

Be Resourceful

Economic Resources



Recently, Mindy and Jessica held a yard sale to get rid of old clothes, outgrown shoes, and other unwanted belongings. Since the weather that day was hot and humid, the sisters also decided to sell ice-cold, hand-squeezed lemonade.

Before they could sell the lemonade, though, the girls had to gather and prepare some must-have items—also known as economic resources—for the lemonade stand. They filled a large glass pitcher with water and lots of ice, added some sugar, and squeezed several fresh lemons for lemon juice. Next, they stirred the mixture with a long-handled spoon and garnished it with a few lemon slices. Finally, they put the lemonade and some cups on a small table in the yard and convinced their little brother Caleb to sell the lemonade to customers.

Even though Mindy and Jessica's lemonade stand was very small, it needed a variety of resources—including natural resources, human resources, and capital goods—to be successful. Do you know which of the lemonade stand's economic resources fell into which category? Read on to find out!

Find the Right Resources

Resources: Fuel for Production

Economic resources are items that are used to produce goods and services. They are the inputs that enable businesses to operate. Without resources, there would be no **production**. Can you imagine trying to run even a small business such as a family farm without land on which to plant crops, seeds to plant, sunshine and rain to make crops grow, tractors to till the soil, barns in which to keep equipment and supplies, and farmers to plant and harvest crops?

As businesses grow and become more complex, they require more and more resources. In addition, the resources that businesses use vary. For instance, the resources needed by a computer chip manufacturer differ greatly from the resources needed by a school cafeteria. Even similarly sized businesses within the same industry use different resources. Think about NFL football fields: Some are natural grass, while others are synthetic turf.



Objectives

- A** Describe types of economic resources.
- B** Explain how limited resources affect business.

- ▲ Even though they seem identical, NFL football fields are often made of different materials. Can you think of other examples of businesses that seem similar but use different resources?

Producers are responsible for choosing and using the best combination of resources. They must decide how many workers are needed, what supplies and equipment are appropriate, and what **raw materials** are necessary to produce their goods and services. By doing this, businesses can more easily reach their goals, and consumers can obtain the products that they want.

In economics, resources are usually divided into three categories: natural resources, human resources, and capital goods. These resources are also known as **factors of production** because they enable businesses to produce the goods and services that consumers want. Let's look at these resources in more detail.

Let the Sunshine In

Any resource that is found in nature and used to produce goods and services is considered a **natural resource**. Natural resources are sometimes generally referred to as land, but they include much more than land itself. Nature provides a wide variety of resources, including:

- Land
- Minerals such as iron ore, gold, silver, and copper
- Energy reserves, such as oil, coal, and natural gas
- Lakes, rivers, oceans, and other bodies of water
- Wildlife and vegetation
- Air
- Weather conditions, including sunshine, precipitation, and wind

What are some natural resources that are used to make lemonade? Water and lemons, of course!



All of these natural resources become economic resources when they are used to produce a good or service. For instance, we can build factories and offices on the land; trees can be turned into paper; water, sun, and wind can be used to generate electricity for manufacturing; and air can be used to cool machines and buildings.

Get the Job Done

People, our **human resources**, are valued for the work they do to produce goods and services. This includes both physical and mental work. Human resources are sometimes called labor. Examples of human resources include:

- Real estate agents selling or leasing property
- Truck drivers delivering raw materials and/or finished goods
- Operations managers coordinating production activities
- Marketing researchers administering questionnaires
- **Entrepreneurs** investing time and effort in new products and businesses

Human resources are required, to some extent, in the production of all goods and services. In fact, human resources are our most important economic resource. They combine the other resources to produce goods and services. Think back to Mindy and Jessica's lemonade stand. What would have happened without Mindy, Jessica, and Caleb's labor?

Some economists believe that **entrepreneurship** should be considered separate from human resources, as a fourth factor of production. Entrepreneurship is the act of organizing resources and accepting risk in order to obtain a profit. An entrepreneur has an idea and brings together economic resources to make the idea a reality. Some say that without entrepreneurship, the other factors would be useless. Other economists think that entrepreneurship is just one form of human resources, not a separate category. What do you think?



Use the Right Tools

Any manufactured or constructed item that is used to produce goods and services is considered a **capital good**. While natural resources are provided by nature, capital goods are created by people. Human resources create and use capital goods to transform natural resources from their less satisfying original state to products that better satisfy consumers. In addition, capital goods help human resources be more productive.

Capital goods come in many forms. Equipment, machinery, and tools that are physically used to produce goods and services are capital goods. Supplies, buildings, trucks, roads, and ports are also capital goods. Why? They enable producers to operate businesses and make products available to consumers. Even Mindy and Jessica used capital goods: a pitcher, a spoon, cups, and a table. Keep in mind, though, that although money is needed to run a business, it is not a capital good. Instead, it is considered **financial capital**.



▲ Capital goods, like the machines above, are used to produce additional goods and services. What capital goods can you identify at home? What about at school?

Capital goods reflect the state of **technology** that exists in society. In general, societies that are leaders in technology use or have the most up-to-date capital goods. While developing countries might use hand tools to produce goods and services, industrialized nations take advantage of access to much more sophisticated industrial and digital technology.



What do you think farmland is—a natural resource or a capital good? Obviously, farmland is land, a natural resource. But, farmland is often cleared, fertilized, treated with pesticides, and transformed so dramatically that some experts consider farmland to be a capital good. After all, a farmland “factory” produces food and other crops for consumption.



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For a short video explanation of economic resources, check out Remy Lemmens's video "Factors of Production in Economics" at <https://www.youtube.com/watch?v=OLJtWaJDRIY>.

Summary

Economic resources are items that are used to produce goods and services. They enable businesses to operate. Without them, there would be no production. There are three categories of economic resources: natural resources, human resources, and capital goods.

TOTAL RECALL

1. What are the inputs that enable businesses to operate?
2. Why are economic resources important?
3. Economic resources are also known as _____.
4. What are natural resources?
5. What is an example of a human resource?
6. What are capital goods?

THE GRAY ZONE

The VanB manufacturing plant, located in the small town of Castle, Illinois, claims that it supports the local community and looks after its workers. However, to increase productivity and reduce costs, VanB recently replaced 125 of its production line employees with automated machinery. Given that approximately 90% of the laid-off workers live in Castle, most local residents are outraged. If VanB truly supported its community, these residents say, the company wouldn't have even considered eliminating any of its human resources.

What do you think? Was it unethical for the company to replace so many of its workers with automated machinery? Or do the Castle residents have unrealistic expectations for VanB?

Limited Resources, Limitless Wants

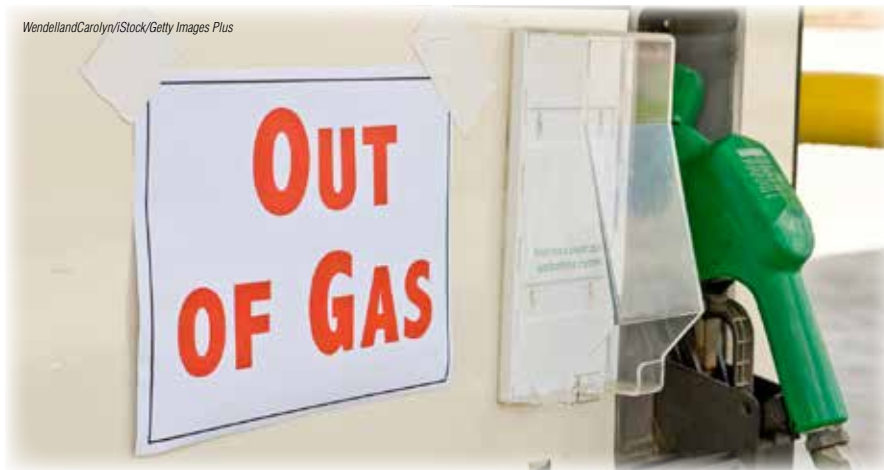
Never Enough

Natural resources, human resources, and capital goods are all limited. There are not enough of these resources available for everyone to have as much of them as desired. In other words, people want more resources than what exist or can be produced easily at any one point in time. Let's see why each of these resources is limited.

Where Have All the Flowers Gone?

Historically, the earth has supplied us with virtually all of the natural resources that we have ever wanted. Even today, despite technological advances and a growing awareness of the earth's limitations, we rely on our planet for nearly all of our natural resources. If this pattern persists into the future and the world's population continues to increase, there will be more and more people demanding limited (and in some cases, shrinking) natural resources. As a result, fewer resources will be available for each person.

Unfortunately, the supply of some natural resources is running out. We call these resources **nonrenewable resources** because there is no way for us to make more of them. Take oil, coal, and natural gas, for example. These **fossil fuels** will eventually run out. Experts predict that most of the world's reserves will be depleted in a couple of generations.



- ▲ Gas is a finite (limited) resource. This means that once the supply is gone, it's gone for good. There could be big problems in the future if humanity runs out of nonrenewable resources, like gas, without taking steps to replace them.

Nonrenewable resources also include minerals such as iron ore, gold, and diamonds. Iron ore is used to produce steel, while gold and diamonds are used in the production of many different products. At first glance, the depletion of nonrenewable natural resources appears to be a problem that cannot be overcome. However, it encourages research and new product development.

Nevertheless, there are parts of the world where these nonrenewable resources are still plentiful. For example, oil reserves have been detected beneath the ocean's floor. But this oil is difficult and quite expensive to obtain and transport. The same is true of natural resources in Antarctica. Even though scientists suspect that Antarctica contains plentiful natural resources, adverse climate conditions and thick ice make it tricky and costly to extract them.

In other parts of the world, some countries cannot tap their natural resources, because they lack the technology needed to do so. Although these countries may have oil or precious minerals, they cannot obtain these natural resources, because they do not have the necessary equipment and knowledge. In some developing countries, for instance, natural resources are still plentiful. Due to poverty, hunger, and civil unrest, though, these nations have not had the opportunity to put their resources to best use.

The supply of some natural resources is also affected by weather conditions and the natural environment in which the resources exist. The availability of many crops is often affected by weather conditions that are too cold, too hot, too wet, or too dry. Can you identify any recent crop shortages that resulted from bad weather conditions?



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For a sobering look at the toll being taken on the planet, check out “6 of the Most Exploited Natural Resources on Earth” by Joe McCarthy: <https://www.globalcitizen.org/en/content/6-natural-resources-exploited-on-earth/?template=next>.

Can You Lend a Hand?

How is it possible for human resources to be limited? Surely, with a booming global population, there is no shortage of workers, right? Wrong. Like natural resources and capital goods, human resources are limited.

First, only some of the world's people are willing and able to work. Others are too young, too old, unable to work because of a disability or illness, or not interested in working. Can you think of anybody who might fall into one or more of these categories?

Second, there are shortages of workers for certain jobs or professions. This situation occurs due to several different factors, including the following:

- **People lack the special training or skills needed to do these jobs.**

For instance, there is a shortage of qualified nurses in many parts of the country. As the **baby boomer** generation has aged, the need for nurses has grown. Unfortunately, the supply of qualified nurses has not kept pace with the increased demand.

- **People are not interested in filling certain jobs.**

This situation can occur when jobs are considered dangerous, pay is not considered adequate for the amount or type of labor required, or the job's image does not appeal to potential workers. As an example, teachers are in short supply in some parts of the country. Some individuals choose to leave the industry because of growing frustrations with challenging and stressful work conditions. Others choose not to go into the industry because they feel that the pay is inadequate for the type of work required.



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- ▲ It can be hard to find workers for unappealing jobs, such as a waste collector. People might view the job as dirty or unpleasant, even though it can be a profitable and fulfilling position for many people.

- **Workforce demographics change.**

Currently, over one third of our nation's workforce is made up of baby boomers. When these baby boomers retire in the next decade or two, they will vacate millions of jobs, including many skilled and upper-level positions. Who will take these jobs? Economists and other experts predict that **Generation X** will assume many of the positions previously held by baby boomers. However, there are fewer members of Gen X than baby boomers, which will leave countless senior-level positions empty, and many younger members of **Generation Y** (millennials) will not be prepared or qualified to take these high-level jobs.



- **People do not live where certain job opportunities exist.**

Think back to our earlier discussion about teachers. Even if some regions of the country have a surplus of teachers, other parts of the country are obviously experiencing a shortage of them. To fill these positions, unemployed teachers may find it necessary to move to different geographic regions where they are needed.



To read about the restaurant worker shortages in the United States due to the COVID-19 pandemic and how employers can respond, visit "6 Ways To Set Your Restaurant Apart To Attract Great Employees" by NCR:
<https://www.ncr.com/blogs/restaurants/6-ways-find-restaurant-employees>.

What's in Your Toolkit?

Capital goods are limited by the amount of labor and natural resources available to produce them and by the money available to purchase them. A truck manufacturer, for example, might have to refuse orders for new semitrucks if a needed part for the vehicles is unavailable. In another situation, an advertising firm might need a new copy machine, but if management cannot afford to purchase it, the firm would have to rely on its current copier.



To see a real-life example of how a limited resource can impact capital good availability, check out the article "Supply Chain Economics: Car Chip Shortage" at <https://www.forbes.com/sites/billconerly/2021/07/13/supply-chain-economics-car-chip-shortage/?sh=233ec6f28b42>.

In some societies around the world, capital goods are also limited by the level of technology available. Societies that rely on less advanced tools usually produce fewer products. Those items that are produced are typically for personal use (**consumer goods and services**) rather than for use as capital goods.

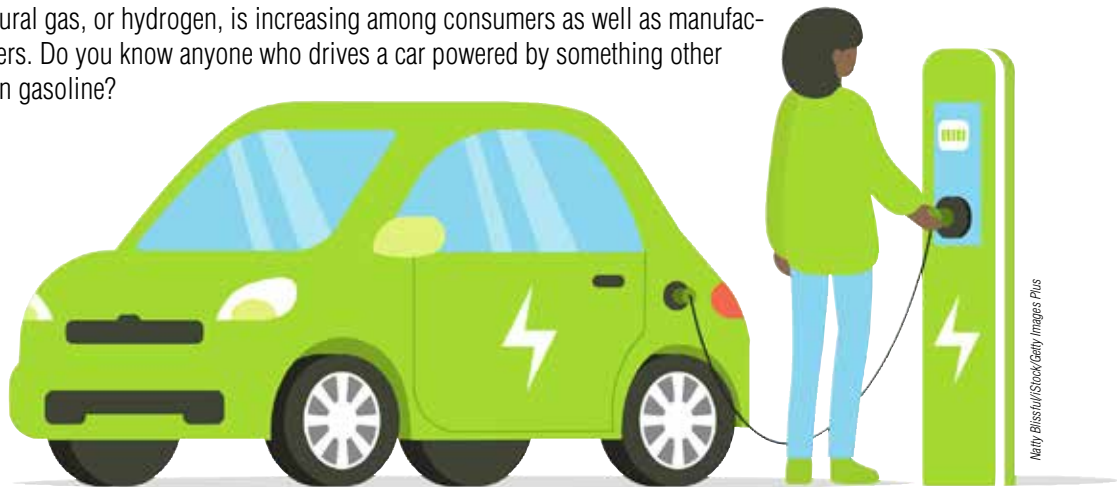
Making Do With Less

When resources are limited, producers must take steps to make up for the shortages. Let's look at the steps they take.

Natural Resources

When natural resources are limited, producers use one or more of the following techniques:

- *Find another source.* When a resource becomes limited in one area, it may be found in another. For example, searches for more oil deposits began when there was an oil shortage. Oil has now been found in other parts of our country, in other countries, and on the ocean floor.
- *Find an **alternative resource**.* Sometimes, other resources can serve the same purpose as a more limited resource. Natural gas and solar energy, for instance, have replaced oil for many home uses. Also, the popularity of alternative fuel vehicles, which are powered by electricity, ethanol, biodiesel, compressed natural gas, or hydrogen, is increasing among consumers as well as manufacturers. Do you know anyone who drives a car powered by something other than gasoline?



▲ Many people choose to fuel their vehicles with a resource other than gas. Can you think of some advantages and disadvantages of relying on alternative fuel vehicles?

- ***Conserve the resource.*** To conserve a disappearing resource, users must decrease the amount that is currently used. Consider some of the world's endangered animal species. Many of them are protected by laws that make it illegal to kill or use them.
- ***Pay a higher price for the resource.*** When a natural resource is limited, producers are willing to pay more to obtain the resource. That's why a piece of land in a booming business district is likely to cost more than the same piece of land in a rural area. Think about it: There is a much more limited supply of (and possibly a higher demand for) available land in a city's business district than in the country.



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The video "Renewable Energy 101" from Student Energy gives more information about renewable resources: <https://www.youtube.com/watch?v=T4xKThjcKaE>.

Human Resources

Resource owners and producers rely on a variety of techniques when human resources are limited. These are the following:

- **Offer higher wages.** To attract workers to some jobs—especially dangerous or undesirable ones—businesses pay high wages. Airplane pilots, for example, are typically paid higher wages due to the danger they face on the job.
- **Offer training and retraining.** When workers lack the skills to perform a job, some businesses train or retrain their employees. Businesses that purchase new computer software, for instance, typically retrain their current employees to use the new application.
- **Promote job openings.** Billboard, print, broadcast, and digital advertisements can be used to inform potential workers that positions are available. Some businesses also send recruiters to college campuses in hopes of locating new employees.
- **Find new sources of human resources.** When faced with shortages of traditional employees, many businesses seek new sources of employees. Fast-food restaurants, which in years past were typically staffed by teenagers, now encourage senior citizens and individuals with disabilities to apply.
- **Increase automation.** For some jobs, businesses replace human resources with capital goods. In fact, in many factories, robots now do the work previously done by human resources.
- **Offer employee assistance programs.** Employers use a variety of assistance programs to attract workers. Some businesses furnish day care for their employees' children or provide financial assistance for employees who wish to attend college.
- **Offer benefits.** Employers offer monetary and nonmonetary benefits to attract workers. Monetary benefits can include bonuses for new hires and payment of relocation expenses. Job security and medical insurance are examples of non-monetary benefits.
- **Offer flextime.** Flextime allows workers to start and end the workday at their convenience. For instance, instead of starting the day at 8:00 a.m. and ending it at 4:00 p.m., a worker might begin at 6:00 a.m. and end at 2:00 p.m.
- **Offer shared time.** In shared time, two people share the responsibility for one full-time position. As an example, two employees could fill one accounting position—one working in the morning and the other working in the afternoon.



◀ There is a lot of discussion around the replacement of human workers with robots. What do you think automation will look like in five years? What about twenty? Fifty? How will this affect human resources?

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Capital Goods

Remember, as natural and human resources become limited, capital goods can become limited. When faced with such a situation, producers use one or more of the following techniques:

- *Maintain the capital good.* If an old piece of equipment is still needed and replacements are not available, employees are encouraged to use the equipment carefully to prolong its life.
- *Change **inventory** procedures.* Instead of **stockpiling** large inventories, producers can use a **just-in-time inventory** system in which materials are ordered as they are needed.
- *Find alternative capital goods.* In some cases, businesses are not able to use a particular capital good and must find a different one in order to operate. When the trucking industry goes on strike, for example, resource owners and producers ship their goods by rail or air.
- *Modify current technology.* Sometimes, current technology can be modified to meet the current needs of producers. Consider the evolution of computer software programs. They change all the time to meet the new needs of their users.



▲ It's a good idea for businesses to have multiple capital goods on hand, just in case one becomes unavailable.

Summary

Natural resources, human resources, and capital goods are all limited for a number of reasons. Because economic resources are limited, producers take a variety of steps to make up for the shortages.

TOTAL RECALL

1. What is an example of a limited natural resource?
2. Why are there shortages of workers for certain jobs or professions?
3. Give two examples of limited capital goods.
4. What are four techniques that producers use when natural resources are limited?
5. What nine techniques do resource owners and producers often use when faced with limited human resources?
6. What four techniques do producers usually use to deal with limited capital goods?

Make It Pay!

What natural resources does your school or employer use? What about human resources? Capital goods? What actions has your school or place of business taken to make up for shortages in economic resources?