

Chapter 1

What Does Economics Study? And Why Should You Care?

In This Chapter

- ▶ Taking a quick peek at economic history
 - ▶ Observing how people cope with scarcity
 - ▶ Separating macroeconomics and microeconomics
 - ▶ Growing the economy and avoiding recessions
 - ▶ Understanding individual and firm behavior
 - ▶ Getting a grip on the graphs and models that economists love to use
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Economics is the science that studies how people and societies make decisions that allow them to get the most out of their limited resources. And because every country, every business, and every person has to deal with constraints and limitations, economics is literally everywhere.

For instance, you could be doing something else right now besides reading this book. You could be exercising. Watching a movie. Talking with a friend. The only reason you should be reading this book is if it's the best possible use of your very limited time.

In the same way, you should hope that the paper and ink used to make this book have been put to their very best use and that every last tax dollar that your government spends is being used in the best possible way and isn't being dissipated on projects of secondary importance.

Economics gets to the heart of these issues, analyzing individual and firm behavior, as well as social and political institutions, to see how well they perform at converting humanity's limited resources into the goods and services that best satisfy human wants and needs.

Considering a Little Economic History

To better understand today's economic situation and what sort of policy and institutional changes may promote the greatest improvements, you have to look back on economic history to see how humanity got where it is now. Stick with me: I'll make this as painless as possible for you history haters.

Pondering just how nasty, brutish, and short life used to be

For most of human history, people didn't manage to squeeze much out of their limited resources. Standards of living were quite low, and people lived poor, short, and rather painful lives. Consider the following facts, which didn't change until just a few centuries ago:

- ✔ Life expectancy at birth was about 25 years.
- ✔ More than 30 percent of newborns never made it to their fifth birthdays.
- ✔ A woman had a one in ten chance of dying during childbirth.
- ✔ Most people had personal experience with horrible diseases and/or starvation.
- ✔ The standard of living for one generation was no higher than that for previous generations. Except for the nobles, everybody lived at or near subsistence level, century after century.



In the last 250 years or so, however, everything changed. For the first time in history, people figured out how to use electricity, engines, complicated machines, computers, radio, television, biotechnology, scientific agriculture, antibiotics, aviation, and a host of other technologies. Each has allowed us to do much more with the limited amounts of air, water, soil, and sea that people were given on planet Earth.

The result has been an explosion in living standards, with life expectancy at birth now well over 60 years worldwide and with many people able to afford much better housing, clothing, and food than was even imaginable a few hundred years ago.

Of course, not everything is perfect. Grinding poverty is still a fact in a large fraction of the world, and even the richest nations have to cope with pressing economic problems like unemployment and how to transition workers from dying industries to growing industries.

But the fact remains that the modern world is a much richer place than its predecessor, and we now have sustained economic growth in most nations, which means that living standards rise year after year.

Identifying the institutions that led to higher living standards

The obvious reason for higher living standards, which continue to rise, is that human beings have recently figured out lots of new technologies, and we keep inventing more. But if you dig a little deeper, you have to wonder why a technologically innovative society didn't happen earlier.

The ancient Greeks invented a simple steam engine and the coin-operated vending machine. They even developed the basic idea behind the programmable computer. But they never quite got around to having an industrial revolution and entering on a path of sustained economic growth.

And despite the fact that there have always been really smart people in every society on earth, it wasn't until the late 18th century, in England, that the Industrial Revolution actually got started and living standards in many nations rose substantially and kept on rising, year after year.

So what factors combined in the late 18th century to so radically accelerate economic growth? The short answer is that the following institutions were in place:



- ✔ **Democracy:** Because the common people outnumbered the nobles, the advent of democracy meant that for the first time governments reflected the interests of a society at large. A major result was the creation of government policy that favored merchants and manufacturers rather than the nobility.
- ✔ **The limited liability corporation:** Under this business structure, investors could lose only the amount of their investment and not be liable for any debts that the corporation couldn't pay. Limited liability greatly reduced the risks of investing in businesses and, consequently, led to much more investing.
- ✔ **Patent rights to protect inventors:** Before patents, inventors usually saw their ideas stolen before they could make any money. By giving inventors the exclusive right to market and sell their inventions, patents gave a financial incentive to produce lots of inventions. Indeed, after patents came into existence, the world saw its first full-time inventors — people who made a living inventing things.
- ✔ **Widespread literacy and education:** Without highly educated inventors, new technologies don't get invented. And without an educated workforce, they can't be mass-produced. Consequently, the decision that many nations made to make primary and then secondary education mandatory paved the way for rapid and sustained economic growth.

Institutions and policies like these have given us a world of growth and opportunity and an abundance so unprecedented in world history that the greatest public health problem in many countries today is obesity.

Looking toward the future

The challenge moving forward is to get even more of what people want out of the world's limited pool of resources. This challenge needs to be faced because a lot of problems still exist in the world that could be alleviated by higher living standards.

Some problems, like grinding poverty, can be cured by extending to poorer nations the institutions that have already been proven in richer nations to lead to rising living standards. But other problems, like the pollution and resource depletion that come with the institutional structures used in richer nations, will require new inventions and new institutions.

Consequently, there are two related and very good reasons for you to read this book and learn some economics:



- ✓ First, you'll discover how modern economies function. That'll give you an understanding not only of how they've so greatly raised living standards but also of where they need some improvement.
- ✓ Second, by getting a thorough handle on fundamental economic principles, you'll be able to judge for yourself the economic policy proposals that politicians and others run around promoting. After reading this book, you'll be much better able to sort the good from the bad.

Sending Macroeconomics and Microeconomics to Separate Corners

I've organized this book to try to get as much economics into you as quickly and effortlessly as possible. I've also done my best to keep it lively and fun. The English poet Thomas Carlyle called economics the "dismal science," but that ticks me off, and I'm going to do my best to make sure that you don't come to agree with him.

The main organizing principle I use in this book is to divide economics into two broad pieces, macroeconomics and microeconomics:



- ✓ *Macroeconomics* looks at the economy as an organic whole, concentrating on economy-wide factors like interest rates, inflation, and unemployment. It also encompasses the study of economic growth and how governments use monetary and fiscal policy to try to moderate the harm caused by recessions.
- ✓ *Microeconomics* focuses on individual people and individual businesses. For individuals, it explains how they behave when faced with decisions about where to spend their money or how to invest their savings. For businesses, it explains how profit-maximizing firms behave individually, as well as when competing against each other in markets.

Underlying both microeconomics and macroeconomics are some basic principles like scarcity and diminishing returns. Consequently, I spend the rest of Part I explaining these fundamentals before diving into macroeconomics in Part II and microeconomics in Part III.

Most of the rest of this chapter serves as a teaser for the rest of the book, so if you want to be surprised later on, you'd be better off flipping some pages right now. The exception is the last section, where I talk about how economists use charts and graphs. If you need some brushing up on how to read charts and graphs, read that section before jumping into other chapters.

Framing Economics As the Science of Scarcity

Scarcity is the fundamental and unavoidable phenomenon that creates a need for the science of economics. Without scarcity of time, scarcity of resources, scarcity of information, scarcity of consumable goods, and scarcity of peace and goodwill on Earth, human beings would lack for nothing.

Indeed, without scarcity, your life would be like that of the hard-partying couple in the Eagles' song "Life in the Fast Lane." That is, you'd have "everything, all the time."



Sadly, though, scarcity is a fact. There isn't nearly enough time or stuff to satisfy all desires, so people have to make hard choices about what to produce and consume so that if they can't have everything, they at least have the best that was possible under the circumstances. Chapter 2 gets deep into scarcity and the tradeoffs that it causes people to make.

Chapter 3 builds on Chapter 2 by showing you how economists analyze the decisions people make about how to best maximize human happiness in a world of scarcity. That process turns out to be intimately connected with a

phenomenon known as *diminishing returns*, which describes the sad fact that each additional amount of a resource that's thrown at a production process brings forth successively smaller amounts of output.

Like scarcity, diminishing returns is unavoidable, and in Chapter 3, I explain how people very cleverly deal with this phenomenon in order to get the most out of humanity's limited pool of resources.

Zooming Out: Macroeconomics and the Big Picture

Part II of this book covers macroeconomics, which treats the economy as a unified whole. Studying macroeconomics is useful because certain factors, such as interest rates and tax policy, have economy-wide effects, and also because when the economy goes into a recession or a boom, every person and every business is affected.

Measuring the economy

In Chapter 4, I show you how economists measure *gross domestic product* (GDP), the value of all goods and services produced in the economy in a given period of time, usually a quarter or a year. Totaling up this number is absolutely vital because if you can't measure how the economy is doing, you can't tell whether government policies intended to improve the economy are helping or hurting.

Inflation measures how prices in the economy change over time. This topic, which is the focus of Chapter 5, is crucial because high rates of inflation usually accompany huge economic problems, including deep recessions and countries defaulting on their debts.

It's also important to study inflation because poor government policy is the sole culprit behind high rates of inflation — meaning that governments are totally responsible when big inflations happen.

Recognizing what causes recessions



Recessions linger only because institutional factors in the economy make it very hard for prices in the economy to fall. As I explain in Chapter 6, if prices *could* fall quickly and easily, recessions would quickly resolve themselves. But because prices can't quickly and easily fall, economists have had to develop antirecessionary policies to help get economies out of recessions as quickly as possible.

Fighting recessions with monetary and fiscal policies

The man most responsible for developing antirecessionary policies was the English economist John Maynard Keynes, who in 1936 wrote the first macroeconomics book about fighting recessions. Chapter 6 introduces you to his model of the economy and how it explicitly takes account of the fact that prices can't quickly and easily fall to get you out of recessions. Because it takes that into account, it serves as the perfect vehicle for illustrating the two things that *can* help get you out of a recession.

These two things are monetary and fiscal policy, which are covered in-depth in Chapter 7:



- ✓ Monetary policy uses changes in the money supply to change interest rates in order to stimulate economic activity. For instance, if the government causes interest rates to fall, consumers borrow more money to buy things like houses and cars, thereby stimulating economic activity and helping to get the economy moving faster.
- ✓ Fiscal policy refers to using increased government spending or lower tax rates to help fight recessions. For instance, if the government buys more goods and services, economic activity increases. In a similar fashion, if the government cuts tax rates, consumers end up with higher after-tax incomes, which, when spent, increase economic activity.

In the first decades after Keynes's antirecessionary ideas were put into practice, they seemed to work really well. However, they didn't fare so well during the 1970s, and it became apparent that while monetary and fiscal policy were powerful antirecessionary tools, they had their limitations.



For this reason, Chapter 7 also covers how and why monetary and fiscal policy are constrained in their effectiveness. The key concept is called *rational expectations*. It explains how rational people very often change their behavior in response to policy changes in ways that limit the effectiveness of those changes. It's a concept that you need to understand if you're going to come up with informed opinions about current macroeconomic policy debates.

Getting Up Close and Personal: Microeconomics

While macroeconomics is concerned with government policies to improve the overall economy, microeconomics gets down to the nitty gritty, studying the most fundamental economic agents: individuals and firms.

Balancing supply and demand

In a modern economy, individuals and firms produce and consume everything that gets made. Consequently, Part III's coverage of microeconomics begins in Chapter 8 by focusing on how supply and demand determine prices and output levels in competitive markets. This is a logical place to begin because producers determine supply, consumers determine demand, and their interaction in markets determines what gets made and how much it costs.

Chapter 9 digs in deeper to see how individuals make economic decisions about how to get the most happiness out of their limited incomes. These decisions generate the demand curves that affect prices and output levels in markets.

In a similar way, the profit-maximizing decisions of firms generate the supply curves that affect markets. In Chapter 10, I explain how that happens, and I also explain how profit-maximizing firms actually go about maximizing their profits. If you've ever had some nasty thoughts about capitalism, this chapter will put you eyeball-to-eyeball with the enemy.

Considering why competition is so great

You may not feel warm and fuzzy about profit-maximizing firms, but economists love them — just as long as they're stuck in competitive industries. The reason, briefly, is that firms that are forced to compete end up satisfying two wonderful conditions:

- ✓ First, they're *allocatively efficient*, which simply means that they produce the goods and services that consumers most greatly desire to consume.
- ✓ Second, they're *productively efficient*, which means that they produce these goods and services at the lowest possible cost.



These two great facts about competitive firms are the basis of Adam Smith's famous *invisible hand* — the idea that when constrained by competition, each firm's greed ends up causing it to act in a socially optimal way, as if guided to do the right thing by an invisible hand. I discuss this idea, and much more about the benefits of competition, in Chapter 11.

Examining problems caused by lack of competition

Unfortunately, not every firm is constrained by competition. And when that happens, firms don't end up acting in socially optimal ways.

The most extreme case is *monopoly*, a situation where there's only one firm in an industry — meaning that it has absolutely no competition. As I explain in Chapter 12, monopolies behave very badly, restricting output in order to drive up prices and inflate profits. These actions, which hurt consumers, go on indefinitely unless the government takes steps to regulate the firm's behavior.

A less extreme case of lack of competition is *oligopoly*, a situation where there are only a few firms in an industry. In such situations, firms often make deals to not compete against each other so that they can keep prices high and make bigger profits.

In Chapter 13, I examine oligopoly firms in-depth. I explain not only how they misbehave but also the fact that they often have a hard time keeping their agreements with each other to maintain high prices and high profits. This fact means that oligopoly firms often end up competing against each other despite their best efforts not to. Consequently, government regulation isn't always needed.

Reforming property rights



Markets and competition can only be relied upon to produce socially beneficial results if society sets up a good system of property rights. Almost all pollution issues, as well as all cases of species loss, are the direct result of poorly designed property rights generating perverse incentives to do bad things. Economists take this problem very seriously and have done their best to reform property rights in order to alleviate pollution and eliminate species loss. I discuss these issues in detail in Chapter 14.

Dealing with other common market failures

Monopolies, oligopolies, and poorly designed property rights all lead to what economists like to call *market failures* — situations where markets deliver socially nonoptimal outcomes. Two other common causes of market failure are asymmetric information and public goods:

- ✓ *Asymmetric information* refers to situations in which either the buyer or the seller knows more about the quality of the good that they're negotiating over than does the other party. Because of the uneven playing field and the suspicions it creates, a lot of potentially beneficial economic transactions never get completed.

✓ *Public goods* refer to goods or services that are impossible to provide to just one person; if you provide them to one person, you have to provide them to everybody. (Think of a fireworks display, for example.) The problem is that most people try to get the benefit without paying for it.

I discuss both these situations, and ways to deal with them, in Chapter 15.

Understanding How Economists Use Models and Graphs

Economists like to be logical and precise, which is why they use a lot of algebra and math. But they also like to present their ideas in easy-to-understand and highly intuitive ways, which is why they use so many graphs. To avoid a graph-induced panic as you flip through the pages of this book, I want to spend a few pages helping you get acquainted with what you're going to encounter in other chapters. Take a deep breath; I promise this won't hurt.

Abstracting from reality is a good thing



The graphs economists use are almost always visual representations of economic models. An *economic model* is a mathematical simplification of reality that allows you to focus on what's really important by ignoring lots of irrelevant details.

For instance, the economist's model of consumer demand focuses on how prices affect the amounts of goods and services that people want to buy. Obviously, other things, such as changing styles and tastes, affect consumer demand as well, but price is key. Let's consider orange juice, for example. The price of orange juice is the major thing that affects how much orange juice people are going to buy. (I don't care what dietary trend is in vogue — if orange juice cost \$50 a gallon, you'd probably find another diet.) Therefore, it's helpful to abstract from those other things and concentrate solely on how the price of orange juice affects the quantity of orange juice that people want to buy.

Introducing your first model: The demand curve

Suppose that economists go out and survey consumers, asking them how many gallons of orange juice they would buy each month at three hypothetical prices: \$10 per gallon, \$5 per gallon, and \$1 per gallon. The results are summarized in Table 1-1.

Table 1-1 Gallons of Orange Juice That Consumers Want to Buy

<i>Price</i>	<i>Gallons</i>
\$10	1
\$5	6
\$1	10

Economists refer to the quantities that people would be willing to purchase at various prices as the *quantity demanded*, or *the demand*, at those prices. What you find if you look at the data in Table 1-1 is that the price of orange juice and the quantity demanded of orange juice have an *inverse relationship* with each other — meaning that when one goes up, the other goes down.



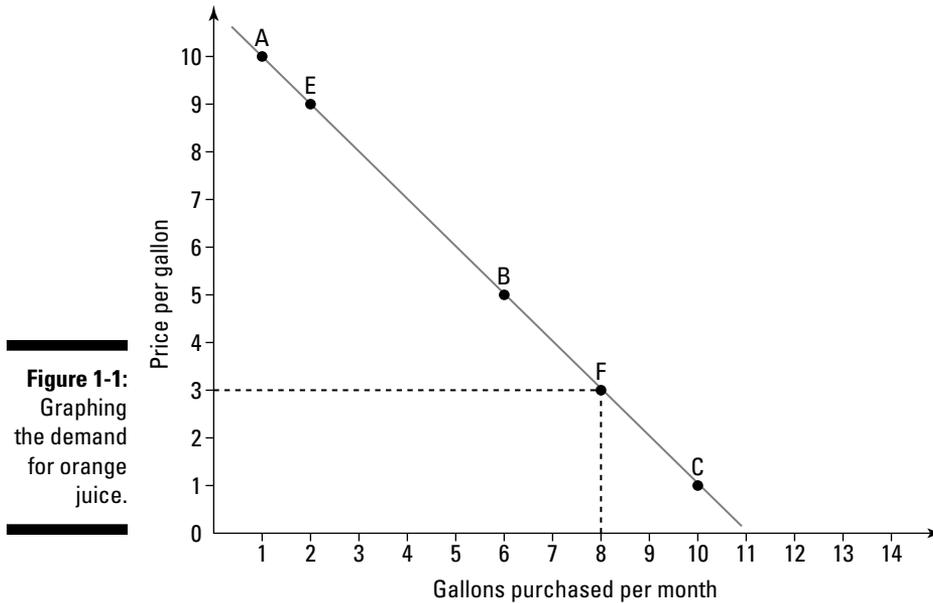
Because this inverse relationship between price and quantity demanded is so universal and holds true for nearly all goods and services, economists refer to it as the *Law of Demand*. But, quite frankly, the Law of Demand becomes much more immediate and interesting if you can *see* it rather than just think about it.

Creating the demand curve by plotting out data

The best way to *see* the data in Table 1-1 is to plot it out on a chart. In Figure 1-1, I've marked three points and labeled them *A*, *B*, and *C*. The horizontal axis of Figure 1-1 measures the number of gallons of orange juice that people demand each month at various prices per gallon. The vertical axis measures the prices.

Point *A* is the visual representation of the data in the top row of Table 1-1. It tells you that at a price of \$10 per gallon, people want to purchase only 1 gallon per month of orange juice. Similarly, point *B* tells you that they demand 6 gallons per month at a price of \$5, while point *C* tells you that they demand 10 gallons per month at a price of \$1 per gallon.

Notice that I've connected the points *A*, *B*, and *C* with a line. I've done this to make up for the fact that the economists who conducted the survey asked about what people would do at only three prices. If they had had a big enough budget to ask consumers about every possible price (\$8.46 per gallon, \$2.23 per gallon, and so on), there would be an infinite number of dots on the graph. But since they didn't do that, I interpolate by drawing a straight line. The line should do a pretty good job of estimating what people's demands are for prices that the economists didn't survey.



The straight line connecting the points in Figure 1-1 is called a *demand curve*. I know it doesn't curve at all, but for simplicity, economists use the term *demand curve* to refer to all plotted relationships between price and quantity demanded, regardless of whether they're straight lines or curvy lines. (This convention is consistent with the fact that economists are both eggheads *and* squares.)

Straight or curvy, you can now *visualize* the fact that price and quantity demanded have an inverse relationship. The inverse relationship implies that demand curves slope downward. You can now see that when price goes up, quantity demanded goes down.

Using the demand curve to make predictions

Graphing out the demand curve also allows for a much greater ability to make quick predictions. For instance, the straight line I've drawn in Figure 1-1 can be used to estimate that at a price of \$9 per gallon, people would want to buy about 2 gallons per month of orange juice. I've labeled this point *E* on the graph.

Suppose that you could only see the data in Table 1-1 and couldn't look at Figure 1-1. Could you quickly estimate for me how many gallons per month people are likely to demand if the price of orange juice is \$3 per gallon? Looking at the second and third rows of Table 1-1, you have to conclude that people will demand somewhere between 6 and 10 gallons per month. But figuring out exactly how many gallons will be demanded would take some time and require some annoying algebra.



If you look at Figure 1-1, it's easy to figure out how many gallons per month people would demand. You just start at the price \$3 on the vertical axis, move sideways to the right until you hit the demand curve at point *F*, and drop down vertically until you get to the horizontal axis, where you discover that you're at 8 gallons per month. (To clarify what I mean, I've drawn in a dotted line that follows this path.)

As you can see, using a figure rather than a table makes coming up with model-based predictions much, much simpler.

Drawing your own demand curve

To make sure you're comfortable using graphs, I encourage you to do a simple exercise that involves plotting some points and drawing lines between them. That's not so hard, right?

Imagine that the government came out with a research report showing that people who drink orange juice have lower blood pressure, fewer strokes, and a better sex life than people who don't drink orange juice. What do you think will happen to the demand for orange juice? Obviously, it should increase.

To verify this, our intrepid team of survey economists goes out once again and asks people how much orange juice they would now like to buy each month at each of the three prices listed in Table 1-1: \$10, \$5, and \$1. The new responses are given in Table 1-2.

Table 1-2 Gallons of Orange Juice That Consumers Want to Buy after Reading New Government Research

<i>Price</i>	<i>Gallons</i>
\$10	4
\$5	9
\$1	13

Your assignment, should you choose to accept it, is to plot these three points on Figure 1-1. After you've done that, connect them with a straight line. (Yes, you can write in the book!)

What you've just created is a new demand curve that reflects people's new preferences for orange juice in light of the government survey. Their increased demand is reflected in the fact that at any given price, they now

demand a larger quantity of juice than they did before. For instance, whereas before they wanted only 1 gallon per month at a price of \$10, they now would be willing to buy 4 gallons per month at that price.

There is still, of course, an inverse relationship between price and quantity demanded, meaning that even though the health benefits of orange juice make people demand more orange juice, people are still sensitive to higher orange juice prices. Higher prices still mean lower quantities demanded, and your new demand curve still slopes downward.

Ready for one last exercise before you dive into the rest of the book? Use your new demand curve to figure out how many gallons per month people are now going to want to buy at a price of \$7 and at a price of \$2. Figuring these things out from the data in Table 1-2 would be hard, but figuring them out using your new demand curve should be easy.