Chapter 2

Microeconomics in Action

2.1 Four Examples of Microeconomics

LEARNING OBJECTIVES

1. What are two ways that you make economic choices all the time?
2. How do economists think about the way people react to a change in a rule?
3. What is the role of markets in an economy?

Here are four short and diverse illustrations of microeconomics you might encounter: deciding what to do with your time and money, buying or selling on eBay, visiting a large city, and reading about a soccer game. After you have finished your study of microeconomics, you will see these concepts very differently from the way you see them now. You may not know it, but your everyday life is filled with microeconomics in action.

Your Time and Money

Wouldn't you rather be doing something else with your time right now, instead of reading an economics textbook? You could be surfing on the Internet, reading blogs, or updating your Facebook profile. You could be reading a novel or watching television. You could be out with friends. But you aren't. You have made a choice—a decision—to spend time reading this chapter.

Your choice is an economic one. Economics studies how we cope with competing demands for our time, money, and other resources. You have only 24 hours each day, so your time is limited. Each day you have to divide up this time among the things you like or need to do: sleeping, eating, working, studying, reading, playing video games, hanging out in your local coffee shop, and so on. Every time you decide to do one thing instead of another, you have made an economic decision. As you study economics, you will learn about how you and other people make such choices, and you will also learn how to do a better job when making these decisions.

Money is also a limited resource. You undoubtedly have many things you would like to buy if money were no object. Instead you must choose among all the different things you like because your money—or, more precisely, your income—is a limited resource. Every time you buy something, be it a T-shirt, a breakfast bagel, or a new computer, you are choosing to forgo something else you could have bought instead. Again, these are economic decisions. Economics is about how you make choices.

Whenever there is a limited resource—be it your time, the amount of oil reserves in the world, or tickets to the Super Bowl—and decisions to be made about how to use that resource, then economics is there to help. Indeed, the fundamental definition of economics is that it is the study of how we, as individuals and as a society, allocate our limited resources among possible alternative uses.

eBay and craigslist

Suppose you want to buy an MP3 player. There are many ways you can do this. You can go to a local store. You can look for stores on the Internet. You can also visit sites such as eBay (http://www.ebay.com) or craigslist (http://www.craigslist.org). eBay is an online auction site, meaning that you can look for an MP3 player and then bid against other potential buyers. The site craigslist is like an online version of the classified advertisements in a newspaper, so you can look to see if someone in your town or city is selling the player you want to buy. You can also use these sites if you want to sell something. Maybe you have some old baseball cards you want to sell. Perhaps you have a particular skill (for example, web design), and you want to sell your services. Then you can use sites such as eBay or craigslist as a seller instead of as a buyer.

We have said that economics is about deciding how to use your limited resources. It is also about how we interact with one another, and, more precisely, how we trade with one another. Adam Smith, the founder of modern economics, observed that humans are the only animal that makes bargains: "Nobody ever saw a dog make a fair and deliberate exchange of one bone for another with another dog."Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: Modern Library, 1994 [1776]), 14. Barter or trade—the exchange of goods and services and money—is central to the world we live in today.

Economists often talk about trade taking place in markets. Some exchanges do literally take place in markets—such as a farmers' market where local growers bring produce to sell. Economists use the term more generally, though: a market is any institution that allows us to exchange one thing for another. Sites such as eBay and craigslist create markets in which we can transact. Normally, we exchange goods or services for money. Sometimes we exchange one good or service for another. Sometimes we exchange one type of money for another.

Most of the time, nobody forces you to buy anything, so when you give up some money in return for an MP3 player, you are presumably happier after the transaction than before. (There are some exceptions, of course. Can you think of any cases where you are forced to engage in an economic transaction?) Most of the time, nobody forces you to sell anything, so when you give up your time in return for some money, you are presumably happier after the transaction than before. Leaving aside the occasional mistake or the occasional regret, nearly every voluntary transaction makes both participants better off. Markets matter because they are a means for people to become happier.

Breathing the Air

Welcome to Mexico City! It is a wonderful place in many respects. But not in every way: from the picture you can see that Mexico City has some of the most polluted skies in the world."Researchers to Scrutinize Megacity Pollution during Mexico City Field Campaign," *University Corporation for Atmospheric Research*, last modified March 2, 2006, accessed January 22, 2011, http://www.ucar.edu/news/releases/2006/mirage.shtml.

Figure 2.1 *The Skies of Mexico City*

Source: This photo comes from the Center on Atmospheric Research, http://www.ucar.edu.

Mexico City was not always so polluted. Sadly, economic growth and population growth, together with the peculiarities of geography and climate, have combined to make its air quality among the worst you will encounter anywhere. Other cities around the world, from Beijing to Los Angeles, also experience significant air pollution, reducing the quality of life and bringing with it health risks and other costs.

It is hard to understand economists talking about the beauty and power of markets when you cannot breathe the air. So what is going wrong in Mexico City? Is it not full of people carrying out trades that make them better off? The problem is that transactions sometimes affect other people besides the buyer and the seller. Mexico City is full of gas stations. The owners of the gas stations are happy to sell gasoline because every transaction makes them better off. The owners of cars are happy to buy gasoline because every transaction makes them better off. But a side effect of all these transactions is that the air becomes more and more polluted.

Economics studies these kinds of problems as well. Economists seek to understand where and when markets work and where and when they don’t work. In those situations where markets let us down, economists search for ways in which economic policies can help.

Changing the Rules

We have explained that microeconomics studies choices and the benefits and problems that arise from trade. Perhaps most fundamentally, microeconomics studies how people respond to incentives. To illustrate the importance of incentives, here is an example of what can happen when they go wrong.

In February 1994, an extraordinary scene took place during a soccer match in the Caribbean. Grenada was playing Barbados, and with five minutes remaining in the match, Barbados was leading by two goals to one. As the seconds ticked away, it seemed clear that Barbados was going to win the match. Then, three minutes from the end of the game, the Barbados team did a remarkable thing. It intentionally scored an own goal, tying the game at two goals apiece.

After Grenada kicked off again, pandemonium ensued. The Grenada team tried not only to score against Barbados but also to score an own goal. Barbados desperately defended both its own goal and its opponents’ goal. The spectacle on the field had very little to do with soccer as it is usually played.

To explain this remarkable sight, we must describe the tournament in which the two teams were playing. There were two groups of teams, with the winner of each group progressing to the final. The match between Barbados and Grenada was the last group game and would determine which two teams would be in the final. The results of the previous matches were such that Barbados needed to win by two goals to go to the final. If Barbados won by only one goal, then Grenada would qualify instead. But the tournament organizers had introduced an unusual rule. The organizers decided that if a game were tied, the game would go to “golden goal” overtime, meaning that the first team to score would win the game, and they had also decided that the winning team would then be awarded a two-goal victory.

As the game was drawing to a close, Barbados realized it was unlikely to get the two-goal win that it needed. The team reasoned that a tie was a better result than a one-goal victory because it gave them roughly a fifty-fifty chance of winning in extra time. So Barbados scored the deliberate own goal. Grenada, once it realized what had happened, would have been happy either winning or losing by one, so it tried to score in either goal. Barbados’ strategy paid off. The game finished in a tie; Barbados scored in overtime and went on win the final.

The organizers should have consulted an economist before instituting the rules of the tournament. Economics has many lessons to teach, and among the most important is this: people respond to incentives. The change in the rules changed the incentives that the two teams faced. Because the tournament organizers had not realized that their rules could lead to a situation in which a team preferred a tie to a win, they failed to foresee the bizarre scene on the field.“Football Follies,” *Snopes.com*, last modified July 6, 2008, accessed January 22, 2011, http://www.snopes.com/sports/soccer/barbados.asp.

KEY TAKEAWAYS

- You make economic decisions on the allocation of time by deciding how to spend each minute of the day. You make economic decisions on the allocation of your income by deciding how much to buy of various goods and services and how much to save.
- Economists study how changes in rules lead individual and firms to change their behavior. This is part of the theme in economics that incentives matter.
- Markets are one of the central ways in which individuals interact with each other. Market interactions provide a basis for the trade that occurs in an economy.

CHECKING YOUR UNDERSTANDING

1. When you are choosing how much time to allocate to studying, what incentives affect your decision? Does the decision depend on how much money you have? Does the decision depend on whether you have a quiz or an exam coming up in the course? If your instructor changed the rules of the course—for example, by canceling the final exam—would your choice change?
2. Instead of writing about air pollution in Mexico City, we could have written about water pollution from the 2010 oil spill in the Gulf of Mexico. Would that also be a good example of markets failing?

2.2 The Microeconomic Approach

LEARNING OBJECTIVES

1. What is the approach of microeconomics?
2. What are the big questions of economics?

There are several distinguishing features of the microeconomic approach to the world. We discuss them briefly and then conclude with a look at the big questions of economics.

Individual Choice

One element of the microeconomic approach is individual choice. Throughout this book, we explore how individuals make decisions. Economists typically suppose that individuals make choices to pursue their (broadly defined) self-interest given the incentives that they face.

We look at individuals in their roles both as members of households and as members of firms. Individuals in households buy goods and services from other households and—for the most part—firms. They also sell their labor time, mostly to firms. Managers of firms, meanwhile, make decisions in the effort to make their firms profitable. By the end of the book, we will have several frameworks for understanding the behavior of both households and firms.

Individuals look at the prices of different goods and services in the economy when deciding what to buy. They act in their own self-interest when they purchase goods and services: it would be foolish for them to buy things that they don't want. As prices change, individuals respond by changing their decisions about which products to buy. If your local sandwich store has a special on a breakfast bagel today, you are more likely to buy that sandwich. If you are contemplating buying an Android tablet computer but think it is about to be reduced in price, you will wait until the price comes down.

Just as consumers look at the prices they face, so do the managers of firms. Managers look at the wages they must pay, the costs of the raw materials they must purchase, and so on. They also look at the willingness of consumers to buy the products that they are selling. Based on all this information, they decide how much to produce and what to buy. Your breakfast bagel may be on special because the owner of your local sandwich shop got a good deal on bagels from the supplier. So the owner thinks that breakfast bagels can be particularly profitable, and to sell a lot of them, she sets a lower price than normal.

The buying and selling of a bagel may seem trivial, but similar factors apply to much bigger decisions. Potential students think about the costs and benefits of attending college relative to getting a full-time job. For some people, the best thing to do is to work full time. For others, it is better to go to school full time. Yet others choose to go to school part time and work part time as well. Presumably your own decision—whichever of these it may be—is one you made in your own best interests given your own specific situation.

From this discussion, you may think that economics is all about money, but economists recognize that much more than money matters. We care about how we spend our time. We care about the quality of the air we breathe. We care about our friends and family. We care about what others think of us. We care about our own self-image: what sort of a person am I? Such factors are harder to measure and quantify, but they all play a role in the decisions we make.

Markets

A second element of microeconomics has to do with how individual choices are interconnected. Economics is partly about how we make decisions as individuals and partly about how we interact with one another. Most importantly—but not exclusively—economics looks at how people interact by purchasing and selling goods and services.

In a typical transaction, one person (the buyer) hands over money to another (the seller). In return, the seller delivers something (a good or a service) to the buyer. For example, if you buy a chocolate bar for a dollar, then a dollar bill goes from your hands to those of the seller, and a chocolate bar goes from the seller to you. At the level of an individual transaction, this sounds simple enough. But the devil is in the details. In any given (potential) transaction, we can ask the following questions:

- How many? Will you buy 1, 2, or 10 chocolate bars? Or will you buy 0—that is, will the transaction take place at all?
- How much? How much money does the buyer give to the seller? In other words, what is the price?

You will see in different chapters of this book that the answers to these questions depend on exactly how buyers and sellers interact. We get a different answer depending on whether there are many sellers or only a few. We get a different answer if the good is sold at a retail store or at an auction. We get a different answer if buyers and sellers can or cannot negotiate. The exact way in which people exchange goods and services matters a great deal for the *how many?* and *how much?* questions and thus for the gains from trade in the economy.

The Role of Government

We have pointed out that individuals acting in their own self-interest benefit from voluntary trade. If you are not forced to buy or sell, then there is a presumption that every transaction makes the participants happier. What is more, markets are often a very effective institution for allowing people to meet and trade with one another. In fact, there is a remarkable result in economics that—under some circumstances—individuals acting in their own self-interest and trading in markets can manage to obtain *all* the possible benefits that can come from trading. Every transaction carried out is for the good, and every good transaction is carried out. From this comes a powerful recommendation: do whatever is possible to encourage trade. The phrase *under some circumstances* is not a minor footnote. In the real world, transactions often affect people other than the buyer and the seller, as we saw in our example of gas stations in Mexico City. In other cases, there can be problems with the way that markets operate. If there is only a small number of firms in a market, then managers may be able to set high prices, even if it means that people miss out on some of the benefits of trade. Later in this book, we study exactly how managers make these decisions. The microeconomic arguments for government intervention in the economy stem from these kinds of problems with markets. In many chapters, we discuss how governments intervene in an attempt to improve the outcome that markets give us. Yet it is often unclear whether and how governments should be involved. Pollution in Mexico City illustrates how complex these problems can be. First, who is responsible for the pollution? Some of it comes from people and firms outside the city and perhaps even outside the country. If pollution in Mexico City is in part caused by factories in Texas, who should deal with the problem: the Mexico City government, the Mexican government, the US government, or the Texas state legislature? Second, how much pollution should we tolerate? We could shut down all factories and ban all cars, but few people would think this is a sensible policy. Third, what measures can we use to combat air pollution? Should we simply place limits on production by firms and the amount of driving? Should we use some kind of tax? Is there a way in which we can take advantage of our belief that people, including the managers of firms, respond to incentives?

There are two traps that we must avoid. The first is to believe that markets are the solution to everything. There is no imaginable market in which the residents of Mexico City can trade with the buyers and sellers of gasoline to purchase the right amount of clean air. The second trap is to believe that the government can fix every market failure. Governments are collections of individuals who respond to their own incentives. They can sometimes make things better, but they can sometimes make things worse as well.

There is room for lots of disagreement in the middle. Some economists think that problems with markets are pervasive and that government can do a great deal to fix these problems. Others think that such problems are rare and that governmental intervention often does more harm than good. These disagreements result partly from different interpretations of the evidence and partly from differences in politics. Economists are as prone as everyone else to view the world through their own ideological lens. As we proceed, we do our best to present the arguments on controversial issues and help you understand why even economists sometimes come to differing conclusions about economic policy.

Incentives

Perhaps our story of the Barbados-Grenada soccer game did not seem related to economics. Economists believe, though, that the decisions we make reflect the incentives we face. Behavior that seems strange—such as deliberately scoring an own goal in a soccer game—can make perfect sense once you understand the underlying incentives. In the economic world, it is often governments that make the rules of the game; like the organizers of soccer tournaments, governments need to be careful about how the rules they set can change people's behavior.

Here is an example. In some European countries, laws are in place that give a lot of protection to workers and keep them from being unfairly fired by their employers. The intentions of these laws are good; some of their consequences are not so beneficial. The laws also make firms more reluctant to *hire* workers because they are worried about being stuck with an unsuitable employee. Thus these laws probably contribute to higher unemployment.

Incentives affect all transactions. When you buy a breakfast bagel on sale, both you and the owner of the sandwich shop are responding to the incentives that you face. The owner responds to the lower price of bagels. You respond to the lower price of the sandwich. Economists think that we can understand a great deal about people's behavior if we have a good understanding of the incentives that they face.

Notice that not everyone makes the same choices. There are two main reasons for this:

- People have different desires or tastes. Some people like bagels; others hate them. Some people like being students; others would prefer to work rather than study.
- People have different incentives. Some people face very different job prospects and thus make different decisions about schooling. If you have this great idea for a new web product (for example, the next Google or Facebook), then you might be wise to spend your time on this project instead of studying.

The Big Questions of Economics

To conclude our introduction to microeconomics, let us look at the big picture of what happens in an economy. An economy possesses some *resources*. These include the time and abilities of the people who live in the economy, as well as natural resources such as land, mineral deposits, and so on. An economy also possesses some *technologies*. A technology is a means of changing, or transforming, one set of things into other things. For example, we have a technology for making tea. This technology takes cold water, energy, and dried leaves and transforms them into a hot beverage. Finally, an economy, of course, contains its people, and these people like to consume things. Economics studies all aspects of this process. It considers the following:

- **What** goods and services are produced in an economy?
- **How** are these goods and services produced?
- **Who** gets to consume these goods and services?

These questions concern the *allocation of resources*.

The *what* in the first question reflects the choice among the multitude of goods and services an economy could produce. Think for a moment about the clothes you are wearing right now, the food you have eaten today, and the activities you undertake during a typical day. Someone made those clothes; someone prepared that food. Somehow, society must decide how much of each type of good and service to produce.

The *how* in the second question reflects competing ways to produce goods and services. Take a basic commodity such as rice. A large amount of rice is produced in the United States on large-scale, mechanized farms. A large amount of rice is also produced in Vietnam, but the production methods are very different. In Vietnam, people do much more work manually rather than by machine. A big part of the *how* question is deciding what mix of resources and what technologies should be used to produce goods and services. The answer in a rich country such as the United States is frequently different from the answer in a poor country such as Vietnam. Indeed, the answer may be different in different states in the United States or in the same place at different times.

The *who* in the third question concerns the distribution of goods and services in the economy. Suppose you were responsible for the distribution of all goods and services to your family. If there are 4 people in your family and each consumed 50 products in a typical day, you would have to make about 200 allocation decisions each day. It would be a very hard task. Yet somehow the economies of the world allocate billions of products to billions of people.

These three questions are answered in the world partly through individual decisions. The way in which you allocate your time each day is part of the allocation of resources in the economy. If each of us lived alone, engaging in subsistence farming and not interacting with others, then we would each determine our own allocation of resources. Because we interact with others, however, these questions are also answered in part by the way in which society is organized. Most of us produce only a few goods but consume many. We *specialize in production* and *generalize in consumption*. To do so, we must exchange what we produce with others. Most of these exchanges take place as a result of individual decisions in different kinds of markets. It is the operation of these countless markets that determines the allocation of goods and services in the economy. Remarkably, these markets somehow coordinate the decisions of the billions of people in the world economy.

Some of these exchanges are controlled by the government. In some economies, the government plays a very active role; in others, it intervenes less. When a government makes decisions about the allocation of resources, this is another mechanism in the production of goods and the distribution to individuals.

KEY TAKEAWAYS

- The approach of microeconomics starts with the decisions of an individual about the allocation of time and income. The impact of incentives on individual choices is a key part of economics. The approach of microeconomics then looks at the interactions of individuals directly and in markets.
- Economics answers the questions of what goods and services are produced, how they are produced, and who consumes them.

CHECKING YOUR UNDERSTANDING

1. We said that most people *specialize in production* and *generalize in consumption*. What goods or services (if any) do you produce? What are the most important goods and services that you consume?
2. Police protection is a service provided by most governments. What are the *what*, *how*, and *who* aspects of the provision of this service?

2.3 End-of-Chapter Material

In Conclusion

Our book is built around economic topics. Examples of these topics include the decisions you make in your everyday life, auctions such as those you see on eBay, whether you can make money on Wall Street, where jobs come from, and health care. As we introduce and discuss these applications, we remain keenly aware of the key themes in microeconomics: individuals responding to incentives, markets as the basis for interactions among firms and households, and the role of government intervention.

Throughout this book, we emphasize the measurement and interpretation of economic data. Understanding how to read charts and tables of economic data is a critical skill for anyone who wants to be a sophisticated consumer of economic and political news.

Mastering microeconomics involves both understanding the tools that microeconomists use and knowing how and when those tools should be applied. In this book, you will learn about these tools by example; you will see them in use as we study different questions in economics. At the same time, you will learn about many topics that should interest you as engaged and aware citizens of the world. We hope that, after reading this book, you will both better understand what it is that economists do and be better informed about the world in which we all live.

There is a considerable amount of core material in microeconomics that we use repeatedly as we tackle different problems. We highlight these core elements in the chapters and also gather them together in the toolkit. You can read any and every chapter in the book without necessarily having to refer to the toolkit, but you may often find it to be a helpful reference.

EXERCISES

1. Think about the last item of clothing you bought for yourself. How much did you spend on it? List three other things that you like and could have bought with (approximately) the same amount of money. Why did you decide to buy the clothing rather than one of the things you just listed?
2. How have you spent the previous 24 hours? How much time did you spend sleeping? How much time did you spend working? What else could you have done with your time? Why are you reading this chapter instead of doing something else with your time?
3. Think about a game or sport that you enjoy. What rule of that game could be changed? How would this change in the rules affect the way in which the players behave?
4. When we discussed individual choice, we talked mainly about the choices of an individual person. However, in economics we often talk about the choice of a household consisting of two or more people. In what ways are the choices of a household different from the choices of an individual? In what ways are they similar?
5. Can you think of examples of economic choices that are made by the government?

Economics Detective

1. We explained the social problem of air pollution in Mexico as a situation where markets have failed to bring about good outcomes. Instead of writing about pollution, we could have written about other social problems, such as crime, illiteracy, or obesity. Browse the Internet to find another example of a social problem—either from this list or something else that interests you. Write one paragraph that explains the problem and another that discusses if and how the government might solve the problem.