2.2: What is Economics

What you'll learn to do: explain what economics is and why it's important

In order to understand economics it's important to master a set of key concepts and understand how they interconnect. We'll cover these concepts next.

Learning Objectives

- Explain opportunity cost
- Distinguish between macroeconomics and microeconomics

Understanding Economics and Scarcity

Watch it

Throughout this module you'll encounter short videos that explain complex economic concepts in very simple terms. Take the time to watch them! They'll help you master the basics before heading to the readings (which tend to cover the same information in more depth).

As you watch the video, consider the following key points:
1. Scarcity exists when human wants for goods and services exceed the available supply.
2. People make decisions in their own self-interest, weighing benefits and costs.

**Scarcity**

The resources that we value—time, money, labor, tools, land, and raw materials—exist in limited supply. There are simply never enough resources to meet all our needs and desires. This condition is known as scarcity.

At any moment in time, there is a finite amount of resources available. Even when the number of resources is very large, it’s limited. For example, according to the U.S. Bureau of Labor Statistics, in 2016, the labor force in the United States contained more than 158 million workers—that’s a lot, but it’s not infinite. Similarly, the total area of the United States is 3,794,101 square miles—an impressive amount of acreage, but not endless. Because these resources are limited, so are the numbers of goods and services we can produce with them. Combine this with the fact that human wants seem to be virtually infinite, and you can see why scarcity is a problem.

**Economics**

When faced with limited resources, we have to make choices. Again, economics is the study of how humans make choices under conditions of scarcity. These decisions can be made by individuals, families, businesses, or societies.

Let’s consider a few decisions that we make based on limited resources. Take the following:

**Question 1: What classes are you taking this term?**

Are you the lucky student who is taking every class you wanted with your first-choice professor during the perfect time and at the ideal location? The odds are that you have probably had to make trade-offs on account of scarcity. There is a limited number of time slots each day for classes and only so many faculty available to teach them. Every faculty member can’t be assigned to every time slot. Only one class can be assigned to each classroom at a given time. This means that each student has to make trade-offs between the time slot, the instructor, and the class location.

**Question 2: Where do you live?**

Think for a moment, if you had all the money in the world, where would you live? It’s probably not where you’re living today. You have probably made a housing decision based on scarcity. What location did you pick? Given limited time, you may have chosen to live close to work or school. Given the demand for housing, some locations are more
expensive than others, though, and you may have chosen to spend more money for a convenient location or to spend less money for a place that leaves you spending more time on transportation. There is a limited amount of housing in any location, so you are forced to choose from what's available at any time. Housing decisions always have to take into account what someone can afford. Individuals making decisions about where to live must deal with limitations of financial resources, available housing options, time, and often other restrictions created by builders, landlords, city planners, and government regulations.

**The Problem of Scarcity**

Every society, at every level, must make choices about how to use its resources. Families must decide whether to spend their money on a new car or a fancy vacation. Towns must choose whether to put more of the budget into police and fire protection or into the school system. Nations must decide whether to devote more funds to national defense or to protecting the environment. In most cases, there just isn't enough money in the budget to do everything.

Economics helps us understand the decisions that individuals, families, businesses, or societies make, given the fact that there are never enough resources to address all needs and desires.

Practice question \(\PageIndex{1}\)

Suppose that a family decides to spend all of their available money on a fancy vacation instead of purchasing a much needed new automobile. From an economist's perspective, which of the following statements about this decision is likely to be true?

a. The decision is irrational because anyone can see that choosing a vacation over a much needed new automobile is an improper use of scarce resources

b. The decision is rational in the sense that it reflects the family's preference for vacations over new automobiles.

c. The decision must have been made haphazardly and is therefore irrational.

**Answer**

**b is correct** - Economists have to make broad assumptions about behavior and therefore choices of individual agents under conditions of scarcity. If the family decides to take the vacation instead of the automobile economists must assume that it reflects their preferences even if the decision may seem irrational to outside observers.

a is incorrect - Explaining economic behavior should not include qualitative judgements of decisions made by individuals or households. The family has revealed its preference for vacations over automobiles and economists must assume that this is rational behavior.

c is incorrect - While it could be that the family drew lots to make their choice, economists must assume that even the choosing of lots to decide on what to do with their scarce resources is rational behavior.
The Concept of Opportunity Cost

Since resources are limited, every time you make a choice about how to use them, you are also choosing to forego other options. Economists use the term opportunity cost to indicate what must be given up to obtain something that’s desired. A fundamental principle of economics is that every choice has an opportunity cost. If you sleep through your economics class (not recommended, by the way), the opportunity cost is the learning you miss. If you spend your income on video games, you cannot spend it on movies. If you choose to marry one person, you give up the opportunity to marry anyone else. In short, opportunity cost is all around us.

The idea behind opportunity cost is that the cost of one item is the lost opportunity to do or consume something else; in short, opportunity cost is the value of the next best alternative.

Since people must choose, they inevitably face trade-offs in which they have to give up things they desire to get other things they desire more.

Opportunity Cost and Individual Decisions

In some cases, recognizing the opportunity cost can alter personal behavior. Imagine, for example, that you spend $8 on lunch every day at work. You may know perfectly well that bringing a lunch from home would cost only $3 a day, so the opportunity cost of buying lunch at the restaurant is $5 each day (that is, the $8 that buying lunch costs minus the $3 your lunch from home would cost). Five dollars each day does not seem to be that much. However, if you project what that adds up to in a year—250 workdays a year × $5 per day equals $1,250—it’s the cost, perhaps, of a decent vacation. If the opportunity cost were described as “a nice vacation” instead of “$5 a day,” you might make different choices.

practice Question (PageIndex(2))

Take a stab at this question (you’ll need to do some multiplication). Every day, 500,000 drivers in Los Angeles incur an additional 30 minutes of traffic delays when commuting by car to their jobs. In Boston, the delays amount to 45 minutes for 200,000 drivers. If the price of time is $15/hour in Los Angeles and $25/hour in Boston, which city incurs the largest opportunity cost?

a. Boston
b. Neither
c. Los Angeles

Answer

b. is correct - Costs in Los Angeles = 0.50 hours x 500,000 drivers at $15/hour implies a cost of $3,750,000. In
Boston, 0.75 hours x 200,000 drivers at $25 per hour implies the same $3,750,000

Opportunity Cost and Societal Decisions

Opportunity cost also comes into play with societal decisions. Universal health care would be nice, but the opportunity cost of such a decision would be less housing, environmental protection, or national defense. These trade-offs also arise with government policies. For example, after the terrorist plane hijackings on September 11, 2001, many proposals, such as the following, were made to improve air travel safety:

- The federal government could provide armed "sky marshals" who would travel inconspicuously with the rest of the passengers. The cost of having a sky marshal on every flight would be roughly $3 billion per year.
- Retrofitting all U.S. planes with reinforced cockpit doors to make it harder for terrorists to take over the plane would have a price tag of $450 million.
- Buying more sophisticated security equipment for airports, like three-dimensional baggage scanners and cameras linked to face-recognition software, would cost another $2 billion.

However, the single biggest cost of greater airline security doesn’t involve money. It’s the opportunity cost of additional waiting time at the airport. According to the United States Department of Transportation, more than 800 million passengers took plane trips in the United States in 2012. Since the 9/11 hijackings, security screening has become more intensive, and consequently, the procedure takes longer than in the past. Say that, on average, each air passenger spends an extra 30 minutes in the airport per trip. Economists commonly place a value on time to convert an opportunity cost in time into a monetary figure. Because many air travelers are relatively highly paid businesspeople, conservative estimates set the average “price of time” for air travelers at $20 per hour. Accordingly, the opportunity cost of delays in airports could be as much as 800 million (passengers) × 0.5 hours × $20/hour—or, $8 billion per year. Clearly, the opportunity costs of waiting time can be just as substantial as costs involving direct spending.

practice question 

Raising public transportation fares ________.

a. increases the opportunity costs of driving one’s car.

b. increases the opportunity cost of taking public transportation

c. reduces the opportunity cost of driving one’s car

Answer

c. is correct - An increase in public transport fares reduces the cost of driving ones car relative to taking public transportation
Division of Labor and Specialization

We have learned that there aren’t enough resources to fulfill all of our wants and this reality forces us to make choices that have opportunity costs. How do we get the most we can from the resources we have? Over time, markets and trade have come into existence and have become highly efficient mechanisms for optimizing our use of resources and bringing us the most and best combination of goods and services.

Think back to pioneer days, when the average person knew how to do so much more on his or her own than someone today—everything from shoeing a horse to growing, hunting, and preserving food to building a house and repairing equipment. Most of us don’t know how to do all—or any—of those things. It’s not because we’re not capable of learning them. It’s because we don’t have to. The reason for this is something called the “division and specialization of labor,” a production innovation first put forth by Adam Smith.

The formal study of economics began when Adam Smith (1723–1790) published his famous book, The Wealth of Nations, in 1776. Many authors had written about economics in the centuries before Smith, but he was the first to address the subject in a comprehensive way.
In the first chapter of the book, Smith introduces the idea of the division of labor, which means that the way a good or service is produced is divided into a number of tasks that are performed by different workers, instead of all the tasks being performed by the same person. To illustrate the division of labor, Smith counted how many tasks were involved in making a pin: drawing out a piece of wire, cutting it to the right length, straightening it, putting a head on one end and a point on the other, packaging pins for sale, and so on. Smith counted eighteen distinct tasks that were typically performed by different people—all for a pin!

Modern companies divide tasks, too. Even a relatively simple business like a restaurant divides up the task of serving meals into a range of jobs: top chef, sous chefs, less-skilled kitchen help, host/hostess, waiters/waitresses, janitors, a business manager to handle accounts and paychecks, etc. A complex business like a large manufacturing factory or a hospital can have hundreds of job classifications.

practice question \(\PageIndex{4}\)

Smith's theory of division and specialization of labor implies that a worker skilled in engineering will

a. improve economic output
b. negatively affect economic output if employed in anything but engineering
c. yield economic output that is sub-optimal if she were employed in something other than engineering-type functions

Answer

c. is correct - According to Smith, output is optimal when workers specialize in a part of the production process that they do best.

a is incorrect - There is no reason to suspect that the engineer is better at any task other than engineering such that output would increase.

b is incorrect - If the engineer works in some part of the production process that is other than engineering, output will be less than it could be but it will decline only if the engineer's skills are so poor in anything but engineering that the production process is interrupted.

Why the Division of Labor Increases Production

When the tasks involved with producing a good or service are divided and subdivided, workers and businesses can produce a greater quantity of those goods or services. In his study of pin factories, Smith observed that one worker alone might make twenty pins in a day, but that a small business of ten workers (some of whom would need to do two or three of the eighteen tasks involved in pin making), could make forty-eight thousand pins in a day. How can a group of workers, each specializing in certain tasks, produce so much more than the same number of workers who try to produce
the entire good or service by themselves? Smith offered three reasons.

First, specialization in a particular small job allows workers to focus on the parts of the production process in which they have an advantage. People have different skills, talents, and interests, so they will be better at some jobs than at others. The particular advantages may be based on educational choices, which are shaped, in turn, by interests and talents. Only those with medical training qualify to become doctors, for instance. For some goods, specialization will be affected by geography—it’s easier to be a wheat farmer in North Dakota than in Florida, but easier to run a tourist hotel in Florida than in North Dakota. If you live in or near a big city, it’s easier to attract enough customers to operate a successful dry-cleaning business or movie theater than if you live in a sparsely populated rural area. Whatever the reason, if people specialize in the production of what they do best, they will be more productive than if they produce a combination of things, some of which they are good at and some of which they are not.

Second, workers who specialize in certain tasks often learn to produce more quickly and with higher quality. This pattern holds true for many workers, including assembly-line laborers who build cars, stylists who cut hair, and doctors who perform heart surgery. In fact, specialized workers often know their jobs well enough to suggest innovative ways to do their work faster and better. A similar pattern often operates within businesses. In many cases, a business that focuses on one or a few products is more successful than firms that try to make a wide range of products.

Third, specialization allows businesses to take advantage of economies of scale, which means that, for many goods, as the level of production increases, the average cost of producing each individual unit declines. For example, if a factory produces only one hundred cars per year, each car will be quite expensive to make on average. However, if a factory produces fifty thousand cars each year, then it can set up an assembly line with huge machines and workers performing specialized tasks, and the average cost of production per car will drop. Economies of scale implies that production is becoming more efficient as the scale of production rises.

The ultimate result of workers who can focus on their preferences and talents, learn to do their specialized jobs better, and work in larger organizations is that society as a whole can produce and consume far more than if each person tried to produce all of their own goods and services. The division and specialization of labor has been a force against the problem of scarcity.

practice question \(\PageIndex{5}\)

Use the information you just read in the text to think about the following scenario. The computer software industry is more likely to achieve economies of scale if it is located

a. in or close to large cities with large numbers of technology workers.

b. in highly populated areas with an abundance of low skill workers

c. in geographical areas with the highest prevailing wages

Answer

a is correct - Being close to large cities will provide software makers with easier access to skilled labor than if located in a sparsely populated or rural area. This would enable software producers to build larger production facilities and therefore increase the likelihood of achieving economies of scale.
b is incorrect - Low skills imply that these workers are probably not well-matched to software production type jobs and therefore the software producers would face a labor shortage.

c is incorrect - While high wages may suggest a highly skilled workforce, it does not necessarily imply that such workers are well-suited to software production or that there are sufficient numbers of them.

**Trade and Markets**

Specialization only makes sense, though, if workers (and other economic agents such as businesses and nations) can use their income to purchase the other goods and services they need. In short, specialization requires trade. You do not have to know anything about electronics or sound systems to play music—you just buy an iPod or MP3 player, download the music, and listen. You don't have to know anything about textiles or the construction of sewing machines if you need a jacket—you just buy the jacket and wear it. Instead of trying to acquire all the knowledge and skills involved in producing all of the goods and services that you wish to consume, the market allows you to learn a specialized set of skills and then use the pay you receive to buy the goods and services you need or want. This is how our modern society has evolved into a strong economy.

**Practice Question**

An economy is composed entirely of two equally sized farms A and B producing both eggs and milk. Farm A is better at producing eggs than Farm B which is better at producing milk. Then in order to maximize output, Farm A should

- Abandon the production of milk to fully specialize in the production of eggs and then trade with Farm B for milk
- Produce both eggs and milk on its own and sell its excess eggs to B for additional milk.
- Reduce its production of eggs in order to commit resources to learn how to better produce milk.

**Answer**

- a is correct - According to Smith's theory Farm A should fully specialize in the production of eggs then trade eggs for milk. Since it can produce eggs more cheaply than B and B can produce milk more cheaply than A all resources are being efficiently utilized to maximize output.

- b is incorrect - Any milk that Farm A produces is an inefficient use of its resources. In addition, when Farm A produces milk it prevents Farm B from realizing its full cost savings by limiting trade with A in milk. Recall that if Farm B has economies of scale in the production of eggs, its average costs will fall as output of milk rises. If these cost savings are unrealized the economy is worse off.

- c is incorrect - By reducing its production of eggs, Farm A is undermining output for the entire economy. Farm B would need to increase its output of eggs but because it is not good at egg production, such an outcome would imply a proportionally large reduction in the output of milk.

**Microeconomics and Macroeconomics**

Economics is such a broad field of study that it is broken down into two subfields: microeconomics and...
macroeconomics. Microeconomics covers topics related to the actions of individual people or businesses within the economy while macroeconomics examines the larger economy and broader issues like GDP, inflation, growth rates, and trade. Watch this video to learn about the distinction between the two perspectives.

It should be clear by now that economics covers a lot of ground. That ground can be divided into two parts: **Microeconomics** focuses on the actions of individual agents within the economy, like households, workers, and businesses; **macroeconomics** looks at the economy as a whole. It focuses on broad issues such as growth, unemployment, inflation, and trade balance.

Microeconomics and macroeconomics are not separate subjects but are, rather, complementary perspectives on the overall subject of the economy.

To understand why both microeconomic and macroeconomic perspectives are useful, consider the problem of studying a biological ecosystem like a lake. One person who sets out to study the lake might focus on specific topics: certain kinds of algae or plant life; the characteristics of particular fish or snails; or the trees surrounding the lake. Another person might take an overall view and instead consider the entire ecosystem of the lake from top to bottom: what eats what, how the system remains in balance, and what environmental stresses affect this balance. Both approaches are useful, and both researchers study the same lake, but the viewpoints are different. In a similar way, both microeconomics and macroeconomics study the same economy, but each has a different starting point, perspective, and focus.

Whether you are looking at lakes or economics, the micro and the macro insights should illuminate each other. In studying a lake, the “micro” insights about particular plants and animals help us to understand the overall food chain, while the “macro” insights about the overall food chain help to explain the environment in which individual plants and animals live.

In economics, the micro decisions of individual businesses are influenced by the health of the macroeconomy—for example, firms will be more likely to hire workers if the overall economy is growing. In turn, the performance of the macroeconomy ultimately depends on the microeconomic decisions made by individual households and businesses.

**Microeconomics**

What determines how households and individuals spend their budgets? What combination of goods and services will best fit their needs and wants, given the budget they have to spend? How do people decide whether to work, and if so, whether to work full time or part time? How do people decide how much to save for the future, or whether they should borrow to spend beyond their current means?

What determines the products, and how many of each, a firm will produce and sell? What determines what prices a firm
will charge? What determines how a firm will produce its products? What determines how many workers it will hire? How will a firm finance its business? When will a firm decide to expand, downsize, or even close? In the microeconomic part of this text, we will learn about the theory of consumer behavior and the theory of the firm.

**Macroeconomics**

What determines the level of economic activity in a society or nation?—that is, how many goods and services does it actually produce? What determines how many jobs are available in an economy? What determines a nation’s standard of living? What causes the economy to speed up or slow down? What causes firms to hire more workers or lay them off? Finally, what causes the economy to grow over the long term?

An economy’s macroeconomic health can be assessed by a number of standards or goals. The most important macroeconomic goals are the following:

- Growth in the standard of living
- Low unemployment
- Low inflation

Macroeconomic policy pursues these goals through monetary policy and fiscal policy:

- **Monetary policy**, which involves policies that affect bank lending, interest rates, and financial capital markets, is conducted by a nation’s central bank. For the United States, this is the Federal Reserve.
- **Fiscal policy**, which involves government spending and taxes, is determined by a nation’s legislative body. For the United States, this is the Congress and the executive branch, which establishes the federal budget.

To keep the differences between these policies straight, remember that the term *monetary* relates to money, and the term *fiscal* relates to government revenue or taxes.

**Practice Question**

Government expenditures on public schools is classified as ______ policy.

- a. monetary
- b. fiscal
- c. microeconomic

**Answer**

**b is correct** - it is still classified as fiscal policy since it is a government purchase of goods and services

**Practice Question**

Economic policy decisions taken by individual states within the U.S. are classified as ______ decisions.

- a. microeconomic
- b. macroeconomic
- c. neither microeconomic or macroeconomic
Answer

b is correct - It is tempting to say microeconomic because it is one State making an economic decision within the broader national economy. However, the decision of the State affects all economic actors that live or operate within the State and therefore should be classified as macroeconomic.