



## What you will learn in this Module:

- How scarcity and choice are central to the study of economics
- The importance of opportunity cost in individual choice and decision making
- The difference between positive economics and normative economics
- When economists agree and why they sometimes disagree
- What makes macroeconomics different from microeconomics

**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.

# Module 1

## The Study of Economics

### Individual Choice: The Core of Economics

**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. And anyway, 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.

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** 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 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 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**.

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.

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



Charles D. Winters

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. Golfer Tiger Woods, Microsoft co-founder Bill Gates, and actor Matt Damon are among the high achievers who decided the opportunity cost of completing college was too much to swallow.



Photo by David Liam Kyle/NBAE via Getty Images

LeBron James understood the concept of opportunity cost.

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### Got a Penny?

At many cash registers there is a little basket full of pennies. People are encouraged to use the basket to round their purchases up or down. If an item costs \$5.02, you give the cashier \$5.00 and take two pennies from the basket to give to the cashier. If an item costs \$4.99, you pay \$5.00 and the cashier throws a penny into the basket. It makes everyone's life a bit easier. Of course, it would be easier still if we just abolished the penny, a step that some economists have urged.

But why do we have pennies in the first place? If it's too small a sum to worry about, why calculate prices that precisely?

The answer is that a penny wasn't always such a negligible sum: the purchasing power of a

penny has been greatly reduced by *inflation*, a general rise in the prices of all goods and services over time. Forty years ago, a penny had more purchasing power than a nickel does today.

Why does this matter? Well, remember the saying “A penny saved is a penny earned”? Of course, there are other ways to earn money, so you must decide whether saving a penny is a productive use of your time. Could you earn more by devoting that time to other uses?

Sixty years ago, the average wage was about \$1.20 an hour. A penny was equivalent to 30 seconds' worth of work, so it was worth saving a penny if doing so took less than 30 seconds. But wages have risen along with overall prices,



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so that the average worker is now paid more than \$18 per hour. A penny is therefore equivalent to just a little under 2 seconds of work, so it's not worth the opportunity cost of the time it takes to worry about a penny more or less.

In short, the rising opportunity cost of time in terms of money has turned a penny from a useful coin into a nuisance.