

KRUGMAN'S Economics

SECOND EDITION

for AP®



Ray | Anderson

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Adapted from *Economics*, Third Edition
by Paul Krugman and Robin Wells

Basic Economic Concepts (8–12%)

- A. Scarcity, choice, and opportunity costs
- B. Production possibilities curve
- C. Comparative advantage, specialization, and exchange
- E. Macroeconomic issues: business cycle, unemployment, inflation, growth
- D. Demand, supply, and market equilibrium

II. Measurement of Economic Performance (12–16%)

- A. National income accounts
- C. Unemployment
- B. Inflation measurement and adjustment

III. National Income and Price Determination (10–15%)

- A. Aggregate demand
- B. Aggregate supply
- C. Macroeconomic equilibrium

IV. Financial Sector (15–20%)

- A. Money, banking, and financial markets

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- Module 1 The Study of Economics
- Module 3 The Production Possibilities Curve Model
- Module 4 Comparative Advantage and Trade
- Module 1 The Study of Economics
- Module 2 Introduction to Macroeconomics

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- Module 6 Supply and Demand: Supply
- Module 7 Supply and Demand: Equilibrium

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- Module 11 Interpreting Real Gross Domestic Product
- Module 12 The Meaning and Calculation of Unemployment
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- Module 20 Economic Policy and the Aggregate Demand–Aggregate Supply Model
- Module 21 Fiscal Policy and Multiplier Effects

Section 5: The Financial Sector

- Module 22 Saving, Investment, and the Financial System
- Module 23 The Definition and Measurement of Money
- Module 24 The Time Value of Money

- B. Loanable funds market
- C. Central bank and control of the money supply

V. Stabilization Policies (20–30%)

- A. Fiscal and monetary policies

- B. The Phillips curve

VI. Economic Growth (5–10%)

- A. Definition of economic growth
- B. Determinants of economic growth
- C. Growth policy

VII. Open Economy: International Trade and Finance (10–15%)

- A. Balance of payments accounts

- B. Foreign exchange market

- C. Imports, exports, and financial capital flows

- D. Relationships between international and domestic financial and goods markets

- Module 25 Banking and Money Creation
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- Module 42 The Foreign Exchange Market
- Module 43 Exchange Rate Policy and Macroeconomic Policy
- Module 41 Capital Flows and the Balance of Payments
- Module 44 Barriers to Trade
- Module 45 Putting It All Together

I. Basic Economic Concepts (8–14%)

- A. Scarcity, choice, and opportunity cost
- B. Production possibilities curve
- C. Comparative advantage, absolute advantage, specialization, and trade
- D. Economic systems
- E. Property rights and the role of incentives
- F. Marginal analysis

II. The Nature and Function of Product Markets (55–70%)

- A. Supply and Demand
 - 1. Market equilibrium
 - 2. Determinants of supply and demand
 - 3. Price and quantity controls
 - 4. Elasticity
 - 5. Consumer surplus, producer surplus, and allocative efficiency
 - 6. Tax incidence and deadweight loss
- B. Theory of consumer choice
- C. Production and costs
 - 1. Production functions: short and long run
 - 2. Marginal product and diminishing returns
 - 3. Short-run costs
 - 4. Long-run costs and economies of scale
 - 5. Cost minimizing input combination and productive efficiency
- D. Firm behavior and market structure
 - 1. Profit
 - 2. Perfect competition

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- Module 60 Long-Run Outcomes in Perfect Competition

3. Monopoly

4. Oligopoly

5. Monopolistic competition

III. Factor Markets (10–18%)

- A. Derived factor demand
- B. Marginal revenue product
- C. Hiring decisions in the markets for labor and capital
- D. Market distribution of income

IV. Market Failure and the Role of Government (12–18%)

- A. Externalities
- B. Public goods
- C. Public policy to promote competition
- D. Income distribution

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Krugman's Economics

for AP[®] Second
Edition

Margaret Ray

University of Mary Washington

David Anderson

Centre College

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by Paul Krugman and Robin Wells

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To beginning students everywhere,
which we all were at one time.

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*Glossary available on Book Companion Site at bcs.worthpublishers.com/KrugmanAP2e

To the Student

How to Get the Most from This Program

The AP[®] Economics course represents a wonderful opportunity for high school students to be challenged by the rigor of a college-level course, while learning life-relevant concepts from the discipline of economics. We understand the unique challenges of teaching and learning AP[®] Economics and have designed this book and its support program to be the most effective possible resources to help you succeed in AP[®] Economics.

Intent on promoting the efficiency and effectiveness of AP[®] Economics courses, we started with the best available college-level introduction to economics—Krugman and Wells' *Economics*, second and third editions. We knew these would be the best foundation for an AP[®] adaptation. Our goal was to retain the features of *Economics* that make it a winner, while crafting it to closely follow the AP[®] syllabus and speak to a high school audience. *Krugman's Economics for AP[®]*, second edition, is designed to be easy to read and easy to use. Our hope is that you will find our explanations clear and concise, and that you will enjoy reading the book.

What's New in this Edition?

This book is your ultimate tool for success in the AP[®] Economics courses. With this in mind, the second edition features improvements to the organization and presentation of content, as well as to our system of supporting student learning and preparation for the AP[®] Exam. For a visual walk-through of the features of the book, please see page xxiv.

More AP[®]-focused elements and study aids

- **AP[®] exam tips**, found in the margin throughout the text, provide invaluable advice on where you should focus, how to avoid pitfalls, and how to be successful in the course and on the exam. These “on-the-spot” reminders help you avoid common mistakes.
- More **AP[®] exam practice** is provided through an increased number of multiple-choice and free-response questions (FRQs) at the end of each module and section. These assessments not only test you on the material you learned in the module, but also mimic AP[®] questions to train you on what you will see on the exam. The open-ended, conceptual FRQs help familiarize you with the kind of synthesis skills you'll need to master the exam.
- **Full-length AP[®]-style practice examinations** are included at the end of the text to ensure you have nailed down the content and are ready to tackle the real test in May.

New video clips to help you study and review

Economics videos available on the Internet can be both entertaining and educational. For a complete list of these videos, look for econextras video links on the Book Companion Site at bcs.worthpublishers.com/KrugmanAP2e.

- **Module “Flip It” Concept Videos** are short, concise videos that explain a key concept covered in a module, such as the Production Possibilities Curve in Module 3 and Comparative Advantage in Module 4. Each video is short, focused, and funny. These Internet videos offer simple examples to underscore the concepts and give lots of practice in reading and interpreting graphs—skills that are important on the AP[®] Exam.
- **Section Review Videos** provide a great review of the key concepts in a section. These longer videos focus on explaining the big picture ideas, key graphs, and common mistakes/pitfalls for the section. Watching the Section Review Video is a smart way to make sure you understand the key ideas in the section.

What Continues?

Perhaps the most important feature is what has been left unchanged from the first edition. We adhere to the general approach of Krugman's balanced and proven *Economics* text:

“To achieve deeper levels of understanding of the real world through economics, students must learn to appreciate the kinds of trade-offs and ambiguities that economists and policy makers face when applying their models to real-world problems. We believe this approach will make students more insightful and more effective participants in our common economic, social, and political lives.”

Alignment with the College Board[®] Topic Outline

We have organized the book to match up with the College Board's Topic Outlines for AP[®] Macroeconomics and Microeconomics, so you can be sure you are receiving the best possible preparation for the AP[®] exam. Where the outline has recommended coverage within specific sections, you can be sure that you will find that coverage. You can find a guide correlating each module with its equivalent College Board course description topic on the front endpaper of this text.

A flexible modular approach

This book is arranged by sections that correspond to the AP[®] Topic Outline. Each section is divided into four to seven modules. Each module breaks the course material into a pedagogically appropriate unit that is designed to

be covered in one class period. This organization takes you through the required AP[®] course material in a sequence and at a pace designed for optimal success.

Effective study aids

- **Learning Objectives** establish measurable goals for each module and help you direct your reading.
- **Module Reviews** allow you to practice what you've learned with AP[®]-style questions. These reviews help you determine your mastery of each module so you can decide if you're ready to move on or need more study.
- **Section Reviews** include detailed summaries of each module as well as page-referenced Key Terms and AP[®]-style multiple-choice and free-response questions.

Additional Resources to Optimize Productivity

- **Downloadable e-Book**
This PDF-style e-Book matches the printed book page for page and is optimized for use on Windows or Apple computers, laptops, and tablets.

- **Strive for a 5: Preparing for the AP[®] Macroeconomics and Microeconomics Exams**

The *Strive for a 5* guides are designed for use with *Krugman's Economics for AP[®]*, second edition. They are written to help you evaluate your understanding of the material covered in the textbook, reinforce the key concepts, develop conceptual understanding and graphing skills, and prepare you to succeed on the AP[®] Macroeconomics and Microeconomics Exams. The guides are divided into two sections: a study guide and a test preparation section. The study guides are written to be used throughout the course, while the prep section offers additional AP[®] test strategies and includes two full-length AP[®]-style practice exams—each with 60 multiple-choice questions and three free-response questions.

Turn the page for a tour of the text. Once you know how to use the book properly, you will be more likely to realize success in the course and on the AP[®] exam!

Tools for Learning...Getting the Most from this Book

Each section and its modules are structured around a common set of features designed to help you learn the concept and practice for the AP® Exam. By putting all of the pieces together as you work through the text, you will complete the entire puzzle by the end of the course.

Use the features to help you study economics and prepare for the exam.

SECTION 1

Module 1: The Study of Economics
Module 2: Introduction to Macroeconomics
Module 3: The Production Possibilities Curve Model
Module 4: Comparative Advantage and Trade
Appendix: Graphs in Economics
Economics by Example: What's to Love About Economics?

Basic Economic Concepts

One must choose!

Common Ground

The annual meeting of the American Economic Association draws thousands of economists, young and old, famous and obscure. There are booksellers, business meetings, and quite a few job interviews. But mainly the economists gather to talk and listen. During the busiest times, 60 or more presentations may be taking place simultaneously, on questions that range from the future of the stock market to who does the cooking in two-earner families.

What do these people have in common? An expert on the stock market probably knows very little about the economics of housework, and vice versa. Yet an economist who wanders into the wrong seminar and ends up listening to presentations on some unfamiliar topic is nonetheless likely to hear much that is familiar. The reason is that all economic analysis is based on a set of common principles that apply to many different issues.

Some of these principles involve individual choice—for economics is, first of all, about the choices that individuals

of alternatives—limited because no one can have everything that he or she wants. Every question in economics at its most basic level involves individuals making choices.

But to understand how an economy works, you need to understand more than how individuals make choices. None of us lives like Robinson Crusoe, alone on an island—we must make decisions in an environment that is shaped by the decisions of others. Indeed, in our global economy even the simplest decisions you make—say, what to have for breakfast—are shaped by the decisions of thousands of other people: from the banana grower in Costa Rica who decided to grow the fruit you eat to the farmer in Iowa who

behavior within an economy we must also understand economic interaction—how my choices affect your choices, and vice versa.

MODULE 5

Supply and Demand: Introduction and Demand

In this Module, you will learn to:

- Explain what a competitive market is and how it is described by the supply and demand model
- Draw a demand curve and interpret its meaning
- Discuss the difference between movements along the demand curve and changes in demand
- List the factors that shift the demand curve

Supply and Demand: A Model of a Competitive Market

Cotton sellers and cotton buyers constitute a *market*—a group of producers and consumers who exchange a good or service for payment. In this section, we'll focus on a particular type of market known as a *competitive market*. Roughly, a **competitive market** is one in which there are many buyers and sellers of the same good or service. More precisely, the key feature of a competitive market is that no individual's actions have a noticeable effect on the price at which the good or service is sold. It's important to understand, however, that this is not an accurate description of every market. For example, it's not an accurate description of the market for cola

AP® Exam Tip

Supply and demand graphs are some of the most important graphs to master for success on the AP® exam. You must be able to draw, label, and interpret the graphs for the exam. They are the basis of future graphs you will learn in the course, too.

A **competitive market** is a market in which there are many buyers and sellers of the same good or service, none of whom can influence the price at which the good or service is sold.

Key Term

Competitive Market

A competitive market is a market in which there are many buyers and sellers of the same good or service, none of whom can influence the price at which the good or service is sold.

5 Supply and Demand: Introduction and Demand 49

Each unit is designed with a different color so that you may easily determine which AP® exam topic you are studying. For example, Section 1 is blue and Section 2 is magenta.

Review the **Learning Objectives** for an overview of the critical concepts you will be tackling in the module. Focus on mastering these skills as you work through the module.

Read the **Opening Story**. Each section opens with a compelling story that often extends through the modules. The opening stories illustrate important concepts, to build intuition with realistic examples that are designed to pique your interest as you prepare to learn about the economic concepts in the modules.

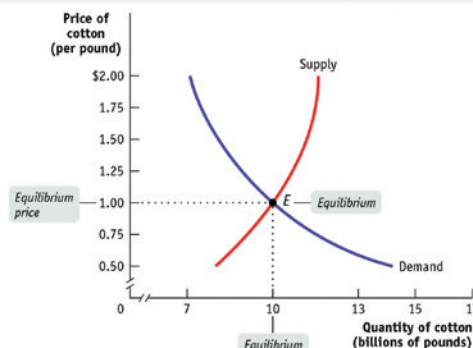
Watch for the blue **Key Term** boxes, which highlight the vocabulary you'll need to master to realize success on the AP® exam. The terms are repeated in the Section Review and in the Glossary at the end of the book, as well as the Glosario on the Book Companion Site.

Pay attention to the **AP® Exam Tip** boxes. They provide helpful advice on what to read closely and what common pitfalls to avoid so you can ace the AP® exam.

Study the graphs and figures. To succeed, you must be able to interpret and draw graphs correctly.

Figure 7.1 Market Equilibrium

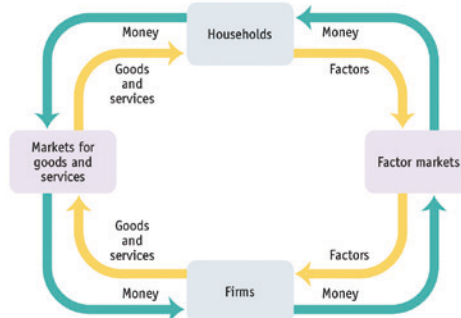
Market equilibrium occurs at point *E*, where the supply curve and the demand curve intersect. In equilibrium, the quantity demanded is equal to the quantity supplied. In this market, the equilibrium price is \$1 per pound and the equilibrium quantity is 10 billion pounds per year.



Figures and graphs hold volumes of information. Study them carefully and read the captions. Mastering the creation and interpretation of economic models is important to realizing success on the AP® exam. Color is used consistently to distinguish between demand (blue) and supply (red) curves.

Figure 10.1 The Circular-Flow Diagram

This diagram represents the flows of money, factors of production, and goods and services in the economy. In the markets for goods and services, households purchase goods and services from the firms and a flow of money to the firms and a flow of goods and services to the households. The money flows back to households as firms purchase factors of production from the households in factor markets.



econextras

Video List

to accompany
Krugman's *Economics for AP® Second Edition*

Section	Module	Name of Video	Link
Section 1	Module 1	Book Overview	https://www.youtube.com/watch?v=19pDz5p1D84
	Module 2	Keynesian Theory in 5 Minutes	https://www.youtube.com/watch?v=20k1U20eW48
	Module 3	The Business Cycle	https://www.youtube.com/watch?v=20k1U20eW48
	Module 4	Scarcity, Opportunity Cost, and the PPC	https://www.youtube.com/watch?v=20k1U20eW48
Section 2	Module 1	The Law of Production: Opportunity Cost and the PPC Model	https://www.youtube.com/watch?v=20k1U20eW48
	Module 2	Production Possibilities Curves and Opportunity Costs	https://www.youtube.com/watch?v=20k1U20eW48
Section 3	Module 1	Market Equilibrium: Part 1	https://www.youtube.com/watch?v=20k1U20eW48
	Module 2	Comparative Advantage	https://www.youtube.com/watch?v=20k1U20eW48

Watch the **econextras** module video clips that provide “just in time” instruction on key concepts in each module. You can watch the videos as many times as needed to make sure that you understand the material. See the econextras list with hyperlinks to recommended videos on the book companion website, bcs.worthpublishers.com/krugmanap2e.

Need a break? Read the **FYI boxes** for short but compelling applications of the major economic concepts just covered in the module. You can connect the content you’re reading with these real-life examples to deepen your understanding of the concepts. Exercise your synthesis skills with these boxes!

FYI The Price of Admission

The market equilibrium, so the theory goes, is pretty egalitarian because the equilibrium price applies to everyone. That is, all buyers pay the same price—the equilibrium price—and all

tickets for major events being sold at face value by online box offices often sell out within minutes. In this case, some people who want to go to the concert but have missed out on the opportunity to buy cheaper tickets from the online box office are willing to pay the higher Internet reseller price.

Not only that—perusing the StubHub.com website, you can see that markets really do move to equilibrium. You’ll notice that the prices quoted by different sellers for seats close to one another are also very close: \$184.99 versus \$185 for seats on the main floor of the Drake concert. As the competitive market model predicts, units of the same good end up selling for the same price. And prices move in response to demand and supply. According to an article in the *New York Times*, tickets on StubHub.com can sell for less than the face value for events with little appeal, but prices can skyrocket for events that are in high demand. (The article quotes a price of \$3,530 for a Madonna

concert.) Even StubHub.com’s chief executive says his site is “the embodiment of supply-and-demand economics.”



The competitive market model determines the price you pay for concert tickets.

Puzzling as this may seem, there is no contradiction once we take opportunity costs and tastes into account. For major events, buying tickets from the box office means waiting in very long lines. Ticket buyers who use Internet resellers have decided that the opportunity cost of their time is too high to spend waiting in line. And

Practice makes perfect!

Practice what you've learned at the end of each module with **Multiple-Choice Questions** and skill-building practice **Free-Response Questions**.

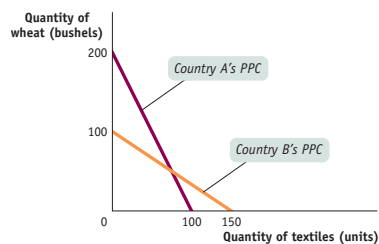
MODULE 4 Review

Check Your Understanding

- In Italy, an automobile can be produced by 8 workers in one day and a washing machine by 3 workers in one day. In the United States, an automobile can be produced by 6 workers in one day, and a washing machine by 2 workers in one day.
 - Which country has an absolute advantage in the production of automobiles? In washing machines?

Tackle the Test: Multiple-Choice Questions

Refer to the graph below to answer the following questions.



30 Section 1 Basic Economic Concepts

- Which country has a comparative advantage in the production of washing machines? In automobiles?
 - What type of specialization results in the greatest gains from trade between the two countries?
- Refer to the story of Tom and Hank illustrated by Figure 4.1 in the text. Explain why Tom and Hank are willing to engage in a trade of 1 fish for $1\frac{1}{2}$ coconuts.
 - Country A
 - Country B
 - Country B
 - Country A
 - Neither country

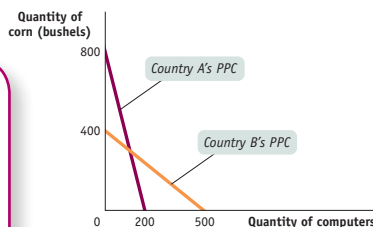
Check Your Understanding questions at the end of each module allow you to immediately test your understanding of the content. If you're having a hard time with these questions, you'll know to go back and re-read the module.

- Use the graph to determine which country has an absolute advantage in producing each good.

<i>Absolute advantage in wheat production</i>	<i>Absolute advantage in textile production</i>
a. Country A	Country B
b. Country A	Country A
c. Country B	Country A
d. Country B	Country B
e. Country A	Neither country

Tackle the Test: Free-Response Questions

- Refer to the graph below to answer the following questions.



- What is the opportunity cost of a bushel of corn in each country?
- Which country has an absolute advantage in computer production? Explain.
- Which country has a comparative advantage in corn production? Explain.
- If each country specializes, what good will Country B import? Explain.
- What is the minimum price Country A will accept to export corn to Country B? Explain.

Rubric for FRQ 1 (9 points)

- 1 point:** Country A, $\frac{1}{4}$ computer; Country B, $1\frac{1}{4}$ computers
- 1 point:** Country B
- 1 point:** Because Country B can produce more computers than Country A (500 versus 200)
- 1 point:** Country A

- 1 point:** Because Country A can produce corn at a lower opportunity cost ($\frac{1}{4}$ versus $1\frac{1}{4}$ computers)
- 1 point:** Corn
- 1 point:** Country B has a comparative advantage in the production of computers, so it will produce computers and import corn (Country A has a comparative advantage in corn production, so it will specialize in corn and import computers from Country B).
- 1 point:** $\frac{1}{4}$ computer
- 1 point:** Country A's opportunity cost of producing corn is $\frac{1}{4}$ computer, so that is the lowest price it will accept to sell corn to Country B.

- Refer to the table below to answer the following questions. These two countries are producing textiles and wheat using equal amounts of resources.

	Weekly output per worker	
	Country A	Country B
Bushels of wheat	15	10
Units of textiles	60	60

- What is the opportunity cost of producing a bushel of wheat for each country?
- Which country has the absolute advantage in wheat production?
- Which country has the comparative advantage in textile production? Explain. (5 points)

Tackle the Test presents five AP®-style multiple-choice questions to help you become comfortable with the types of questions you'll see in the multiple-choice section of the AP® exam.

In addition, two **AP®-style free-response questions** are provided. A sample grading rubric is given for the first FRQ to show you how questions are graded and to help you learn how to write thoughtful answers. The second problem asks you try a "mini FRQ" for yourself. These short, focused FRQ-style questions are one small piece of the puzzle.

Watch the review video and work through cumulative questions at the end of each section.

SECTION 1 Review

 Section 1 Review Video

Start your review of each section by watching the special Section Review Video, indicated by the green play button. These reviews present the key ideas in the section using lots of visuals, down-to-earth language, and a little humor.

Read the Section Review and study the Key Terms at the end of each section.

Module 1

- Everyone has to make choices about what to do and what *not* to do. **Individual choice** is the basis of **economics**—if it doesn't involve choice, it isn't economics. The **economy** is a system that coordinates choices about production and consumption. In a **market economy**, these choices are made by many firms and individuals. In a **command economy**, these choices are made by a central authority. **Incentives** are rewards or punishments that motivate particular choices, and can be lacking in a command economy where producers cannot set their own prices or keep their own profits. **Property rights** create incentives in market economies by establishing ownership and granting individuals the right to trade goods and services for mutual gain. In any economy, decisions are informed by **marginal analysis**—the study of the costs and benefits of doing something a little bit more or a little bit less.
- The reason choices must be made is that **resources**—anything that can be used to produce something else—are **scarce**. The four categories of resources are **land, labor, capital, and entrepreneurship**. Individuals are limited in their choices by money and time. Economics studies how people make decisions and how those decisions interact. **Microeconomics** is the branch of economics that studies how people make decisions and how those decisions interact. **Macroeconomics** is concerned with the overall ups and downs of the economy, and focuses on **economic aggregates** such as the unemployment rate, the gross domestic product, that summarize data from different markets.
- Because you must choose among limited alternatives, the true cost of anything is what you must give up to get it—all costs are **opportunity costs**.
- Economists use economic models for both **positive economics**, which describes how the economy works, and for **normative economics**, which prescribes how the economy *should* work. Positive economics often involves making forecasts. Economics can determine correct answers for positive questions, but typically not for normative questions, which involve value judgments. Exceptions occur when policies designed to achieve a certain prescription can be clearly ranked in terms of preference.
- There are two main reasons economists disagree. One, they may disagree about which simplifications to make in a model. Two, economists may disagree—like everyone else—about values.
- Microeconomics** is the branch of economics that studies how people make decisions and how those decisions interact. **Macroeconomics** is concerned with the overall ups and downs of the economy, and focuses on **economic aggregates** such as the unemployment rate, the gross domestic product, that summarize data from different markets.

Key Terms

Economics, p. 2	Economic aggregates, p. 5	Model, p. 14
Individual choice, p. 2	Positive economics, p. 6	Other things equal (<i>ceteris paribus</i>) assumption, p. 14
Economy, p. 2	Normative economics, p. 6	Trade-off, p. 16
Market economy, p. 2	Business cycle, p. 11	Production possibilities curve, p. 17
Command economy, p. 2	Depression, p. 11	Efficient, p. 18
Incentives, p. 3	Recessions, p. 11	Productive efficiency, p. 18
Property rights, p. 3	Expansions, p. 11	Allocative efficiency, p. 18
Marginal analysis, p. 3	Employment, p. 11	Technology, p. 21
Resource, p. 3	Unemployment, p. 11	Trade, p. 24
Land, p. 3	Labor force, p. 12	Gains from trade, p. 24
Labor, p. 3	Unemployment rate, p. 12	Specialization, p. 24
Capital, p. 3	Output, p. 12	Comparative advantage, p. 27
Entrepreneurship, p. 3	Aggregate output, p. 12	Absolute advantage, p. 27
Scarce, p. 3	Inflation, p. 13	Terms of trade, p. 28
Opportunity cost, p. 4	Deflation, p. 13	
Microeconomics, p. 5	Price stability, p. 13	
Macroeconomics, p. 5	Economic growth, p. 13	

Free-Response Question

The Hatfield family lives on the east side of the Hataatoochie River and the McCoy family lives on the west side. Each family's diet consists of fried chicken and corn on the cob, and each is self-sufficient, raising its own chickens and growing its own corn.

Assume the Hatfield family has a comparative advantage in the production of corn.

- Draw a correctly labeled graph showing a hypothetical production possibilities curve for the McCoy family.
- Which family has the comparative advantage in the production of chickens? Explain.
- Assuming that each family is producing efficiently, how can the two families increase their consumption of both chicken and corn? (5 points)

AP® Exam Practice Questions

Multiple-Choice Questions

- In a market economy, most choices about production and consumption are made by which of the following?
 - politicians
 - many individuals and firms
 - the government
 - managers
 - economists
- Which of the following pairs indicates a category of resources and an example of that resource?

<i>Category</i>	<i>Example</i>
a. money	investment
b. capital	money
- You can either go to a movie or study for an exam. Which of the following is an opportunity cost of studying for the exam?
 - a higher grade on the exam
 - the price of a movie ticket
 - the cost of paper, pens, books, and other study materials
 - the enjoyment from seeing the movie
 - the sense of achievement from learning

Test yourself at the end of each section by tackling the **AP® Exam Practice Questions**. Here's your chance to prove that you've mastered the Economics content *and* the types of questions you'll see on the AP® exam!

The final pieces of the puzzle...Putting It All Together and the comprehensive AP[®] Practice Test



MODULE 45

Putting It All Together

Putting It All Together The final module in macroeconomics, 45, teaches you how to use what you have learned to answer comprehensive, “real-world” questions about the macroeconomy, like the type you will see in the long section FRQ on the AP[®] Exam.

In this Module, you will learn to:

- Use macroeconomic models to conduct policy analysis
- Improve your approach to free-response macroeconomics questions

Having completed our study of the basic macroeconomic models, you can now analyze scenarios and evaluate policy recommendations. In this module, you will use a step-by-step approach to macroeconomic analysis. You can adapt this approach to problems involving any macroeconomic model, including models of demand and supply, production possibilities, money markets, and the Phillips curve. At the end of this module you will be able to combine mastery of the principles with problem solving skills to analyze a new scenario on your own.

A Structure for Macroeconomic Analysis

Test your knowledge and readiness for the AP[®] exam by taking the end-of-book **AP[®]-Style Practice Exams**, which include 60 multiple-choice questions and three FRQs per exam, just like the official tests. Time yourself to simulate the actual exams.

PRACTICE EXAM

AP[®] Macroeconomics Exam Practice Test

Multiple-Choice Questions

Refer to the figure below to answer Question 1.

1. A movement from point A to point B illustrates which of the following?

- the opportunity cost of consumer goods
- an advance in technology
- an increase in available resources used to produce consumer goods

Slope

- no change
- decrease
- increase
- no change
- decrease

Opportunity cost of wheat

- no change
- decrease
- increase
- increase
- increase

3. According to the concept of comparative advantage, which of the following is true when countries specialize and trade?

- Both countries will be better off.
- Total world output increases.
- The production possibilities curve for both countries shifts outward.
- Prices fall in both countries.
- Deadweight loss is created.

Refer to the figure below to answer Question 4.

Interesting reading for after the Exam

Learning about Economics doesn't stop after you take the exam in May. Continue your study of Economics with **Enrichment Modules** and the **Financial Literacy Handbook** to help round out the course and to prepare you for further Economics study in college and beyond.

ENRICHMENT MODULE

A

Financial Markets and Crises

In this Module, you will learn to:

- Describe the importance of a well-functioning financial system
- Identify the macroeconomic consequences of financial crises
- Explain the factors leading to the financial crisis of 2008
- List the causes of financial crises in the economy

The Role of Financial Markets

These days, almost everyone is connected in some way to *financial markets*. When you receive a paycheck, pay a bill, borrow money, or use a credit card, the financial markets assist with the transaction. And a recent FDIC study found that about 91% of U.S. households have some form of checking or savings account.

In Module 22, we learned about the three tasks of a financial system: to reduce transactions costs, to reduce risk, and to provide liquidity. The financial system performs these tasks largely through financial intermediaries, such as banks and mutual funds.

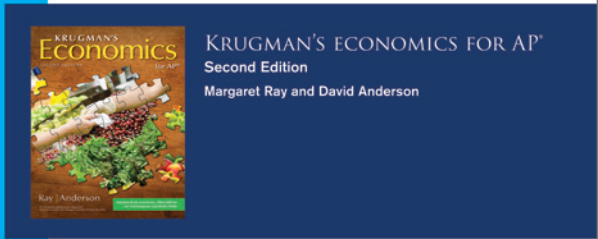
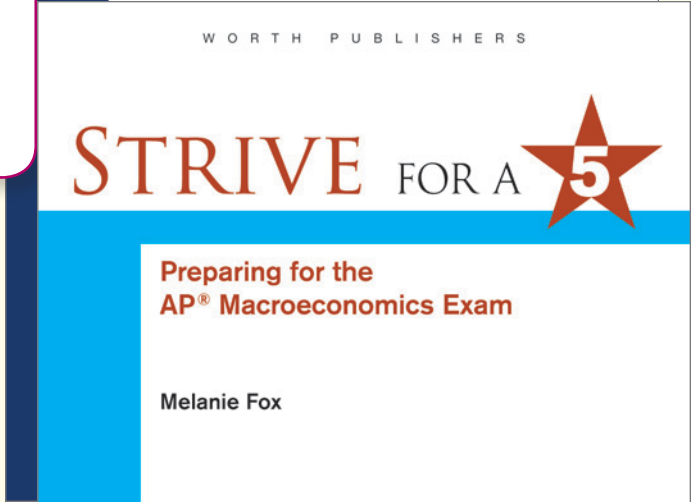
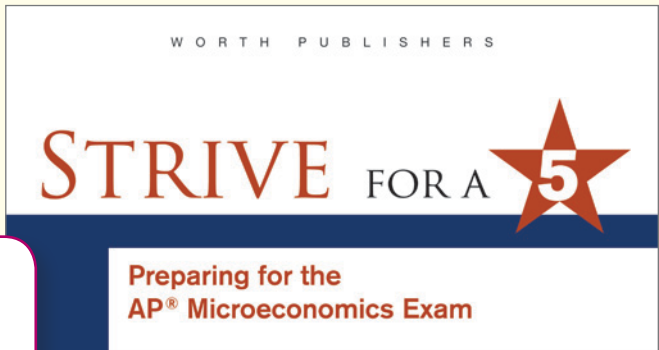
For additional help...

Use the **Strive for a 5 Guide** companions to this text. Each Guide was written to work hand-in-glove with the text and includes a study guide followed by tips and advice on taking the exam and two more full AP® practice exams per guide.

Study when and where you want...



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Module 1: The Study of Economics

Module 2: Introduction to Macroeconomics

Module 3: The Production Possibilities Curve Model

Module 4: Comparative Advantage and Trade

Appendix: Graphs in Economics

Economics by Example: What's to Love About Economics?

Basic Economic Concepts

Common Ground

The annual meeting of the American Economic Association draws thousands of economists, young and old, famous and obscure. There are booksellers, business meetings, and quite a few job interviews. But mainly the economists gather to talk and listen. During the busiest times, 60 or more presentations may be taking place simultaneously, on questions that range from the future of the stock market to who does the cooking in two-earner families.

What do these people have in common? An expert on the stock market probably knows very little about the economics of housework, and vice versa. Yet an economist who wanders into the wrong seminar and ends up listening to presentations on some unfamiliar topic is nonetheless likely to hear much that is familiar. The reason is that all economic analysis is based on a set of common principles that apply to many different issues.

Some of these principles involve *individual choice*—for economics is, first of all, about the choices that individuals make. Do you choose to work during the summer or take a backpacking trip? Do you download a new album or go to a movie? These decisions involve *making a choice* from among a limited number

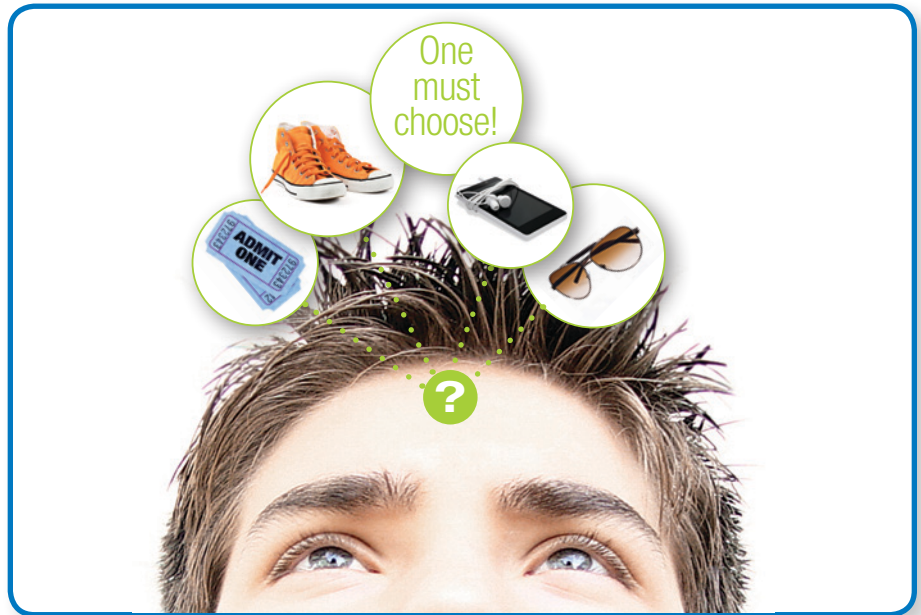
of alternatives—limited because no one can have everything that he or she wants. Every question in economics at its most basic level involves individuals making choices.

But to understand how an economy works, you need to understand more than how individuals make choices. None of us lives like Robinson Crusoe, alone on an island—we must make decisions in an environment that is shaped by the decisions of others. Indeed, in our global economy even the simplest decisions you make—say, what to have for breakfast—are shaped by the decisions of thousands of other people, from the banana grower in Costa Rica who decided to grow the fruit you eat to the farmer in Iowa who provided the corn in your cornflakes. And because each one of us depends on so many others—and they, in turn, depend on us—our choices interact. So, although all economics at a basic level is about individual choice, in order to understand

behavior within an economy we must also understand economic *interaction*—how my choices affect your choices, and vice versa.

Many important economic interactions can be understood by looking at the markets for individual goods—for example, the market for corn. But we must also understand economy-wide interactions in order to understand how they can lead to the ups and downs we see in the economy as a whole.

In this section we discuss the study of economics and the difference between microeconomics and macroeconomics. We also introduce the major topics within macroeconomics and the use of models to study the macroeconomy. Finally, we present the production possibilities curve model and use it to understand basic economic activity, including trade between two economies. Because the study of economics relies on graphical models, an appendix on the use of graphs follows the end of this section.



istockphoto.com (Young man looking up, Movie tickets, Orange Converse sneakers); Shutterstock (Raylan sunglasses)



© 13/Tony Hopewell/Ocean/Corbis

MODULE

1

The Study of Economics

In this Module, you will learn to:

- Explain how scarcity and choice are central to the study of economics
- Discuss the importance of opportunity cost in individual choice and decision making
- Explain the difference between positive economics and normative economics
- Identify areas of agreement and disagreement among economists
- Distinguish between microeconomic concepts and macroeconomic concepts

Individual Choice: The Core of Economics

Economics is the study of scarcity and choice.

Individual choice is decisions by individuals about what to do, which necessarily involve decisions about what not to do.

An **economy** is a system for coordinating a society's productive and consumptive activities.

In a **market economy**, the decisions of individual producers and consumers largely determine what, how, and for whom to produce, with little government involvement in the decisions.

In a **command economy**, industry is publicly owned and a central authority makes production and consumption decisions.

Economics is the study of scarcity and choice. Every economic issue involves, at its most basic level, **individual choice**—decisions by individuals about what to do and what *not* to do. In fact, you might say that it isn't economics if it isn't about choice.

Step into a big store such as Walmart or Target. There are thousands of different products available, and it is extremely unlikely that you—or anyone else—could afford to buy everything you might want to have. Besides, there's only so much space in your room. Given the limitations on your budget and your living space, you must choose which products to buy and which to leave on the shelf.

The fact that those products are on the shelf in the first place involves choice—the store manager chose to put them there, and the manufacturers of the products chose to produce them. The **economy** is a system that coordinates choices about production with choices about consumption, and distributes goods and services to the people who want them. The United States has a **market economy**, in which production and consumption are the result of decentralized decisions by many firms and individuals. There is no central authority telling people what to produce or where to ship it. Each individual producer makes what he or she thinks will be most profitable, and each consumer buys what he or she chooses.

An alternative to a market economy is a **command economy**, in which industry is publicly owned and there *is* a central authority making production and consumption decisions. Command economies have been tried, most notably in the Soviet Union between 1917 and 1991, but they didn't work very well. Producers in the Soviet Union

routinely found themselves unable to produce because they did not have crucial raw materials, or they succeeded in producing but then found that nobody wanted what the central authority had them produce. Consumers were often unable to find necessary items—command economies are famous for long lines at shops.

At the root of the problem with command economies is a lack of **incentives**, which are rewards or punishments that motivate particular choices. In market economies, producers are free to charge higher prices when there is a shortage of something, and to keep the resulting profits. High prices and profits provide incentives for producers to make more of the most-needed goods and services and to eliminate shortages.

In fact, economists tend to be skeptical of any attempt to change people’s behavior that doesn’t change their incentives. For example, a plan that calls on manufacturers to reduce pollution voluntarily probably won’t be effective; a plan that gives them a financial incentive to do so is more likely to succeed.

Property rights, which establish ownership and grant individuals the right to trade goods and services with each other, create many of the incentives in market economies. With the right to own property comes the incentive to produce things of value, either to keep, or to trade for mutual gain. And ownership creates an incentive to put resources to their best possible use. Property rights to a lake, for example, give the owners an incentive not to pollute that lake if its use for recreation, serenity, or sale has greater value.

In any economy, the decisions of what to do with the next ton of pollution, the next hour of free time, and the next dollar of spending money are *marginal decisions*. They involve trade-offs at the margin: comparing the costs and benefits of doing a little bit more of an activity versus a little bit less. The gain from doing something one more time is called the *marginal benefit*. The cost of doing something one more time is the *marginal cost*. If the marginal benefit of making another car, reading another page, or buying another latte exceeds the marginal cost, the activity should continue. Otherwise, it should not. The study of such decisions, known as **marginal analysis**, plays a central role in economics because the formula of doing things until the marginal benefit no longer exceeds the marginal cost is the key to deciding “how much” to do of any activity.

All economic activities involve individual choice. Let’s take a closer look at what this means for the study of economics.

Resources Are Scarce

You can’t always get what you want. Almost everyone would like to have a beautiful house in a great location (and help with the housecleaning), two or three luxury cars, and frequent vacations in fancy hotels. But even in a rich country like the United States, not many families can afford all of that. So they must make choices—whether to go to Disney World this year or buy a better car, whether to make do with a small backyard or accept a longer commute in order to live where land is cheaper.

Limited income isn’t the only thing that keeps people from having everything they want. Time is also in limited supply: there are only 24 hours in a day. And because the time we have is limited, choosing to spend time on one activity also means choosing not to spend time on a different activity—spending time studying for an exam means forgoing a night at the movies. Indeed, many people feel so limited by the number of hours in the day that they are willing to trade money for time. For example, convenience stores usually charge higher prices than larger supermarkets. But they fulfill a valuable role by catering to customers who would rather pay more than spend the time traveling farther to a supermarket where they might also have to wait in longer lines.

Why do individuals have to make choices? The ultimate reason is that *resources are scarce*. A **resource** is anything that can be used to produce something else. The economy’s resources, sometimes called *factors of production*, can be classified into four categories: **land** (including timber, water, minerals, and all other resources that come from nature), **labor** (the effort of workers), **capital** (machinery, buildings, tools, and all other manufactured goods used to make other goods and services), and **entrepreneurship** (risk taking, innovation, and the organization of resources for production). A resource is **scarce**

Incentives are rewards or punishments that motivate particular choices.

Property rights establish ownership and grant individuals the right to trade goods and services with each other.

Marginal analysis is the study of the costs and benefits of doing a little bit more of an activity versus a little bit less.

A **resource** is anything that can be used to produce something else.

Land refers to all resources that come from nature, such as minerals, timber, and petroleum.

Labor is the effort of workers.

Capital refers to manufactured goods used to make other goods and services.

Entrepreneurship describes the efforts of entrepreneurs in organizing resources for production, taking risks to create new enterprises, and innovating to develop new products and production processes.

A **scarce** resource is not available in sufficient quantities to satisfy all the various ways a society wants to use it.

AP® Exam Tip

Students of microeconomics should pay close attention to *marginal analysis*, as it is often tested on the AP® exam. Any time you see “additional,” think “marginal.”

AP® Exam Tip

Be careful when you see key terms you think you already know, because economists have special meanings for many terms. For example, *scarcity* is about more than just a limited amount of a good. For an economist, scarcity involves trying to satisfy unlimited consumer wants with limited resources. The difference is the relationship to unlimited consumer wants.

AP® Exam Tip

Questions on the AP® exam generally use the term *capital* to refer to the category of factors of production made up of manufactured goods used to make other goods and services. Don't confuse this type of capital with *financial capital* such as money, stocks, and bonds.

The real cost of an item is its **opportunity cost**: what you must give up in order to get it.



Charles D. Winters



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LeBron James understood the concept of opportunity cost.

when there is not enough of it available to satisfy the various ways a society wants to use it. For example, there are limited supplies of oil and coal, which currently provide most of the energy used to produce and deliver everything we buy. And in a growing world economy with a rapidly increasing human population, even clean air and water have become scarce resources.

Just as individuals must make choices, the scarcity of resources means that society as a whole must make choices. One way for a society to make choices is simply to allow them to emerge as the result of many individual choices. For example, there are only so many hours in a week, and Americans must decide how to spend their time. How many hours will they spend going to supermarkets to get lower prices rather than saving time by shopping at convenience stores? The answer is the sum of individual decisions: each of the millions of individuals in the economy makes his or her own choice about where to shop, and society's choice is simply the sum of those individual decisions.

For various reasons, there are some decisions that a society decides are best not left to individual choice. For example, two of the authors of this book live in an area that until recently was mainly farmland but is now being rapidly built up. Most local residents feel that the community would be a more pleasant place to live if some of the land were left undeveloped. But no individual has an incentive to keep his or her land as open space, rather than sell it to a developer. So a trend has emerged in many communities across the United States of local governments purchasing undeveloped land and preserving it as open space. Decisions about how to use scarce resources are often best left to individuals, but sometimes should be made at a higher, community-wide, level.

Opportunity Cost: The Real Cost of Something Is What You Must Give Up to Get It

Suppose it is the last term before you graduate from high school and you must decide which college to attend. You have narrowed your choices to a small liberal arts college near home or a large state university several hours away. If you decide to attend the local liberal arts college, what is the cost of that decision? Of course, you will have to pay for tuition, books, and housing no matter which college you choose. Added to the cost of choosing the local college is the forgone opportunity to attend the large state university, your next best alternative. Economists call the value of what you must give up when you make a particular choice an **opportunity cost**.

Opportunity costs are crucial to individual choice because, in the end, all costs are opportunity costs. That's because with every choice, an alternative is forgone—money or time spent on one thing can't be spent on another. If you spend \$15 on a pizza, you forgo the opportunity to spend that \$15 on a steak. If you spend Saturday afternoon at the park, you can't spend Saturday afternoon doing homework. And if you attend one school, you can't attend another.

The park and school examples show that economists are concerned with more than just costs paid in dollars and cents. The forgone opportunity to do homework has no direct monetary cost, but it is an opportunity cost nonetheless. And if the local college and the state university have the same tuition and fees, the cost of choosing one school over the other has nothing to do with payments and everything to do with forgone opportunities.

Now suppose tuition and fees at the state university are \$5,000 less than at the local college. In that case, what you give up to attend the local college is the ability to attend the state university *plus* the enjoyment you could have gained from spending \$5,000 on other things. So the opportunity cost of a choice includes all the costs—whether or not they are monetary costs—of making that choice.

The choice to go to college *at all* provides an important final example of opportunity costs. High school graduates can either go to college or seek immediate employment. Even with a full scholarship that would make college “free” in terms of monetary costs, going to college would still be an expensive proposition because most young people,

if they were not in college, would have a job. By going to college, students forgo the income they could have earned if they had gone straight to work instead. Therefore, the opportunity cost of attending college is the value of all necessary monetary payments for tuition and fees *plus* the forgone income from the best available job that could take the place of going to college.

For most people the value of a college degree far exceeds the value of alternative earnings, with notable exceptions. The opportunity cost of going to college is high for people who could earn a lot during what would otherwise be their college years. Basketball star LeBron James bypassed college because the opportunity cost would have included his \$13 million contract with the Cleveland Cavaliers and even more from corporate sponsors Nike and Coca-Cola. Facebook co-founder Mark Zuckerberg, Microsoft co-founder Bill Gates, and actor Matt Damon are among the high achievers who decided that the opportunity cost of completing college was too much to swallow.

Microeconomics Versus Macroeconomics

We have presented economics as the study of choices and described how, at its most basic level, economics is about individual choice. The branch of economics concerned with how individuals make decisions and how those decisions interact is called **microeconomics**. Microeconomics focuses on choices made by individuals, households, or firms—the smaller parts that make up the economy as a whole.

Macroeconomics focuses on the bigger picture—the overall ups and downs of the economy. When you study macroeconomics, you learn how economists explain these fluctuations and how governments can use economic policy to minimize the damage they cause. Macroeconomics focuses on **economic aggregates**—economic measures such as the unemployment rate, the inflation rate, and gross domestic product—that summarize data across many different markets.

Table 1.1 lists some typical questions that involve economics. A microeconomic version of the question appears on the left, paired with a similar macroeconomic question on the right. By comparing the questions, you can begin to get a sense of the difference between microeconomics and macroeconomics.

Microeconomics is the study of how individuals, households, and firms make decisions and how those decisions interact.

Macroeconomics is concerned with the overall ups and downs of the economy.

Economic aggregates are economic measures that summarize data across many different markets.

Table 1.1 Microeconomic Versus Macroeconomic Questions

Microeconomic Questions	Macroeconomic Questions
Should I go to college or get a job after high school?	How many people are employed in the economy as a whole this year?
What determines the salary that Citibank offers to a new college graduate?	What determines the overall salary levels paid to workers in a given year?
What determines the cost to a high school of offering a new course?	What determines the overall level of prices in the economy as a whole?
What government policies should be adopted to make it easier for low-income students to attend college?	What government policies should be adopted to promote employment and growth in the economy as a whole?
What determines the number of iPhones exported to France?	What determines the overall trade in goods, services, and financial assets between the United States and the rest of the world?

As these questions illustrate, microeconomics focuses on how individuals and firms make decisions, and the consequences of those decisions. For example, a school will use microeconomics to determine how much it would cost to offer a new course, which includes the instructor's salary, the cost of class materials, and so on. By weighing the costs and benefits, the school can then decide whether or not to offer the course. Macroeconomics, in contrast, examines the *overall* behavior of the economy—how the actions of all of the individuals and firms in the economy interact to produce a particular economy-wide level of economic performance. For example,

macroeconomics is concerned with the general level of prices in the economy and how high or low they are relative to prices last year, rather than with the price of a particular good or service.

Positive Versus Normative Economics

Economic analysis, as we will see throughout this book, draws on a set of basic economic principles. But how are these principles applied? That depends on the purpose of the analysis. Economic analysis that is used to answer questions about the way the economy works, questions that have definite right and wrong answers, is known as **positive economics**. In contrast, economic analysis that involves saying how the economy *should* work is known as **normative economics**.

Imagine that you are an economic adviser to the governor of your state and the governor is considering a change to the toll charged along the state turnpike. Below are three questions the governor might ask you.

1. How much revenue will the tolls yield next year?
2. How much would that revenue increase if the toll were raised from \$1.00 to \$1.50?
3. Should the toll be raised, bearing in mind that a toll increase would likely reduce traffic and air pollution near the road but impose some financial hardship on frequent commuters?

There is a big difference between the first two questions and the third one. The first two are questions about facts. Your forecast of next year's toll revenue without any increase will be proved right or wrong when the numbers actually come in. Your estimate of the impact of a change in the toll is a little harder to check—the increase in revenue depends on other factors besides the toll, and it may be hard to disentangle the causes of any change in revenue. Still, in principle there is only one right answer.

But the question of whether or not tolls should be raised may not have a “right” answer—two people who agree on the effects of a higher toll could still disagree about whether raising the toll is a good idea. For example, someone who lives near the turnpike but doesn't commute on it will care a lot about noise and air pollution but not so much about commuting costs. A regular commuter who doesn't live near the turnpike will have the opposite priorities.

This example highlights a key distinction between the two roles of economic analysis and presents another way to think about the distinction between positive and normative analysis: positive economics is about description, and normative economics is about prescription. Positive economics occupies most of the time and effort of economists.

Looking back at the three questions the governor might ask, it is worth noting a subtle but important difference between questions 1 and 2. Question 1 asks for a simple prediction about next year's revenue—a

forecast. Question 2 is a “what if” question, asking how revenue would change if the toll were to increase. Economists are often called upon to answer both types of questions. Economic *models*, which provide simplified representations of reality using, for example, graphs or equations, are especially useful for answering “what if” questions.

The answers to such questions often serve as a guide to policy, but they are still predictions, not prescriptions. That is, they tell you what will happen if a policy is changed, but they don't tell you whether or not that result is good. Suppose that your economic model tells you that the governor's proposed increase in highway tolls will raise property values in communities near the road but will tax or inconvenience people who currently use the turnpike to get to work. Does that information make this proposed toll increase a good idea or a bad one? It depends on whom you ask. As we've just seen, someone who is very concerned with the communities near the road will support the increase, but

Positive economics is the branch of economic analysis that describes the way the economy actually works.

Normative economics makes prescriptions about the way the economy should work.

AP® Exam Tip

In economics, positive statements are about *what is*, while normative statements are about *what should be*.



Should the toll be raised?

someone who is very concerned with the welfare of drivers will feel differently. That's a value judgment—it's not a question of positive economic analysis.

Still, economists often do engage in normative economics and give policy advice. How can they do this when there may be no “right” answer? One answer is that economists are also citizens, and we all have our opinions. But economic analysis can often be used to show that some policies are clearly better than others, regardless of individual opinions.

Suppose that policies A and B achieve the same goal, but policy A makes everyone better off than policy B—or at least makes some people better off without making other people worse off. Then A is clearly more beneficial than B. That's not a value judgment: we're talking about how best to achieve a goal, not about the goal itself.

For example, two different policies have been used to help low-income families obtain housing: rent control, which limits the rents landlords are allowed to charge, and rent subsidies, which provide families with additional money with which to pay rent. Almost all economists agree that subsidies are the preferable policy. (In a later module we'll see why this is so.) And so the great majority of economists, whatever their personal politics, favor subsidies over rent control.

When policies can be clearly ranked in this way, then economists generally agree. But it is no secret that economists sometimes disagree.

When and Why Economists Disagree

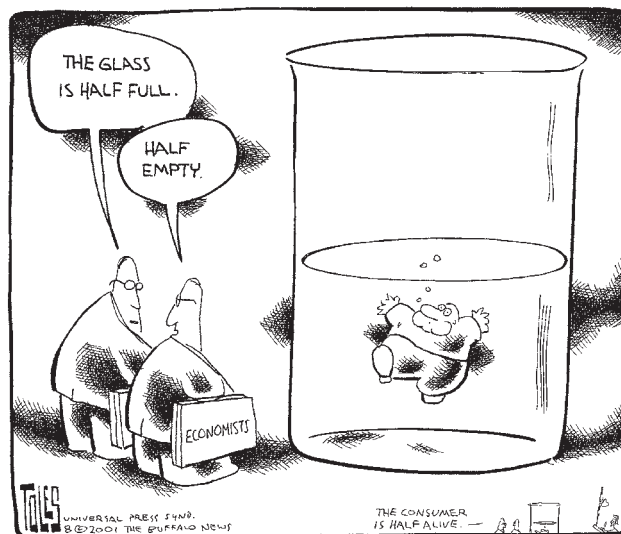
Economists have a reputation for arguing with each other. Where does this reputation come from? One important answer is that media coverage tends to exaggerate the real differences in views among economists. If nearly all economists agree on an issue—for example, the proposition that rent controls lead to housing shortages—reporters and editors are likely to conclude that there is no story worth covering, and so the professional consensus tends to go unreported. But when there is some issue on which prominent economists take opposing sides—for example, whether cutting taxes right now would help the economy—that does make a good news story. So you hear much more about the areas of disagreement among economists than you do about the many areas of agreement.

It is also worth remembering that economics, unavoidably, is often tied up in politics. On a number of issues, powerful interest groups know what opinions they want to hear. Therefore, they have an incentive to find and promote economists who profess those opinions, which gives these economists a prominence and visibility out of proportion to their support among their colleagues.

Although the appearance of disagreement among economists exceeds the reality, it remains true that economists often *do* disagree about important things. For example, some highly respected economists argue vehemently that the U.S. government should replace the income tax with a *value-added tax* (a national sales tax, which is the main source of government revenue in many European countries). Other equally respected economists disagree. What are the sources of this difference of opinion?

One important source of differences is in values: as in any diverse group of individuals, reasonable people can differ. In comparison to an income tax, a value-added tax typically falls more heavily on people with low incomes. So an economist who values a society with more social and income equality will likely oppose a value-added tax. An economist with different values will be less likely to oppose it.

A second important source of differences arises from the way economists conduct economic analysis. Economists base their conclusions on models formed by making simplifying assumptions about reality. Two economists can legitimately disagree about which simplifications are appropriate—and therefore arrive at different conclusions.



FYI

When Economists Agree

"If all the economists in the world were laid end to end, they still couldn't reach a conclusion." So goes one popular economist joke. But do economists really disagree that much?

Not according to a classic survey of members of the American Economic Association, reported in the May 1992 issue of the *American Economic Review*. The authors asked respondents to agree or disagree with a number of statements about

the economy; what they found was a high level of agreement among professional economists on many of the statements. At the top of the list, with more than 90% of the economists agreeing, were the statements "Tariffs and import quotas usually reduce general economic welfare" and "A ceiling on rents reduces the quantity and quality of housing available." What's striking about these two statements is that many noneconomists disagree: tariffs and import quotas to

keep out foreign-produced goods are favored by many voters, and proposals to do away with rent control in cities like New York and San Francisco have met fierce political opposition.

So is the stereotype of quarreling economists a myth? Not entirely. Economists do disagree quite a lot on some issues, especially in macroeconomics, but they also find a great deal of common ground.

Suppose that the U.S. government was considering a value-added tax. Economist A may rely on a simplification of reality that focuses on the administrative costs of tax systems—that is, the costs of monitoring compliance, processing tax forms, collecting the tax, and so on. This economist might then point to the well-known high costs of administering a value-added tax and argue against the change. But economist B may think that the right way to approach the question is to ignore the administrative costs and focus on how the proposed law would change individual savings behavior. This economist might point to studies suggesting that value-added taxes promote higher consumer saving, a desirable result. Because the economists have made different simplifying assumptions, they arrive at different conclusions. And so the two economists may find themselves on different sides of the issue.

Most such disputes are eventually resolved by the accumulation of evidence that shows which of the various simplifying assumptions made by economists does a better job of fitting the facts. However, in economics, as in any science, it can take a long time before research settles important disputes—decades, in some cases. And since the economy is always changing in ways that make old approaches invalid or raise new policy questions, there are always new issues on which economists disagree. The policy maker must then decide which economist to believe.

MODULE 1

Review

Check Your Understanding

1. Provide an example of a resource from each of the four categories of resources.
2. What type of resource is each of the following?
 - a. time spent flipping hamburgers at a restaurant
 - b. a bulldozer
 - c. a river
3. You make \$45,000 per year at your current job with Whiz Kids Consultants. You are considering a job offer from Brainiacs, Inc., which would pay you \$50,000 per year. Is each of the following elements an opportunity cost of accepting the new job at Brainiac, Inc.?

Answer yes or no, and explain your answer.

- a. the increased time spent commuting to your new job
 - b. the \$45,000 salary from your old job
 - c. the more spacious office at your new job
4. Identify each of the following statements as positive or normative, and explain your answer.
 - a. Society should take measures to prevent people from engaging in dangerous personal behavior.
 - b. People who engage in dangerous personal behavior impose higher costs on society through higher medical costs.

Tackle the Test: Multiple-Choice Questions

- Which of the following is an example of a resource?
 - petroleum
 - a factory
 - a cheeseburger dinner
 - I only
 - II only
 - III only
 - I and II only
 - I, II, and III
- Which of the following is not an example of resource scarcity?
 - There is a finite amount of petroleum in the world.
 - Farming communities are experiencing droughts.
 - There are not enough physicians to satisfy all desires for health care in the United States.
 - Cassette tapes are no longer being produced.
 - Teachers would like to have more instructional technology in their classrooms.
- Suppose that you prefer reading a book you already own to watching TV and that you prefer watching TV to listening to music. If these are your only three choices, what is the opportunity cost of reading?
 - watching TV and listening to music
 - watching TV
 - listening to music
 - sleeping
 - the price of the book
- Which of the following statements is/are normative?
 - The price of gasoline is rising.
 - The price of gasoline is too high.
 - Gas prices are expected to fall in the near future.
 - I only
 - II only
 - III only
 - I and III only
 - I, II, and III
- Which of the following questions is studied in microeconomics?
 - Should I go to college or get a job after I graduate?
 - What government policies should be adopted to promote employment in the economy?
 - How many people are employed in the economy this year?
 - Has the overall level of prices in the economy increased or decreased this year?
 - What determines the overall salary levels paid to workers in a given year?

Tackle the Test: Free-Response Questions

- Define the term *resources*, and list the four categories of resources. What characteristic of resources results in the need to make choices?
- In what type of economic analysis do questions have a “right” or “wrong” answer? In what type of economic analysis do questions not necessarily have a “right” answer? On what type of economic analysis do economists tend to disagree most frequently? Why might economists disagree? Explain.

Rubric for FRQ 1 (6 points)

- 1 point:** Resources are anything that can be used to produce something else.
- 1 point each:** The four categories of the economy’s resources are land, labor, capital, and entrepreneurship.
- 1 point:** The characteristic that results in the need to make choices is scarcity.

(5 points)