

economics

Second Edition

Timothy Tregarthen

University of Colorado Colorado Springs

Libby Rittenberg

The Colorado College Colorado Springs

,

To our children

Economics, Second Edition

Copyright © 2000, 1996 by Worth Publishers

All rights reserved

Manufactured in the United States of America

ISBN: 1-57259-418-7

Printing: 1 2 3 4 5 03 02 01 00

Consulting Editor: Richard Alston

Weber State University

Executive Editor: Alan McClare Development Editor: Judith Kromm Project Director: Scott Hitchcock

Production Editor: Margaret Comaskey

Art Director: Barbara Rusin

Design Assistant: Lee Ann Mahler

Cover and Chapter Opening Art: Laura Bryant Production Manager: Barbara Anne Seixas

Photo Researcher: Deborah Goodsite

Composition and Separations: TSI Graphics Inc. Printing and Binding: Von Hoffmann Press, Inc.

Illustration credits begin on page IC-1 and constitute an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Tregarthen, Timothy D.

Economics / Timothy Tregarthen, Libby Rittenberg. —2nd ed. p. cm.

Includes bibliographical references and index.

ISBN 1-57259-418-7

1. Economics. I. Rittenberg, Libby. II. Title.

HB171.5.T64 1999

330—dc21

99-049098

Worth Publishers

41 Madison Avenue

New York, NY 10010

http://www.worthpublishers.com

About the Authors

Timothy Tregarthen is Professor of Economics at the University of Colorado at Colorado Springs. He has taught at the University since 1971 and served as Chairman of the Department of Economics from 1974 to 1985. He received two outstanding teaching awards at the university and in 1987 he received the Chancellor's Award as the university's outstanding professor.

Dr. Tregarthen completed his graduate work in economics at the University of California at Davis, where he was a Woodrow Wilson National Fellow and a Regents Fellow. He received

his M.A. in economics in 1970 and his Ph.D. in 1972. He was student body president at California State University at Chico and received his B.A. in economics *magna cum laude* from that institution in 1967.

He was Founder and Executive Editor of *The Margin* magazine from 1985 to 1994. He has written three books, hundreds of articles on a wide range of economic issues, and a nationally syndicated humor column on economics from 1980 to 1985.

Libby Rittenberg is Professor of Economics at Colorado College in Colorado Springs. She received her B.A. in economics-mathematics and Spanish from Simmons College in 1973, her M.A. in economics from Rutgers University in 1978, and her Ph.D. in economics from Rutgers University in 1980.

Prior to joining the faculty at Colorado College, she taught at Lafayette College and at the Rutgers University Graduate School of Management. She served as a Fulbright Scholar in Istanbul, Turkey, and worked as a research economist at Mathematica, Inc., in Princeton, New Jersey.

Dr. Rittenberg specializes in the internationally oriented areas of economics, with numerous articles in journals and books on comparative and development economics. Recent publications include two edited volumes, *The Political Economy of Turkey in the Post-Soviet Era: Going West and Looking East?* and *The Economic Transformation of Eastern Europe: Views From Within.*



Preface

The preface to the first edition of *Economics* noted not very long ago that recent developments—new trade agreements, the transition of many countries to market-based economic systems, and improvements in communications technology—were transforming the world at breathtaking speed. The pace of change has certainly not slowed down. The explosive development of the internet, the transformation of perennial U.S. federal budget deficits into surpluses, the difficulties encountered by some countries of the former Soviet bloc in converting to market-based economic systems, and a series of financial crises in Asia are but a few of the events that have had a direct impact on our lives since 1996, when *Economics* was first published. Even the speed with which books are produced has accelerated, to the point of allowing us to incorporate the 1996 base-year and comprehensive revision of NIPA data released by the Department of Commerce, Bureau of Economic Analysis, just six weeks before the text's publication. The economic way of thinking provides a set of powerful tools that we can use to understand the world—regardless of how much and how fast it changes.

The goal of this edition of *Economics* is to teach the basic principles of economics and to emphasize their relevance in today's world. We use applications from sports, politics, campus life, and other familiar settings to illustrate the links between theoretical principles and common experiences. Because of the increasingly global nature of economic activity, we also recognize the need for a clear and consistent international focus throughout an economics text. Therefore, we have broadened the scope of the book to include even more examples and applications from all over the world. Finally, we have tried to provide a sense of the intellectual excitement of the field and an appreciation for the gains it has made, as well as an awareness of the challenges that lie ahead.

Unifying Themes

To be sure that students realize that economics is a unified discipline and not a bewildering array of seemingly unrelated topics, we develop the presentation of microeconomics and macroeconomics around integrating themes.

The integrating theme for microeconomics is the marginal decision rule, a simple approach to choices that maximize the value of some objective. The marginal decision rule is presented in an intuitive manner in Chapter 6 and applied as an integrating device throughout the discussion of microeconomics. Instead of a hodgepodge of rules for different market conditions, we give a single rule that can be applied within any market setting. Chapter 6 also investigates conditions under which maximizing choices will—and will not—lead to desirable outcomes. This chapter provides a clear perspective on the strengths and limitations of markets, as well as on the role of government in the economy.

The integrating theme for macroeconomics is the model of aggregate demand and aggregate supply, introduced in broad outline in Chapter 22. We explain how the model of demand and supply that is presented in Chapter 3 is adapted and applied in the study of macroeconomics. Chapter 22 explains both long-run and short-run equilibria and introduces the concepts of the multiplier, inflationary and recessionary gaps, and stabilization policy. By the end

of the chapter, we have developed a framework for addressing the key issues of macroeconomics. Subsequent chapters use the model of aggregate demand and supply to show how the macroeconomy works.

Organization

While we have ordered the chapters in a way that we believe makes sense, we recognize that others may want to present topics in a different sequence and to pick and choose among various topics. We have carefully written the chapters so that, after covering the core introductory chapters (Chapters 1–4) and a few basic chapters in microeconomics or macroeconomics, an instructor can assign chapters out of numerical order. If desired, macroeconomics, which begins with Chapter 20, can be covered first. Economic principles that are common to both microeconomics and macroeconomics are covered in both sections of the text.

Within the microeconomics section, the sequence can be varied once the basic tools have been introduced in Part 2 (Chapters 5 through 8), so that it is possible, say, to cover competitive product and factor markets (Chapters 9, 12, and 13) before discussing imperfectly competitive product and factor markets (Chapters 10, 11, and 14). Within the macroeconomics section, the chapters can be re-ordered once the basic concepts of macroeconomics, presented in Part 7 (Chapters 20 and 21), and the fundamentals of macroeconomic modeling, presented in Part 8 (Chapters 22–25), have been developed. This sequence would allow instructors to cover the private-sector components of aggregate demand (Chapters 28–30) prior to discussing stabilization policies (Chapters 26 and 27) if they desire to do so. It is also possible, of course, to pick and choose among these chapters. Thus the text allows a great deal of flexibility.

The Core Chapters

First impressions are critical, so we've devoted great energy to making the core chapters of the text (Chapters 1–4) as clear and as engaging as possible.

Continuing the tradition of the first edition, we begin Chapter 1 with *A Day in the Life of a Nation.* As we were getting the manuscript ready to go to press, we picked a single day in February 1999 and selected events reported in newspapers from all over the country. Those events provide lively and relevant examples of how economics applies to everyone. Students will see how stories ranging from Nike Corporation's treatment of workers at its factories in southeast Asia to a \$3.3 billion charitable donation by Bill and Melinda Gates relate to economics and to the material they will be studying in the course. Economics is the study of choice, and we use these examples to focus on the choices that individuals make and on the opportunity costs of those choices. This chapter also looks at careers in economics, the benefits of an undergraduate major in economics, and the usefulness of even a little study of economics.

The appendix to Chapter 1 provides a comprehensive explanation of essentially all the graphical and mathematical tools used throughout the text. Some students are quite comfortable with these tools, but many are not. This thorough appendix will be extremely helpful to those students who are anxious about the course. It will enable them to overcome their trepidation about the way economics is presented so that they can focus better on the content and significance of the new ideas and ways of thinking they will encounter throughout the text.

Chapter 2 explains the production possibilities model and Chapter 3 presents the model of demand and supply. To make these central chapters clear *and* exciting, we have incorporated many real examples that will engage students. To introduce the topic of production possibilities, we talk about Fort Ord, a former military base that was recently converted to a university campus, California State University, Monterey Bay. We explain the production pos-

sibilities model with a sustained example using snowboards and skis. To open the discussion of demand and supply in Chapter 3, we talk about the way in which Starbucks changed the coffee-drinking habits of Americans, and then continue using coffee as an example throughout the chapter to flesh out the model of demand and supply.

To complete the core, we include a new chapter on applications of demand and supply (Chapter 4). Our goal in this chapter is to show the wide range of applications of the demand and supply model. We chose the market for personal computers, the stock market, and the market for health care services to demonstrate the relevance of the model and the breadth of its application. Price floors and price ceilings also provide excellent examples of the power of the model of demand and supply.

Microeconomics

After explaining how maximizing behavior in general leads to the marginal decision rule in Chapter 6, we complete our coverage of the basic tools of microeconomics with a chapter on consumer behavior (Chapter 7) and one on production and cost (Chapter 8). Chapter 7 ends with an optional section on indifference curve analysis. An appendix to Chapter 8 on the use of isocost curves and isoquants to understand how firms choose efficient levels of factors of production is available at the book's web site: http://www.worthpublishers.com/tregarthen. Copies of this appendix can also be ordered from the publisher.

Part 3 (Chapters 9 through 11) examines product market structures and Part 4 (Chapters 12 through 14) covers markets for factors of production. Although the relationship of government to the private sector is discussed in many places throughout microeconomics, Part 5 is devoted specifically to this topic. These chapters discuss public finance and public choice (Chapter 15) and antitrust policy and business regulation (Chapter 16). The three chapters in Part 6 apply microeconomic analysis to international trade (Chapter 17), environmental issues (Chapter 18), and inequality, poverty, and discrimination (Chapter 19).

Macroeconomics

Chapters 20–25 provide a complete introduction to the core topics of macroeconomics. Chapter 20 engages students with a discussion of the key macroeconomic issues: growth of total output and the business cycle, changes in the price level, and unemployment. Chapter 21 introduces GDP accounting and examines how consumption, investment, government purchases, and net exports affect economic activity.

Chapter 22 presents the model of aggregate demand and aggregate supply, our integrating theme for macroeconomics. The chapter on economic growth (Chapter 23) builds on the aggregate demand–aggregate supply model, with a special focus on the long run. Two chapters on money and financial markets (Chapters 24 and 25) complete Part 8.

Part 9 (Chapters 26 and 27) provides a closer look at monetary and fiscal policies, while Part 10 (Chapters 28 through 30) focuses on the private sector components of aggregate demand. In Chapter 28 we present the aggregate expenditures model.

Part 11 presents macroeconomics from a historical perspective. Chapter 31 uses the aggregate demand–aggregate supply model to explain the phases of inflation and unemployment that the United States has experienced over the past forty years. Chapter 32 shows how the actual performance of the U.S. economy since the 1930s has influenced macroeconomic theory and changed the way monetary and fiscal policy are used. It highlights the major debates concerning the way macroeconomies work and points out where economists agree and disagree. The text ends with a discussion of challenges for the future in Part 12, with chapters on economic development (Chapter 33) and economies in transition (Chapter 34).

Features and Learning Aids

Recognizing that a course in economics may seem daunting to some students, we've tried hard to make *Economics* a clear and engaging text. Clarity comes in part from the intuitive presentation style, but we've also integrated a number of pedagogical features that we believe make learning economic concepts and principles easier and more fun. These features, like the rest of the text, are very student-focused.

Getting Started chapter introductions set the stage for each chapter with an example that we hope will motivate readers to study the material that follows. These essays on topics such as the value of a college degree in the labor market and what life would be like in the United States if the country had experienced no economic growth over the last fifty years present issues or events that lend themselves to the type of analysis explained in the chapter. We refer to these examples later in the text as evidence of the link between theory and reality.

Case in Point essays within the chapter illustrate the influence of economic forces on real issues and real people. When students read about the Oprah Winfrey book club and about the lawsuit brought against Ms. Winfrey by a group of cattlemen, they see her not just as a television star, but also as a possible demand shifter. In another chapter, a distributor of kitchen appliances to building contractors talks about what it means to be a price taker in a competitive market. In yet another chapter, we explore the impact of the euro on the countries that have adopted the new currency and on other countries.

Highlighting of key terms and definitions within the text enables students to review them in context, a process that enhances learning. A list of key terms with page references to the definition appears at the end of each chapter, and all highlighted terms are included in the Dictionary of Economic Terms at the back of the book.

Checklists at the conclusion of major sections of each chapter review the key points covered in that section. At the end of each chapter, **A Look Back...A Look Ahead** summarizes the material covered in the chapter and briefly previews subsequent chapters.

Try It Yourself problems following most major sections of the text give students the opportunity to be active learners. These problems, which are answered completely at the end of each chapter, give students a clear signal as to whether they understand the material before they go on to the next topic.

Caution! notes throughout the text warn of common errors and explain how to avoid making them. After our combined teaching experience of more than fifty years, we have seen the same mistakes made by many students. Confusing the difference between a shift in demand and movement along the demand curve is a typical one. Caution! notes, which are easily spotted in the margins of the text, provide additional clarification and show students how to avoid common mistakes.

For Discussion questions at the end of each chapter are intended to promote discussion of the issues raised in the chapter and to engage students in critical thinking about the material. This section includes not only general review questions to test basic understanding but also examples drawn from the news and from results of economics research.

Problems, which follow the discussion questions, provide numerical exercises as a further test of understanding.

Supplements for Students

Study Guide

Prepared by John Brock and Dale DeBoer of the University of Colorado, Colorado Springs, the *Study Guide* reinforces the material covered in the text. For each chapter, the *Study Guide* provides chapter objectives, walks students step-by-step through the chapter, and quizzes

students with pre-tests and post-tests. Many of the *Study Guide* chapters also contain a section called "Are You Confused?" to help students having difficulty with core concepts. More advanced students who want to delve a little further into the chapter's topics will find a section called "Enrichment."

Economics 2e Companion Web Site

Found at http://www.worthpublishers.com/tregarthen, the web site to accompany *Economics* 2e offers valuable tools, including online simulations, designed to help students master economic concepts. These tools include interactive exercises, graphing modules, and student quizzes. In addition, the site features *The Margin Online*, which contains timely articles on everyday economic issues, as well as frequent updates, including new web links, exercises, and developments in economics.

Student Activities CD-ROM

This CD-ROM contains multimedia content from the *Economics* 2e companion web site, including basic drill and practice exercises, interactive simulations, graphing modules, and student quizzes. This CD-ROM is ideal for students with limited web access or for use in a lab setting.

Supplements for Instructors

Instructor's Resources Manual

The *Instructor's Resources* manual by Virginia Lee Owen of Illinois State University includes chapter overviews and outlines, learning objectives, common student difficulties, suggestions for active learning, such as annotated web sites, and lecture supplements. The manual also includes complete instructions for 12 in-class experiments, provided by John Brock, that provide hands-on learning experiences for students. A section called "Theory in Focus" presents Cases in Point not included in the text. Instructors will also find in this manual a list of readings, audio/video aids, and software to aid in class preparation and presentation.

Solutions Manual

The *Solutions Manual* contains answers for all discussion questions and problems found at the end of each text chapter.

Test Bank

Written by Paul Ballantyne of the University of Colorado, Colorado Springs, the print *Test Bank* for *Economics* 2e offers over 2,000 multiple choice, true/false, and short essay questions that test comprehension, interpretation, analysis, and synthesis.

Computerized Test Bank

The *Test Bank* is also available in CD-ROM format for both Windows and Mac users. Instructors can download the test bank and then edit, add, and resequence questions to suit their needs.

Online Testing

The Test Bank CD-ROM allows instructors to create and administer exams on paper, over a network, and over the internet as well. Multimedia, graphics, movies, sound, and interactive

activities can be included in the questions. Security features allow instructors to restrict tests to specific computers or time blocks. The CD also includes a suite of grade book and question analysis features.

Q & A Online

The *Economics* 2e companion web site allows instructors to conduct and evaluate quizzes on the web at http://www.worthpublishers.com/tregarthen>.

PowerPoint Slides

This PowerPoint set includes each figure from *Economics* 2e, enhanced with a text outline. Available from the companion web site, the slides can be used directly or customized.

WebCT

On request from instructors, the text's media content is available in WebCT format for use in creating course web sites and/or online courses. WebCT includes content, threaded discussions, quizzing, a grade book, a course calendar, and a number of other specialized features.

The Margin Online

Beginning with *The Best of The Margin*, a selection of classic articles, games, and puzzles from *The Margin*, the popular periodical founded and edited by Timothy and Suzanne Tregarthen, has been relaunched. New articles will be posted to the *Economics* 2e companion web site http://www.worthpublishers.com/tregarthen.

Transparencies

Instructors can obtain more than 200 vivid color acetates of text figures, enlarged for superior projection quality.

Videos

Economics is the text chosen to accompany the economics telecourse developed by the Dallas County Community College District. For use in class, instructors have access to videos produced by the DCCCD, the nation's leading developer of distance learning materials. These videos dramatize key economics concepts.

Acknowledgments

A text is truly the joint product of the efforts of hundreds of people. We have been humbled and gratified by the enormous contributions of colleagues around the country and the staff at Worth Publishers that have made this book possible. With pleasure, we acknowledge our debt to them.

We are most grateful to Richard Alston of Weber State University. He's been with us from beginning to end, and we could not have completed this book without him. He has been our consultant, advisor, partner, co-conspirator, collaborator, prodder, and friend. His contributions and ideas have enriched this book greatly. In addition, he has played a major role in the development of the *Study Guide*, the *Test Bank*, and the *Instructor's Resources* manual to ensure their coordination with the text. We cannot thank him enough (and we mean it, Dick!).

Our colleagues who reviewed various drafts of Economics, 1e and 2e, have made tremendous contributions to its development. We gratefully acknowledge them here. Early in the development of the second edition we held a two-day conference to discuss a variety of issues. We were joined there by the authors of the supplements and a group of peer reviewers. They told us what they thought and we took their comments to heart. We learned much from their insights. We note those who participated in the focus group with an asterisk (*) in the list below.

Jack Adams

University of Arkansas, Little Rock

Carlos Aguilar

El Paso Community College

Rasheed Al-Hmoud

Texas Tech University

Christine Amsler

Michigan State University

James Q. Aylsworth

Lakeland Community College

Andrew H. Barnett

Auburn University

Peter S. Barth

University of Connecticut

Kari Battaglia

University of North Texas

Randall Bennett

Gonzaga University

Cynthia Benzing

West Chester University

Herbert Bernstein

Drexel University

Margot Biery

Tarrant Junior College

Scott Bloom

North Dakota State University

Bruce Bolnick

Northeastern University

Frank Bonello

University of Notre Dame

M. Neil Browne

Bowling Green State University

Neil Buchanan

University of Wisconsin, Milwaukee

Michael R. Butler

Texas Christian University

Steven T. Call

Metropolitan State College of Denver

Arthur Caplan

Weber State University

Charles Capone

U.S. Department of Housing and Urban

Development

Tony Caporale

Ohio University, Athens

*Robert Carlsson

University of South Carolina

Shirley Cassing

University of Pittsburgh

Steven L. Cobb

University of North Texas Donald Coffin

Indiana University Northwest

Francis Colella

Simpson College

Mary Cookingham

Michigan State University

James Peery Cover

Culverhouse College of Commerce, University of Alabama

Jerry Crawford

Arkansas State University

Lawrence Daellenbach

University of Wisconsin, La Crosse

John P. Dahlquist

College of Alameda

Edward Day

University of Central Florida

Ed Deak

Fairfield University

Diane Dewar

SUNY Albany

Smile Dube

California State University, Sacramento

Donald H. Dutkowsky

Syracuse University

*Harry Ellis

University of North Texas

Steffany Ellis

University of Michigan

Mona El Shazly

Columbia College

Alejandra Edwards

California State University, Long Beach

Sherman Folland

Oakland University

Richard Fowles

University of Utah

Ralph Gamble

Fort Hays State University

Doris Geide-Stevenson

Weber State University

E. B. Gendel

Woodbury University

Frank Gertcher

University of Colorado, Colorado Springs

Kathie S. Gilbert

Western New Mexico University

*Lynn G. Gillette

Houston Baptist University

Otis W. Gilley

Lousiana Tech University

Lisa Grobar

California State University, Long Beach

John Groesbeck

Southern Utah University

Robert Harris

University of Indianapolis

*Gus Herring

Brookhaven College

Robert Stanley Herren

North Dakota State University

Dean Hiebert

Illinois State University

Hank Hilton

Loyola College, Baltimore

Daniel Himarios

University of Texas at Arlington

Jim Holcomb

University of Texas at El Paso

Solomon Honig

Montclair State University

Nancy A. Jianakoplos Colorado State University

Bruce Johnson

Centre College Walter Johnson

University of Missouri

Martin Iudd

St. Mary's University of Minnesota

James Kahiga

Georgia Perimeter College

Walter Kemmsies

Memphis State University

Bill Kerby

California State University, Sacramento

Van Kolpin

University of Oregon

Edward Clifford Koziara

Drexel University

Michael Kupilik

University of Montana

Maureen Lage

Miami University of Ohio

Patrick Lenihan

Eastern Illinois State University

Jane Lillydahl

University of Colorado at Boulder

Susan Linz

Michigan State University

Roger Mack

DeAnza College

Michael Magura

University of Toledo

Henry N. McCarl

University of Alabama at Birmingham

Judith A. McDonald

Lehigh University

James McGowen

Belleville Area College

Ann McPherren

Huntington College

Dayle Mandelson

University of Wisconsin, Stout

Victor Matheson

Lake Forest College

Perry Mehrling

Barnard College

Ronald Merchant

Spokane Community College

David Molina

University of North Texas

W. Douglas Morgan

University of California, Santa Barbara

Richard Moss Ricks College

Peter Naylor

Santa Barbara City College

James Nordyke

New Mexico State University

Frank O'Connor

Eastern Kentucky University

Valentine Okonkowo

Winston-Salem State University

John Pharr

Cedar Valley College

John G. Pomery

Purdue University

Thomas Potiowsky

Portland State University

Edward Price

Oklahoma State University

James F. Ragan

Kansas State University

Jaishankar Raman

Valparaiso University

W. Gregory Rhodus

Bentley College

Malcolm Robinson

University of North Carolina, Greensboro

Greg S. Rose

Sacramento City College

Robert Rycroft

Mary Washington College

David St. Clair

California State University, Hayward

*Allen Sanderson

University of Chicago

*Christine Sauer University of New Mexico

Richard Schimming
Mankato State University

Gerald Scott

Florida Atlantic University

Terri A. Sexton

California State University, Sacramento

*Alden Shiers

California State Polytechnic University

Chuck Sicotte
Rock Valley College
John L. Solow
University of Iowa

John Somers

Portland Community College

Gary W. Sorenson
Oregon State University

Charles Staelin Smith College Wendy Stock

Montana State University
Michael K. Taussig

Rutgers University

Sarah Tinkler

Weber State University

Steven G. Ullman

University of Miami

Mike Walden

North Carolina State University

Donald A. Wells

University of Arizona

Ron Whitfield

Northeastern University

*Kathryn Wilson

Kent State University

Leslie Wolfson

The Pingry School Louise B. Wolita

University of Texas at Austin

William C. Wood

James Madison University

*Ranita Wyatt

North Texas State University

Darrell Young

University of Texas at Austin

Alina Zapalska Marshall University

We are very grateful for the support we received from the entire staff at Worth Publishers. Susan Driscoll was president when this edition began and she got us launched. Liz Widdicombe, president since 1998, has been actively involved in the later stages of the project. They both provided leadership at critical stages. Catherine Woods, the publisher, and Alan McClare, the executive editor for economics, were always looking ahead and keeping us on track. Scott Hitchcock, project director, Barbara Rusin, art director, Stacey Alexander, supplements manager, and Barbara Anne Seixas, production manager, were masterful at pulling the project together.

We also thank those who tried to make us better writers. Judith Kromm, the Worth development editor, stayed with us from beginning to end. ("Can't you clarify this?" "Make that more exciting?" "Add one more Case in Point?") We benefited greatly from her care and concern and were often heartened by her enthusiasm. Ann Grogg and Marjorie Anderson, freelance development editors, also provided many insights. Margaret Comaskey, project editor, was invaluable in the final stages of the project. Shannon Capanna and Jordan Scott provided very able research assistance. We are grateful to them all.

We also want to thank our families. It is they who have had to live with this project as long as we have. They have all put up cheerfully with this invasion into their lives. We love them.

tregarthen@aol.com

Cincothy Tregarther

lrittenberg@coloradocollege.edu

A Special Note to Students

"Life ain't going to be like anything you ever heard of before." Forecasting is tricky business, but this statement strikes us as being as safe a bet as one can make in anticipating the changes that lie ahead, the changes we all will face. Change—rapid change—underlies all our lives.

However rapid the change, though, the principles of economics that you will learn in this book will help you to understand it. You'll learn an approach to thinking about choices that is likely to be quite different from any you've encountered before. But we think you'll find that this approach will be useful to you in all sorts of ways:

In Your Daily Life Life is a series of choices, and economics is the study of choice. As you learn about economics, you'll learn a framework for decisionmaking that applies to choosing whether to pay cash or use a credit card, how to evaluate a financial investment, or what to do this weekend.

In Your Campus Life Should you buy your texts in the campus bookstore or online? How should you choose between riding the bus or driving your car to school? Should you park in the prime (and often expensive) lot or in the shuttle lot away from campus? What factors should you consider in choosing a major? This course won't give you answers to these questions, but it will give you a useful vantage point from which to consider the alternatives.

In Your Career Whatever career you choose, your study of economics will help you. It won't pick out a career for you, but it will give you a framework for thinking about choosing one. And, once you've chosen a career, application of the economic principles you'll learn will make you more successful in it.

In Your Political Life As a participant in the political process, you will be expected to take positions on all sorts of issues. Should there be an increase in the minimum wage? Should universities have different entrance standards for different groups? Should producers be protected from foreign competition? You will want to know how such policies are likely to affect you and your fellow citizens. The economic principles you study in this course will give you insights that will help you form reasoned positions on these and a wide range of other issues.

These are ambitious goals, and we've set them with you in mind. We want you to share our excitement about economics and its power to frame your choices in a way that will make those choices better ones. We want to help you prepare for a life about which the only thing we know for certain is that it will be full of change.

¹Lane Kirkland, former president of the AFL-CIO used this line in a commencement address to the University of South Carolina in 1985. He was paraphrasing a line from the western movie, *Missouri Breaks*.

Contents in Brief

Preface xv

A Special Note to Students xxv

Part one

An Introduction to Economics

Chapter 1 Economics: The Study of Choice 1

Chapter 2 Confronting Scarcity: Choices in Production 38

Chapter 3 Demand and Supply 60

Chapter 4 Applications of Demand and Supply 84

Part two

Basic Tools of Microeconomics

Chapter 5 Elasticity: A Measure of Response 103

Chapter 6 Markets, Maximizers, and Efficiency 124

Chapter 7 The Analysis of Consumer Choice 145

Chapter 8 Production and Cost 167

Part three

Market Structures

Chapter 9 Competitive Markets for Goods and Services 185

Chapter 10 Monopoly 207

Chapter 11 The World of Imperfect Competition 224

Part four

Factor Markets

Chapter 12 Wages and Employment in Perfect Competition 243

Chapter 13 Interest Rates and the Markets for Capital and Natural Resources 263

Chapter 14 Imperfectly Competitive Markets for Factors of Production 284

Part five

The Role of Government in a Market Economy

Chapter 15 Public Finance and Public Choice 299

Chapter 16 Antitrust Policy and Business Regulation 321

Part six

Issues in Microeconomic Analysis

Chapter 17 International Trade 336

Chapter 18 The Economics of the Environment 353

Chapter 19 Inequality, Poverty, and Discrimination 369

Part seven

Macroeconomic Concepts

Chapter 20 The Topics of Macroeconomics 391

Chapter 21 Measuring Total Output and Income 412

Part eight

Fundamentals of Macroeconomic Modeling

Chapter 22 Aggregate Demand and Aggregate Supply 433

Chapter 23 Economic Growth 456

Chapter 24 The Nature and Creation of Money 472

Chapter 25 Financial Markets and the Economy 492

Part nine

Monetary and Fiscal Policy

Chapter 26 Monetary Policy and the Fed 511

Chapter 27 Government and Fiscal Policy 533

Part ten

Private Sector Components of Aggregate Demand

Chapter 28 Consumption and the Aggregate Expenditures Model 555

Chapter 29 Investment and Economic Activity 584

Chapter 30 Net Exports and International Finance 598

Part eleven

Macroeconomic Synthesis

Chapter 31 Inflation and Unemployment 618

Chapter 32 A Brief History of Macroeconomic Thought and Policy in the 20th Century 638

Part twelve

Challenges for the Future

Chapter 33 Economic Development 660

Chapter 34 Socialist Economies in Transition 681

Illustration Credits IC-1

Index I-1

Dictionary of Economic Terms D-1

Contents

Preface xv

A Special Note to Students xxv

An Introduction to Economics

Chapter 1 Economics: The Study of Choice

Getting Started: A Quick Look at Economics 1

Economics: An Introduction 1

The Scope of Economics: A Day in the Life of the Nation 1 ■ Scarcity, Choice, and Cost 3

Case in Point: Searching for Grizzlies 4

The Field of Economics 6

The Economic Way of Thinking 6 ■ Microeconomics and Macroeconomics 8 ■ Putting Economics to Work 8

Case in Point: Three Economists: In Business, in Government, and in Academe 10

Economics and the Scientific Method 11

Models in Economics 12

■ Testing Hypotheses in Economics 12

Case in Point: Smoking, Health, and Murder 14

Appendix 1 Graphs in Economics

How to Construct and Interpret Graphs 20

Drawing a Graph 20 ■ The Slope of a Curve 22 ■ A Graph Showing a Negative Relationship 23 ■ Shifting a Curve 24 ■ Rotating a Curve 25

Nonlinear Relationships and Graphs Without Numbers 27

Graphs of Nonlinear Relationships 27

Graphs Without Numbers 29

Using Graphs and Charts to Show Values of Variables 31

Time-Series Graphs 31 ■ Descriptive Charts 33

Chapter 2 Confronting Scarcity: Choices in Production

Getting Started: An Army Base Becomes a College Campus 38

Factors of Production 38

Labor 39 ■ Capital 39 ■ Natural Resources 40 ■ Technology and the Entrepreneur 40

Case in Point: Technology Cuts Costs, Boosts Productivity and Profits 41

The Production Possibilities Curve 42

Constructing a Production Possibilities Curve 42

Comparative Advantage and the Production Possibilities

Curve 44 The Law of Increasing Opportunity Cost 45

Movements Along the Production Possibilities Curve 45

Producing On Versus Producing Inside the Production

Possibilities Curve 46 Specialization 48

Case in Point: The Cost of the Great Depression 48

Applications of the Production Possibilities Model 49

Comparative Advantage and International Trade 49

Economic Growth 51 Arenas for Choice: A
Comparison of Economic Systems 53

Government in a Market Economy 55

Case in Point: The Expansion of Free Trade 51

Chapter 3 Demand and Supply

Getting Started: Crazy for Coffee 60

Demand 60

Price and the Demand Curve 61 ■ Changes in Demand 62

Case in Point: The Oprah Effect 65

Supply 67

Price and the Supply Curve 67 ■ Changes in Supply 68

Case in Point: The Monks of St. Benedicts's Get Out of the Egg Business 71

Demand, Supply, and Equilibrium 72

The Determination of Price and Output 72 ■ Shifts in Demand and Supply 74 ■ An Overview of Demand and Supply: The Circular Flow Model 78

Case in Point: El Niño Means More Work for Roofers 77

Part two

Chapter 4 Applications of Demand and Supply

Contents

Getting Started: A Composer Logs On 84

Putting Demand and Supply to Work 85

The Personal Computer Market 85

The Stock Market 86

Case in Point: Internet Stock Prices Soar on News of Falling Personal Computer Prices 89

Government Intervention in Market Prices: Price Floors and Price Ceilings 89

Agricultural Price Floors 90 m Rental Price Ceilings 92

Case in Point: Dairy Floor Milked Customers, Boosted Producers: Where Will It End? 91

The Market for Health-Care Services 94

The Demand and Supply of Health Care 95 ■ The Health-Care Spending Dilemma 97

Case in Point: The Oregon Plan 97

Basic Tools of Microeconomics

Chapter 5 Elasticity: A Measure of Response

Getting Started: Raise Fares? Lower Fares? What's a Public Transit Manager to Do? 103

The Price Elasticity of Demand 103

Computing the Price Elasticity of Demand 104 ■ Price Elasticities Along A Linear Demand Curve 105 ■ The Price Elasticity of Demand and Changes in Total Revenue 106 ■ Constant Elasticity Demand Curves 109 ■ Determinants of the Price Elasticity of Demand 111

Case in Point: Bad Weather Boosts Farm Revenue; Good Weather Lowers It 109

Case in Point: Elasticity and the Drug War 112

Responsiveness of Demand to Other Factors 113

Income Elasticity of Demand 113 ■ Cross Price Elasticity of Demand 114

Case in Point: Cigarette Taxes and Teen Smoking 116

Price Elasticity of Supply 116

Time: An Important Determinant of the Elasticity of Supply 117 ■ Elasticity of Labor Supply: A Special Application 118

Chapter 6 Markets, Maximizers, and Efficiency

Getting Started: A Drive in the Country 124

The Logic of Maximizing Behavior 124

The Analysis of Maximizing Behavior 125

Case in Point: Preventing Oil Spills 130

Maximizing in the Marketplace 132

Achieving Efficiency 132 ■ Producer and Consumer Surplus 134 ■ Efficiency and Equity 136

Case in Point: Saving the Elephant Through Exchange 133

Market Failure 137

Noncompetitive Markets 137 ■ Public Goods 137 ■ External Costs and Benefits 138 ■ Common Property Resources 140

Case in Point: Externalities, Cigarettes, and Alcohol 140

Chapter 7 The Analysis of Consumer Choice

Getting Started: A Day at the Grocery Store 145

The Concept of Utility 145

Total Utility 146 ■ Marginal Utility 146 ■ Maximizing Utility 148

Case in Point: Channel Zapping 147

Utility Maximization and Demand 151

Deriving an Individual's Demand Curve 151 ■ From Individual to Market Demand 151 ■ Substitution and Income Effects 152 ■ Normal and Inferior Goods 154

Case in Point: Found! An Upward-Sloping Demand Curve (For Rats Only) 154

Indifference Curve Analysis: An Alternative Approach to Understanding Consumer Choice 156

The Budget Line 157 ■ Indifference Curves 158 ■ The Utility-Maximizing Solution 159

Utility Maximization and the Marginal Decision Rule 160

Utility Maximization and Demand 162

Case in Point: Preferences Prevail in P.O.W. Camps 161

Chapter 8 Production and Cost

Getting Started: Street Cleaning Around the World 167
Production Choices and Costs: The Short Run 167

The Short-Run Production Function 168 ■ Costs in the Short Run 172

Case in Point: The Production of Fitness 171