PRINCIPLES OF

MACROECONOMICS

Karl E. Case Ray C. Fair Sixth Edition

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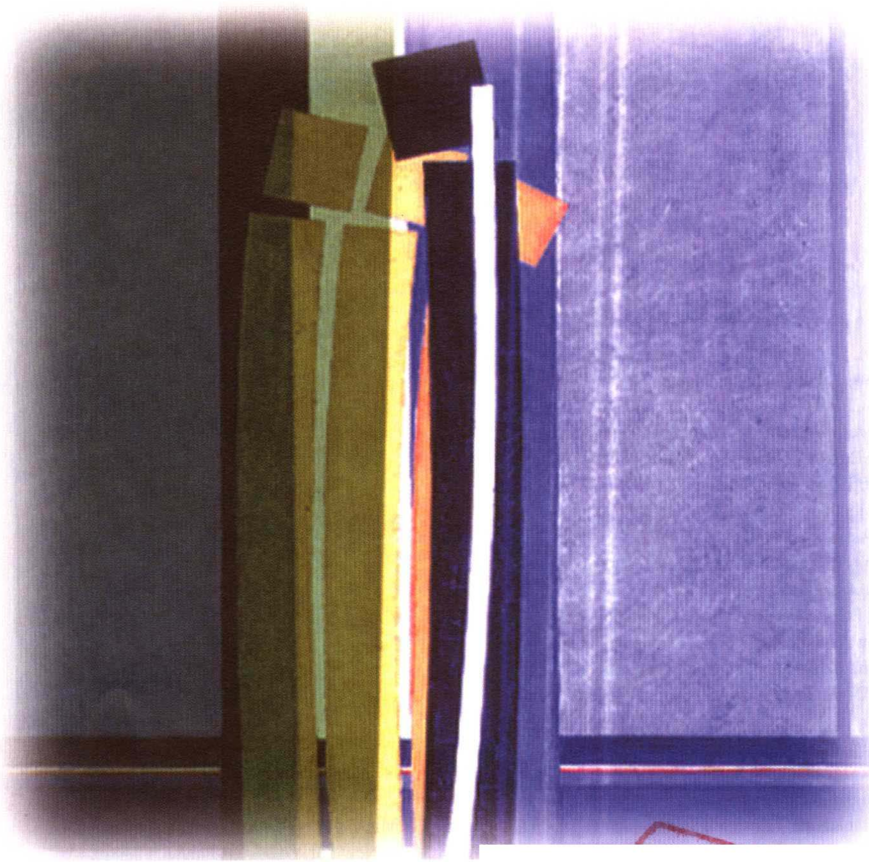
PRINCIPLES OF MACROECONOMICS

SIXTH EDITION



Karl E. Case
Wellesley College

Ray C. Fair
Yale University

Prentice Hall

PRENTICE HALL
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New Jersey 07458

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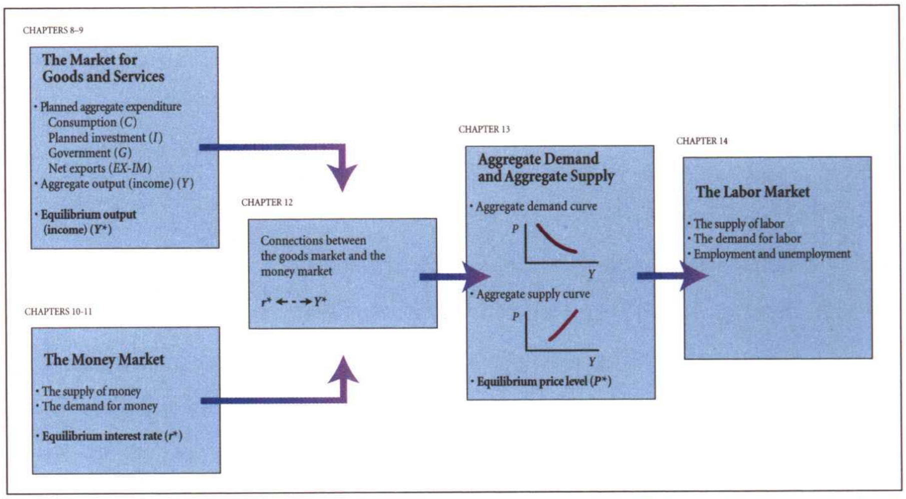
MACROECONOMIC STRUCTURE

In order to understand aggregate demand and aggregate supply curves, students need to know how both the goods market and the money market function. This principle determines the organization of the macroeconomics material.



Chapters 8 and 9 discuss the goods market and fiscal policy, and Chapters 10 and 11 discuss the money market and monetary policy. Chapter 12 is a pivotal chapter that brings the two markets together. The aggregate demand curve is then derived in Chapter 13, along with the aggregate supply curve. The labor market and theories of unemployment are discussed in Chapter 14.

ABOUT THE COVER

The reproduction on the cover, Plan par Courbes, was painted by the Czechoslovakian master Frantisek (Frank) Kupka in 1926–1930. Kupka was one of the founders of modern abstract art and is considered by many to be the first abstract master.

In this painting, there are elements of scientific order and elegant symmetry, yet the order is far from perfect. A larger, more orderly whole is made up of interconnected pieces arranged somewhat randomly. This painting is consistent with one of the themes of this book: In economic systems, seemingly random behavior often leads to a more orderly outcome.

The fascinating life of Frank Kupka adds another element of relevance to the presence of Kupka's painting on the cover of an economics text. Kupka was born in eastern Bohemia in 1871. First trained as a saddle maker, Kupka studied art in Prague and Vienna before moving to Paris in 1894. During his early years in Paris, Kupka made his living producing political cartoons. At one point, he had virtually cornered the market on Parisian political satire. In 1902, he published a cycle of drawings entitled Money *that aimed at criticizing the economic order and the distribution of wealth in late nineteenth- and early twentieth-century France.*

Although an antimilitarist, Kupka formed an army of Czechoslovakians in France during World War I to fight for the freedom of his homeland, only to see it ultimately occupied and dominated by the Soviet Union later in his life. During this period, the Czech government followed the realism in art, and repressed abstract art like Kupka's. Kupka died in 1957 before he became famous and long before Czechoslovakia became a free country in 1989.

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PREFACE

At the end of 2000 the United States was in its tenth consecutive year of an economic expansion, the longest in the country's history. Unemployment was at its lowest since 1970, productivity growth was high, and although oil prices had risen sharply, inflation was low. Chronic federal budget deficits had turned into budget surpluses; the Asian economies that suffered sharp downturns in 1998 were recovering fairly well (except for Japan); and even the transitional economies in Eastern Europe and Russia seemed to have turned the corner with reasonable rates of growth. Presidential candidates George W. Bush and Al Gore slugged it out in the fall of 2000 over alternative tax cut and social security proposals. Perhaps the greatest change in the past three years has been the dramatic emergence of the technology-based "new economy." 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. What we don't know is how it will play out in the long run. Will the stock market continue to produce extraordinary returns to investors? As this edition goes to press there are signs that the U.S. economy may be slowing down. President-elect George W. Bush and his economic advisors expressed concern in mid December about a possible recession in 2001, and the Federal Reserve stated after its December 19, 2000, meeting that the risks were "weighted mainly toward conditions that may generate economic weakness in the foreseeable future." Others, however, were concerned that inflation may be a problem in the future because of tight labor markets and possible lagged responses to higher oil prices.

How rapidly times change. It has been our goal in writing this sixth edition to highlight many of these changes 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.

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 our readers' suggestions while maintaining the book's basic focus and pedagogical organization.

THE FOUNDATION

Despite major revisions and new features, the themes of the sixth edition are the same themes of the first five 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.

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 each core concept in three ways:

- First, each concept is presented in the context of a simple intuitive story or illustrative example in words followed by a numerical illustration.
- Second, the numerical example is presented graphically.
- And finally, where appropriate, equations are used.

An example of our approach can be found in Chapter 8, "Aggregate Expenditure and Equilibrium Output." The chapter is full of illustrative examples with several numerical tables, building finally to graphs and equations.

Stories . . .

INCOME, CONSUMPTION, AND SAVING (Y, C, AND S)

Each period (a month or 3 months) households receive some aggregate amount of income (Y). We begin our analysis in a simple world with no government and a "closed" economy, that is, no imports and no exports. In such a world, a household can do two, and only two, things with its income: It can buy goods and services—that is, it can *consume*—or it can save. This is shown in Figure 8.2. The part of its income that a household does not consume in a given period is called **saving.** Total household saving in the economy (S) is by definition equal to income minus consumption (C):

saving (S) The part of its income that a household does not consume in a given period. Distinguished from *savings*, which is the current stock of accumulated saving.

$$\text{saving} \equiv \text{income} - \text{consumption}$$
$$S \equiv Y - C$$

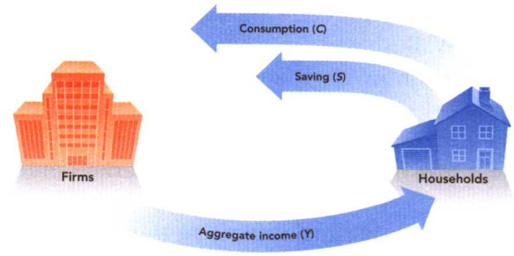
The triple equal sign means this is an **identity,** or something that is always true. You will encounter several identities in this chapter, which you should commit to memory.

identity Something that is always true.

Remember that saving does *not* refer to the total savings accumulated over time. Saving (without the final *s*) refers to the portion of a *single period's* income that is not spent in that period. Saving (S) is the amount added to *accumulated savings* in any given period. *Saving* is a flow variable; *savings* is a stock variable. (Review Chapter 3 if you are unsure of the difference between stock and flow variables.)

FIGURE 8.2
Saving ≡ Aggregate Income − Consumption

All income is either spent on consumption or saved in an economy in which there are no taxes. Thus, $S \equiv Y - C$.



Graphs . . .

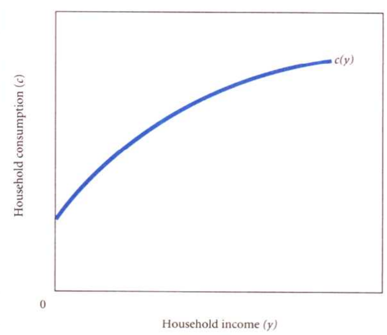


FIGURE 8.3
A Consumption Function for a Household

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

Chapter 8 149
Aggregate Expenditure and Equilibrium Output

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.

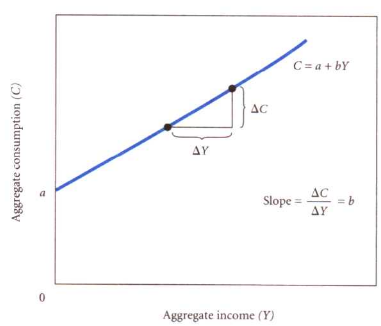


FIGURE 8.4
An Aggregate Consumption Function

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.

Equations . . .

148 *Part 3*
The Goods and Money Markets

EXPLAINING SPENDING BEHAVIOR

So far, we have said nothing about behavior. We have not described the consumption and saving behavior of households, and we have not speculated about how much aggregate output firms will decide to produce in a given period. Instead, we have only a framework and a set of definitions to work with.

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*.

. . .

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 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 cons - tion function is a straight line, we can write the following equation to describe it:

$$C = a + bY$$

MACROECONOMIC STRUCTURE

As in the fifth edition, the macroeconomics section begins with three introductory chapters (5–7) that introduce students to macroeconomic tools, national income accounting, and inflation and unemployment (both in the United States and abroad). Descriptive coverage of long-run and short-run growth appears in Chapter 7. We reserve analytical coverage of growth for Chapter 17. Chapters 5–7 are followed by two chapters that present the basic functioning of the goods market (Chapters 8 and 9) and two chapters that present the basic functioning of the money market (Chapters 10 and 11). These four chapters introduce students to the concepts of fiscal and monetary policy. These chapters are followed by a chapter that brings the two markets together. This chapter, Chapter 12, does, in essence, a very simplified version of *IS/LM* analysis verbally. (The *IS* and *LM* curves are included in an appendix to Chapter 12 for those instructors who are interested in teaching them.)

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 simply 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.

Given the groundwork that has been laid in Chapter 12, Chapter 13 proceeds directly to derive the aggregate demand curve and then the aggregate supply curve. The two curves are then put together to determine the aggregate price level and to discuss the various theories of inflation.

Following the development of the *AD* and *AS* curves, we turn to a more detailed look at the labor market in Chapter 14 and discuss various theories of unemployment. By the end of Chapter 14, students have put the goods market, the money market, and the labor market together, and they have analyzed inflation, unemployment, and monetary and fiscal policy. Chapter 15 uses the material learned earlier to analyze a number of current macroeconomic issues, including proposed balanced-budget legislation and business cycles in Europe and Asia.

In Chapter 16, we take a closer look at the behavior of households and firms in the macroeconomy. The chapter can be skipped without losing the flow of the material. We close the macroeconomic section of the book by looking at economic growth and productivity (Chapter 17) and some current debates in macroeconomics (Chapter 18). The following visual provides an overview of our structure:

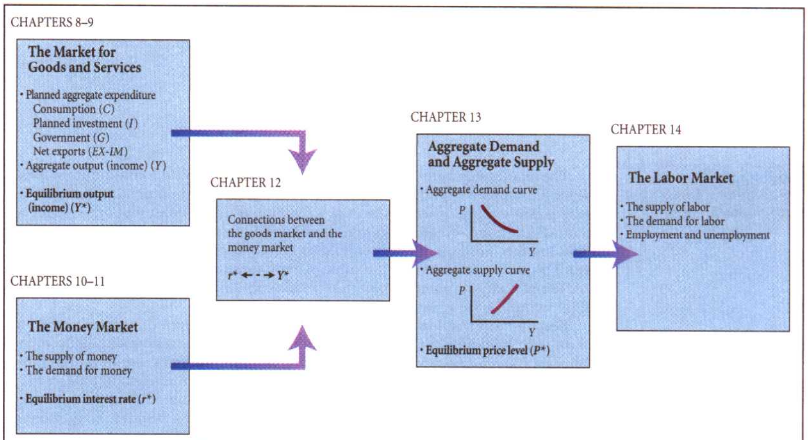
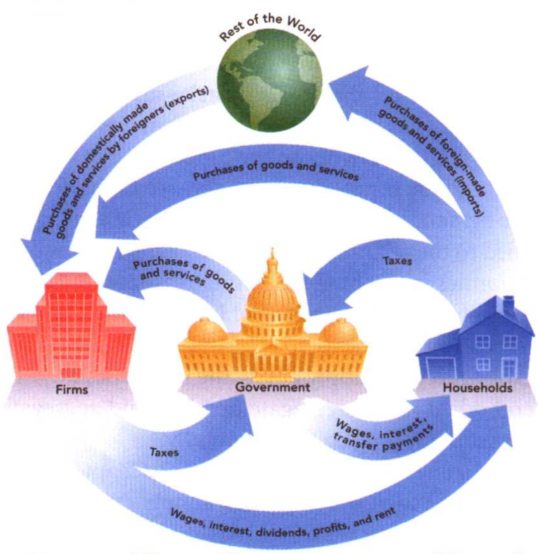


FIGURE 8.1
The Core of Macroeconomic Theory

In macroeconomics, the circular flow of payments is used to visually reinforce concepts. This diagram recurs in various forms in Chapters 5, 9, and 10. Once again, throughout the entire book, the material in these diagrams related to the behavior of firms is illustrated in red while material related to the behavior of households is illustrated in blue .

FIGURE 5.1
The Circular Flow of Payments

Households receive income from firms and the government, purchase goods and services from firms, and pay taxes to the government. They also purchase foreign-made goods and services (imports). Firms receive payments from households and the government for goods and services; they pay wages, dividends, interest, and rents to households, and taxes to the government. The government receives taxes from both firms and households, pays both firms and households for goods and services—including wages to government workers—and pays interest and transfers to households. Finally, people in other countries purchase goods and services produced domestically (exports). *Note:* Though not shown in this diagram, firms and governments also purchase imports.



MACROECONOMIC CONTENT

In preparing the sixth edition, we have maintained the two innovations we introduced in the second edition. The first of these is the treatment of aggregate supply. Clearly, there is strong disagreement among economists and across economics textbooks on the exact nature of the aggregate supply curve. All economists agree that if input prices rise at the same rate as output prices, the aggregate supply curve is vertical; firms have no incentive to change output if their costs and revenues change at the same rate. For the *AS* curve to have a positive slope in the short run, input prices must either be constant or there must be some lag in their adjustment.

Some textbooks assume that input prices are constant when the overall price level changes, essentially treating the aggregate supply curve as if it were the sum of individual market supply curves. This assumption of constant input prices is obviously unrealistic, and in the second edition we changed our description of the short-run *AS* curve to one that simply assumes some lag in input price adjustment when the overall price level changes. In addition, we clarified and expanded our description of the long-run aggregate supply curve, incorporating the concept of potential GDP.

Second, we continue to distinguish between inflation (a change in the overall price level) and sustained inflation (an increase in the overall price level that continues for some period of time). There can be confusion in students' minds as to what inflation is and whether or not it is a purely monetary phenomenon, and we think that this distinction helps to clarify our discussions.

INTERNATIONAL COVERAGE

We continue to integrate international examples in three ways. First, we discuss international examples and applications in boxed features that appear in most chapters. We have also integrated international examples directly into the text whenever appropriate. All international examples are listed in a table following the book's detailed table of contents. Second, we introduce imports and exports into the simple goods market model early in macroeconomics. Third, 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."

NEW TO THE SIXTH EDITION

We developed our revision plan based on reviews, market surveys, and focus groups with over 40 professors as well as our own teaching experiences. Our goals for the sixth edition were to:

1. Streamline the book without sacrificing core concepts.
2. Integrate print, CD-ROM, and Web technologies.
3. Increase coverage of growth and make it flexible.
4. Update data and examples.
5. Improve the pedagogical features.

A SHORTER BOOK

Revising a book involves adding new material, and there is a tendency for textbooks to grow in volume over time. However, student time is a scarce resource, and longer books are more costly to produce. Therefore, our goal throughout was to update, refine, and add material where needed, but to end up cutting excess baggage and obsolete material wherever possible. The bottom line is that the sixth edition contains two fewer chapters than the previous edition and is over 75 pages shorter.

Based on extensive market research, we discovered that many professors did not have the time to cover certain chapters, or they found selected chapters could be either streamlined and merged or moved to the book's supporting Web site. We used these recommendations to implement the following changes:

1. We moved one chapter to the book's Web site at www.prenhall.com/casefair: Previous edition's Chapter 3, "The Structure of the U.S. Economy: The Private, Public and International Sectors." Note that key concepts from previous edition Chapter 3 appear in new edition Chapters 9, 19, and 20.
2. We merged the previous edition's Chapter 22, "Economic Growth in Developing Nations" with the previous edition's Chapter 23, "Economies in Transition and Alternative Economic Systems."
3. We moved the end-of-part "Case Studies" and the "Fast Facts" margin feature to the book's supporting Web site.

INTEGRATED PRINT, CD-ROM, AND WEB TECHNOLOGIES

A new, interactive ActiveEcon CD-ROM can be shrinkwrapped with this book for a small charge. It includes chapter summaries and outlines, self-assessment quizzes, key term definitions, and further explanations. Active Graphs are a key feature of the CD-ROM. Each Active Graph allows students to change the value of a variable and look at the effects on the equilibrium. Over 29 Active Graphs are referenced in the book with this icon.

New to this edition are end-of-chapter Web exercises that encourage students to use the Internet as a learning tool. Students research data at Web sites such as the U.S. Census Bureau, the Bureau of Labor Statistics, the White House, or Microsoft and are asked to apply the concepts of the chapter to a specific exercise. Students can access www.prenhall.com/casefair for links to complete these Web exercises.

GROWTH

A descriptive treatment of growth has been moved up to Chapter 7, "Long-Run and Short-Run Concerns: Growth, Productivity, Unemployment and Inflation." Analysis is reserved for Chapter 17, "Long-Run Growth." This approach gives instructors the flexibility to cover growth in the depth they choose.

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 impact of technology on the world economy, the presidential results, the Justice Department's investigation of Microsoft, the budget surplus, and recent experiences of Russia and the economies of Eastern Europe and Asia, to name just a few.

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

We have included over 15 news articles from various sources including *The New York Times, The Economist, The Wall Street Journal,* and the *Los Angeles Times.* A technology icon identifies those news articles that deal with topics such as electronic commerce and the impact of the Internet on the economy. Students can access www.prenhall.com/casefair for additional and updated articles and exercises.

An international icon highlights articles that deal with Europe, Russia, Asia, and Africa. The end-of-chapter material includes a problem related to the News Analysis articles.

News Analysis

The Internet and Productivity: A "New Economy?"

As noted in the text, the growth rate of labor productivity since 1997 has been high (about 3 percent per year). While some believe that this is just a cyclical phenomenon, others believe that because of the Internet the economy has undergone a "second industrial revolution" and that the changes are as profound as those that swept through Europe in the eighteenth and nineteenth centuries. If true, it means that the long-run supply curve is shifting to the right and allowing the economy to grow more rapidly.

The following article from The New York Times *describes some of the ways in which the new e-commerce is changing the world of business.*

Business to Business: It's Just the Beginning — *The New York Times*

Think of the Internet. The imagery that comes to mind is romantic and exciting: dot-com billionaires barely out of school and colorful Web sites offering all sorts of wares and intriguing ways to shop. What definitely does not come to mind are Sherrell Coppedge and Kara Sylvia, seated recently at two ordinary desktop computers in a plain, windowless room at Honeywell Inc.

For eight weeks, four hours a day, Ms. Coppedge and Ms. Sylvia have been trying to trip up the new Internet ordering system that Honeywell's consumer products group, based here, is installing. Soon 2,000 customers—auto dealers, parts distributors, lube centers, retail chains—will be logging on to Web sites to place orders for Autolite spark plugs, Fram oil filters and Prestone antifreeze. No more orders by telephone or by fax, and much less paperwork. But first, the speedy new system has to function.

Working from thick loose-leaf notebooks, Ms. Coppedge, 34, and Ms. Sylvia, 26, carefully type in complicated, quirky orders, each a probe for shortcomings in the system's software. When a flaw appears, Jon Nehlsen, a 25-year-old Internet specialist, takes charge of the fix. All three are salaried employees earning less than six figures, the two women much less. None of the windfalls from wildly lucrative dot-com stock offerings come their way. And yet they and thousands like them are laboriously making the Internet a backbone of the national economy.

The Internet is also giving fresh impetus to trends already well under way. American companies, for example, find that the Internet gives them easier access to suppliers overseas. Competitive Internet auctions are forcing suppliers, here and abroad, to cut prices more than in the past. And stockpiles of unsold goods—a burden in hard times—are likely to shrink; the Internet helps companies place smaller orders more frequently.

There is one unambiguous benefit: labor productivity. The Internet should make possible more output, or at least the same output, from fewer hours of work. The 28 employees in Honeywell's consumer products group who now take orders by fax and phone will eventually be reassigned, their tasks automated as corporate customers shift to ordering online—2,000 this year and the remaining 2,000 thereafter. Some of the 28 might be reassigned as traveling sales reps to sign up more customers. Business would then grow without having to hire more workers, another gain in labor output.

The Internet and modern computer technology are transforming business operations in the "new economy."

"The potential exists for the nation to achieve real productivity gains," said Alan Blinder, a Princeton University economist. The gains are just beginning to kick in, Mr. Blinder noted, as business-to-business commerce over the Internet—almost nonexistent in 1997—finally takes hold and spreads.

Source: Louis Uchitelle, "Business to Business: It's Just the Beginning," *The New York Times*, June 7, 2000. Reprinted by permission.

Visit **www.prenhall.com/casefair** for more news articles.

News Analysis

The Euro in 2000: Europe's Common Currency

Can you imagine what it would be like driving across the United States if you had to exchange currency at every state border. The fact that the United States uses a common currency, the dollar, acceptable as a medium of exchange in every state, reduces the cost of transactions and lubricates the flow of economic activity. Labor, capital, and goods pass smoothly in response to supply and demand signals.

This was not the case in Europe before January 1, 1999, when a number of European countries shifted to a common currency called the euro. Altogether 11 countries (Belgium, Germany, Spain, France, Ireland, Italy, Luxembourg, the Netherlands, Austria, Portugal, and Finland) are participating in the European Monetary Union.

Prior to January 1, 2002, the euro will only be traded through direct deposit exchanges like credit card transactions; no coins and currency will be in circulation. In addition, a substantial amount of trade will continue to be carried on using individual countries' own currencies. All this will change, however, in 2002 when the euro becomes Europe's official currency.

The switch to a common currency has one major drawback from the standpoint of an individual member. No longer will the central bank of a participating country be able to control interest rates with monetary policy. Interest rates throughout Europe will now be determined by the monetary policy of the European Central Bank. This is one of the main reasons that England decided not to participate, at least not yet.

The euro has now been trading on world markets since the beginning of 1999, and one of the main puzzles has been its relatively low value against other currencies including the dollar. In the middle of 2000, the euro was trading on world markets for $.90 = 1 euro.

The following article from The Economist *discusses some of the possible reasons for the low value. In reading the article think of the factors that lead to the supply of, and demand for, euros on foreign exchange markets.*

The Euro-Resistant — *The Economist*

Down slid the euro again this week, to an eight-week low, in defiance of yet another string of good economic news from Europe. The more the euro area supplies the markets with solid evidence of economic renewal, it seems, the more stubbornly Europe's currency refuses to respond.

First-quarter GDP growth figures for the euro area have been revised upwards. Second-quarter GDP, reckons J. P. Morgan, an investment bank, could come in at a racy annual rate of 5%. And, despite a fall this week in its business-confidence index, Germany, which makes up a third of the euro economy, is putting in a strong performance, thanks to export growth on the back of the weak euro. GDP growth in the euro area this year could reach a handsome 3.7%.

So why the euro's limp response? In part, it reflects a lingering disbelief in Europe's political will to carry out structural reform. Then there are the periodic communication mess-ups from the European Central Bank, which were identified by the OECD this week as one source of the euro's weakness. These add to a sense of policy muddle in the region. Only this week, Denmark's finance minister, Marianne Jelved, grumbled that the French plan for a greater political counterweight to the ECB was likely to put off voters in Denmark's referendum on the single currency. Fears about a Danish No are, in turn, hardly likely to revitalise the euro.

But perhaps the explanation is simpler still. However robust the euro area's growth, it has not matched that of America, where higher growth—and interest rates—are still luring investors. Yet this could change. Euro-area GDP next year may grow faster than America's by nearly a full percentage point. And, with euro-area inflation now dangerously high—consumer-price inflation surged to 2.4% in June, well over the central bank's 2% limit—the ECB may raise interest rates again sooner rather than later.


The euro has replaced domestic currencies in the 11 countries that are participating in the European Monetary Union.

"The Euro-Resistant," *The Economist*, July 22, 2000. Reprinted by permission.

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FURTHER EXPLORATION

Selected chapters include Further Exploration boxes that provide students with additional information on a concept introduced in the chapter. The Chapter 1 box, for example, highlights the various branches of economic study including economic law, international economics, and labor economics. Chapter 6 discusses GDP.

Further Exploration

GDP: One of the Great Inventions of the 20th Century—Survey of Current Business

As the 20th century drew to a close, the U.S. Department of Commerce embarked on a review of its achievements. At the conclusion of this review, the Department named the development of the national income and product accounts as "its achievement of the century."

J. Steven Landefeld
Director, Bureau of Economic Analysis

While the GDP and the rest of the national income accounts may seem to be arcane concepts, they are truly among the great inventions of the twentieth century.

Paul A. Samuelson and
William D. Nordhaus


The Department of Commerce is responsible for producing and maintaining the "National Income and Product Accounts" that keep track of GDP.

HISTORY OF THE NIPA'S.

—Prior to the development of the NIPA's, policymakers had to guide the economy using limited and fragmentary information about the state of the economy. The Great Depression underlined the problems of incomplete data and led to the development of the national accounts:

One reads with dismay of Presidents Hoover and then Roosevelt designing policies to combat the Great Depression of the 1930's on the basis of such sketchy data as stock price indices, freight car loadings, and incomplete indices of industrial production. The fact was that comprehensive measures of national income and output did not exist at the time. The Depression, and with it the growing role of government in the economy, emphasized the need for such measures and led to the development of a comprehensive set of national income accounts.

. . . Professor Kuznets coordinated the work of researchers at the National Bureau of Economic Research in New York and his staff at Commerce. The original set of accounts was presented in a report to Congress in 1937 and in a research report, *National Income, 1929–35*. . . .

The national accounts have become the mainstay of modern macroeconomic analysis, allowing policymakers, economists, and the business community to analyze the impact of different tax and spending plans, the impact of oil and other price shocks, and the impact of monetary policy on the economy as a whole and on specific components of final demand, incomes, industries, and regions. . . .

In an era when it is fashionable to criticize government or minimize its contributions, the development of the GDP measure by the Department of Commerce is a powerful reminder of the important things that government can and does do to make the private

GDP! The right concept of economy-wide output, accurately measured. The U.S. and the world rely on it to tell where we are in the business cycle and to estimate long-run growth. It is the centerpiece of an elaborate and indispensable system of social accounting, the national income and product accounts. This is surely the signal innovative achievement of the Commerce Department in the 20th century. I was fortunate to become an economist in the 1930's when Kuznets, Nathan, Gilbert, and Jaszi were creating this most important set of economic time series. In economic theory, macroeconomics was just beginning at the same time. Complementary, these two innovations deserve much credit for the improved performance of the economy in the second half of the century.

James Tobin
Nobel laureate

GRAPHS AND PHOTOS

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 over 100 graphs featured in the book.

Thirty graphs include an Active Graph icon to identify those graphs that appear on the interactive CD-ROM.

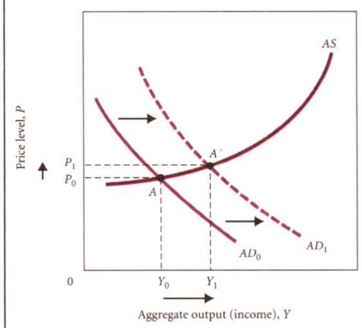

FIGURE 13.11
A Shift of the Aggregate Demand Curve When the Economy Is on the Nearly Flat Part of the *AS* Curve

ACTIVE GRAPH

Aggregate demand can shift to the right for a number of reasons, including an increase in the money supply, a tax cut, or an increase in government spending. If the shift occurs when the economy is on the nearly flat portion of the *AS* curve, the result will be an increase in output with little increase in the price level.

New to this edition are chapter-opening photos that preview chapter concepts.

Photos also appear in other areas within the chapters, including the News Analysis and Further Exploration features.

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.

Expenditure Categories:

- Personal consumption expenditures (C)—household spending on consumer goods
- Gross private domestic investment (I)—spending by firms and households on new capital: plant, equipment, inventory, and new residential structures
- Government consumption and gross investment (G)
- Net exports ($EX - IM$)—net spending by the rest of the world, or exports (EX) minus imports (IM)

RUNNING GLOSSARY

Definitions of key terms appear boxed 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. Approximately 30 percent of the problems are new to this edition. More challenging problems are indicated by an asterisk. The solutions to all even-numbered problems appear at the back of the book so that students can check their own work. The solutions to all the problems, as well as additional problem sets, are available in the Instructor's Resource Manual.

WEB EXERCISES

New to this edition are end-of-chapter Web exercises that ask students to research data at Web sites such as the U.S. Census Bureau, the Bureau of Labor Statistics, the White House, and Microsoft and then apply the concepts of the chapter to a specific exercise.

WEB EXERCISES

1. Log onto the Web and visit www.bls.gov, Web site of the U.S. Bureau of Labor Statistics (BLS). Click on "News Releases" and find the most recent version of "Employment Situation." How large is the "civilian labor force" in the United States? What percentage of the population is in the labor force? In the year 2000, unemployment hit 4 percent of the labor force for the first time

OPTIONAL CHAPTERS

We have tried to keep uppermost in our minds that time is always tight in a principles course. For this reason, we have made sure that certain chapters can be skipped without losing the flow of the material. Chapters 16–18 are optional. The chapters in the world economy part, with the exception of Chapter 20, can be taught at any time that the instructor deems appropriate.

INTEGRATED LEARNING PACKAGE

The integrated learning package for the sixth edition reflects changes in technology and utilizes new ways of disseminating information. A customized Web site links with MyPHLIP (Prentice Hall Learning on the Internet Partnership) to offer a comprehensive Internet package for the student and the instructor. An integrated package of software, printed supplements, videos, and reference guides completes the total teaching and learning package. Please contact your Prentice Hall sales representative for information on any of the Case/Fair supplements.

INTERNET RESOURCES

www.prenhall.com/casefair

MyPHLIP is a content-rich, multidisciplinary Web site with Internet exercises, activities, and resources related specifically to the sixth edition of *Principles of Macroeconomics.* New Internet resources are added every two weeks by a team of economics professors to provide both the student and the instructor with the most current, up-to-date resources available.

In the News Articles and Exercises, related to topics in each chapter, are fully supported by group activities, critical-thinking exercises, and discussion questions. These articles, from current news publications to economics-related publications, help show students the relevance of economics in today's world.

The Online Study Guide, prepared by Fernando Quijano of Dickinson State University, offers students another opportunity to sharpen their problem-solving skills and to assess their understanding of the text material. The Online Study Guide contains two levels of quizzes: definitional and applied. Each level includes 15 to 20 multiple-choice and true/false questions, and 2 essay questions per chapter. The Online Study Guide grades each question submitted by the student, provides immediate feedback for correct and incorrect answers, and allows students to e-mail results to up to four e-mail addresses. The MyPHLIP site also links the student to the Web Exercises featured in the textbook. These Web exercises are keyed to each chapter and direct the student to an appropriate, updated, economics-related Web site to gather data and analyze a specific economic problem.

For the instructor, MyPHLIP offers resources such as the Syllabus Manager, answers to Current Events and Internet exercises, and a Faculty Lounge area including teaching resources and faculty chat rooms. From the MyPHLIP Web site, instructors can also download supplements and lecture aids, including the Instructor's Manuals and PowerPoint Presentations. Instructors should contact their Prentice Hall sales representative to obtain the necessary username and password to access the faculty resources on MyPHLIP.

ActiveEcon CD-ROM

This new interactive student CD-ROM, prepared by Mary Lesser of Iona College, in conjunction with Gregory M. Werner, Inc., includes, for each chapter, a tutorial walk-through, which incorporates a detailed summary of key concepts, Test Your Understanding, key tables and graphs, pop-up glossary of terms with expanded explanations, Active Graphs, and end-of-chapter self-assessment quizzes. The end-of-chapter quizzes contain 20 original multiple-choice questions. More than 30 Active Graphs are featured on the CD-ROM, which correspond to the most important figures in the text. Active Graphs are referenced with this icon:

Each Active Graph allows students to change the value of a variable and look at the effects on the equilibrium. The CD-ROM also links the student to the **MyPHLIP** Web site.

The sixth edition Instructor's Manual provides tips for integrating the ActiveEcon CD-ROM and the Mastering Economics CD-ROM (described as follows) into the course.

MASTERING ECONOMICS CD-ROM

The Mastering Economics CD-ROM, developed by Active Learning Technologies, is an integrated series of 12 video-enhanced interactive exercises that follow the people and issues of CanGo, an e-business start up. Students use economic concepts to solve key business decisions including how to launch the start-up company's initial public offering (IPO), enter new markets for existing products, develop new products, determine prices, attract new employees, and anticipate competition from rivals. The videos illustrate the importance of an economic way of thinking to make real-world business decisions. Every episode includes three separate video segments: the first video clip introduces the episode topics by way of a current problem or issue at CanGo. After viewing the first clip, students read more about the theory or concept and then work through a series of multi-layered exercises. The exercises are composed of multiple-choice, true/false, fill-in, matching, ranking choices, comparisons, and one- or two-sentence answers. After completing the exercises, students watch another video clip. This resolution video illustrates one of the possible resolutions to the problem or decision faced by CanGo's management team. A correlation guide that links the Mastering Economics segments with chapters of the book is included in the Instructor's Manuals. Please contact your local Prentice Hall sales representative for pricing information.

ONLINE COURSE OFFERINGS

WebCT

Developed by educators, WebCT provides faculty with easy-to-use Internet tools to create online courses. Prentice Hall provides the content and enhanced features to help instructors create a complete online course. Standard Online Courses are free when shrinkwrapped with a new copy of the sixth edition text and contain the online study guide and test questions derived from the test item files. The Premium Online Courses contain the online study guide, test questions, lecture notes created by economics professors to support each chapter of the book, video clips with a summary of the key points of each chapter, and PowerPoint. Please visit our Web site at www.prenhall.com/webct for more information or contact your local Prentice Hall sales representative.

BLACKBOARD/COURSECOMPASS

Easy to use, Blackboard's simple templates and tools make it easy to create, manage and use online course materials. Prentice Hall provides the content and instructors can create online courses using the Blackboard tools which include design, communication, testing, and course management tools. Please visit our Web site location at www.prenhall.com/blackboard for more information. Blackboard is also available as a nationally hosted solution through CourseCompass, the Prentice Hall private label version of Blackboard. Visit www.coursecompass.com for more information.

TECHNOLOGY SUPPLEMENTS FOR THE INSTRUCTOR

PRENTICE HALL CUSTOM TESTS

Principles of Macroeconomics, Sixth Edition, is supported by a comprehensive set of three test item files with approximately 5,500 questions and problems with skill descriptors of fact, definition, conceptual, and analytical. These test item files are described in detail in the section of this preface entitled "Print Supplements."

Available for Windows and Macintosh, Prentice Hall Custom Test is the computerized version of the test item files. The test program allows professors to edit, add, or delete questions from the test item files, edit existing graphics and create new graphics, and export files to word processing programs.

POWERPOINT LECTURE PRESENTATION

Prepared by Fernando Quijano of Dickinson State University, the PowerPoint presentation offers summaries and necessary reinforcement of important text material. Many important graphs "build" over a sequencing of slides so that students may see the step-by-step process involved in economic analysis. The package will allow for instructors to make full-color, professional-looking presentations while providing the ability for custom handouts to be provided to the students.

INSTRUCTOR'S RESOURCE CD-ROM

The Instructor's Resource CD-ROM includes the computerized test banks, instructor's manuals, and PowerPoint Presentation.

ABC NEWS/PRENTICE HALL VIDEO LIBRARY

ABC News and Prentice Hall combine their individual expertise in academic publishing and global reporting to provide a comprehensive video ancillary to the sixth edition. The 2001 Economics Video Library contains news clips from *Nightline, World News Tonight, Wall Street Journal Report,* and *20/20.* Each clip illustrates the vital, ongoing connections between what is learned in the classroom and what is happening in the world around us. All the videos are timely or timeless, and many can be used at different points in the course. The instructors' manuals provide suggestions on where and how to integrate each video.

PRINT SUPPLEMENTS

STUDY GUIDE

The comprehensive study guide has been prepared by Thomas Beveridge of North Carolina State University. This study aid reinforces the textbook and provides students with additional applications and exercises. Each chapter contains the following elements:

- Point-by-Point Objectives. A list of learning goals for the chapter, along with a summary of the material, helpful study hints, practice questions with solutions, and page references to the text.
- Practice Tests. Approximately 20 multiple-choice questions and answers.
- Application Questions. A series of questions that require the use of graphic or numerical analysis to solve economic problems.
- Solutions. Worked-out solutions to all questions in the Study Guide, complete with page references to the text.
- Comprehensive Part Exams. Five part exams consisting of 25 multiple-choice questions, extended examples, and problem questions where appropriate test the student's overall comprehension.

The Study Guide also references the Web exercises from the text and alerts the student to relevant applications in the ActiveEcon CD-ROM.

THE WALL STREET JOURNAL PRINT AND INTERACTIVE EDITIONS

Prentice Hall has formed a strategic alliance with *The Wall Street Journal,* the most respected and trusted daily source for information on business and economics. For a small additional charge, Prentice Hall offers your students a 10-week subscription to *The Wall Street Journal* print edition and *The Wall Street Journal Interactive Edition.* Adopting professors will receive a complimentary one-year subscription of both the print and interactive version as well as weekly subject-specific Wall Street Journal educators' lesson plans.