macroeconomist might study the effects of borrowing by the federal government, the changes over time in the economy's rate of unemployment, or alternative policies to raise growth in national living standards.

Microeconomics and macroeconomics are closely intertwined. Because changes in the overall economy arise from the decisions of millions of individuals, it is impossible to understand macroeconomic developments without considering the associated microeconomic decisions. For example, a macroeconomist might study the effect of a cut in the federal income tax on the overall production of goods and services. To analyze this issue, he or she must consider how the tax cut affects the decisions of households about how much to spend on goods and services.

Despite the inherent link between microeconomics and macroeconomics, the two fields are distinct. In economics, as in biology, it may seem natural to begin with the smallest unit and build up. Yet doing so is neither necessary nor always the best way to proceed. Evolutionary biology is, in a sense, built upon molecular biology, since species are made up of molecules. Yet molecular biology and evolutionary biology are separate fields, each with its own questions and its own methods. Similarly, because microeconomics and macroeconomics address different questions, they sometimes take quite different approaches and are often taught in separate courses.

QUICK QUIZ: In what sense is economics like a science? ◆ Draw a production possibilities frontier for a society that produces food and clothing. Show an efficient point, an inefficient point, and an infeasible point. Show the effects of a drought. ◆ Define *microeconomics* and *macroeconomics*.

THE ECONOMIST AS POLICY ADVISER

Often economists are asked to explain the causes of economic events. Why, for example, is unemployment higher for teenagers than for older workers? Sometimes economists are asked to recommend policies to improve economic outcomes. What, for instance, should the government do to improve the economic well-being of teenagers? When economists are trying to explain the world, they are scientists. When they are trying to help improve it, they are policy advisers.

POSITIVE VERSUS NORMATIVE ANALYSIS

To help clarify the two roles that economists play, we begin by examining the use of language. Because scientists and policy advisers have different goals, they use language in different ways.

For example, suppose that two people are discussing minimum-wage laws. Here are two statements you might hear:

POLLY: Minimum-wage laws cause unemployment.

NORMA: The government should raise the minimum wage.

Ignoring for now whether you agree with these statements, notice that Polly and Norma differ in what they are trying to do. Polly is speaking like a scientist: She is making a claim about how the world works. Norma is speaking like a policy adviser: She is making a claim about how she would like to change the world.

In general, statements about the world are of two types. One type, such as Polly's, is positive. **Positive statements** are descriptive. They make a claim about how the world *is*. A second type of statement, such as Norma's, is normative. **Normative statements** are prescriptive. They make a claim about how the world *ought to be*.

positive statements
claims that attempt to describe the world as it is

normative statements
claims that attempt to prescribe how the world should be

A key difference between positive and normative statements is how we judge their validity. We can, in principle, confirm or refute positive statements by examining evidence. An economist might evaluate Polly's statement by analyzing data on changes in minimum wages and changes in unemployment over time. By contrast, evaluating normative statements involves values as well as facts. Norma's statement cannot be judged using data alone. Deciding what is good or bad policy is not merely a matter of science. It also involves our views on ethics, religion, and political philosophy.

Of course, positive and normative statements may be related. Our positive views about how the world works affect our normative views about what policies are desirable. Polly's claim that the minimum wage causes unemployment, if true, might lead us to reject Norma's conclusion that the government should raise the minimum wage. Yet our normative conclusions cannot come from positive analysis alone. Instead, they require both positive analysis and value judgments.

As you study economics, keep in mind the distinction between positive and normative statements. Much of economics just tries to explain how the economy works. Yet often the goal of economics is to improve how the economy works. When you hear economists making normative statements, you know they have crossed the line from scientist to policy adviser.

ECONOMISTS IN WASHINGTON

President Harry Truman once said that he wanted to find a one-armed economist. When he asked his economists for advice, they always answered, "On the one hand, ... On the other hand, ..."

Truman was right in realizing that economists' advice is not always straightforward. This tendency is rooted in one of the *Ten Principles of Economics* in Chapter 1: People face tradeoffs. Economists are aware that tradeoffs are involved in most policy decisions. A policy might increase efficiency at the cost of equity. It might help future generations but hurt current generations. An economist who says that all policy decisions are easy is an economist not to be trusted.

Truman was also not alone among presidents in relying on the advice of economists. Since 1946, the president of the United States has received guidance from the Council of Economic Advisers, which consists of three members and a staff of several dozen economists. The council, whose offices are just a few steps from the White House, has no duty other than to advise the president and to write the annual *Economic Report of the President*.

The president also receives input from economists in many administrative departments. Economists at the Department of Treasury help design tax policy. Economists at the Department of Labor analyze data on workers and those looking for

"Let's switch. I'll make the policy, you implement it, and he'll explain it."

work in order to help formulate labor-market policies. Economists at the Department of Justice help enforce the nation's antitrust laws.

Economists are also found outside the administrative branch of government. To obtain independent evaluations of policy proposals, Congress relies on the advice of the Congressional Budget Office, which is staffed by economists. The Federal Reserve, the quasi-governmental institution that sets the nation's monetary policy, employs hundreds of economists to analyze economic developments in the United States and throughout the world. Table 2-1 lists the Web sites of some of these agencies.

The influence of economists on policy goes beyond their role as advisers: Their research and writings often affect policy indirectly. Economist John Maynard Keynes offered this observation:

> The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.

Table 2-1

WEB SITES. Here are the Web sites for a few of the government agencies that are responsible for collecting economic data and making economic policy.

Department of Commerce	www.doc.gov
Bureau of Labor Statistics	www.bls.gov
Congressional Budget Office	www.cbo.gov
Federal Reserve Board	www.federalreserve.gov

Although these words were written in 1935, they remain true today. Indeed, the "academic scribbler" now influencing public policy is often Keynes himself.

QUICK QUIZ: Give an example of a positive statement and an example of a normative statement. ◆ Name three parts of government that regularly rely on advice from economists.

WHY ECONOMISTS DISAGREE

"If all economists were laid end to end, they would not reach a conclusion." This quip from George Bernard Shaw is revealing. Economists as a group are often criticized for giving conflicting advice to policymakers. President Ronald Reagan once joked that if the game Trivial Pursuit were designed for economists, it would have 100 questions and 3,000 answers.

Why do economists so often appear to give conflicting advice to policymakers? There are two basic reasons:

- Economists may disagree about the validity of alternative positive theories about how the world works.
- Economists may have different values and, therefore, different normative views about what policy should try to accomplish.

Let's discuss each of these reasons.

DIFFERENCES IN SCIENTIFIC JUDGMENTS

Several centuries ago, astronomers debated whether the earth or the sun was at the center of the solar system. More recently, meteorologists have debated whether the earth is experiencing "global warming" and, if so, why. Science is a search for understanding about the world around us. It is not surprising that as the search continues, scientists can disagree about the direction in which truth lies.

Economists often disagree for the same reason. Economics is a young science, and there is still much to be learned. Economists sometimes disagree because they have different hunches about the validity of alternative theories or about the size of important parameters.

For example, economists disagree about whether the government should levy taxes based on a household's income or its consumption (spending). Advocates of a switch from the current income tax to a consumption tax believe that the change would encourage households to save more, because income that is saved would not be taxed. Higher saving, in turn, would lead to more rapid growth in productivity and living standards. Advocates of the current income tax believe that household saving would not respond much to a change in the tax laws. These two groups of economists hold different normative views about the tax system because they have different positive views about the responsiveness of saving to tax incentives.

DIFFERENCES IN VALUES

Suppose that Peter and Paul both take the same amount of water from the town well. To pay for maintaining the well, the town taxes its residents. Peter has income of $50,000 and is taxed $5,000, or 10 percent of his income. Paul has income of $10,000 and is taxed $2,000, or 20 percent of his income.

Is this policy fair? If not, who pays too much and who pays too little? Does it matter whether Paul's low income is due to a medical disability or to his decision to pursue a career in acting? Does it matter whether Peter's high income is due to a large inheritance or to his willingness to work long hours at a dreary job?

These are difficult questions on which people are likely to disagree. If the town hired two experts to study how the town should tax its residents to pay for the well, we would not be surprised if they offered conflicting advice.

This simple example shows why economists sometimes disagree about public policy. As we learned earlier in our discussion of normative and positive analysis, policies cannot be judged on scientific grounds alone. Economists give conflicting advice sometimes because they have different values. Perfecting the science of economics will not tell us whether it is Peter or Paul who pays too much.

PERCEPTION VERSUS REALITY

Because of differences in scientific judgments and differences in values, some disagreement among economists is inevitable. Yet one should not overstate the amount of disagreement. In many cases, economists do offer a united view.

Table 2-2 contains ten propositions about economic policy. In a survey of economists in business, government, and academia, these propositions were endorsed by an overwhelming majority of respondents. Most of these propositions would fail to command a similar consensus among the general public.

The first proposition in the table is about rent control. For reasons we will discuss in Chapter 6, almost all economists believe that rent control adversely affects the availability and quality of housing and is a very costly way of helping the most needy members of society. Nonetheless, many city governments choose to ignore the advice of economists and place ceilings on the rents that landlords may charge their tenants.

The second proposition in the table concerns tariffs and import quotas. For reasons we will discuss in Chapter 3 and more fully in Chapter 9, almost all economists oppose such barriers to free trade. Nonetheless, over the years, the president and Congress have chosen to restrict the import of certain goods. In 1993 the North American Free Trade Agreement (NAFTA), which reduced barriers to trade among the United States, Canada, and Mexico, passed Congress, but only by a narrow margin, despite overwhelming support from economists. In this case, economists did offer united advice, but many members of Congress chose to ignore it.

Why do policies such as rent control and import quotas persist if the experts are united in their opposition? The reason may be that economists have not yet convinced the general public that these policies are undesirable. One purpose of this book is to make you understand the economist's view of these and other subjects and, perhaps, to persuade you that it is the right one.

Table 2-2

TEN PROPOSITIONS ABOUT WHICH MOST ECONOMISTS AGREE

PROPOSITION (AND PERCENTAGE OF ECONOMISTS WHO AGREE)
1. A ceiling on rents reduces the quantity and quality of housing available. (93%)
2. Tariffs and import quotas usually reduce general economic welfare. (93%)
3. Flexible and floating exchange rates offer an effective international monetary arrangement. (90%)
4. Fiscal policy (e.g., tax cut and/or government expenditure increase) has a significant stimulative impact on a less than fully employed economy. (90%)
5. If the federal budget is to be balanced, it should be done over the business cycle rather than yearly. (85%)
6. Cash payments increase the welfare of recipients to a greater degree than do transfers-in-kind of equal cash value. (84%)
7. A large federal budget deficit has an adverse effect on the economy. (83%)
8. A minimum wage increases unemployment among young and unskilled workers. (79%)
9. The government should restructure the welfare system along the lines of a "negative income tax." (79%)
10. Effluent taxes and marketable pollution permits represent a better approach to pollution control than imposition of pollution ceilings. (78%)

SOURCE: Richard M. Alston, J. R. Kearl, and Michael B. Vaughn, "Is There Consensus among Economists in the 1990s?" *American Economic Review* (May 1992): 203–209.

QUICK QUIZ: Why might economic advisers to the president disagree about a question of policy?

LET'S GET GOING

The first two chapters of this book have introduced you to the ideas and methods of economics. We are now ready to get to work. In the next chapter we start learning in more detail the principles of economic behavior and economic policy.

As you proceed through this book, you will be asked to draw on many of your intellectual skills. You might find it helpful to keep in mind some advice from the great economist John Maynard Keynes:

> The study of economics does not seem to require any specialized gifts of an unusually high order. Is it not . . . a very easy subject compared with the higher branches of philosophy or pure science? An easy subject, at which very few excel! The paradox finds its explanation, perhaps, in that the master-economist must possess a rare *combination* of gifts. He must be mathematician, historian, statesman, philosopher—in some degree. He must understand symbols and speak in words. He must contemplate the particular in terms of the general, and touch abstract and concrete in the same flight of thought. He must study the

> present in the light of the past for the purposes of the future. No part of man's nature or his institutions must lie entirely outside his regard. He must be purposeful and disinterested in a simultaneous mood; as aloof and incorruptible as an artist, yet sometimes as near the earth as a politician.

It is a tall order. But with practice, you will become more and more accustomed to thinking like an economist.

Summary

- Economists try to address their subject with a scientist's objectivity. Like all scientists, they make appropriate assumptions and build simplified models in order to understand the world around them. Two simple economic models are the circular-flow diagram and the production possibilities frontier.
- The field of economics is divided into two subfields: microeconomics and macroeconomics. Microeconomists study decisionmaking by households and firms and the interaction among households and firms in the marketplace. Macroeconomists study the forces and trends that affect the economy as a whole.
- A positive statement is an assertion about how the world *is*. A normative statement is an assertion about how the world *ought to be*. When economists make normative statements, they are acting more as policy advisers than scientists.
- Economists who advise policymakers offer conflicting advice either because of differences in scientific judgments or because of differences in values. At other times, economists are united in the advice they offer, but policymakers may choose to ignore it.

Key Concepts

circular-flow diagram, p. 23
production possibilities frontier, p. 25
microeconomics, p. 27
macroeconomics, p. 27
positive statements, p. 29
normative statements, p. 29

Questions for Review

1. How is economics like a science?
2. Why do economists make assumptions?
3. Should an economic model describe reality exactly?
4. Draw and explain a production possibilities frontier for an economy that produces milk and cookies. What happens to this frontier if disease kills half of the economy's cow population?
5. Use a production possibilities frontier to describe the idea of "efficiency."
6. What are the two subfields into which economics is divided? Explain what each subfield studies.
7. What is the difference between a positive and a normative statement? Give an example of each.
8. What is the Council of Economic Advisers?
9. Why do economists sometimes offer conflicting advice to policymakers?