles and supporting exercises.

# Companion Website http://www.prenhall.com/ayers

The Companion Website connects students to Current Events economics articles in the news, *Explore & Apply* updates, Exploring the Web exercises and activities, and Practice Quizzes that include many graphs from the text. The Practice Quizzes were prepared by Fernando Quijano

and Yvonn Quijano. These quizzes provide immediate feedback for correct and incorrect answers, and let students e-mail results to their professor.

#### For Instructors

- Syllabus Manager. This feature allows instructors to enhance their lectures with all the resources available with this text. Instructors can post their own syllabus and link to any of the material on the site.
- **Downloadable Supplements.** These features allow instructors to access the book's PowerPoint Presentations and instructor's manual. Please contact your Prentice Hall sales representative for password information.

# Companion Website PLUS for Instructors and Students

Available by using the access code packaged with every new text, Companion Website PLUS uses all of the content of the Companion Website listed above and the following other interactive resources:

- **Active Graphs.** Fifty-three Active Graphs support key graphs in the text. These JAVA applications invite students to change the value of variables and curves and see the effects in the movement of the graph.
- Smart Graphs. Twenty-seven Smart Graphs ask students to modify graphs based on an economic scenario and questions. Students receive an instant response detailing how they should have changed the graph.
- **Animated Graphing Tutorial with Audio.** Guides the student through a multimedia version of Chapter 1 Appendix: "Working with Graphs and Data."
- Egraph and Graphing Questions. This electronic graphing tool allows students to create precise, colorful graphs, using Flash technology. Students can e-mail these graphs to their professor or print and save them. To apply this technology, we have included *Graphing Questions* that require students to analyze information gathered on the Web, then create graphs using the Graphing Tool. Complete answers, with graphs, are included. The *Graphing Questions* were prepared by Leonie L. Stone of the State University of New York, Geneseo.
- **Custom Videos** A series of five custom-filmed videos support the *Explore & Apply* sections. The videos dig deeper into the issue presented in each chapter and highlight various viewpoints of the policy issue being discussed. Each video includes interviews with professionals and students and highlights various viewpoints of a policy issue. A guide to using the videos is included in the Instructor's Manual and provides summaries, lecture tips, discussion questions, and exercises.

# ONLINE COURSE OFFERINGS

To accommodate various teaching styles, we offer a complete range of technology-support materials.

# WebCT

Developed by educators, WebCT provides faculty with easy-to-use Internet tools to create online courses. Prentice Hall provides content and enhanced features to help instructors create a complete online course. Online courses are free when shrinkwrapped with the text and contain the online study guide and all test questions from the test item files. Please visit our web site at www.prenhall.com/webct for more information or contact your local Prentice Hall sales representative.



XXVI Preface



#### **Blackhoard**

Easy to use, Blackboard's simple templates and tools make it easy to create, manage, and use online course materials. Prentice Hall provides content, and instructors can create online courses using the Blackboard tools, which include design, communications, testing, and course management tools. Please visit our web site at <a href="https://www.prenhall.com/blackboard">www.prenhall.com/blackboard</a> for more information.



# **CourseCompass**

This customizable, interactive online course-management tool, powered by Blackboard, provides the most intuitive teaching and learning environment available. Instructors can communicate with students, distribute course material, and access student progress online. For further information, please visit our web site at <a href="http://www.prenhall.com/coursecompass">http://www.prenhall.com/coursecompass</a> or contact your Prentice Hall sales representative.

# TECHNOLOGY SUPPLEMENTS FOR THE INSTRUCTOR

The following technology supplements are designed to make teaching and testing easy.

# TestGen-EQ Test-Generating Software

The test banks appear in print and as computer files that may be used with the TestGen-EQ test-generating software. This computerized package allows instructors to customize classroom tests. Instructors may edit, add, or delete questions from the test banks; edit existing graphics and create new graphics; analyze test results; and organize a database of tests and student results. This new software allows for flexibility and ease of use. It provides many options for organizing and displaying tests, along with a search and sort feature. *Microeconomics: Explore & Apply* is supported by two test-item files with over 5,000 questions. These test-item files are described in detail under the "Print Supplements" section of this preface.

# PowerPoint Lecture Presentations

The PowerPoint presentations, by Paul Harris of Camden County College, offer summaries and reinforcement of key text material. Many graphs "build" over a sequencing of slides so that students may see the step-by-step process of economic analysis. Instructors can create full-color, professional-looking presentations and customized handouts for students. The PowerPoint presentations are included in the Instructor's Resource CD-ROM and are downloadable from <a href="https://www.prenhall.com/ayers">www.prenhall.com/ayers</a>.

# Explore & Apply Videos on VHS Cassette

A series of five custom-filmed videos support the *Explore & Apply* sections. The videos dig deeper into the issue presented in each chapter and highlight various viewpoints of the policy issue being discussed. The series includes interviews with professionals and students. A guide to using the videos is included in the Instructor's Manual, which provides summaries, lecture tips, discussion questions, and exercises. The videos are available to instructors on VHS cassette and on the Instructor's Resource CD-ROM. They will also be posted on the book's web site at <a href="https://www.prenhall.com/ayers">www.prenhall.com/ayers</a>.

# Instructor's Resource CD-ROM

The Instructor's Resource CD-ROM allows instructors to easily access and edit the instructor's manual, test banks, and PowerPoint Presentations. The *Explore & Apply* custom videos are also included.

# SUBSCRIPTIONS: WALL STREET JOURNAL, FINANCIAL TIMES, AND ECONOMIST.COM

Analyzing current events is an important skill for economic students to develop. To sharpen this skill and further support the book's theme of exploration and application, Prentice Hall offers you and your students three *news subscription* offers:

# The Wall Street Journal Print and Interactive Editions Subscription

Prentice Hall has formed a strategic alliance with the *Wall Street Journal*, the most respected and trusted daily source for information on business and economics. For a small additional charge, Prentice Hall offers your students a ten-week subscription to the *Wall Street Journal* print edition and the *Wall Street Journal* Interactive Edition. Upon adoption of a special book with the subscription package, professors will receive a free one-year subscription of the print and interactive versions as well as weekly subject-specific *Wall Street Journal* educators' lesson plans.

# The Financial Times

We are pleased to announce a special partnership with *The Financial Times*. For a small additional charge, Prentice Hall offers your students a fifteen-week subscription to *The Financial Times*. Upon adoption of a special book with the subscription package, professors will receive a free one-year subscription. Please contact your Prentice Hall representative for details and ordering information.

# Economist.com

Through a special arrangement with *Economist.com*, Prentice Hall offers your students a twelve-week subscription to *Economist.com* for a small additional charge. Upon adoption of a special book with the subscription package, professors will receive a free six-month subscription. Please contact your Prentice Hall representative for further details and ordering information

#### **ACKNOWLEDGMENTS**

We would like to start by expressing our hearty thanks to Rod Banister, Executive Editor, and Lena Buonanno, Senior Developmental Editor, for their ceaseless commitment to quality. Michael Reynolds, Production Editor, skillfully managed all phases of the production process and ensured a quality product. The extensive print and technology supplements that accompany this book are the result of the dedication of Gladys Soto, Managing Editor; Marie McHale, Assistant Editor; Victoria Anderson, Media Project Manager; and Lisa Amato, Editorial Assistant. Kathleen McLellan, Executive Marketing Manager, and David Theisen, National Sales Director for Key Markets, provided recommendations through various phases of the book development and created an innovative marketing strategy. Abby Reip, our Photo

XXVIII Preface

Researcher, located the dynamic and effective photographs that appear in each chapter. Along with the rest of the team at Prentice Hall, their hard work and vision were instrumental in achieving the finished products we have been discussing in this preface.

In addition to having the expertise of the Prentice Hall staff, we benefited from the expertise of numerous professors who teach the principles of economics course. We extend our special thanks and appreciation to Mary Lesser of Iona College, for her careful attention to the extensive supplement package.

Special thanks also go to the members of our *Accuracy Review Board*, who helped us identify and correct accuracy issues: Paul Comolli, University of Kansas; Barry Kotlove, Edmonds Community College; Matthew Marlin, Duquesne University; and Garvin Smith, Daytona Beach Community College.

We owe a debt of gratitude to our talented and dedicated supplement authors: Andrew Dane of Angelo State University, Richard Gosselin of Houston Community College, Paul Harris of Camden County College, Scott Hunt of Columbus State Community College, Rose LaMont of Modesto Junior College, Peter Mavrokordatos of Tarrant County College, Leonie L. Stone, State University of New York at Geneseo, and Kathy Wilson of Kent State University.

We also owe a great deal to the many reviewers and focus-group participants who assisted us in developing this book. The following professors provided us with thoughtful recommendations and constructive criticism:

Cinda Adams, Chattanooga State Technical Community College

College
Christie Agioutanti, City University of New York, Baruch
Carlos Aguilar, El Paso Community College
Uzo Agulefo, North Lake College
Ercument G. Aksoy, Los Angeles Valley College
Frank Albritton, Seminole Community College
Newton E. Aldridge, Hinds Community College
Khalid Al-Hmoud, Texas Tech University
Farhad Ameen, SUNY, Westchester Community College
Len Anyanwu, Union County College

Hamid Azari-Rad, State University of New York, New Paltz

Mina N. Baliamoune, University of North Florida Getachew Begashow, William Rainey Harper College Adolfo Benavides, Texas A&M University, Corpus Christi Victor Brajer, California State University at Fullerton Fenton L. Broadhead, Brigham Young University, Idaho Kathleen K. Bromley, Monroe Community College Jack A. Bucco, Austin Community College Melvin C. Burton, Jr., J. Sargeant Reynolds Community College

Regina Cassady, Valencia Community College
Chandana Chakraborty, Montclair State University
Marc C. Chopin, Louisiana Tech University
Pam Coates, San Diego Mesa College
John P. Cochran, Metropolitan State College of Denver
Paul Comolli, University of Kansas
Bienvenido S. Cortes, Pittsburg State University
Chandrea Thomas Crowe-Hopkins, College of Lake
County

Rosa Lea Danielson, College of DuPage

Amrik Singh Dua, Mount San Antonio College
Irma T. de Alonso, Florida International University
Rex Edwards, Moorpark College
Michael D. Everett, East Tennessee State University
William George Feipel, Illinois Central College
Clara V. P. Ford, Northern Virginia Community College
Kirk D. Gifford, Ricks College
Lynde O. Gilliam, Metropolitan State College of Denver
Michael G. Goode, Central Piedmont Community College
Richard Gosselin, Houston Community College
Richard Gosselin, Houston Community College
John W. Graham, Rutgers University
Julie Granthen, Oakland Community College
Chiara Gratton-Lavoie, California State University at
Fullerton
Mehdi Haririan, Bloomsburg University

Paul C. Harris, Jr., Camden County College Victor Heltzer, Middlesex County College Michael G. Heslop, Northern Virginia Community College

Rick L. Hirschi, Brigham Young University, Idaho
James H. Holcomb, University of Texas, El Paso
Norman Hollingsworth, Georgia Perimeter College
Jeff Holt, Tulsa Community College
R. Bradley Hoppes, Southwest Missouri State University
Yu Hsing, Southeastern Louisiana University
Safiul Huda, Community College of Rhode Island
Scott Hunt, Columbus State Community College
Paul E. Jorgensen, Linn-Benton Community College
Thomas Kemp, Tarrant County College, Northwest Campus
Jenni Kim, Pasadena City College
Marcelle Anne Kinney, Brevard Community College
Barry Kotlove, Edmonds Community College

Preface XXIX

Louis H. Kuhn, Edison Community College Rose LaMont, Modesto Junior College Phillip Letting, Harrisburg Area Community College Kenneth E. Long, New River Community College Kiartan T. Magnusson, Salt Lake Community College Matthew Marlin, Duquesne University Pete Mavrokordatos, Tarrant County College Diana McCov, Truckee Meadows Community College Erika Weis McGrath, Golden Gate University Saul Mekies, Kirkwood Community College Barbara Moore, University of Central Florida Francis Mummery, Fullerton College John Nader, Grand Valley State University Kelly Noonan, Rider University Alex Obiya, San Diego City College Charles C. Okeke, College of Southern Nevada Shawn Osell, Anoka-Ramsey Community College, Augsburg College Charles Parker, Wayne State College Elizabeth Patch, Broome Community College Michael C. Petrowsky, Glendale Community College Marilyn Pugh, Prince George's Community College

Fernando Quijano, Dickinson State University

Robert Reichenbach, Miami Dade Community College

Charles A. Reichheld, III, Cuyahoga Community College Teresa Riley, Youngstown State University Fred D. Robertson, Hinds Community College Larry Lynn Ross, University of Alaska, Anchorage Sara Saderion, Houston Community College Ramazans Sari, Texas Tech University Reza Sepassi, McLennan Community College Peter Mark Shaw, Tidewater Community College William L. Sherrill, Tidewater Community College Ken Slavsman, York College of Pennsylvania Garvin Smith, Daytona Beach Community College Noel S. Smith, Palm Beach Community College David Sollars, Auburn University Leonie L. Stone, State University of New York, Geneseo James L. Swofford, University of South Alabama Lea Templer, College of the Canyons J. Ross Thomas, Albuquerque Technical and Vocational Institute Donna Thompson, Brookdale Community College Anthony Uremovic, Joliet Junior College Abu Wahid, Tennessee State University Chester G. T. Waters, Durham Technical Community College Paul R. Watro, Jefferson Community College Mark W. Wilkening, Blinn College

We also wish to thank the many students at the University of Texas, San Antonio, who class-tested the manuscript in various stages. They provided us with inspiration and were a great source of feedback.

We welcome comments about the book. Please write to us c/o Economics Editor, Prentice Hall Higher Education Division, One Lake Street, Upper Saddle River, NJ 07458.

Ronald M. Avers

Robert A. Collinge

Save a Tree!

Many of the components of the teaching and learning package are available in electronic format. Disk-based and web-based supplements conserve paper and allow you to select and print only the material you plan to use. For more information, please ask your Prentice Hall sales representative. </P></PREF>

XXX Preface

# **ALTERNATIVE SEQUENCES**

| ALIERNATIVE SEQUENCES |  |    |  |  |
|-----------------------|--|----|--|--|
| TRADITIONAL MICRO     |  |    | POLICY EMPHASIS                                  |  |
| 1                     | The Economic Perspective                         | 1  | The Economic Perspective                         |  |
| 2                     | <b>Production and Trade</b>                      | 2  | <b>Production and Trade</b>                      |  |
| 3                     | Demand and Supply                                | 3  | Demand and Supply                                |  |
| 4                     | The Power of Prices                              | 4  | The Power of Prices                              |  |
| 5                     | Elasticity: Measuring<br>Responsiveness          | 5  | Elasticity: Measuring<br>Responsiveness          |  |
| 6                     | Consumer Behavior (optional)                     | 6  | Consumer Behavior (optional)                     |  |
| 7                     | The Firm and Production                          | 7  | The Firm and Production                          |  |
| 8                     | Costs and Profit-Maximizing<br>Output            | 8  | Costs and Profit-Maximizing<br>Output            |  |
| 9                     | Pure Competition                                 | 9  | Pure Competition                                 |  |
| 10                    | <b>Monopoly and Antitrust</b>                    | 10 | <b>Monopoly and Antitrust</b>                    |  |
| 11                    | Oligopoly and Monopolistic<br>Competition        | 11 | Oligopoly and Monopolistic<br>Competition        |  |
| 12                    | Markets for Labor and Other Inputs               | 12 | Public Choice                                    |  |
| 13                    | Earnings and Income                              | 13 | Public Goods, Regulation, and Information        |  |
| 14                    | Public Goods, Regulation, and Information        | 14 | Externalities and Common<br>Property Resources   |  |
| 15                    | Externalities and Common                         | 15 | Markets for Labor and Other Inputs               |  |
| 16                    | Property Resources  Public Choice (optional)     | 16 | Earnings and Income<br>Distribution              |  |
| 17                    | Into the International<br>Marketplace (optional) | 17 | Into the International<br>Marketplace (optional) |  |
| 18                    | Policy Toward Trade                              | 18 | Policy Toward Trade                              |  |

# **BRIEF CONTENTS**

Preface xv

# PART 1: A JOURNEY THROUGH THE ECONOMY

- 1. The Economic Perspective 1
- 2. Production and Trade 29
- 3. Demand and Supply 53
- 4. The Power of Prices 79

# PART 2: MICROECONOMIC FOUNDATIONS 105

- 5. Elasticity: Measuring Responsiveness 105
- 6. Consumer Behavior 131
- 7. The Firm and Production 157
- 8. Costs and Profit-Maximizing Output 177

# PART 3: OUTPUT MARKETS 203

- 9. Pure Competition 203
- 10. Monopoly and Antitrust 221
- 11. Oligopoly and Monopolistic Competition 247

# PART 4: INPUT MARKETS 271

- 12. Markets for Labor and Other Inputs 271
- 13. Earnings and Income Distribution 293

# PART 5: MARKET FAILURE AND GOVERNMENT ACTION 317

- 14. Public Goods, Regulation, and Information 317
- 15. Externalities and Common Property Resources 339
- 16. Public Choice 361

# PART 6: THE GLOBAL ECONOMY 381

- 17. Into the International Marketplace 381
- 18. Policy Toward Trade 405

Glossary 427 Answers to Test Yourself 433 Solutions to Even-Numbered Questions and Problems 435 Index 447 Photo Credits 455