

Boyes      Melvin

# MICROECONOMICS

Fourth Edition



# Microeconomics

*Fourth Edition*

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## To our families

W. B.      M. M.

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# Preface

In the first edition of *Microeconomics* we integrated the global perspective with the traditional economic principles to give students a framework to understand the globally developing economic world. Events since then have made this approach even more imperative. The Soviet Union has disintegrated, newly independent nations have emerged, and markets have been established where none had existed before. Students and instructors embraced the idea that the economies of countries are interrelated and that this should be made clear in the study of economics. *Microeconomics* gives students the tools they need to make connections between the economic principles they learn and the now-global world they live in.

Current users of *Microeconomics* report that their students find the book “very interesting,” “really easy to understand,” and “easy to learn from.” We have also discovered that this book has well served students from many different backgrounds and with varying future plans—from those who major in business, psychology, education, engineering, English, and other fields to those who choose to pursue economics.

Now, in the fourth edition, we continue to refine and improve the text as a teaching and learning instrument while expanding its international base by updating and adding examples related to global economics throughout.

## CHANGES IN THE FOURTH EDITION

The fourth edition of *Microeconomics* has been streamlined and thoroughly updated and refined. Streamlining was primarily achieved by eliminating or combining several chapters as outlined in the sections following. A detailed account of all the additions, deletions, and modifications is in the Transition Guide in the *Instructor's Resource Manual* and on the web site at <http://www.hmco.com/college>.

### Revised Microeconomic Coverage

The microeconomic material includes further refinements to enable students to see the forest while wandering around the trees. Chapter 32 in the third edition, which dealt with land, capital, and entrepreneurial ability, has been significantly reworked. The new Chapter 31,

“Capital and Technological Change,” deals with capital markets and the role of technological change in those markets. It includes a discussion of the financial capital markets and their role in financing the acquisition of physical capital. Chapter 35 from the third edition, which focused on market failures and the environment, has also been totally revised and placed earlier as a new Chapter 32, “Natural Resources and Environmental Policy.” Chapter 36 from the third edition, “Government and Public Choice,” was dropped; the material from this chapter has been woven into several chapters, including in particular Chapters 5, 27, and 32.

### Modern Topics and Features Throughout

Modern topics continue to be the emphasis of the text. The economics of personnel, strategic behavior, and the economics of information are maintained but are restructured and reemphasized. The economics of information is included in the chapter on oligopoly and monopolistic competition; this ensures that students realize that what they are studying is indeed real-world oriented. The effects of corruption on economic growth and development is now included in the economic development chapter to mirror the current policy emphasis in multinational organizations on this topic.

Each chapter contains approximately fifteen exercises that challenge students, test their retention and understanding of the material, and extend their knowledge. New to the fourth edition are Internet Exercises, one per chapter, which allow interested students to participate in activities that require accessing data from the Internet. For example, in Chapter 1, students can access our web site and examine statistics of people attending college in the United States. Students are then asked several questions about the data. Additional web-based assignments, at least one per chapter, are also available the supporting web site at <http://www.hmco.com/college>.

### SUCCESSFUL FEATURES RETAINED FROM THE THIRD EDITION

In addition to the considerable updating and revising we've done for the fourth edition, there are several features preserved from the previous edition that we think instructors will find interesting.



## Enhanced Student Relevance

With all the demands on today's students, it's no wonder that they resist spending time on a subject unless they see how the material relates to them and how they will benefit from mastering it. We incorporate features throughout the text that show economics as the relevant and necessary subject we know it to be.

**Real-World Examples** Students are rarely intrigued by unknown manufacturers or service companies. Our text talks about people and firms that students recognize. We describe business decisions made by McDonald's and Pizza Hut, by Kodak and Fuji, and by the local video store or café. We discuss the policies of Bill Clinton and other world leaders. These examples grab students' interest. Reviewers have repeatedly praised the use of novel examples to convey economic concepts.

**Economic Insight Boxes** These brief boxes bring in contemporary material from current periodicals and journals to illustrate or extend the discussion in the chapter. By reserving interesting but more technical sidelights for boxes, we lessen the likelihood that students will be confused or distracted by issues that are not critical to understanding the chapter. By including excerpts from articles, we help students learn to move from theory to real-world examples. And by including plenty of contemporary issues, we guarantee that students will see how economics relates to their own lives.

**Economically Speaking Boxes** The objective of the principles course is to teach students how to translate the predictions that come out of economic models to the real world and to translate real-world events into an economic model in order to analyze and understand what lies behind the events. The Economically Speaking boxes present students with examples of this kind of analysis. Students read an article that appears on the left-hand page of a two-page spread at the end of each chapter. The commentary on the right-hand page shows how the facts and events in the article translate into a specific economic model or idea, thereby demonstrating the relevance of theory.

## An Effective and Proven System of Teaching and Learning Aids

This text is designed to make teaching easier by enhancing student learning. Tested pedagogy motivates students, emphasizes clarity, reinforces relationships, simplifies review, and fosters critical thinking. And, as we have dis-

covered from reviewer and user feedback, this pedagogy works.

**In-Text Referencing System** Sections are numbered for easy reference and to reinforce hierarchies of ideas. Numbered section heads serve as an outline of the chapter, allowing instructors flexibility in assigning reading, and making it easy for students to find topics to review. Each item in the key terms list and summary at the end of the chapter refers students back to the appropriate section's number.

The section numbering system appears throughout the Boyes/Melvin ancillary package; the *Test Banks*, *Study Guides*, and *Instructor's Resource Manual* are organized according to the same system.

**Fundamental Questions** These questions help to organize the chapter and highlight those issues that are critical to understanding. Students can then read the chapter with these questions in mind; this active participation enhances understanding and retention. Each fundamental question also appears in the margin by the text discussion that helps students to answer the question. Fundamental questions are also used to organize the chapter summaries. Brief paragraphs answering each of these questions are found in the *Study Guides* available as supplements to this text. The fundamental questions also serve as one of several criteria used to categorize questions in the *Test Banks*.

**Preview** This motivating lead-in sets the stage for the chapter. Much more than a road map, it helps students identify real-world issues that relate to the concepts that will be presented.

**Recaps** Briefly listing the main points covered, a recap appears at the end of each major section within a chapter. Students are able to quickly review what they have just read before going on to the next section.

**Summary** The summary at the end of each chapter is organized along two dimensions. The primary organizational device is the list of fundamental questions. A brief synopsis of the discussion that helps students to answer those questions is arranged by section below each of the questions. Students are encouraged to create their own links among topics as they keep in mind the connections between the big picture and the details that make it up.

**Comments** Found in the text margins, these comments highlight especially important concepts, point out common mistakes, and warn students of common pitfalls. They alert students to parts of the discussion that they should read with particular care.

**Key Terms** Key terms appear in bold type in the text. They also appear with their definition in the margin and are listed at the end of the chapter for easy review. All key terms are included in the Glossary at the end of the text.

## Friendly Appearance

Economics can be intimidating; this is why we've striven to keep *Microeconomics* looking friendly and inviting. The one-column design and ample white space in this text provide an accessible backdrop. Over 300 figures rely on well-developed pedagogy and consistent use of color to reinforce understanding. Striking colors were chosen to enhance readability and provide visual interest. Specific curves were assigned specific colors, and families of curves were assigned related colors.

Annotations on the art point out areas of particular concern or importance. Students can see exactly which part of a graph illustrates a shortage or a surplus, a change in consumption or consumer surplus. Tables that provide data from which graphs are plotted are paired with their graphs. Where appropriate, color is used to show correlations between the art and the table, and captions clearly explain what is shown in the figures and link them to the text discussion.

The color photographs not only provide visual images but make the text appealing. These vibrant photos tell stories as well as illustrate concepts, and often lengthy captions explain what is in the photos, again to draw connections between the images and the text discussion.

## Thoroughly International Coverage

Students understand that they live in a global economy; they can hardly shop, watch the news, or read a newspaper without stumbling on this basic fact. International examples are presented in every chapter but are not merely added on, as is the case with many other texts. By introducing international effects on demand and supply in Chapter 3, we are able to incorporate the international sector into the economic models and applications wherever appropriate thereafter. Because the international content is incorporated from the beginning, students develop a far more realistic picture of the national economy; as a result they don't have to alter their thinking to allow for international factors later on. The three chapters that focus on international topics at the end of the text allow those instructors who desire to delve much more deeply into international issues to do so.

The global applicability of economics is emphasized by using *traditional economic concepts to explain inter-*

*national economic events and using international events to illustrate economic concepts that have traditionally been illustrated with domestic examples.* Instructors need not know the international institutions to introduce international examples since the topics through which they are addressed are familiar, for example, price ceilings, price discrimination, expenditures on resources, marginal productivity theory, and others.

Unique international elements of microeconomic coverage in the text include:

- The introduction of exchange rates as a determinant of demand and supply in Chapter 3
- Extensive analyses of the effects of trade barriers, tariffs, and quotas
- An examination of strategic trade
- An examination of dumping as a special case of price discrimination
- The identification of problems faced by multinational firms
- A comparison of behavior, results, and institutions among nations with respect to consumption, production, firm size, government policies toward business, labor markets, health care, income distribution, environmental policy, and other issues

## Modern Microeconomic Organization and Content

All too often microeconomics is presented as a succession of facts, graphs, and theories whose connections are not easily grasped or appreciated. Because students don't see the big picture, they find microeconomics difficult and unrelated to their lives. We give students a context for organizing and understanding the material covered and point out how it relates to their everyday experience. We also draw students' interest by extending the application of economic principles to important social issues of the day—families, aging, health care, college and occupational choice, and discrimination.

Part II presents basic concepts such as elasticity, consumer behavior, and costs of production. Parts III and IV both begin with overview chapters (Chapter 9 on product markets and Chapter 14 on resource markets). These overviews give students a chance to look at the big picture before delving into details they often find confusing. Chapter 9, for instance, gives students an intuitive overview of the market structures before they explore each type of structure in more detail in succeeding chapters. Chapter 9 lightens the load that the more-detailed

chapters have to bear, easing students into the market structure material. The traditional topics are covered in the separate market structure chapters, Chapters 10 to 12, but the coverage is also modern, including such topics as strategic behavior, price discrimination, nonprice competition, and the economics of information. Having fought their way first through the cost curves and then the market structures, students often complain that they do not see the relevance of that material to real-world situations. The intuitive overview chapter alleviates some of that frustration. New material on technological change and financial capital is included in the thoroughly revised Chapter 17. The coverage of environmental issues is expanded and given prominent positioning as Chapter 18.

## A COMPLETE TEACHING AND LEARNING PACKAGE

In today's market no book is complete without a full complement of ancillaries. Those instructors who face huge classes find good transparencies (acetates) to be critical instructional tools. Others may find that computer simulations and tutorials are invaluable. Still others use projection technology and want *PowerPoint* slides. All of these are available. And to foster the development of consistent teaching and study strategies, the ancillaries pick up pedagogical features of the text—like the fundamental questions—wherever appropriate.

**Transparencies** Available to adopters are over 100 color acetates showing the most important figures in the text. Over 10 percent of these figures have one to three overlays, which in addition to adding clarity and flexibility to the discussion, allow instructors to visually demonstrate the dynamic nature of economics.

**Instructor's Resource Manual (IRM)** Patricia Diane Nipper has produced a manual that will streamline preparation for both new and experienced faculty. Preliminary sections cover class administration, alternative syllabi, and a guide to the use of cooperative learning in teaching the principles of economics.

The *IRM* also contains a detailed chapter-by-chapter review of all the changes made in the fourth edition. This Transition Guide should help instructors more easily move from the use of the third edition to this new edition.

Each chapter of the *IRM* contains:

- Teaching objectives that address (1) critical points to cover if your students are to succeed with later

chapters, (2) concepts traditionally difficult for students to master, and (3) the unique features of the chapter

- The fundamental questions
- The key terms
- A lecture outline with *teaching strategies*—general techniques and guidelines, essay topics, and other hints to enliven your classes
- Opportunities for discussion
- Answers to every end-of-chapter exercise
- Answers to *Study Guide* homework questions

**Study Guides** Janet L. Wolcott and James E. Clark of the Center for Economic Education at Wichita State University have revised the *Macroeconomics* and *Microeconomics Study Guides* to give students the practice they need to master this course. Initially received by students and instructors with great enthusiasm, the guides maintain their warm and lively style to keep students on the right track. For each chapter:

- Fundamental questions are answered in one or several paragraphs. For students who have trouble formulating their own answers to these questions after reading the text, the *Study Guides* provide an invaluable model.
- Key terms are listed.
- A Quick Check Quiz is organized by section, so any wrong answers send the student directly to the relevant material in the text.
- Practice Questions and Problems, which is also organized by section, includes a variety of question formats—multiple choice, true/false, matching, and fill in the blank. They test understanding of the concepts and ask students to construct or perform computations.
- Thinking About and Applying . . . uses newspaper headlines or some other real-life applications to test students' ability to reason in economic terms.
- A Homework page at the end of each chapter contains five (two factual, two applied, and one synthesis/analysis) questions that can be answered on the sheet and turned in for grading. Answers are included in the *IRM*.
- Sample tests appear at the end of each *Study Guide* part and consist of 25 to 50 questions similar to *Test Bank* questions. Taking the sample tests helps students determine whether they are prepared for exams.

- Answers are provided to all but Homework questions. Students are referred back to the relevant pages in the main text.

**Test Banks** *Test Banks* for both *Macroeconomics* and *Microeconomics* are available. Nearly 8,000 test items, many of them new to this edition, provide a wealth of material for classroom testing. Features include:

- Multiple choice, true/false, and essay questions in every chapter
- Nearly 1,000 questions new to this edition, marked for easy identification
- An increased number of analytical, applied, and graphical questions
- The identification of all test items according to topic, question type (factual, interpretive, or applied), level of difficulty, and applicable fundamental question
- A *Study Guide* section of the test that includes five test items taken directly from the *Study Guide* and five test items that parallel *Study Guide* questions, for the instructor who is interested in rewarding students for working through the *Study Guide*

## Computerized Test Bank

This innovative test-assembly program, revised for this edition, renders precise, preprogrammed graphs on the computer quickly, easily, and accurately. You can select from among more than 7,000 questions, edit nongraphic items, peruse items in order, add your own questions to customize tests, and print out alternative versions using a number of variables. Individual items or tests in their entirety can be previewed before printing. The sophisticated data retrieval capabilities of the computerized test bank allow instructors to generate multiple versions of a test automatically and assure compatibility of tests consisting of different test items. This program also allows the importation of files from ASCII, WordStar, and WordPerfect. It is available for IBM-PC®, PS/2, and compatible microcomputers.

**New Tutorial/Simulation Software** This software provides the opportunity for students to review and apply the most important concepts covered in the text. It consists of two major components—tutorial and simulation—either of which can be used for independent study and practice, in small group work in a computer lab, or as part of a classroom demonstration. The instructor could also

assign specific modules as homework, since students can print the graphs they generate.

- The tutorial portion of the program consists of modules, one per chapter, tied to the major topics of the text (e.g., “Supply and Demand,” “Consumer Theory and Utility,” “The Role of Government,” and “Monetary Policy”). Each module is broken up into several major sections, with a self-test offered at the end of each section to reinforce what has been covered.

Working at their own pace, students experiment with the curves by entering and changing the values of discrete variables in order to see the results played out in the corresponding graph window. Narrating text prompts the student to make changes to variables and, with reinforcing explanation, encourages the student to reflect on what has happened in the graph window. A View menu allows students to view the graphs with or without a background grid (in a variety of styles) or with thin or thick curves. (This feature is also handy for classroom demonstrations.) An extensive Help menu enables students to access the Boyes/Melvin Glossary whenever they need to refresh their memories on the meaning of a particular term.

- In the simulation component of the Courseware, the structured sequence of the tutorial is replaced by more open-ended problem-solving. Students begin by choosing one of several scenarios, which range from “Effects of a Tariff” to “A Pollution Policy for Denver.” But, instead of being presented with graphs linked to text screens, the student is encouraged to pull up his or her choices of data from a rich library of data, choose a relevant time period, and construct a meaningful graph or table. Here the student must not only choose and assemble the data but also begin the process of interpretation. With over 20 complete sets of data which include such information as nominal GDP, inflation rate, and unemployment rate, the possibilities for analysis of data are almost endless. All data are provided in both annual and quarterly figures from 1930 to 1998 where those years are available.

The simulation scenarios also offer a kind of exploration that is not possible in other software programs. When the student is interested in doing some independent exploring, the screen is cleared and all the micro and macro data sets become



accessible. Students can plot up to three data series against time or choose from among the data series to plot variables against each other. This is an ideal vehicle around which professors can build substantive student assignments.

**PowerPoint Slides** Figures, tables, key equations from the text, and other resources that extend the text are provided on electronic slides created for Microsoft's popular *PowerPoint* presentation software. *PowerPoint* allows instructors to create customized lecture presentations that can be displayed on computer-based projection systems. The slides are produced as a complete presentation, but using *PowerPoint*, presenters can also insert their own slides into the presentation or use specific slides in sets that they create themselves. These slides ship with a copy of the *PowerPoint Viewer*, which allows presenters who don't own a copy of *PowerPoint* to use the presentation software, but not to change or add to the slides.

**Web Site** The web site used in this edition (<http://www.hmco.com/college>) provides an extended learning environment for students and a rich store of teaching resources for instructors. Included are key economic links for every chapter, extended web-based assignments, and on-line tests—all intended to help students test their mastery of the chapter content. Also included for instructors are economic and teaching resource links, teaching tips, and access to demonstrations of other components of the teaching package.

## ACKNOWLEDGMENTS

Writing a text of this scope is a challenge that requires the expertise and efforts of many. We are grateful to our friends and colleagues who have so generously given their time, creativity, and insight to help us create a text that best meets the needs of today's students.

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Our students at Arizona State University continue to help us improve the text through each edition; their many questions have given us invaluable insight into how best

to present this intriguing subject. It is our hope that this textbook will bring a clear understanding of economic thought to many other students as well. We welcome any feedback for improvements.

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# Brief Contents

	Chapter Number In		
	Economics	Macroeconomics	Microeconomics
<b>INTRODUCTION TO THE PRICE SYSTEM</b>			
Economics: The World Around You	1	1	1
<i>Appendix: Working with Graphs</i>	1A	1A	1A
Choice, Opportunity Costs, and Specialization	2	2	2
Markets, Demand and Supply, and the Price System	3	3	3
The Market System and the Private Sector	4	4	4
The Public Sector	5	5	5
<b>MACROECONOMIC BASICS</b>			
National Income Accounting	6	6	
An Introduction to the Foreign Exchange Market and the Balance of Payments	7	7	
Unemployment and Inflation	8	8	
Macroeconomic Equilibrium: Aggregate Demand and Supply	9	9	
Aggregate Expenditures	10	10	
<i>Appendix: An Algebraic Model of Aggregate Expenditures</i>	10A	10A	
Income and Expenditures Equilibrium	11	11	
<i>Appendix: An Algebraic Model of Income and Expenditures Equilibrium</i>	11A	11A	
<b>MACROECONOMIC POLICY</b>			
Fiscal Policy	12	12	
<i>Appendix: An Algebraic Examination of the Balanced- Budget Change in Fiscal Policy</i>	12A	12A	
Money and Banking	13	13	
Monetary Policy	14	14	
Macroeconomic Policy: Tradeoffs, Expectations, Credibility, and Sources of Business Cycles	15	15	
Macroeconomic Viewpoints: New Keynesian, Monetarist, and New Classical	16	16	
Macroeconomic Links Between Countries	17	17	
<b>ECONOMIC GROWTH AND DEVELOPMENT</b>			
Economic Growth	18	18	
Development Economics	19	19	
<b>PRODUCT MARKET BASICS</b>			
Elasticity: Demand and Supply	20		6
Consumer Choice	21		7
<i>Appendix: Indifference Analysis</i>	21A		7A
Supply: The Costs of Doing Business	22		8



**PRODUCT MARKETS**

An Overview of Product Markets and Profit Maximization	23		9
Perfect Competition	24		10
Monopoly	25		11
Monopolistic Competition and Oligopoly	26		12
Government Policy Toward Business	27		13

**RESOURCE MARKETS**

An Overview of Resource Markets	28		14
The Labor Market: Wage Differentials and Personnel Practices	29		15
Wage Differentials: Race, Gender, Age, and Unionization	30		16
Capital and Technological Change	31		17
Natural Resources and Environmental Policy	32		18

**CURRENT ISSUES INVOLVING THE PUBLIC SECTOR AND THE MARKET ECONOMY**

Aging, Social Security, and Health Care	33		19
Income Distribution, Poverty, and Government Policy	34		20

**ISSUES IN INTERNATIONAL TRADE AND FINANCE**

World Trade Equilibrium	35	20	21
International Trade Restrictions	36	21	22
Exchange-Rate Systems and Practices	37	22	23

# Microeconomics

*Fourth Edition*



# Contents

## PART I INTRODUCTION TO THE PRICE SYSTEM 1

### 1. Economics: The World Around You 2

#### Preview 3

1. The Definition of Economics 4
  - 1.a Scarcity 4
  - 1.b Choices 7
  - 1.c Rational Self-Interest 7
2. The Economic Approach 9
  - 2.a Positive and Normative Analysis 9
  - 2.b Scientific Method 9
  - 2.c Common Mistakes 11
  - 2.d Microeconomics and Macroeconomics 11

#### Summary • Key Terms • Exercises • Internet Exercise 12

#### Economic Insight “Free Air?” 5

#### Economically Speaking “Pumped Up Over Cheap Gas” 16

### Appendix to Chapter 1: Working with Graphs 18

1. Reading Graphs 18
  - 1.a Relationships Between Variables 19
  - 1.b Independent and Dependent Variables 20
  - 1.c Direct and Inverse Relationships 20
2. Constructing a Graph 21
  - 2.a The Axes 21
  - 2.b Constructing a Graph from a Table 22
  - 2.c Interpreting Points on a Graph 24
  - 2.d Shifts of Curves 24
3. Slopes 25
  - 3.a Positive and Negative Slopes 25
  - 3.b Equations 26

#### Summary • Key Terms • Exercises 27

### 2. Choice, Opportunity Costs, and Specialization 30

#### Preview 31

1. Opportunity Costs 31
  - 1.a The Opportunity Cost of Going to College 32
  - 1.b Tradeoffs and Decisions at the Margin 32

- 1.c The Production Possibilities Curve 32
2. Specialization and Trade 36
  - 2.a Marginal Opportunity Cost 36
  - 2.b Specialize Where Opportunity Costs Are Lowest 38
  - 2.c Comparative Advantage 39
  - 2.d Specialization and Trade Occur Everywhere 40

#### Summary • Key Terms • Exercises • Internet Exercise 42

#### Economically Speaking “The Naked Truth: ‘Full Monty’s’ Blue-Collar Chippendales Gently Reveal the Trauma of Open Borders and Shuttered Mills” 46

### 3. Markets, Demand and Supply, and the Price System 48

#### Preview 49

1. Markets 51
  - 1.a Market and Definition 51
  - 1.b Barter and Money Exchanges 52
  - 1.c Relative Price 52
2. Demand 53
  - 2.a The Law of Demand 53
  - 2.b The Demand Schedule 54
  - 2.c The Demand Curve 54
  - 2.d From Individual Demand Curves to a Market Curve 55
  - 2.e Changes in Demand and Changes in Quantity Demanded 57
  - 2.f International Effects 59
3. Supply 61
  - 3.a The Law of Supply 61
  - 3.b The Supply Schedule and Supply Curve 62
  - 3.c From Individual Supply Curves to the Market Supply 63
  - 3.d Changes in Supply and Changes in Quantity Supplied 63
  - 3.e International Effects 67
4. Equilibrium: Putting Demand and Supply Together 68
  - 4.a Determination of Equilibrium 68
  - 4.b Changes in the Equilibrium Price: Demand Shifts 70
  - 4.c Changes in the Equilibrium Price: Supply Shifts 71
  - 4.d Equilibrium in Reality 72



Summary • Key Terms • Exercises • Internet Exercise	75
Economic Insight “The Foreign Exchange Market”	60
Economically Speaking “Letters to the Editor: Feeling the Pain of San Francisco Landlords”	78

## 4. The Market System and the Private Sector 80

### Preview 81

1. The Market System	82
1.a Customer Sovereignty	82
1.b Profit and the Allocation of Resources	82
1.c The Flow of Resources	85
1.d The Determination of Income	85
2. Households	87
2.a Number of Households and Household Income	87
2.b Household Spending	88
3. Business Firms	89
3.a Forms of Business Organization	89
3.b Business and Statistics	91
3.c Firms Around the World	91
3.d Entrepreneurial Ability	92
3.e Business Spending	93
4. The International Sector	94
4.a Types of Countries	95
4.b International Sector Spending	97
5. Linking the Sectors	99
5.a Households and Firms	99
5.b Households, Firms, and the International Sector	101

Summary • Key Terms • Exercises • Internet Exercise	103
---	-----

Economic Insight “Adam Smith”	86
-------------------------------	----

Economic Insight “The Successful Entrepreneur (Sometimes It’s Better to Be Lucky Than Good)”	92
--	----

Economically Speaking “Public Pressure on Tabloids Rises”	106
---	-----

## 5. The Public Sector 108

### Preview 109

1. The Circular Flow	110
2. The Role of Government in the Market System	111
2.a Government as the Guardian of Efficiency	112
2.b Information and the Price System	113

2.c Externalities	113
2.d Public Goods	114
2.e Monopoly	116
2.f Business Cycles	116
2.g The Public Choice Theory of Government	116

## 3. Overview of the United States Government 117

3.a Microeconomic Policy	118
3.b Macroeconomic Policy	119
3.c Government Spending	120

## 4. Government in Other Economies 122

4.a Overview of Major Market Economies	123
--	-----

Summary • Key Terms • Exercises • Internet Exercise	125
---	-----

Economic Insight “Government Creates a Market for Fishing Rights”	115
---	-----

Economically Speaking “The Cutting Edge: Breaking the Speed Barrier with the Regular Internet Congested, Research Scientists Are Busy Building Special Routes for Their Own Private Data Flow”	128
--	-----

## PART II PRODUCT MARKET BASICS 131

## 6 Elasticity: Demand and Supply 132

### Preview 133

1. The Price Elasticity of Demand	134
1.a The Definition of Price Elasticity	134
1.b Demand Curve Shapes and Elasticity	135
1.c The Price Elasticity of Demand Is Defined in Percentage Terms	137
1.d Average or Arc Elasticity	138
2. The Use of Price Elasticity of Demand	139
2.a Total Revenue and Price Elasticity of Demand	139
2.b Price Discrimination	140
3. Determinants of the Price Elasticity of Demand	143
3.a The Existence of Substitutes	143
3.b The Importance of the Product in the Consumer’s Total Budget	143
3.c The Time Period Under Consideration	144
4. Other Demand Elasticities	144
4.a The Cross-Price Elasticity of Demand	145
4.b The Income Elasticity of Demand	145
5. Supply Elasticities	147
5.a The Price Elasticity of Supply	147
5.b The Long and Short Runs	147
5.c Price Elasticities of Demand and Supply	149