

THIRD EDITION

---

# MICROECONOMICS AND BEHAVIOR

---

Robert H. Frank



12,725,091.00

45,918,821.00

13,450,317.00

2,072,255.00

81,002,619.00

# MICROECONOMICS AND BEHAVIOR

THIRD EDITION

ROBERT H. FRANK

CORNELL UNIVERSITY

THE MCGRAW-HILL COMPANIES, INC.

NEW YORK ST. LOUIS SAN FRANCISCO AUCKLAND BOGOTÁ CARACAS  
LISBON LONDON MADRID MEXICO CITY MILAN MONTREAL NEW DELHI  
SAN JUAN SINGAPORE SIDNEY TOKYO TORONTO

---

# FOR DAVID, JASON, CHRISTOPHER, AND HAYDEN

**McGraw-Hill**

A Division of The McGraw-Hill Companies



## MICROECONOMICS AND BEHAVIOR

Copyright © 1997, 1994, 1991 by The McGraw-Hill Companies, Inc. All rights reserved. Printed in the United States of America. Except as permitted under the United States Copyright Act of 1976, no part of this publication may be reproduced or distributed in any form or by any means, or stored in a data base or retrieval system, without the prior written permission of the publisher.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOC DOC 9 0 9 8 7 6

ISBN 0-07-021892-7

This book was set in Palatino by GTS Graphics, Inc.  
The editors were Lucille Sutton and Curt Berkowitz;  
the production supervisor was Louise Karam.  
The design manager was Charles A. Carson.  
The cover designer was Charles A. Carson;  
cover illustration by Roy Wiemann.  
R. R. Donnelley & Sons Company was printer and binder.

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

Frank, Robert H.

Microeconomics and behavior / Robert H. Frank. — 3rd ed.

p. cm.

Includes index.

ISBN 0-07-021892-7

1. Microeconomics. 2. Economic man. 3. Self-interest.  
4. Consumer behavior. 5. Microeconomics—Examinations, questions, etc.  
6. Economic man—Examinations, questions, etc. 7. Self-  
interest—Examinations, questions, etc. 8. Consumer behavior—  
Examinations, questions, etc. I. Title.

HB171.5.F733 1997

338.5—dc20

96-15499

Research underlying Chapter 7 was supported by National Science Foundation grants SES-8605829 and SES-8707492.

Parts of Chapters 6, 7, and 13 are adapted from *Passions Within Reason*, Robert H. Frank, with permission of W. W. Norton & Company.

### International Edition

Copyright © 1997. Exclusive rights by The McGraw-Hill Companies, Inc. for manufacture and export. This book cannot be re-exported from the country to which it is consigned by McGraw-Hill. The International Edition is not available in North America.

When ordering this title, use ISBN 0-07-114213-4.

# MICROECONOMICS AND BEHAVIOR

---

# ABOUT THE AUTHOR



Photo: Adriana Rovers, 1995

Robert H. Frank received his B.S. in mathematics from Georgia Tech in 1966, then taught math and science for two years as a Peace Corps Volunteer in rural Nepal. He received his M.A. in statistics from the University of California at Berkeley in 1971, and his Ph.D. in economics in 1972, also from U.C. Berkeley. He is the Goldwin Smith Professor of Economics at Cornell University, where he has taught since 1972 and where he currently holds a joint appointment in the department of economics and the Johnson Graduate School of Management.

During leaves of absence from Cornell, he served as chief economist for the Civil Aeronautics Board from 1978 to 1980 and was a Fellow at the Center for Advanced Study in the Behavioral Sciences in 1992–93. He has published on a variety of subjects, including price and wage discrimination, public utility pricing, the measurement of unemployment spell lengths, and the distributional consequences of direct foreign investment. For the past several years, his research has focused on rivalry and cooperation in economic and social behavior. His books on these themes include *Choosing the Right Pond: Human Behavior and the Quest for Status* (Oxford University Press, 1985) and *Passions Within Reason: The Strategic Role of the Emotions* (W. W. Norton, 1988). He and Philip Cook are co-authors of *The Winner-Take-All Society* (The Free Press, 1995), which received a Critic's Choice Award and appeared on both the *New York Times* Notable Books list and *Business Week* Ten Best list for 1995. Professor Frank's books have been translated into eight languages. He has been awarded an Andrew W. Mellon Professorship (1987–1990), a Kenan Enterprise Award (1993), and a Merrill Scholars Program Outstanding Educator Citation (1991).

# PREFACE

As any experienced editor will attest, the college textbook market is a crapshoot. In each major market there are dozens, if not scores, of books competing for the instructor's limited attention, and each year there are at least several highly touted new entries. With so many titles to choose from, quality alone does not assure success. Indeed, I am struck that several of the new books I liked best in recent years somehow failed to capture the market's fancy.

And so I am especially grateful for the market's warm reception of the first two editions of *Microeconomics and Behavior*. What pleases me most is that the text has done so well despite its ambitious and uncompromising agenda for the course. My goal was to write an intellectually challenging text that at the same time would be accessible and engaging to students. The more common approach in this market has been to emphasize one of these dimensions or the other. For example, some texts have done well by sacrificing rigor in the name of user-friendliness. But although such books sometimes keep students happy, they often fail to prepare them for upper-division courses in the major. Other texts have succeeded by sacrificing accessibility in the name of rigor, where rigor is all too often taken to mean mathematical density. These courses overwhelm many undergraduates, and even those few who become adept at solving well-posed mathematical optimization problems are often baffled by questions drawn from everyday contexts. I have always believed that a text could at once be rigorous and user-friendly. And to judge by the breadth of *Microeconomics and Behavior's* adoption list, many of you apparently agree.

I wrote *Microeconomics and Behavior* in the conviction that the teaching of intuition and the teaching of technical tools are complements, not substitutes. Students who learn only technical tools rarely seem to develop any real affection for our discipline, and even more rarely do they acquire that distinctive mindset we call "thinking like an economist." By contrast, students who develop economic intuition are stimulated to think more deeply about the technical tools they learn

and to find more interesting ways to apply them. Most important, they usually end up *liking* economics.

*Microeconomics and Behavior* develops the core analytical tools with great patience and attention to detail. At the same time, it embeds these tools in a uniquely diverse collection of examples and applications to illuminate the power and versatility of the economic way of thinking.

## *Economic Naturalism*

In more than 25 years of teaching, I have found that the most effective device for developing intuition is to train students to become “economic naturalists.” Studying biology enables people to observe and marvel at many details of life that would otherwise have escaped notice. In much the same way, studying microeconomics can enable students to see the mundane details of ordinary existence in a sharp new light. Throughout the text, I try to develop intuition by means of examples and applications drawn from everyday experience. *Microeconomics and Behavior* teaches students to see each feature of the man-made landscape as the reflection of an implicit or explicit cost-benefit calculation.

To illustrate, an economic naturalist is someone who wonders why kitchens in modern American houses often occupy more than 30 percent of the ground floor area, compared to less than half that percentage in houses built near the turn of the century. People untutored in the art of economic naturalism sometimes mention the “deepening love affair” between Americans and their kitchens. Or they may speculate that we build bigger kitchens because we spend more time in the kitchen than we used to. But although these responses are not wrong in any strict sense, neither are they explanations. Economic naturalists want to know what *causes* the growing affinity for kitchens. And the first explanation they search for is a significant change in relative prices.

Perhaps the most important such change has been the rising opportunity cost of time. The growing percentage of two-earner families has made it more attractive to do larger, but less frequent, shopping trips, and buying groceries in larger batches naturally creates a demand for more kitchen space to store them. Technological changes have also contributed. The proliferation of automobile ownership has made it easier to transport large quantities of groceries; and refrigeration, freezing, special packaging, and the like have made it possible to store food for much longer periods. Economic naturalists recognize in these factors the seeds of plausible hypotheses about why modern kitchens are so much larger. They spend little energy investigating deepening love affairs for kitchens.

Recent developments in the economics of information provide a rich source of intellectually engaging applications for the economic naturalist. For example, critics often remark with surprise that the Australian films shown in the United States—*Breaker Morant*, *Gallipoli*, *My Brilliant Career*, *Mad Max*, *Crocodile Dundee*, *The Last Wave*, *Picnic at Hanging Rock*, *Strictly Ballroom*, *Priscilla: Queen of the Desert*, and others—are so much better than the average American film. On a

moment's reflection, however, this is just what we ought to have expected. To see why, note the criteria by which people decide whether to see a film: Is it by a well-known director? Does it feature a favorite actor or actress? Has it gotten rave reviews in the media? Have friends who have seen it had good things to say about it? The one thing these early Australian films had in common was that few Americans had ever heard of the people who made or starred in them. Although Peter Weir, Paul Hogan, Judy Davis, Mel Gibson, and a few other Australian directors and actors have since gone on to fame in the United States, they were virtually unknown at the time their films were first shown here. So the investors who were trying to decide which Australian films to book into U.S. theaters knew their only chance for success lay in films that would generate good reviews and strong word-of-mouth—in a word, only the very best films. Anything less simply would not justify the heavy investments required to launch a movie in the American market. The economics of information thus tells us not that Australian films are of uniformly high quality, but that only the very highest-quality Australian films can hope to make money in the U.S. market.



*"Look at this this way: If I weren't a very good lawyer, could I practice in a clown costume?"*

Another rich source of material for the economic naturalist comes from the burgeoning literature on the new institutional economics. Ronald Coase's 1960 paper, "The Problem of Social Cost," is by a wide margin the most widely cited economics paper of the post-World War II era, and in 1991 Coase was at long last awarded the Nobel Prize in economics. Unaccountably, however, many microeconomics texts barely mention his seminal ideas. *Microeconomics and Behavior*, by contrast, devotes an entire chapter to applications of the Coase theorem and related developments in the growing literature on transaction costs.



## Focus on Problem Solving

Most economists agree that the best way to learn price theory is by solving problems. More than any other text currently available in the marketplace, *Microeconomics and Behavior* prepares students for its end-of-chapter problems by taking them through a sequence of carefully crafted examples and exercises within each chapter. Because most of these examples and exercises are drawn from familiar contexts, and because students engage more readily with the concrete than with the abstract, this approach proves most effective. By contrast, my experience with many current texts is that students often reach the end-of-chapter problems with little or no idea how to proceed.

## Optimal Topic Coverage

Given the explosion of interesting new micro topics that has occurred in recent decades, it has become increasingly difficult to keep intermediate texts within reasonable length. No one likes to see a favorite topic omitted, but I have done some trimming. Concepts like arc-elasticity of demand and the kinked-demand curve oligopoly model get short shrift in *Microeconomics and Behavior*, freeing up space for more valuable topics—a modern treatment of price discrimination; a spatial model of monopolistic competition; a careful introduction to game theory and strategic behavior; and a fresh look at the policy implications of the modern theory of monopoly, to name just a few.

A guiding principle in the evolution of *Microeconomics and Behavior* has been that topics should be emphasized in proportion both to their importance and to the difficulty that students have in mastering them. Because the basic rational choice model is the building block for much of what comes later in the course, I have devoted considerably more attention to its development than competing texts do. I have also allocated extra space for elasticity and its applications in demand theory, and for the average-marginal distinction in production theory.

As an additional means of identifying topics most difficult to master, I have made use of recent research showing that people often systematically violate the prescriptions of the rational choice model. For example, whereas the model says that rational persons will ignore sunk costs, many people are in fact strongly influenced by them. (Someone who receives an expensive, but painfully tight, pair of shoes as a gift is much less likely to wear them than is someone who spent \$200 out of his own pocket for those same shoes.) Especially in the chapters on consumer behavior, I call students' attention to situations in which they themselves are likely to make irrational choices. Because students' resources are limited, it makes sense to focus on precisely those issues for which knowing price theory is most likely to be helpful.

It may seem natural to wonder whether discussing examples of irrational choices might confuse students who are struggling to master the details of the rational choice model. Ironically, however, my experience has been exactly to the

contrary. Such examples actually underscore the normative message of the traditional theory. Students who are exposed to them invariably gain a deeper understanding of the basic theoretical principles at issue. Indeed, they often seem to take an almost conspiratorial pride in being able to see through the errors of judgment that many consumers make. For instructors who want to pursue how cognitive limitations affect consumer behavior in greater detail, there is a supplementary chapter on this topic.

## *A Broader Conception of Self-Interest*

One of my goals in *Microeconomics and Behavior* has been to incorporate a broader conception of preferences into models of individual choice. Most texts mention at the outset that our rational choice model takes people's tastes as given. They may be altruists, sadists, or masochists; or they may be concerned solely with advancing their own material interests. But having said that, most texts then proceed to ignore all motives other than material self-interest. It is easy to see why, because economic research has scored its most impressive gains on the strength of this portrayal of human motivation. It tells us, for example, why car pools form in the wake of gasoline price increases; and why thermostats are generally set lower in apartments that have separately metered utilities.

And yet, as students are keenly aware, our *homo economicus* caricature is patently at odds with much of what we know about human behavior. People vote in presidential elections. They give anonymously to public television stations and private charities. They donate bone marrow to strangers with leukemia. They endure great trouble and expense to see justice done, even when it will not undo the original injury. At great risk to themselves, they pull people from burning buildings, and jump into icy rivers to rescue people who are about to drown. Soldiers throw their bodies atop live grenades to save their comrades. Seen through the lens of the self-interest theory emphasized in current microeconomics textbooks, such behavior is the human equivalent of planets traveling in square orbits. Indeed, many students are strongly alienated by our self-interest model, which they perceive as narrow and mean-spirited.

*Microeconomics and Behavior* freely concedes the importance of the self-interest motive in many contexts, but also contains a supplementary chapter on the role of unselfish motives in social and economic transactions. Employing elementary game theory, this chapter identifies circumstances in which people who hold such motives have a competitive advantage over pure opportunists. It shows, for example, that people known to have cooperative predispositions can solve prisoner's dilemmas and other commitment problems in a way that purely self-interested persons cannot.

Our theoretical models of human nature are important, not least because they mold our expectations about how others will behave. Economics is the social science most closely identified with the self-interest model of human behavior. Does this model color our expectations of others, and perhaps even our own behavior?

In a recent study, two colleagues and I found numerous indications that economists are much more likely than others to behave opportunistically in social dilemmas.<sup>1</sup> For example, academic economists were more than twice as likely as the members of any other discipline we surveyed to report that they give no money at all to any private charity. In an experiment, we also found that economics majors were more than twice as likely as nonmajors to defect when playing one-shot prisoner's dilemmas with strangers.

This difference was not merely a reflection of the fact that people who chose to major in economics were more opportunistic to begin with. We found, for example, that the difference in defecting grew larger the longer a student had studied economics. Questionnaire responses also indicated that freshmen in their first microeconomics course were more likely at the end of the term to expect opportunistic behavior from others than they were at the beginning.

There are thus at least some grounds for concern that, by stressing only the self-interest motive, economists may have undermined our students' propensities for cooperative behavior. The irony, as I attempt to show in Chapter 7, is that the internal logic of the economic model never predicted such narrowly self-interested behavior in the first place.

### *Additional Pedagogical Features*

Unlike most intermediate texts, *Microeconomics and Behavior* contains no boxed applications, which tend to distract students from the thread of argument being developed. Instead, applications and examples are integrated fully into the text. Many of these have the added advantage of being drawn from experiences to which students can personally relate.

The chapter introductions and summaries are other innovative features of *Microeconomics and Behavior*. Most chapters begin with an anecdote that poses a problem or question that the material developed in the chapter will enable the student to answer. These introductions have proved especially helpful for the many students who find that getting started is often the hardest step. The chapter summaries in most current texts consist of brief annotated lists of the topics covered. The chapter summaries in *Microeconomics and Behavior*, by contrast, are written in a narrative form that carefully synthesizes the material covered in the chapters.

Each chapter concludes with a selection of problems that range in difficulty from routine to highly challenging. These problems have all been class-tested to assure their accuracy and effectiveness in helping students master the most important concepts in the chapters.

Answers to all in-text exercises appear at the end of the chapter in which they

---

<sup>1</sup>See R. H. Frank, T. D. Gilovich, and D. T. Regan, "Does Studying Economics Inhibit Cooperation?" *Journal of Economic Perspectives*, Spring 1993.

occur. Variations and extensions of these exercises are echoed in the end-of-chapter problems, which enables students to approach these problem sets with greater confidence. Detailed answers to all end-of-chapter problems are included in the instructor's manual.

## *Core and Supplementary Chapters*

Even though *Microeconomics and Behavior* was not written to include every topic that might conceivably appeal to the members of an adoption committee, it does contain more material than can be covered comfortably in a single term. As the table of contents makes clear, it includes the standard micro-text core chapters, in the order in which they are most commonly presented. It also includes five supplementary chapters that explore new developments and other material not generally included in the core chapters. With the time constraints of the single-term course in mind, the supplementary chapters have been written in a more discursive style than the core chapters, which makes them accessible to students with little or no faculty supervision. Thus, with virtually no disruption of established single-term lecture plans, these chapters can be assigned as supplementary readings.

## *Changes in the Third Edition*

The rule in publishing is to stick with a winning formula. So although the third edition of *Microeconomics and Behavior* contains many new examples and applications throughout, it is essentially similar to the first two editions in terms of its topic coverage and pedagogy. Still, there have been a number of refinements, some of which I list here:

- Earlier introduction of marginal analysis. In earlier editions, all of the examples in Chapter 1 involved choices among discrete alternatives. In this edition, I introduce the concept of marginal analysis in this chapter by means of several examples involving choice over continuous outcomes.
- A nontechnical section on the marginal utility approach to the consumer choice problem. Earlier editions treated the consumer choice problem by means of the indifference curve/budget constraint approach in the text, with a mathematical appendix on the calculus-based marginal utility approach. In response to requests from numerous users and reviewers, I have added a section in Chapter 3 of the third edition that presents the marginal utility approach in noncalculus terms.
- Relegation of material to appendices. Because student attention is a scarce resource, the addition of new material creates a need to delete existing material. Yet inevitably what gets left behind turns out to be somebody's favorite

material. I have tried to mitigate this problem by relegating material to appendices rather than deleting it outright. Another change in the third edition is that the appendices now appear as a group at the end of the text, rather than individually at the end of their respective chapters.

- Consolidation of Chapters 13 and 14. In a concession to the fact that the boundary between oligopoly and monopolistic competition is neither theoretically nor empirically well defined, I have combined the two chapters on these topics into a single chapter in the third edition.

## *The Ancillaries*

For the third edition, Jim Halteman of Wheaton College has expanded and upgraded the well-received study guide and instructor's manual and test bank he produced for the earlier editions. Amy Glass of Ohio State University has provided valuable additional testing materials. This edition also comes with an interactive student software package by Mark Reiman of Pacific Lutheran University that features a Windows interface, 12 full-length tutorials, extensive graphical and numerical exercises, a hyperlink glossary, bibliography, and testing options.

## *Acknowledgments*

In the process of writing this text, I have incurred many debts. The Andrew W. Mellon Foundation sponsored a leave of absence during which I completed much of my initial draft. Scott Stratford, my first editor at McGraw-Hill, had the wisdom to recognize that for an innovative text like *Microeconomics and Behavior* to succeed in the marketplace, much more than the usual level of attention had to be devoted to the development of the core material. To this end, no fewer than eleven different classes used and reviewed *Microeconomics and Behavior* in a preliminary edition. Feedback from students and instructors involved in this class-testing program was digested with great care and led to innumerable substantive improvements in the manuscript.

Curt Berkowitz also deserves substantial credit for his careful and thoughtful job as the book's developmental editor. To him fell the difficult task of reviewing the reviews, and translating their suggestions into concrete proposals for refinement. Curt's growing enthusiasm for economic ideas lets me hope that our project is on track.

I thank Greg Thaler for his assistance on the end-of-chapter problems and Michael Waldman and Robert Sandy for generously sharing their exams and problem sets with me. And I thank Caglar Ozden and Eric English for their unusually able help in reviewing the final manuscript.

Lucille Sutton has taken over Scott Stratford's duties for this edition. Those who know Scott will appreciate that he is a hard act for *anyone* to follow. But I

am pleased to report that McGraw-Hill has chosen yet another outstanding economics editor. She has not only ably maintained McGraw-Hill's commitment to the ongoing success of the text, she has also been a genuine pleasure to work with.

Finally, I thank the following reviewers who assisted with this edition and continue to be indebted to those who were involved in the project at earlier stages. Their insights and critiques led to many improvements, and I hope they are as pleased as I am with their influence on the final product. Reviewers involved in the preparation of this edition:

Michael R. Butler	<i>Texas Christian University</i>
Maxim Engers	<i>University of Virginia</i>
Robert M. Feinberg	<i>American University</i>
Julie Iskow	<i>University of Vermont</i>
Donald Keenan	<i>University of Georgia</i>
Robert E. Moore	<i>Georgia State University</i>
Charles Noussair	<i>Purdue University</i>
Diane S. Owen	<i>The College of William and Mary</i>
J. David Richardson	<i>Syracuse University</i>
Dorothy Ryan Siden	<i>Salem State College</i>
Nicholas S. Vonortas	<i>George Washington University</i>
Charles E. White	<i>Framingham State College</i>

Reviewers of the earlier editions:

Jack Adams	<i>University of Arkansas—Little Rock</i>
Robert F. Allen	<i>Creighton University</i>
Ted Amato	<i>University of North Carolina—Charlotte</i>
Bruce Benson	<i>Florida State University</i>
Swati Bhatt	<i>New York University</i>
Scott Bierman	<i>Carleton College</i>
Robert Carbaugh	<i>Central Washington University</i>
Anthony M. Carilli	<i>Hampden-Sydney College</i>
Philip J. Cook	<i>Duke University</i>
James L. Dietz	<i>California State University—Fullerton</i>
Mickey Falkson	<i>Cornell University</i>
Paul Farnham	<i>Georgia State University</i>
Randall Filer	<i>City University of New York—Hunter College</i>
Raymond Fishe	<i>University of Miami</i>
Roger Frantz	<i>San Diego State University</i>
Gary Gigliotti	<i>Rutgers University</i>
Lorraine Glover	<i>California State University—Northridge</i>
Devra Goldbe	<i>City University of New York—Hunter College</i>
Thomas A. Gresik	<i>Pennsylvania State University</i>
Loren Guffey	<i>University of Central Arkansas</i>

Harish Gupta	<i>University of Nebraska–Lincoln</i>
Simon Hakim	<i>Temple University</i>
Karen Hallows	<i>University of Missouri</i>
Jim Halteman	<i>Wheaton College</i>
Clifford B. Hawley	<i>West Virginia University</i>
Dean Hiebert	<i>Illinois State University</i>
Harold M. Hochman	<i>Baruch College</i>
Laurence R. Iannaccone	<i>Santa Clara University</i>
Herbert Kessell	<i>St. Michael's College</i>
Philip King	<i>San Francisco State University</i>
John Klock	<i>Brandeis University</i>
Kenneth Koford	<i>University of Delaware</i>
Anthony Krautmann	<i>DePaul University</i>
Alan J. MacFadyen	<i>University of Calgary</i>
Craig MacPhee	<i>University of Nebraska–Lincoln</i>
John D. Mason	<i>Gordon College</i>
Thomas E. Merz	<i>Michigan Technological University</i>
Michael A. Murphy	<i>Tufts University</i>
Clark Nardinelli	<i>Clemson University</i>
Robert H. Nicholson	<i>University of Richmond</i>
Michael T. Peddle	<i>Northern Illinois University</i>
John Pomery	<i>Purdue University</i>
Joseph M. Prinzing	<i>Lynchburg College</i>
Dagmar Rajagopal	<i>Ryerson Polytechnical Institute</i>
Sheldon Sax	<i>Middlebury College</i>
John Schnell	<i>University of Alabama–Huntsville</i>
Bruce Seaman	<i>Georgia State University</i>
Larry G. Sgontz	<i>University of Iowa</i>
William Shaffer	<i>Georgia Tech</i>
Jason Shogren	<i>Iowa State University</i>
Henry Thompson	<i>Auburn University</i>
Steven Tomlinson	<i>University of Texas–Austin</i>
Don Waldman	<i>Colgate University</i>

As usual, I welcome further comments and suggestions.

Robert H. Frank

# CONTENTS

PREFACE	xxi
PART ONE: INTRODUCTION	1
CHAPTER 1: THINKING LIKE AN ECONOMIST	3
The Cost-Benefit Approach to Decisions	4
EXAMPLE 1-1: <i>Should I Turn Down My Stereo?</i>	5
A Note on the Role of Economic Theory	6
Some Common Pitfalls in Decision Making	7
EXAMPLE 1-2: <i>Should I Go Skiing or Work As a Research Assistant?</i>	8
EXAMPLE 1-3: <i>Should I Work As a Research Assistant or Scrape Plates?</i>	8
EXAMPLE 1-4: <i>Should I Work First or Go to College First?</i>	9
EXAMPLE 1-5: <i>Is It Fair to Charge Interest When Lending a Friend or Relative Some Money?</i>	10
EXAMPLE 1-6: <i>Why Do Banks Pay Interest in the First Place?</i>	11
EXAMPLE 1-7: <i>Should I Drive to Boston or Take the Bus?</i>	12
EXAMPLE 1-8: <i>The Pizza Experiment</i>	13
EXAMPLE 1-9: <i>Which Is More Important in a Rental Car for an Energy-Conservation-Minded Consumer: Better Gas Mileage or a Cheaper Rental Rate?</i>	15
The Invisible Hand	16



EXAMPLE 1-10: <i>Should I Burn My Leaves or Haul Them into the Woods?</i>	17
Rationality and Self-Interest	18
EXAMPLE 1-11: <i>Should I Vote in the Next Presidential Election?</i>	18
Would Parents Want Their Daughter or Son To Marry <i>Homo</i> <i>Economicus?</i>	20
The Concept of Marginal Analysis	21
EXAMPLE 1-12: <i>How Much Memory Should Your Computer Have?</i>	22
The Economic Naturalist	23
EXAMPLE 1-13: <i>Why Is Airline Food So Bad?</i>	23
EXAMPLE 1-14: <i>Why Do Manual Transmissions Have Five Forward Speeds, Automatics Only Four?</i>	24
EXAMPLE 1-15: <i>Why Have Paper Towels Replaced Hot-Air Hand Dryers in Public Restrooms?</i>	24
Positive Questions and Normative Questions	26
Microeconomics and Macroeconomics	26
Summary	27
Questions for Review	27
Problems	28
Answers to In-Chapter Exercises	30
 CHAPTER 2: SUPPLY AND DEMAND	 31
Chapter Preview	32
Supply and Demand Analysis	32
Equilibrium Quantity and Price	35
Some Welfare Properties of Equilibrium	38
Free Markets and the Poor	39
EXAMPLE 2-1: <i>Denied Boarding Compensation</i>	40
EXAMPLE 2-2: <i>Rent Controls</i>	41
The Rationing and Allocative Functions of Prices	43
Determinants of Supply and Demand	44
Predicting and Explaining Changes in Price and Quantity	47
EXAMPLE 2-3: <i>Why Do the Prices of Apples Go Down During the Months of Heaviest Consumption, While the Prices of Beachfront Cottages Go Up?</i>	47
Price Supports	48
EXAMPLE 2-4: <i>How Does the Price Support Program in the Soybean Market Affect the Price and Quantity of Beef?</i>	49