SEVENTH EDITION

PRINCIPLES OF MACROECONOMICS

CASE · FAIR

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PRINCIPLES OF MACROECONOMICS

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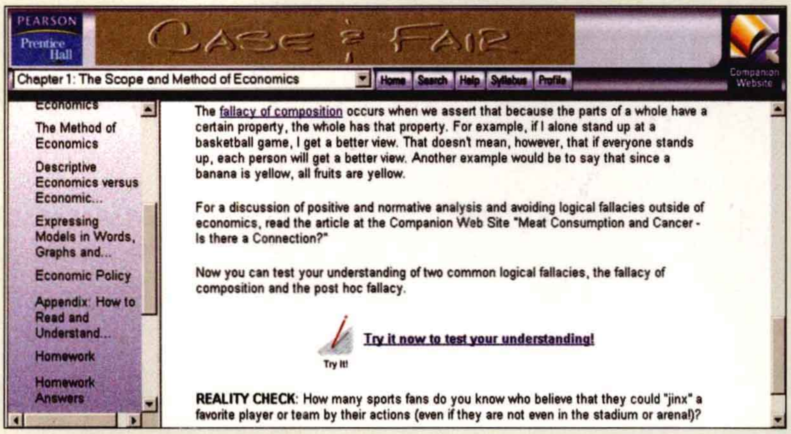
INTERNET RESOURCES

Prentice Hall offers several Internet resources specifically designed for Case and Fair to help students understand and retain important economic concepts.

The Companion Website (www.prenhall.com/casefair)

The Companion Website provides free access to a wide selection of interactive learning aids including: learning objectives, current news articles, Internet exercises, practice quizzes, and solutions to the even-numbered problems in the text.

New to the Web site is eThemes of the Times for Economics, a collection of recent articles from The *New York Times.*



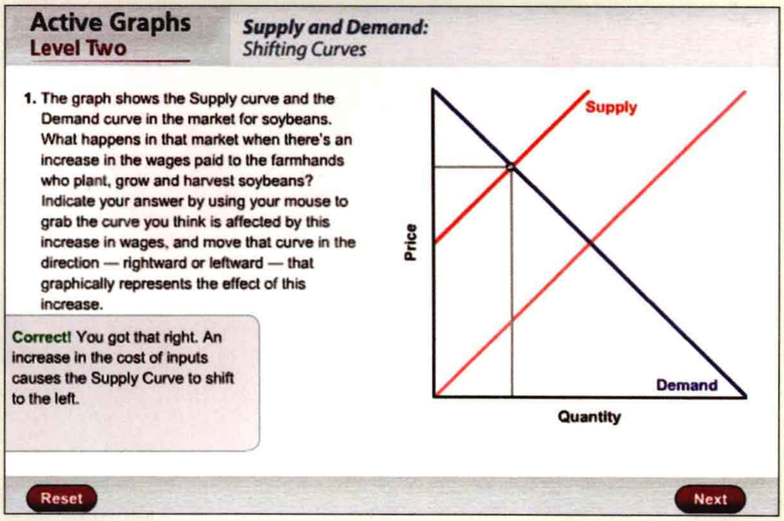
The Companion Website PLUS (www.prenhall.com/casefair)

By using the access code packaged with every new text, students get robust Web site content that includes extensive chapter notes and homework problems.

A walk-through tutorial includes detailed chapter summaries, animated figures, glossary, and additional quizzes.

The Case and Fair Web site also incorporates several types of interactive graphing exercises to help students understand the basic concepts and improve their test scores.

- **Active Graphs Level One:** JAVA-based applications invite students to change the value of variables and curves to see the effects in the movement of the graph. This is a great **tutorial** to help students understand the basic concepts being presented throughout the course and improve test scores throughout the semester.
- **Active Graphs Level Two:** require students to modify graphs based on an economic scenario. Students receive instant audio and animated feedback. This is a great **analytical tool** to further explore economics and to create strong graphing skills.



- **eGraph and Graphing Questions:** This electronic graphing tool allows students to create precise, colorful graphs using FLASH technology. The Graphing Questions require students to analyze information gathered on the Web, then create graphs using the Graphing Tool. Complete answers, with graphs, are included.

Companion Website Plus

Look for this icon throughout the book to signal an interactive exercise on The Companion Website PLUS.

MACROECONOMIC STRUCTURE

The organization of the macroeconomics chapters continues to reflect the authors' view that in order for students to understand aggregate demand and aggregate supply curves, they must first understand how the goods market and the money market function. The logic behind the simple demand curve is wrong when applied to the relationship between aggregate demand and the price level. Similarly, the logic behind the simple supply curve is wrong when applied to the relationship between aggregate supply and the price level.

The authors believe the best way to teach the reasoning embodied in the aggregate demand and aggregate supply curves without creating serious confusion is to build up to them carefully. The accompanying visual gives you an overview of the macroeconomic structure.

- **Chapters 8–9** examine the market for goods and services.
- **Chapters 10–11** examine the money market.
- **Chapter 12** brings the two markets together and explains the links between aggregate output *(Y)* and the interest rate *(r)*.
- **Chapter 13** explains how the aggregate demand curve can be derived from Chapter 12, introduces the aggregate supply curve, and explains the price level *(P)*.
- **Chapter 14** shows how the labor market fits into this macroeconomic picture.

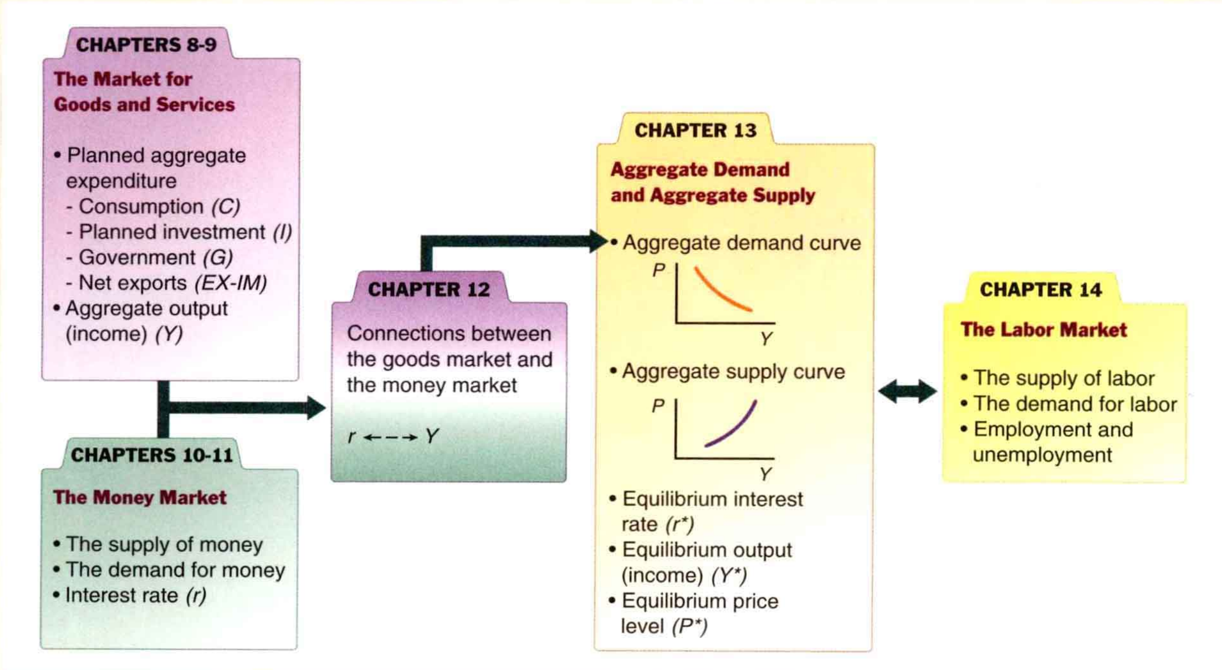


FIGURE 8.1 The Core of Macroeconomic Theory

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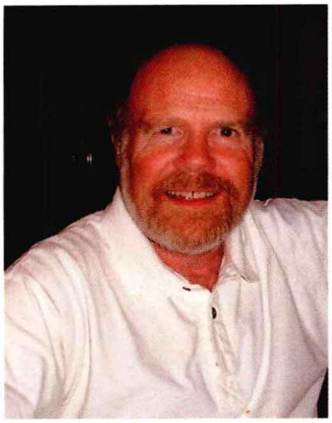
To
Professor Richard A. Musgrave
and
Professor Robert M. Solow

About the Authors



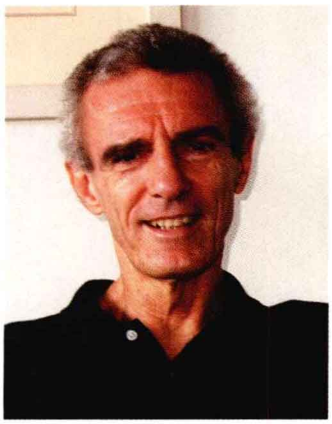
Karl E. Case is the Katharine Coman and A. Barton Hepburn Professor of Economics at Wellesley College, where he has taught for 27 years, and is a Visiting Scholar at the Federal Reserve Bank of Boston.

Before coming to Wellesley, he served as Head Tutor (director of undergraduate studies) at Harvard, where he won the Allyn Young Teaching Prize. He is Associate Editor of the *Journal of Economic Perspectives* and has been a member of the AEA's Committee on Economic Education and was Associate Editor of the *Journal of Economic Education*, responsible for the section on innovations in teaching. He teaches at least one section of the principles course every year.

Professor Case received his B.A. from Miami University in 1968, spent three years on active duty in the Army, including a year in Vietnam, and received his Ph.D. in Economics from Harvard University in 1976.

Professor Case's research has been in the areas of real estate, housing, and public finance. He is author or co-author of five books, including *Principles of Economics*, *Economics and Tax Policy*, and *Property Taxation: The Need for Reform*, and has published numerous articles in professional journals.

He is also a founding partner in the real estate research firm of Fiserv Case Shiller Weiss, Inc., and serves as a member of the Boards of Directors of the Mortgage Guaranty Insurance Corporation (MGIC), Century Bank, and The Lincoln Institute of Land Policy.



Ray C. Fair is Professor of Economics at Yale University. He is a member of the Cowles Foundation at Yale and a Fellow of the Econometric Society. He received a B.A. in economics from Fresno State College in 1964 and a Ph.D. in economics from M.I.T. in 1968. He taught at Princeton University from 1968 to 1974 and has been at Yale since 1974.

Professor Fair's research has primarily been in the areas of macroeconomics and econometrics, with particular emphasis on macroeconometric model building. His publications include *Specification, Estimation, and Analysis of Macroeconometric Models* (Harvard Press, 1984) and *Testing Macroeconometric Models* (Harvard Press, 1994).

Professor Fair has taught introductory and intermediate economics at Yale. He has also taught graduate courses in macroeconomic theory and macroeconometrics.

Professor Fair's United States and multicountry models are available for use on the Internet free of charge. The address is http://fairmodel.econ.yale.edu. Many teachers have found that having students work with the United States model on the Internet is a useful complement to even an introductory macroeconomics course.

PREFACE

Since the publication of our sixth edition, the world economic landscape has changed significantly. In the late summer of 2003, the economic situation in the United States and the rest of the world was full of uncertainty. The U.S. economy had experienced a series of tough blows after the new millennium began in 2000. Employment in the United States fell by over three million between 2001 and 2003 after increasing by over 22 million in the previous decade. Nearly 10 million Americans were unemployed in July 2003. Between the beginning of 2000 and the beginning of 2003, the stock market declined continuously, wiping out trillions of dollars worth of wealth and retirement savings. The Standard and Poor's index of 500 stock prices declined by over 45 percent during the period. During the first three quarters of 2001, the total output of the nation fell, marking an official recession.

As the U.S. economy struggled, so too did economies around the world. Africa struggled with the massive and tragic HIV/AIDS pandemic, which continues to devastate its economy. Argentina experienced the near collapse of its economy. Russia, more than a decade after the fall of the Soviet Union, began to grow at a moderate rate. China grew rapidly but is coming under increased criticism for unfair trade practices. While Europe found itself in recession, it was also learning about the strengths and weaknesses of having a fairly new common currency, the euro.

It was also a rough time in other ways. Terrorists destroyed the World Trade Center in New York City on September 11, 2001. U.S. forces played a major role in the invasions of Afghanistan in 2002 and Iraq in 2003. These events and others pushed the federal budget from a surplus in 2001 to a deficit of over $400 billion by mid-2003.

All of this came on the heels of a major collapse of the technology sector of the economy both in the United States and abroad. Between 1991 and 2001, the United States experienced the longest economic expansion in its history. To a large extent it was based on what came to be called the "new economy." The rise of the Internet and the world of cell phones and e-commerce was thought to be a new "industrial revolution," as important as the one that transformed the world beginning in England in the eighteenth and nineteenth centuries. There can be no question that the dawn of the information age and the power of the Internet have changed the economy in ways that we do not yet fully understand. It has led to increased productivity, new products, and the transformation of many markets. But we clearly overdid it. Millions of small firms ran out of cash, new ventures failed to deliver promised profits, and the newfound riches of many successful entrepreneurs disappeared almost overnight. What we do not know is how it will play out in the long run.

How rapidly times change. In writing this seventh edition, we highlight many of these events and the debates surrounding them. It is not our role to forecast future events. It is, rather, our goal in revising the text to set the discussion in an up-to-date world context and to highlight what we do and do not understand about it.

NEW TO THE SEVENTH EDITION

More than one million students have used *Principles of Economics* or one of its split volumes. We have made every effort in this new edition to be responsive to the rapidly changing times, the recommendations we received from over 40 reviewers, and our own teaching experiences. This edition includes two new chapters and new or expanded content in several existing chapters.

TWO NEW CHAPTERS

- *Chapter 16, "The Stock Market and the Economy,"* examines the stock market boom of 1995–2000 and the stock market downturn of 2001–2002. The chapter also covers how both the boom and the bust affected GDP.

- *Chapter 22, "Globalization,"* explores the increasing economic interdependence among countries and citizens. We present the arguments for and against free trade, the link between trade and growth rates, the arguments for and against immigration, how developing countries are affected by subsidies and tariffs imposed by European countries and the United States, capital mobility, global warming, and AIDS.

NEW OR EXPANDED CONTENT

- *Chapter 2, "The Economic Problem: Scarcity and Choice,"* has a new section that uses the production possibilities frontier to illustrate the theory of comparative advantage and demonstrate gains from trade.
- *Chapter 6, "Measuring National Output and National Income,"* now covers gross national income (GNI), the World Bank's recently adopted measuring system for exchange rates.
- *Chapter 7, "Long-Run and Short-Run Concerns: Growth, Productivity, Unemployment, and Inflation,"* includes expanded coverage of the consumer price index (CPI) bias.
- *Chapter 15, "Macroeconomic Issues and Policy,"* features new coverage of how the Fed targets interest rates and how it selects the interest rate based on the state of the economy; the behavior of the Fed in 2001–2003; the increased expenditures for security and defense after September 11, 2001; deficit targeting from 1980–2003; and the 2003 tax cut.
- *Chapter 21, "Open-Economy Macroeconomics: The Balance of Payments and Exchange Rates,"* has a new section on monetary policy with fixed exchange rates.

RECENT DATA, EXAMPLES, EVENTS, AND TOPICS

Every chart, table, and graph in the book has been revised with the most recent data available. In addition, we have integrated topics that have generated a great deal of attention over the last few years—the jobless economic recovery of 2003, the 2003 tax cut, deflation, the affect of the stock market downturn on GDP, increased spending on security and defense post September 11, 2001, budget deficit, and globalization, to name just a few.

THE FOUNDATION

Despite new chapters and other revisions, the themes of *Principles of Macroeconomics, Seventh Edition*, are the same themes of the first six editions. The purpose of this book is to introduce the discipline of economics and to provide a basic understanding of how economies function. This requires a blend of economic theory, institutional material, and real-world applications. We have maintained a balance between these ingredients in every chapter in this book.

The hallmark features of our book are its

1. three-tiered explanations of key concepts (*Stories-Graphs-Equations*),
2. intuitive and accessible structure of microeconomics and macroeconomics chapters, and
3. international coverage.

THREE-TIERED EXPLANATIONS: STORIES-GRAPHS-EQUATIONS

Professors who teach principles of economics are faced with a classroom of students with different abilities, backgrounds, and learning styles. For some, analytical material is difficult no matter how it is presented; for others, graphs and equations seem to come naturally. The problem facing instructors and textbook authors is how to convey the core principles of the discipline to as many students as possible without selling the better students short. Our approach to this problem is to present most core concepts in three ways:

- First, we present each concept in the context of a simple intuitive ***story*** or example in words often followed by a table.
- Second, we use a ***graph*** in most cases to illustrate the story or example.
- And finally, in many cases where appropriate, we use an ***equation*** to present the concept with a mathematical formula.

An example of our approach using stories, graphs, and equations can be found in Chapter 8, "Aggregate Expenditure and Equilibrium Output," where we show how a household decides how much to consume and save.

A story helps capture student interest.

Macroeconomics, you will recall, is the study of behavior. To understand the functioning of the macroeconomy, we must understand the behavior of households and firms. In our simple economy in which there is no government, there are two types of spending behavior: spending by households, or *consumption*, and spending by firms, or *investment*.

Household Consumption and Saving How do households decide how much to consume? In any given period, the amount of aggregate consumption in the economy depends on a number of factors.

Some determinants of aggregate consumption include:

1. Household income
2. Household wealth
3. Interest rates
4. Households' expectations about the future

These four factors work together to determine the spending and saving behavior of households, both for individual ones and for the aggregate. This is no surprise. Households with higher income and higher wealth are likely to spend more than households with less income and less wealth. Lower interest rates reduce the cost of borrowing, so lower interest rates are likely to stimulate spending. (Higher interest rates increase the cost of borrowing and are likely to decrease spending.) Finally, positive expectations about the future are likely to increase current spending, while uncertainty about the future is likely to decrease current spending.

While all these factors are important, we will concentrate for now on the relationship between income and consumption.[1] In *The General Theory*, Keynes argued that the amount of consumption undertaken by a household is directly related to its income:

The higher your income is, the higher your consumption is likely to be. People with more income tend to consume more than people with less income.

A graph illustrates the relationship between the variables in the story.

consumption function The relationship between consumption and income.

The relationship between consumption and income is called a **consumption function**. Figure 8.3 shows a hypothetical consumption function for an individual household. The curve is labeled $c(y)$, which is read "c as a function of y," or "consumption as a function of income." There are several things you should notice about the curve. First, it has a positive

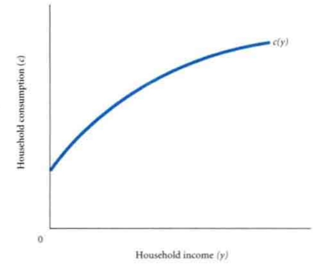


FIGURE 8.3 A Consumption Function for a Household

A consumption function for an individual household shows the level of consumption at each level of household income.

[1]The assumption that consumption is dependent solely on income is, of course, overly simplistic. Nonetheless, many important insights about how the economy works can be obtained through this simplification. In Chapter 16, we relax this assumption and consider the behavior of households and firms in the macroeconomy in more detail.

slope. In other words, as y increases, so does c. Second, the curve intersects the c-axis above zero. This means that even at an income of zero, consumption is positive. Even if a household found itself with a zero income, it still must consume to survive. It would borrow or live off its savings, but its consumption could not be zero.

Keep in mind that Figure 8.3 shows the relationship between consumption and income for an individual household, but also remember that macroeconomics is concerned with aggregate consumption. Specifically, macroeconomists want to know how *aggregate* consumption (the total consumption of all households) is likely to respond to changes in *aggregate* income. If all individual households increase their consumption as income increases, and we assume that they do, it is reasonable to assume that a positive relationship exists between aggregate consumption (C) and aggregate income (Y).

For simplicity, assume that points of aggregate consumption, when plotted against aggregate income, lie along a straight line, as in Figure 8.4. Because the aggregate consumption function is a straight line, we can write the following equation to describe it:

$$C = a + bY$$

Y is aggregate output (income), C is aggregate consumption, and a is the point at which the consumption function intersects the C-axis—a constant. The letter b is the slope of the line, in this case $\Delta C/\Delta Y$ [because consumption (C) is measured on the vertical axis, and income (Y) is measured on the horizontal axis].[2] Every time income increases (say by ΔY), consumption increases by b times ΔY. Thus, $\Delta C = b \times \Delta Y$ and $\Delta C/\Delta Y = b$. Suppose, for example, that the slope of the line in Figure 8.4 is .75 (that is, $b = .75$). An increase in income (ΔY) of \$100 would then increase consumption by $b\Delta Y = .75 \times \$100$, or \$75.

An equation expresses the relationship mathematically.

The **marginal propensity to consume (*MPC*)** is the fraction of a change in income that is consumed. In the consumption function here, b is the *MPC*. An *MPC* of .75 means consumption changes by .75 of the change in income. The slope of the consumption function is the *MPC*.

marginal propensity to consume (*MPC*) That fraction of a change in income that is consumed, or spent.

$$\text{marginal propensity to consume} \equiv \text{slope of consumption function} \equiv \frac{\Delta C}{\Delta Y}$$

There are only two places income can go: consumption or saving. If \$.75 of a \$1.00 increase in income goes to consumption, \$.25 must go to saving. If income decreases by \$1.00, consumption will decrease by \$.75 and saving will decrease by \$.25. The **marginal propensity to save (*MPS*)** is the fraction of a change in income that is saved: $\Delta S/\Delta Y$, where

marginal propensity to save (*MPS*) That fraction of a change in income that is saved.

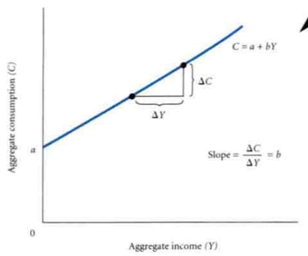


FIGURE 8.4 An Aggregate Consumption Function

The consumption function shows the level of consumption at every level of income. The upward slope indicates that higher levels of income lead to higher levels of consumption spending.

[2]The Greek letter Δ (delta) means "change in." For example, ΔY (read "delta Y") means the "change in income." If income (Y) in 2001 is \$100 and income in 2002 is \$110, then ΔY for this period is \$110 − \$100 = \$10. For a review of the concept of slope, see Appendix, Chapter 1.

MACROECONOMIC STRUCTURE

We remain committed to the view that it is a mistake simply to throw aggregate demand and aggregate supply curves at students in the first few chapters of a principles book. To understand the AS and AD curves, students need to know about the functioning of both the goods market and the money market. The logic behind the simple demand curve is wrong when applied to the relationship between aggregate demand and the price level. Similarly, the logic behind the simple supply curve is wrong when applied to the relationship between aggregate supply and the price level.

Part of teaching economics is teaching economic reasoning. Our discipline is built around deductive logic. Once we teach students a pattern of logic, we want and expect them to apply it to new circumstances. When they apply the logic of a simple demand curve or simple supply curve to the aggregate demand or aggregate supply curve, the logic does not fit. We believe the best way to teach the reasoning embodied in the aggregate demand and aggregate supply curves without creating serious confusion is to build up to them carefully.

In Chapters 8 and 9, we examine the market for goods and services. In Chapters 10 and 11 we examine the money market. We bring the two markets together in Chapter 12, which explains the links between aggregate output (Y) and the interest rate (r). In Chapter 13, we explain how the aggregate demand curve can be derived from Chapter 12, and introduce the aggregate supply curve. This allows the price level (P) to be explained. We then explain in Chapter 14 how the labor market fits into this macroeconomic picture. The accompanying visual gives you an overview of our structure.

One of the big issues in the organization of the macroeconomic material is whether long-run growth issues should be taught before short-run chapters on the determination of national income and counter-cyclical policy. In the last two editions we moved a significant discussion of growth up to Chapter 7 and highlighted it. However, while we wrote the major chapter on long-run growth (Chapter 18) so that it can be taught either before or after the short-run chapters, we remain convinced that it is easier to understand the growth issue once a student has come to grips with the logic and controversies of short-run cycles, inflation, and unemployment.

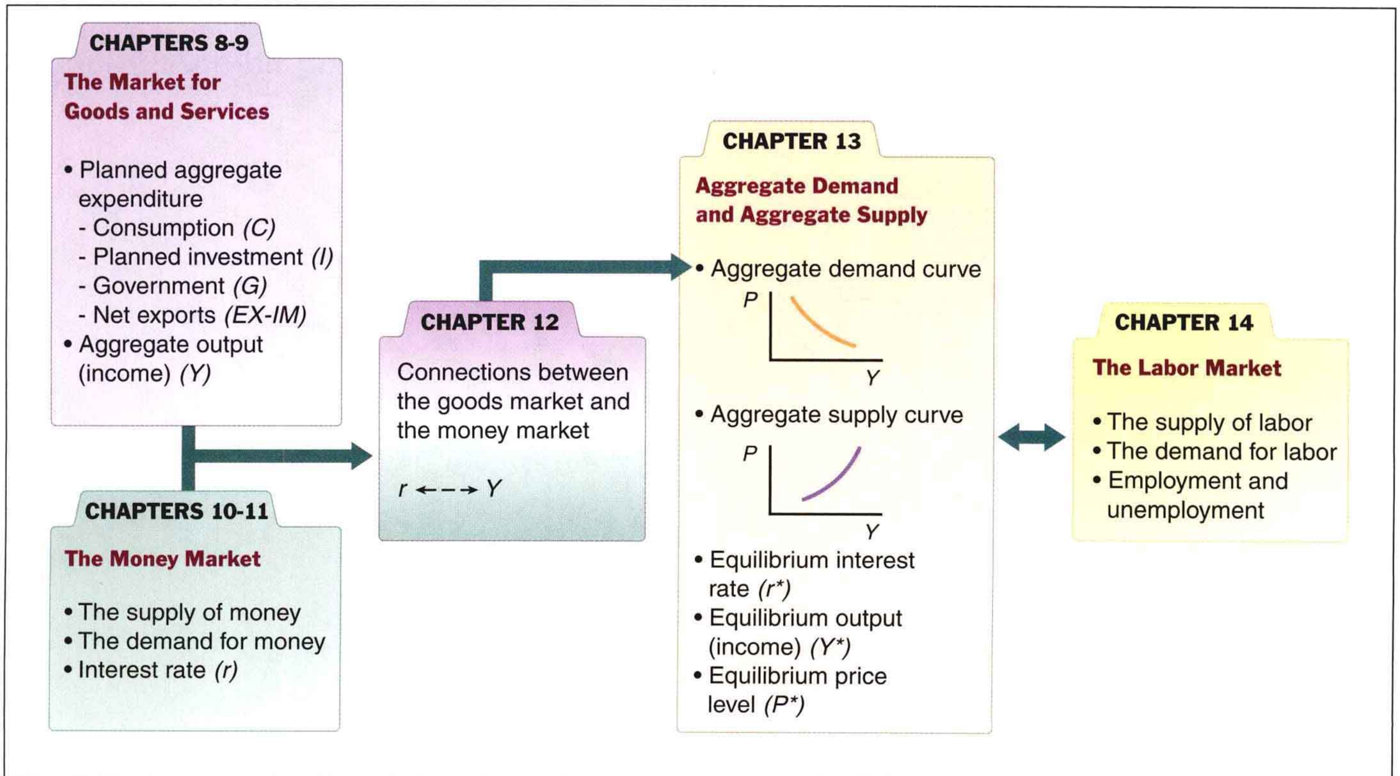


FIGURE 8.1 The Core of Macroeconomic Theory

INTERNATIONAL COVERAGE

We have expanded international coverage from previous editions by including a new chapter on globalization (Chapter 22). This chapter covers the increasing economic interdependence among countries and their citizens. We focus on the causes and consequences of increased international trade of goods and services, increased cross-border movements of labor, and expanded international financial flows.

As in previous editions, we continue to integrate international examples and applications in many chapters. All international examples are listed in a table following the book's detailed table of contents. We continue to believe that a complete treatment of open-market macroeconomics should not be taught until students have mastered the logic of a simple closed macroeconomy. For this reason, we have chosen to place the "open-economy macroeconomics" chapter in the final part of the book, entitled "The World Economy." This part also includes the trade chapter, the new globalization chapter, and the economic development chapter.

TOOLS FOR LEARNING

As authors and teachers, we understand the challenges of the principles of economics course. Our pedagogical features are designed to illustrate and reinforce key economic concepts through real-world examples and applications.

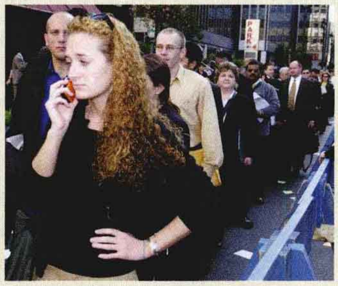
NEWS ANALYSIS

The *News Analysis* feature presents a news article that supports the key concept of the chapter and illustrates how economics is a part of students' daily lives. We have included over 20 news articles from various sources, including *The New York Times, The Economist, The Wall Street Journal,* and *The Washington Times.* Select articles include graphs or photos. Students can visit www.prenhall.com/casefair for additional and updated news articles and exercises.

News Analysis

An Economic Recovery for the United States in 2003?

DURING 2001, THE U.S. ECONOMY WAS IN RECESSION. National income declined and employment fell. Employment continued to decline well into 2003. But the end of the war in Iraq, a fall in the price of oil on world markets, and a big tax cut in the United States seemed to many economists to suggest that a recovery from the hard times was beginning. The following article from the *Economist* reflects some guarded optimism.



Despite signs of an economic recovery, 9.4 million people remained unemployed in mid-2003.

Poised for growth?—*Economist*

Is America's economy finally set to shake off its funk? An increasing number of economists on Wall Street and politicians in Washington seem to think so. Many number-crunchers are forecasting a sharp acceleration of economic growth in the summer. John Snow, America's treasury secretary, suggested this week that the economy could be growing by around 4% by the end of 2003, more than double its current rate. After so many false dawns, is this optimism justified?

Financial markets certainly think so. All the big stockmarket indices have risen dramatically. The Dow Jones Industrial Average is now over 9,000, up more than 20% since mid-March; the technology-laden NASDAQ is up almost 30% from three months ago. Financial conditions have loosened across the board. Not only are government bond yields at historic lows, but spreads on corporate bonds have narrowed sharply, making access to capital cheaper and easier for firms of all kinds. A weaker dollar—the greenback has dropped by 8% against the currencies of America's trading partners this year—has also added to the loose financial conditions.

And there is more to come. Judging by recent comments from its top official, America's central bank is highly likely to cut interest rates when its policy-setting Federal Open Market Committee meets on June 24 to 25.

Nor is looser monetary policy the only stimulus on the way. Mr Bush's latest tax package, signed into law on May 28, will undoubtedly give the economy a short-term boost. The huge tax package—worth $350 billion over 10 years if you believe Congress's gimmicks, and costing more than $800 billion over a decade if you take a more realistic view—may not be particularly efficient as a stimulus package. But it is big. Economists at Morgan Stanley reckon the tax cut will add about $160 billion, or 1.5% of GDP, in fiscal stimulus over the next four quarters, bigger than any tax change since the Reagan tax cut in 1981. Of that, around $64 billion will reach Americans quickly in the form of rebate cheques and less tax withheld from their pay.

Add together loose financial conditions and a fiscal boost, and it is hard to imagine that the economy will not improve at all. Lower financing costs are continuing to prop up the housing market and maintain the surge in mortgage refinancings. The weekly tally of mortgage refinancing applications reached a new high of nearly 10,000 last week.

Even in the gloomy labour market, there are glimmers of hope. True, America's jobless rate hit a cyclical peak of 6.1% in May, and weekly unemployment claims are still extremely high. But the employment report released on June 6 was in many ways less bad than expected. Although the economy lost 17,000 jobs in May, the number of private-sector jobs was flat; the drop came in government posts. The number of temporary jobs rose by a healthy 58,000, and a rise in temporary workers is often a sign that firms are thinking of hiring permanent workers again. The latest monthly survey of purchasing managers also suggests that conditions in both the manufacturing and services sector are already improving, although they are far from booming.

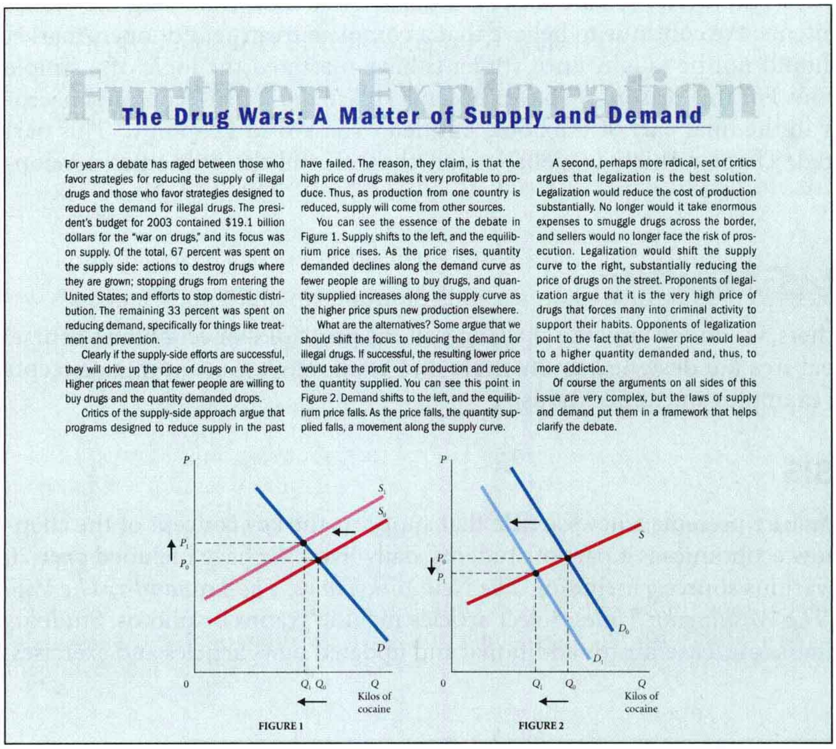
A trickier question is whether any rebound will last. Can America's economy expect above-trend growth next year, for instance? There, it is much harder to be optimistic. America's economy still has huge fragilities. Although firms have undergone great adjustments since the excesses of the stockmarket bubble, there is still plenty of spare capacity around, making a sustained investment boom less likely.

Source: June 12, 2003, the Economist.

Visit www.prenhall.com/casefair for updated articles and exercises.

FURTHER EXPLORATION

Integrated in strategic places throughout the text, the *Further Exploration* feature provides students with applications as well as practical and historical information that supports the content of the chapter. The *Further Exploration* in Chapter 1, for example, highlights the various branches of economic study including economic law, international economics, and labor economics. The *Further Exploration* in Chapter 16 shows students how to read a bond table and the stock pages.


Further Exploration

The Drug Wars: A Matter of Supply and Demand

For years a debate has raged between those who favor strategies for reducing the supply of illegal drugs and those who favor strategies designed to reduce the demand for illegal drugs. The president's budget for 2003 contained $19.1 billion dollars for the "war on drugs," and its focus was on supply. Of the total, 67 percent was spent on the supply side: actions to destroy drugs where they are grown; stopping drugs from entering the United States; and efforts to stop domestic distribution. The remaining 33 percent was spent on reducing demand, specifically for things like treatment and prevention.

Clearly if the supply-side efforts are successful, they will drive up the price of drugs on the street. Higher prices mean that fewer people are willing to buy drugs and the quantity demanded drops.

Critics of the supply-side approach argue that programs designed to reduce supply in the past have failed. The reason, they claim, is that the high price of drugs makes it very profitable to produce. Thus, as production from one country is reduced, supply will come from other sources.

You can see the essence of the debate in Figure 1. Supply shifts to the left, and the equilibrium price rises. As the price rises, quantity demanded declines along the demand curve as fewer people are willing to buy drugs, and quantity supplied increases along the supply curve as the higher price spurs new production elsewhere.

What are the alternatives? Some argue that we should shift the focus to reducing the demand for illegal drugs. If successful, the resulting lower price would take the profit out of production and reduce the quantity supplied. You can see this point in Figure 2. Demand shifts to the left, and the equilibrium price falls. As the price falls, the quantity supplied falls, a movement along the supply curve.

A second, perhaps more radical, set of critics argues that legalization is the best solution. Legalization would reduce the cost of production substantially. No longer would it take enormous expenses to smuggle drugs across the border, and sellers would no longer face the risk of prosecution. Legalization would shift the supply curve to the right, substantially reducing the price of drugs on the street. Proponents of legalization argue that it is the very high price of drugs that forces many into criminal activity to support their habits. Opponents of legalization point to the fact that the lower price would lead to a higher quantity demanded and, thus, to more addiction.

Of course the arguments on all sides of this issue are very complex, but the laws of supply and demand put them in a framework that helps clarify the debate.

FIGURE 1 FIGURE 2

GRAPHS

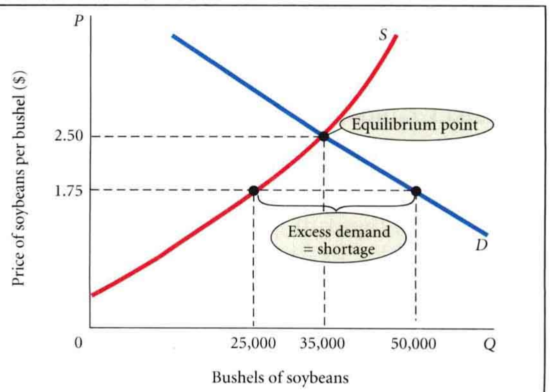
Reading and interpreting graphs is a key part of understanding economic concepts. The Chapter 1 appendix, "How to Read and Understand Graphs," shows readers how to interpret the graphs featured in the book. We use red curves to illustrate the behavior of firms and blue curves to show the behavior of households. We use a different shade of red and blue to signify a shift in a curve.

Forty-five graphs include an Active Graph icon. Students can visit the book's Companion Website (www.prenhall.com/casefair) to access interactive versions of the graphs. See the endpapers of the book for a complete list of all the Active Graphs. These graphs are categorized by level: *Active Graphs Level 1* invite students to change the value of variables and shift curves and see the effects in the movements of the graph. *Active Graphs Level 2* ask students to modify graphs based on an economic scenario or question. Students receive an instant response to their answers. If their answer is incorrect, the response will detail how they should have modified the graph.

Companion Website Plus

FIGURE 3.9 Excess Demand, or Shortage

At a price of $1.75 per bushel, quantity demanded exceeds quantity supplied. When *excess demand* arises, there is a tendency for price to rise. When quantity demanded equals quantity supplied, excess demand is eliminated and the market is in equilibrium. Here, the equilibrium price is $2.50, and the equilibrium quantity is 35,000 bushels.



HIGHLIGHTS OF MAJOR CONCEPTS

We have set major economic concepts off from the text in highlighted boxes. These highlights flow logically from the preceding text and into the text that follows. Students tell us that they find these very useful as a way of reviewing the key points in each chapter to prepare for exams.

> Change in price of a good or service
> leads to
> → Change in *quantity demanded* (**movement along the demand curve**).
> Change in income, preferences, or prices of other goods or services
> leads to
> → Change in *demand* (**shift of the demand curve**).

RUNNING GLOSSARY

Definitions of key terms appear in the margin so they are easy to spot.

PROBLEM SETS AND SOLUTIONS

Each chapter and appendix ends with a problem set that asks students to think about what they've learned in the chapter. These problems are not simple memorization questions. Rather, they ask students to perform graphical analysis or to apply economics to a real-world situation or policy decision. More challenging problems are indicated by an asterisk. The worked solutions to all even-numbered problems are posted on www.prenhall.com/casefair (select "Student Resources" from the main page) so that students can check their understanding and progress. The solutions to all the problems are available in the Instructor's Manual.

INTEGRATED LEARNING PACKAGE

The integrated learning package for the seventh edition reflects changes in technology and utilizes new ways of disseminating information and resources. A customized website offers a comprehensive Internet package for the student and the instructor.

INTERNET RESOURCES

The Companion Website (www.prenhall.com/casefair) connects students to current news articles that deal with a key economic concept, Internet exercises and activities, and Practice Quizzes that include many graphs from the text. The Practice Quizzes were prepared by Fernando Quijano and Yvonn Quijano. Each chapter contains multiple-choice, true/false, and essay quizzes. These quizzes immediately grade each answer submitted, provide feedback for correct and incorrect answers, and let students e-mail results to their professors.

Also included on the Companion Website under the Student Resource link are the worked solutions to the even-numbered problems that appear at the end of each chapter of the book and current Event articles that help students see how economics affects their daily lives.

For the Instructor:

- *Syllabus Manager.* Allows instructors to create and post syllabi for their students to access. Instructors can add exams or assignments of their own, edit any of the student resources available on the Companion Website, post discussion topics, and much more.
- *Downloadable Supplements.* Instructors can access the book's PowerPoint presentations and Instructor's Manual. Please contact your Prentice Hall sales representative for password information.

COMPANION WEBSITE PLUS FOR INSTRUCTORS AND STUDENTS

Available by using the access code packaged with every new text, Companion Website PLUS uses all of the content of the Companion Website listed previously, along with many additional interactive resources. Companion Website PLUS provides the following for each chapter:

Objectives: Key questions and concepts that should be mastered by the end of the chapter.

Chapter Tutorial: A complete tutorial walk-through of the text material that includes:

- Detailed summaries of key concepts from the text.
- Readiness-assessment quiz tests student's comprehension before they move forward with the chapter material.
- Key figures and graphs from the text. Select key figures, such as the circular flow diagram, are animated to help students visualize the interaction among sectors of the economy.
- Pop-up glossary of key terms helps students master definitions.
- *Test Your Understanding* multiple-choice quizzes help students assess their progress with the chapter concepts.
- Graphing exercises incorporate the Active Graphs and eGraph.

Summary: A review of the chapter concepts ties back to the objective questions.

Homework: Multiple-choice and short-answer assignments, some of which are tied to the interactive resources on the site.

Glossary: A complete list of key terms with expanded explanations helps students retain definitions.

Active Graphs Level 1: These graphs support key graphs in the text. These JAVA-based applications invite students to change the value of variables and shift curves and see the effects in the movements of the graph.

Active Graphs Level 2: These graphs ask students to modify graphs based on an economic scenario or question. Students receive an instant response to their answers. If their answer is incorrect, the response will detail how they should have modified the graph.

eGraph and Questions: *eGraph* is an electronic tool that allows students to create precise, colorful graphs using Flash technology. Students can e-mail these graphs to their professor or print and save them. To apply this technology, we have included *Graphing Questions* that require students to analyze information gathered on the Web and then create graphs using the Graphing Tool. Complete answers, with graphs, are included.

RESEARCH NAVIGATOR™

Research Navigator™ is an online academic research service that helps students learn and master the skills needed to write effective papers and complete research assignments. Students and faculty can access Research Navigator™ through an access code found in front of *The Prentice Hall Guide to Evaluating Online Resources with Research Navigator*. This guide can be shrinkwrapped, at no additional cost, with *Economics, Seventh Edition*, by Case and Fair. Once you register, you have access to all the resources in Research Navigator™ for six months.

Research Navigator™ includes three databases of credible and reliable source material:

- EBESCO's ContentSelect™ Academic Journal database gives you instant access to thousands of academic journals and periodicals. You can search these online journals by keyword, topic, or multiple topics. It also guides students step by step through the writing of a research paper.
- *The New York Times* Search-by-Subject™ Archive allows you to search by subject and by keyword.
- Link Library is a collection of links to websites, organized by academic subject and key terms. The links are monitored and updated each week.