TEACHER NOTES

Fundamentals of Economic Decision-Making

SSEF1 Analyze how scarcity affects the choices of individuals, businesses, and governments.

The discipline of economics, along with its application in personal finance, examines the decisions that individuals, businesses, and countries make in response to scarcity. Scarcity exists when a person or a society has unlimited wants and limited (or scarce) resources. Because most resources are scarce, individuals, businesses and governments must make choices about the best use of their finite resources. These choices have opportunity costs.

SSEF1 Analyze how scarcity affects the choices of individuals, businesses, and governments.

a. Explain that scarcity is a basic, permanent condition that exists because unlimited wants exceed limited productive resources.

Scarcity is the basic condition that exists when unlimited wants by society exceed limited productive resources. The scarce productive resources (factors of production) are land (or natural), labor (or human), capital (or manufactured) resources.

Very few resources are not scarce, but some examples can be found. Accumulated knowledge, such as a math formula, is not scarce. Air and sunshine are traditionally not considered limited or scarce. Practically every other productive resource is indeed limited.

Things that are scarce are both limited AND desirable. For example, crude oil is a land resource that is limited because there is a finite amount and limitations of capital and human resources limit its extraction at any particular time. It is desirable because it is used to produce goods and services. On the other hand, pollution is not considered scarce because it is not desirable.

On an individual level, consider the time that a person can work. Hours that are devoted to providing human resources to a business are limited. In the broadest sense, there are only 24 hours each day. Many activities compete for that time. Family obligations, social time with friends, rest, eating, and other activities must be considered. Because of limited time, individuals are faced with scarcity. Every hour of the day has multiple possible activities.
It is important to distinguish between scarcity and a shortage. Scarcity always exists, while shortages are temporary. Shortages occur when a resource, good, or service becomes unavailable for a period due to market conditions (specifically when the quantity demanded currently exceeds the quantity supplied). During the COVID pandemic, most markets experienced a shortage of toilet paper. Demand suddenly increased for toilet paper in homes because people stayed home. However, there was an abundance of commercial toilet paper that was unused in offices and other commercial settings. As factories retooled to meet the demand, the shortage was eased.

SSEF1 Analyze how scarcity affects the choices of individuals, businesses, and governments.

b. Compare and contrast strategies for allocating scarce resources such as by price, majority rule, contests, force, sharing, lottery, authority, first-come-first-served, and personal characteristics.
**Contest** is an allocation strategy that distributes the resource to the person who wins. The “winning” could be based on running a race (who is fastest), or in a test of knowledge/skill (trivia contestant or chess champion). The winner depends on the nature of the contest, so this allocation strategy will favor groups with the skills it is designed to test.

E.g. Some scholarships at colleges or universities are automatically awarded to the valedictorian of a high school class. The valedictorian won by having the highest GPA.

**Force** allocates goods, services, and factors of production by autocratic decisions or coercion that are supported by intimidation or threat of physical harm. In countries where the government makes and carries out decisions by force, economic changes can happen quickly because the government decides how to distribute all items and enforces the decision through military/police power.

E.g. A country’s resources could be taken by force when a foreign army invades. Police seizure of assets is another example.

**Sharing** allocates resources jointly between people or organizations. Different standards can be used to determine the distribution, but the parties agree to specific terms. In the case of public or common goods, if a resource is nonexcludable, sharing can lead to overuse or lack of upkeep (free-rider problem).

E.g. A student could share her lunch, and siblings could share a car. Airlines share runways at the airport. Common spaces in a college dorm, community gardens, and public parks all have shared access.

**Lottery** allocates goods, services, and resources through random selection. A variety of people or organizations each has equal odds of obtaining it. If the government randomly selects individuals to receive farmland, the land may go to someone who has no knowledge of farming techniques and the land resource may be underutilized.

E.g. Admission to some schools is allocated by lottery. During the 19th century, the state of Georgia conducted land lotteries that allocated farmland.

**Authority** relies on the decisions of a powerful person or group of people who make the decisions about who gets to obtain a good, service, or factor of production. This allocation strategy allows for quick action because a person or a group of people in power can make and implement the decisions quickly.

E.g. Elected representatives have the authority (granted by voters) to pass legislation requiring workers to pay a tax on the income they earn. Elected representatives also decide how the taxes are spent and which groups benefit from the goods and services provided by the government.

**First Come, First Served** allows people to receive a good, service, or factor of production if they get to it first or are one of the people close enough to the front of the line to receive the good, service, or factor of production before there are none remaining.
E.g. When tickets to a concert or sporting event are released on a certain date at a certain time, people wait to log into the site at the very moment the tickets go on sale. A virtual line forms. Tickets are sold to the customers in the line until they are sold out. At one time, a teenager who wanted to take the driver’s license road test had to arrive early and get in line for the opportunity to take the test. The aspiring driver might wait in line all day for the test. Now, the Georgia Department of Driver’s Services allows potential drivers to schedule a road test for a specific date and time, eliminating the first come, first served strategy and improving efficiency.

**Personal Characteristics** distributes goods, services, and resources based on physical characteristics, need, or merit.

E.g. Allocation based on physical characteristics: During the era of Jim Crow laws, Black citizens of the U.S. were not allowed to access certain public accommodations and services, such as buses, hotels, restaurants, and more.

Allocation based on need - WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) specifically serves “low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and infants and children up to age 5 who are found to be at nutritional risk.” Only families who have these characteristics are eligible for the program. ([https://www.fns.usda.gov/wic](https://www.fns.usda.gov/wic)).

Allocation based on merit - Georgia students who meet certain criteria (e.g. a 3.0 GPA, graduate from an eligible institution, and residents of the state of Georgia) receive the H.O.P.E. scholarship if they attend a higher education program in Georgia. ([https://www.gafutures.org/hope-state-aid-programs/hope-zell-miller-scholarships/hope-scholarship/initial-academic-eligibility/](https://www.gafutures.org/hope-state-aid-programs/hope-zell-miller-scholarships/hope-scholarship/initial-academic-eligibility/))

**Resources:**

Price Signals - The Economic Lowdown Podcast Series, Episode 12.

**SSEF1 Analyze how scarcity affects the choices of individuals, businesses, and governments.**

c. Define and give examples of productive resources (i.e. factors of production): natural resources (i.e. land), human resources (i.e. labor and human capital), physical capital and entrepreneurship.

**Productive resources**, also known as **factors of production**, are scarce items used in the production of goods and services in an economy.

**Natural resources**, also known as **land resources**, are the gifts of nature we use to produce goods and services. For example, a tree is a natural resource used in the production of goods like lumber or paper.
**Human resources (labor resources)** are the people involved in the production of goods and services. People offer their time, physical abilities, knowledge, and skills to production. The abilities each person brings to the production process is known as their **human capital**.

**Physical capital** refers to tools, machines, equipment, and structures used repeatedly in the production of goods and services.

While natural, human, and capital resources are essential to production, we rely on the fourth productive resource, **entrepreneurship**, to bring the resources together in innovative ways to produce a product. Entrepreneurs take risks to bring a product to market, such as using one’s own financial resources to make a prototype of a product or buy the capital resources required to start the business. In most cases, entrepreneurs begin new businesses because they believe the potential rewards of success outweigh the potential costs associated with the risks, but it can be difficult to predict success. **Profit** is the primary motivation for an entrepreneur. Profit is equal to a firm’s revenue minus its costs. If revenue (price times the quantity of goods/services sold) exceeds costs (costs of production plus the income they gave up to start the business), the entrepreneur keeps the profit. Besides profit, the motivations of entrepreneurs can include job creation, innovation, and improving society. Some entrepreneurs start for-profit companies or non-profit organizations because they believe their product or service will improve society or create jobs for their community. Some of these socially conscious companies choose a model where each purchase funds charity or gives to someone in need. For example, when you buy a pair of socks and one of the same kind is given to someone experiencing homelessness.

### If Johan and Maria started a bakery, what types of productive resources would they need to acquire for their business?

<table>
<thead>
<tr>
<th>Natural Resources (Land)</th>
<th>Eggs, butter, salt, sugar, cocoa powder, energy for the oven</th>
</tr>
</thead>
</table>
| Human Resources (Labor)  | The time, effort, and energy of the people who work in the bakery, including Sam the pastry chef, Jessie the dishwasher, Ying the chocolatier, Sebastian the cake decorator, Parker the cashier, Manny the delivery driver, etc. **Human Capital** includes the skills and education of the workers. The development of human capital makes a worker more productive, and it adds value to the human resources. Eg. Sam earned a degree in Pastry Arts and has 10 years of experience in other bakeries. Jessie has perfected the art of washing the dough bowls and can wash 3 per minute. Sebastian was trained by his grandmother and has made over 600 cakes of all different styles and has learned from his past mistakes and triumphs. Manny has a light commercial trucking license and has strong knowledge of the best routes to
get around town without wedding cakes falling in the back.

<table>
<thead>
<tr>
<th>Physical Capital</th>
<th>Ovens, cash register, mixers, mixing bowls, spoons, rising racks, refrigerators, the kitchen or the building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrepreneurship</td>
<td>Johan and Maria started the bakery with their own money and time five years ago. It took a year before it was profitable. He rents the space, purchases all of the equipment, orders the ingredients from a supplier. She organizes orders and marketing, and hires, manages, and trains all the workers. Together, they invest in the resources and manage the process to make tasty products that they sell to earn profit.</td>
</tr>
</tbody>
</table>


**Intermediate goods** are goods that are produced that are incorporated into the final good. The bakery also will use many intermediate goods. Ingredients such as food coloring and seasoning blends, as well as packaging such as paper baking cups and bakery boxes, are not natural, human or capital resources. They are part of the final product.
Finally, money is not a resource. Money is a means to purchase resources, but it is not a factor of production. Money is sometimes referred to as “capital” in other disciplines, but in economics, “capital” only refers to the tools and equipment needed to produce as described above.

Federal Reserve Bank of Atlanta Infographic: What Is an Entrepreneur?

Download the infographic, order a poster and download a classroom activity at www.atlantafed.org/education/teach/infographic-posters/entrepreneurs.aspx

Resources:


Federal Reserve Bank of Dallas publication: Everyday Economics: Entrepreneurs. Download or order the publication from www.dallasfed.org/educate/everyday

SSEF1 Analyze how scarcity affects the choices of individuals, businesses, and governments.

d. Apply the concept of opportunity cost (the forgone next best alternative) to personal choices, as well as business and government decisions.

The study of economics is all about the choices made by individuals, businesses, and governments. From an economist's view, all choices involve both benefits and costs. The value of one's next best alternative given up when a choice is made is called opportunity cost. Opportunity costs can be defined in many ways, including monetary costs or benefits.

In a personal decision, you have a choice to either babysit and earn $40 OR go to a movie with a friend and spend $20 on a Friday night. If you choose to babysit, the opportunity cost is the satisfaction and fun missed from not getting to see the movie with your friend. If you choose to go to the movie, your opportunity cost is the $20 you spent (that you can’t spend on anything else) and the
$40 you didn’t earn, for a total of $60. Personal preferences often guide how individuals value choices. Rational decision makers choose to do something as long as the marginal benefits are greater than or equal to the marginal costs.

In a business decision, an automobile factory has always hired workers to paint the cars during assembly. A new robot could be purchased to paint the cars. The opportunity cost of choosing the robot to paint is the cost of the robot, as well as any quality lost without the expertise of the workers. The opportunity cost of keeping the workers is their continued wages, along with possible productive efficiency loss from not using the robot. Each firm would weigh the benefits and costs based on their own values and make the choice that is best for their business.

In a government decision, a local city council has land set aside for a park. The community is divided on how to use the land. Some citizens want a skate park while others want a dog park. Because there is a limited amount of land, only one can be built. The opportunity cost of the skate park is the dog park. The opportunity cost of the dog park is the skate park.

**SSEF2** Give examples of how rational decision-making entails comparing the marginal benefits and the marginal costs of an action.

The study of economics traditionally assumes that individuals, businesses, and governments behave rationally when faced with choices. A rational decision is based on comparing the marginal benefits and the marginal costs of a choice or action. *Marginal* in economics means per-unit, incremental or small changes.

**SSEF2** Give examples of how rational decision-making entails comparing the marginal benefits and the marginal costs of an action.

a. Explain that rational decisions occur when the marginal benefits of an action equal or exceed the marginal costs.

Rational actors in the economy will only make a choice if the marginal benefits of it are equal to or greater than the marginal costs of the action. Economics assumes that people are profit-maximizers who act in their own self-interest to get the most out of a given situation (whatever that means to them).

**Marginal Benefit** is the change in total benefit received from one more unit. **Marginal cost** is the change in total cost paid for one more unit. The **profit-maximizing rule** is to choose the point where marginal benefits equal marginal costs. If there is not a point where they are equal, a rational person will choose the highest quantity where marginal benefits outweigh the costs.

Imagine that you are very hungry and standing before an all-you-can-eat pizza buffet. The first slice of pizza tastes great and satisfies your hunger. The second and third slices are good, but somehow, they don’t bring the same level of satisfaction that the first slice brought. By the fifth or sixth slice of pizza, you are really full, maybe even feeling a little sick. The cost has increased (making you sick), and the benefit (satisfaction gained) of eating an additional slice has fallen. You will probably decide
to stop eating pizza. The idea that your additional satisfaction eventually decreases as you consume additional units of a good or service is called the **Law of Diminishing Marginal Utility**.

In the chart below, the person should choose three goods since that is the point where their marginal benefits equal marginal costs. Benefits and costs could be measured in dollars or in units of satisfaction (utility) called **utils**. **Utility** is the total satisfaction gained from consuming/using a good or service.

<table>
<thead>
<tr>
<th>Goods Purchased</th>
<th>Total Benefit</th>
<th>Marginal Benefit</th>
<th>Total Cost</th>
<th>Marginal Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>15</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>45</td>
<td>10</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>50</td>
<td>5</td>
<td>40</td>
<td>10</td>
</tr>
</tbody>
</table>

In the graph and the chart above, the rational decision-maker should purchase the first, second and third unit of the good. For the first and second unit, the marginal benefit exceeds the cost. For the third good, the marginal benefit equals the marginal cost (profit-maximizing rule). This is the point where the total profit is maximized, and the person is getting the most out of the situation at the given moment. If the person continues to the fourth unit, their marginal costs will be higher than the marginal benefit and their total profit from the purchase will decrease. Producers use the same rational model as above when they are deciding how much they should produce and sell to maximize their profits.
In much the same way, a business must confront the decision of adding an additional worker. A rational entrepreneur will look at the wages of the new employee (the marginal cost of adding the worker) and compare the wages to the additional production and profit that the employee will bring to the company (the marginal benefit).

<table>
<thead>
<tr>
<th>Marginal Benefit (could also be marginal utility or marginal revenue)</th>
<th>Change in total benefit/Change in quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal Cost</td>
<td>Change in total cost/Change in quantity</td>
</tr>
<tr>
<td>Total Profit</td>
<td>Total Benefit - Total Cost</td>
</tr>
<tr>
<td>Marginal Profit</td>
<td>Marginal Benefit - Marginal Cost</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>Change in total profit/Change in quantity</td>
</tr>
<tr>
<td>Profit-Maximizing Rule</td>
<td>Produce/consume where:</td>
</tr>
<tr>
<td></td>
<td>Marginal Benefits = Marginal costs</td>
</tr>
<tr>
<td></td>
<td>or</td>
</tr>
<tr>
<td></td>
<td>Marginal Profit = 0</td>
</tr>
</tbody>
</table>

**Resource:**
Marginal Analysis- EconMovies #2: Monty Python and the Holy Grail (Reupload)
[www.youtube.com/watch?v=5nmyzM6KTnc&list=PL1oDmcs0xTD9Aig5cP8_R1gzqmQHgcAH&index=18&t=1s](www.youtube.com/watch?v=5nmyzM6KTnc&list=PL1oDmcs0xTD9Aig5cP8_R1gzqmQHgcAH&index=18&t=1s)

**SSEF2** Give examples of how rational decision-making entails comparing the marginal benefits and the marginal costs of an action.

**b. Explain that individuals, businesses, and governments respond to positive and negative incentives in predictable ways.**

In the study of economics, an **incentive** motivates individuals, businesses, and/or governments to undertake an action or avoid an action. Incentives are positive when these actors in the economy choose an option associated with a perceived benefit or gain. Incentives are negative when actors in the economy avoid a particular option because they associate it with a high cost. The field of economics assumes that rational individuals, businesses, and governments will respond predictably to positive and negative incentives.
<table>
<thead>
<tr>
<th>Economic Actor</th>
<th>Incentive</th>
<th>Positive or negative?</th>
<th>Predicted Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td>An income tax credit for purchasing a home.</td>
<td>Positive</td>
<td>People are more likely to buy a home.</td>
</tr>
<tr>
<td>Individuals</td>
<td>Individuals caught breaking traffic laws face fines or other penalties.</td>
<td>Negative</td>
<td>Drivers are less likely to break traffic laws if they face costs.</td>
</tr>
<tr>
<td>Businesses</td>
<td>A subsidy given to firms that develop new products which improve public health or safety.</td>
<td>Positive</td>
<td>Businesses will likely invest in technology and research for product or service if the government provides subsidies.</td>
</tr>
<tr>
<td>Businesses</td>
<td>A tax on the output of a good or service is imposed by a government when the production of a good or service is deemed harmful to the environment.</td>
<td>Negative</td>
<td>Businesses faced with a tax (and higher costs) on a good or service they produce might decrease production of the product.</td>
</tr>
<tr>
<td>Governments</td>
<td>Low interest loans for economic development from international organizations like the World Bank.</td>
<td>Positive</td>
<td>When governments have low-cost credit available, they are more likely to undertake those initiatives.</td>
</tr>
<tr>
<td>Governments</td>
<td>Rules tied funds from the Federal government to the state government for transportation.</td>
<td>Negative</td>
<td>State governments lowered the speed limit on highways because they could lose federal funding for highways.</td>
</tr>
</tbody>
</table>

SSEF3 Analyze how economic systems influence the choices of individuals, businesses, and governments.

The term economic system refers to the way a country organizes economic activity and makes economic decisions. Each economic system must answer **three basic economic questions** – “What to produce?”, “How to produce?”, and “For whom to produce?”. How society answers the questions determines what kind of economic system they have chosen.
SSEF3 Analyze how economic systems influence the choices of individuals, businesses, and governments.

a. Analyze how command, market and mixed economic systems answer the three basic economic questions (what to produce, how to produce, and for whom to produce) to prioritize various social and economic goals such as freedom, security, equity, growth, efficiency, price stability, full employment, and sustainability.

In a **command** economic system, the three basic economic questions are answered by a central authority or government. In a **market** economic system, the answers to the questions are determined by the interactions of buyers and sellers in the market. The interaction of market forces, in which buyers and sellers are motivated by self-interest, is called “the invisible hand.” The term was coined by Adam Smith, the founder of the modern study of economics. **Mixed** economic systems are a combination of command and markets, with some industries and markets controlled by government and other industries and producers that are subject to market forces. Most economies in the world are mixed.

<table>
<thead>
<tr>
<th>Economic System</th>
<th>What to produce?</th>
<th>How to produce?</th>
<th>For whom to produce?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Command</strong></td>
<td>The economy will produce what the government or central planner says it will produce.</td>
<td>The economy will produce using whatever methods the government or central planner says it will use. E.g. choose to employ people rather than invest in capital</td>
<td>The economy will distribute the goods and services to whomever the government or central planner says should get it.</td>
</tr>
<tr>
<td><strong>Market</strong></td>
<td>Firms will produce what they believe consumers will want to buy.</td>
<td>Firms will produce goods and services using methods they believe will result in selling goods and services for the most profit.</td>
<td>Individuals and firms in the society who are willing and able to pay the price of the good or service will obtain it.</td>
</tr>
<tr>
<td><strong>Mixed</strong></td>
<td>Many firms will produce what they believe consumers will want to buy, but certain industries will be government-run. The government could restrict the production of certain</td>
<td>Firms will try to produce goods and services using methods they believe will result in selling goods and services for the most profit, but the</td>
<td>Individuals and firms in the society who are willing and able to pay the price of the good or service will usually obtain it, but the government may restrict</td>
</tr>
</tbody>
</table>

**Resources:**

“**I, Pencil**” by Lenard E. Read - Explains the connections and decision making in a market economy. [https://fee.org/resources/i-pencil/?itm_source=parsely-api](https://fee.org/resources/i-pencil/?itm_source=parsely-api)

“**I, Pencil, The Movie**” Accessed 6/13/22 [https://www.youtube.com/embed/IYO3tOqDISE](https://www.youtube.com/embed/IYO3tOqDISE)

*The reading below from 1848 is by a French economist named Frédéric Bastiat. It describes how businesses provide all the goods and services that are needed to feed Paris in a market economy. Bastiat’s work is related to Adam Smith’s concept of the invisible hand of the market.*

**Who Feeds Paris?**

Frédéric Bastiat - 1848

“On coming to Paris for a visit, I said to myself: Here are a million human beings who would all die...
in a few days if supplies of all sorts did not flow into this great metropolis. It staggers the imagination to try to comprehend the vast multiplicity of objects that must pass through its gates tomorrow, if its inhabitants are to be preserved from the horrors of famine, insurrection, and pillage. And yet all are sleeping peacefully at this moment, without being disturbed for a single instant by the idea of so frightful a prospect. On the other hand, eighty departments have worked today, without co-operative planning or mutual arrangements, to keep Paris supplied. How does each succeeding day manage to bring to this gigantic market just what is necessary—neither too much nor too little? What, then, is the resourceful and secret power that governs the amazing regularity of such complicated movements, a regularity in which everyone has such implicit faith, although his prosperity and his very life depend upon it? That power is an absolute principle, the principle of free exchange. We put our faith in that inner light which Providence has placed in the hearts of all men, and to which has been entrusted the preservation and the unlimited improvement of our species, a light we term self-interest, which is so illuminating, so constant, and so penetrating, when it is left free of every hindrance. Where would you be, inhabitants of Paris, if some cabinet minister decided to substitute for that power contrivances of his own invention, however superior we might suppose them to be; if he proposed to subject this prodigious mechanism to his supreme direction, to take control of all of it into his own hands, to determine by whom, where, how, and under what conditions everything should be produced, transported, exchanged, and consumed? Although there may be much suffering within your walls, although misery, despair, and perhaps starvation, cause more tears to flow than your warmhearted charity can wipe away, it is probable, I dare say it is certain, that the arbitrary intervention of the government would infinitely multiply this suffering and spread among all of you the ills that now affect only a small number of your fellow citizens.

If we all have faith in this principle where our domestic transactions are concerned, why should we not have faith in the same principle when it affects our international transactions, which are certainly less numerous, less delicate, and less complicated? And if there is no need for the local government of Paris to regulate our industries, to balance our opportunities, our profits, and our losses, to concern itself with the draining off of our currency, or to equalize the conditions of production in our domestic commerce, why should it be necessary for the customhouse to depart from its fiscal duties and to undertake to exercise a protective function over our foreign commerce?”

_Excerpt from Bastiat’s essay, “There Are No Absolute Principles” First Series, Chapter 18_  

**Social and Economic Goals**

Every economic system seeks to achieve a combination of goals that are set by decision makers in the economy. Those decision makers could be voters in a democracy, a government leader in an autocracy, industrial or business leaders in markets, among others.

The social and economic goals are the values underlying the economic system a country chooses and act as a guiding force as individuals, businesses, and governments in the economy make economic decisions.
choices. While most societies pursue multiple goals, the goals can conflict with one another. A society has to weigh the costs and benefits of each economic decision against goals that will be achieved through it, and which of their goals may be hindered by it.

**Economic freedom** refers to the ability of consumers, producers, and workers to make their own decisions about consumption, production, and distribution of goods and services. With more economic freedom, entrepreneurs can choose to start businesses, employees can choose where to seek work, etc.

**Economic security** refers to protecting individuals and businesses from risk. Types of risk can include economic risks (like a recession), health risks (like serious illness or injury), environmental risks from natural disasters (hurricanes, earthquakes, fires), and others. Societies must choose how much protection should be offered and who should pay for that protection. Through private insurance (in a market-driven economy) or government programs (in a command or mixed economy), the financial impact of various risks can be reduced.

**Economic equity** refers to fairness within the economy. Fairness can mean equal access to jobs, goods, and services, while others define fairness based on outcomes. For example, if someone accepts the risk to start a successful business, many believe that it is “fair” for that individual to keep the profit from that business. On the other hand, free public education gives “fair” access to opportunities to increase everyone’s human capital.

**Economic growth** is increasing production of goods and services over time. This occurs through increases in the quantities of resources (factors of production) or new technological innovations that allow those resources to be used more efficiently. Most countries measure growth through calculating the percentage change in real GDP from one period to the next. **Real GDP** is the total value of all final goods and services produced within a nation in a given time period adjusted for inflation.

**Economic efficiency** occurs when factors of production are allocated to their most productive use. The most efficient economies have fully employed resources, specialize in goods and services for which they have the lowest opportunity cost, and have high levels of competition in the market. Efficiency implies both efficient production and efficient distribution. In other words, goods and services are produced with the lowest cost combination of resources, and the types of goods and services produced are desirable to consumers.

**Price stability** refers to an economy where increases in the overall price level of goods and services in the economy is predictable and protects the purchasing power of money in the economy over time. Many central banks target an explicit rate of inflation to achieve price stability. In the U.S. economy, the Federal Reserve system targets a predictable inflation rate of 2%.

**Full employment** seeks to ensure that all those who are willing and able to work have the opportunity to do so. In the United States, full employment is typically defined as an unemployment rate between 3.5% and 4.5%, depending on economic conditions. The unemployment rate is never zero for a variety of reasons. People move from one job to another; people graduate and look for a job;
jobs are available in areas where unemployed people don’t live; workers have skills that are no longer demanded.

**Economic sustainability** usually refers to the goal of individual countries to maintain an upward trend of real GDP growth in the long-run. For developed countries, the goal for the long-run real GDP growth trend desired may be 2-3%, while the goal could be higher for developing countries. To achieve these targets, countries must make decisions and create conditions benefiting the economy for the long-term as well as the short-term. There are many viewpoints about sustainability, but some of the considerations in building a sustainable economy could include food systems, environmental protection, new business creation, technological development, and the health of the overall financial system. The *sustainable use of resources to ensure that future generations can continue a similar standard of living* is an important consideration.

The cartoon below is part of the Opper Project’s Great Depression cartoons. The cartoon published in 1931 by the Chicago Tribune illustrates the lack of economic security in the U.S. financial system prior to the Great Depression. The man experiences financial ruin because of a bank failure. In response to the bank failures of the 1930s, the United States established the Federal Deposit Insurance Corporation. This program now insures depositors for deposits up to $250,000 if their bank were to fail.

![Cartoon](image.png)


**Resource:**

**SSEF3 Analyze how economic systems influence the choices of individuals, businesses, and governments.**

b. Compare the roles of government in different economic systems with regards to providing public goods and services, redistributing income, protecting property rights, resolving market failures, regulation and providing consumer protections.

Public goods are goods (or services) that can be used by many people at one time, even if they don’t pay for them. Governments in market economies usually produce public goods and services only when there is a reason that the private market is unable to provide the goods or service at a level considered beneficial to society. The most common way to pay for public goods is through the collection of tax dollars.

There are two main characteristics of purely public goods; they are non-rivalrous and non-excludable. **Nonrival goods** include goods with “shared consumption.” This means the consumption of the good by one person does not diminish the satisfaction enjoyed by another consumer who consumes the exact same good. For example, public interstate highways are used by one driver without decreasing the benefits enjoyed by another driver. **Non-excludable goods** are difficult or impossible to keep a person who is unwilling to pay from enjoying the benefits of the public good. Non-excludable goods are subject to the free-rider problem, where someone benefits from a good or service without paying for it. For example, the federal government provides national defense to everyone who resides in the United States regardless of whether they pay for protection.

Private goods are both rivalrous and excludable. A bicycle is a private good. It has a price and is therefore excludable (people can be prevented from using one unless they purchase one). It is rivalrous because one person using the bike prevents others from using it. Because they can be sold for a price, private goods have a profit incentive and are provided by the market. Public goods do not have a profit incentive and therefore are not provided by the market without government intervention.

<table>
<thead>
<tr>
<th>Public Goods and Services</th>
<th>Nonrival</th>
<th>Nonexcludable</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Defense</td>
<td>One person being protected does not impede anyone else from being protected.</td>
<td>People within the country are protected whether they help pay for it or not (federal taxes)</td>
</tr>
<tr>
<td>(Uncongested, Non-Toll) Interstate Highways</td>
<td>Drivers can use the road at full speed while other cars use it as well.</td>
<td>Drivers and truckers can use the highways to travel through states or ship items across the country even if they did not help pay to build or maintain the interstate system through federal taxes.</td>
</tr>
<tr>
<td>Streetlights</td>
<td>Many pedestrians can use the light to walk safely at night. One person’s use does not impede the use by others.</td>
<td>People and businesses benefit from the streetlights regardless of whether they paid taxes to the municipality that provided them.</td>
</tr>
</tbody>
</table>
When pursuing the social economic goal of equity, governments may choose to redistribute income. This involves one group of individuals or firms paying taxes and the government giving that money to other individuals and firms. These transfer payments include social welfare payments to low income citizens, unemployment compensation to those laid-off during a recession, or Social Security payments made to retirees. There can also be redistribution to higher income people such as tax credits for buying electric vehicles.

In a market economy, the protection of private property rights is essential. If consumers and businesses are uncertain of their ability to retain property, they are less likely to purchase goods. If entrepreneurs do not believe that they will be able to retain the profits from their businesses, they are less likely to invest in and expand their enterprises. Property rights are protected by intellectual property laws such as copyrights and patents, legal documents like deeds for real estate or titles for cars, and business licenses or corporate charter recognize the legal owner of a business. In an economy that protects private property rights, the court system is available to hear property disputes, and settles them based on an impartial “rule of law”. The Index of Economic Freedom (https://www.heritage.org/index/ranking) uses rule of law, private property rights, and other criteria to rank nations around the world.

Market Failures occur when the private market is unable to produce goods and services in a way that the marginal benefit to society from the production of the good is equal to or greater than the marginal cost to society for producing the good. Market failures include externalities and market power.

Externalities occur when a third party other than the consumer or producer of a good is hurt or benefits from the production or consumption of that good. For example, some industries cause air pollution while producing a product. If this pollution causes a local resident who does not consume the product to get sick, there is a negative externality. If your roommate at college purchases a TV and allows you to watch it, there is a positive externality. In the United States, governments attempt to correct negative externalities like pollution through increasing taxes or regulations on the polluting industry. This makes it more expensive to produce, and reduces the amount of production. In the case of a positive-externality-producing industry like colleges and universities, the government provides subsidies to certain institutions and to their students so there is an increase in the amount of educated students supplied to the market. Education generates positive externalities by benefiting the individual receiving the education and society in general. The educated person can have infinite ripple effects on the economy by bettering lives other than their own, and a well-educated society creates a more productive and informed citizenry. Increases in education levels can decrease infant
mortality rates, increase life expectancies in the overall population, decrease crime rates, increase productivity, and decrease production costs.

**Market failure** refers to a market where competition is hindered or removed due to the formation of monopoly and oligopoly market structures. **Monopoly** market structures are markets controlled primarily by one seller of a good or service, an **oligopoly** market is one controlled by several large firms. Under antitrust laws in the United States, monopolies, and oligopoly firms who work together to fix prices or restrain competitors, may be prosecuted by the government and, in some cases, broken up into smaller companies.

**Regulations** are rules placed on the production of goods and services by government agencies. Regulations can be created to provide consumer protections, ensure quality control, streamline processes and protect the environment. The costs and benefits of regulations must be weighed against each other to achieve efficiency. Sometimes regulations are imposed to reduce market failures, but too much regulation can have unintended consequences. Deregulation is when production rules are removed from an industry. This lowers costs and increases the quantity produced, but less oversight can lead to other unintended consequences as well.

Externalities - The Economic Lowdown Podcast Series, Episode 11. (n.d.).
www.stlouisfed.org/education/economic-lowdown-podcast-series/episode-11-externalities

www.stlouisfed.org/education/economic-lowdown-podcast-series/episode-17-public-goods

**SSEF4 Analyze factors that influence the standard of living of individuals and nations.**

**Standard of living** is a measure of economic well-being. Economists measure standard of living in a variety of ways. The most common measure is **real GDP per capita**. There are also broader measures of standard of living, such as the **Human Development Index (HDI)**. The HDI was developed and computed by the United Nations and includes three dimensions—health and longevity, education, and per capita national income.

**Gross Domestic Product** (GDP) is the value of all final goods and services produced within a country’s borders within a given time period. **Real GDP** refers to GDP adjusted for changes in a country’s price level. If there is a change in the value of real GDP, a country knows the change was due to an increase in production and not due to an increase in the prices of goods and services. A change in real GDP from one period to the next indicates economic growth for a country. **Real GDP per capita** is the total real GDP of a country divided by its population. It indicates whether the output per person in the country has also increased. When the real GDP per capita of a country rises, many economists believe that the standard of living (the amount of goods and services each person can consume) will also rise.
Economic growth is an essential component of increasing GDP per capita and increasing per capita national income as part of the HDI. Economic growth is an increase in real GDP. It is measured as a percentage increase in real GDP. The elements in this standard explore the two main contributions to economic growth.

Helpful Analogy: If the entire economy were a big pie where every person gets a slice, then when the overall economy grows, the pie gets bigger, which allows the average person to get a bigger slice. While this does not factor in economic inequality, the idea holds that economic growth is one of the main factors necessary to increase the overall standard of living for a nation.

Resource: Hans Rosling’s 200 Countries, 200 Years, 4 Minutes.
www.youtube.com/embed/jbkSRLYSojo

SSEF4 Analyze factors that influence the standard of living of individuals and nations.

a. Explain how investments in human capital (e.g., education, job training, and healthcare) can lead to a higher standard of living.

Human capital includes the health, education, training, and skills of the labor force. Investments in the development of human capital can lead to a more productive labor force that results in growth of real GDP, leading to a higher standard of living for the individual, as well as the nation. Productivity is the ratio of inputs to outputs, so increased productivity allows a society to produce more with existing resources.

WHAT IS HUMAN CAPITAL?
The skills, knowledge, and training people possess, measured by their economic value.


Countries with a higher portion of their population attending and graduating from schools often experience faster economic growth. Increases in productivity due to higher health and education levels for a workforce lead to economic growth, which leads to higher overall standards of living. Businesses, schools, and government agencies all benefit from a pool of high-skilled labor. Businesses take the education and skill-level of the populace into consideration when deciding where to locate. Many states in the U.S. spend a significant portion of their budget on primary, secondary, and post-secondary public education to positively impact the economy. Education and job training increase the skills of workers. By increasing the skills of workers, the labor force is more productive.
Investments in healthcare can also increase the productivity of the labor force. By reducing time missed from work and increasing the overall well-being of workers, contributions of labor can be maximized.

While a more productive workforce produces gains to the society overall, the gains can benefit individuals. Higher skill levels that increase a worker’s productivity can also lead to higher wages. In fact, the relationship of education and wages is one of the most consistent in economics. Workers with higher levels of education have higher median wages and they have lower levels of unemployment.


The relationship between economic well-being and educational attainment is particularly noticeable during an economic downturn. February 2020 was just before the pandemic. One year later, the lingering effects of the economic crisis can still be seen in unemployment rates. Workers with less formal education were more likely to be unemployed during the economic downturn.

<table>
<thead>
<tr>
<th>Unemployment Rate by Education Level</th>
<th>Overall Unemployment Rate</th>
<th>No High School Diploma</th>
<th>High School Diploma Only</th>
<th>Some College or Associate Degree</th>
<th>Bachelor Degree or Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb. 2020</td>
<td>3.8%</td>
<td>7.2%</td>
<td>4.1%</td>
<td>3.3%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Feb. 2021</td>
<td>6.6%</td>
<td>11.9%</td>
<td>7.8%</td>
<td>6.2%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>


Resources:
SSEF4 Analyze factors that influence the standard of living of individuals and nations.

b. Explain how investment in equipment and technology can lead to economic growth.

Investments in equipment and technology lead to increases in the productivity of natural and human resources. A more fuel-efficient delivery truck allows gas to move the truck more miles. A worker with a computer to develop documents and spreadsheets, communicate through email, and research on the internet, can produce more output than a worker without the computer. For the purposes of this element, **investment** refers to the introduction of machines and equipment, the building of new factories, and/or the purchasing and implementation of new production technology. Both firms and government entities invest in equipment and technology leading to economic growth.

In SSEF1(c), the human, natural, and capital resources necessary for a bakery were described. Increases in productivity occur when the bakery can produce more output with the same or fewer inputs. What could happen with one change, the introduction of a new oven. Productivity in the bakery is measured using the ratio of number of cookies baked over number of minutes to bake cookies.

<table>
<thead>
<tr>
<th>Oven</th>
<th>Productivity (cookies/minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Oven</td>
<td>24 cookies/12 minutes = 2 cookies per minute</td>
</tr>
<tr>
<td>High-tech, large-capacity oven</td>
<td>48 cookies/6 minutes = 8 cookies per minute</td>
</tr>
</tbody>
</table>

The investment in the high-tech, large-capacity oven increased productivity from 2 cookies per minute baked to 8 cookies per minute baked. This is a 400% increase in productivity.

SSEF4 Analyze factors that influence the standard of living of individuals and nations.

c. Explain how individuals, businesses, and governments benefit from specialization and voluntary, non-fraudulent trade.

**Specialization** is when an entity focuses on one production task or the production of one good in order to increase efficiency. Specialization increases productivity and leads to a greater overall output. When someone specializes, they must trade for the rest of the goods and services they desire.

Individuals train and work in a field where they develop expertise. Very few individuals are entirely self-sufficient. They earn wages that can be used to buy other goods and services that they don’t produce.
Businesses specialize in the types of goods and services that they produce and the markets in which they compete. For example, Boeing is an American company that produces 52% of the large airplanes used by commercial airlines. They specialize in producing high-capacity passenger planes like the 737, 747, 777, and 787 that can carry between 162–388 passengers per flight. Canadian company Bombardier specializes in building smaller airplanes that carry 63–104 passengers to use on shorter regional routes. Airlines choose to buy planes based on the demand for a particular route.

Besides specializing in the products and markets where they will compete, businesses typically divide the production process to allow individual workers to specialize. In 1776, Adam Smith recognized the benefits of specialization in production. In his famous book, *The Wealth of Nations*, he describes production in a pin factory. Before specialization, each worker produced their own pins and was paid based on their own output each day. Workers typically produced less than 20 pins on their own each day. After they specialized, production dramatically increased. Together, they produced up to 12 pounds of pins each day.

‘One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands’...

‘I have seen a small manufactory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day.’

*The Wealth of Nations* by Adam Smith (1776)


Explore collection of original and curated material to help you and your students think more deeply about Adam Smith, [www.adamsmithworks.org](http://www.adamsmithworks.org) and explore the Interactive Pin Factory, [www.adamsmithworks.org/pin_factory](http://www.adamsmithworks.org/pin_factory)

Henry Ford was an early innovator in his car factory when he introduced the moving assembly line in early 20th century production. Each worker was able to specialize in a specific task.

In the 1928 photograph below, we see one of the most famous examples of division of labor and specialization. This image shows how workers in the Ford Factory had specific tasks as the cars moved through the factory. From 1908 to 1916, the Ford factory gradually increased the number of automobile components made under division of labor and assembly line production. The result was a drop in the price of a Model T Ford from $850 in 1908 to less than $300 by the 1920s.
Governments have different agencies that specialize in tasks to govern effectively and efficiently. Some examples include the Department of Agriculture, Department of Defense, Federal Bureau of Investigation, etc. Different levels of government–federal, state, and local–all specialize in different tasks.

Finally, nations specialize in production of certain goods and services. Nations specialize in the production of goods and services in which they have the comparative advantage and trade for goods and services from other parts of the world and as a result can reach a consumption point outside of their own production capabilities. Comparative advantage is further explained under SSEIN1a.

**Voluntary exchange** occurs when two economic actors willingly trade one item for another because the perceived value of the item they are receiving is greater than the value of the item that is being given up.

<table>
<thead>
<tr>
<th>Situation</th>
<th>The exchange</th>
<th>The benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two students trade desserts at lunch.</td>
<td>The person with cake trades with the person who has cookies.</td>
<td>Both students end up with a dessert that they like better.</td>
</tr>
<tr>
<td>Pay $10.00 for a meal at a fast-food restaurant.</td>
<td>A person buys lunch using income from their job.</td>
<td>The buyer gets food and the associated satisfaction. The restaurant receives revenue.</td>
</tr>
<tr>
<td>Earning $14.00 per hour working at a store.</td>
<td>The business pays a worker $14.00 for one hour of labor.</td>
<td>The worker earns income. The business gains a productive resource (labor).</td>
</tr>
</tbody>
</table>
Resource:


Supplementary resources for college economics textbooks on Division of Labor and Specialization. (n.d.). Division of Labor and Specialization, www.econlib.org/library/Topics/College/divisionoflaborspecialization.html

SSEF4 Analyze factors that influence the standard of living of individuals and nations.

d. Illustrate economic growth using a production possibilities curve.

A production possibilities curve (PPC), also known as a production possibilities frontier (PPF), is an economic model that illustrates possible production combinations. It can depict the choices of an individual, firm, or country. The model simplifies the economy to demonstrate key concepts of scarcity, trade-offs, opportunity costs and efficiency. It models the production of two goods with fixed resources and fixed technology. Note: Economists often refer to this as the ceteris paribus assumption. Ceteris paribus is a Latin phrase that means “all other things being equal.” In this case, the model is considering decisions with technology and resources at a constant level.

The model shows the amount of one good or service sacrificed to produce additional units of the other good or service. When additional units of a good are produced, units of the other good are sacrificed. The sacrificed production is the opportunity cost of the choice.

Consider a country that only produces two goods, tacos and computers. With the current level of resources and technology, the country can produce these two goods in the combinations listed on this production possibilities table. This table represents possible production combinations when all of the resources are used in the most efficient way to produce tacos and/or computers, so this is the nation’s maximum production potential when all of their resources are fully employed. The graph of these points is shown in Figure 1.
### Production Possibilities Table

<table>
<thead>
<tr>
<th>Point on Graph</th>
<th>Tacos</th>
<th>Computers</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>B</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>C</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>D</td>
<td>60</td>
<td>45</td>
</tr>
<tr>
<td>E</td>
<td>80</td>
<td>25</td>
</tr>
<tr>
<td>F</td>
<td>100</td>
<td>0</td>
</tr>
</tbody>
</table>

Figure 1 shows the opportunity cost of choosing a particular combination of tacos and computers over another possible combination. In order to produce 20 tacos, the production of 5 computers is sacrificed. The opportunity cost of choosing point B over point A is 5 computers. The marginal benefit of moving from point A to B is 20 tacos. Moving from point D to E has a trade off of 20 computers lost for 20 tacos gained. The most important concept is that of opportunity cost. Because resources are scarce, production of one good must be reduced to increase production of the other good.
The example of tacos and computers above is as a concave curve (bowed outward) because there are increasing opportunity costs along the curve. This is because the resources used to produce computers and tacos are not easily substitutable. If the resources were easily substitutable, like a short-sleeve t-shirt versus a long-sleeve t-shirt, then the production possibilities table would graph as a downward-sloping line because the opportunity costs would be constant.

On Figure 2, points A, B, C, D, E, F indicate examples of efficient production combinations of tacos and computers. Since the curve represents maximum production, any point on the curve uses all resources (full employment) and is efficient. Points X and Y are examples of inefficient production combinations of tacos and computers. The economy is not producing at its maximum potential. There may be unemployed resources and/or recession in the economy. This combination is possible, but undesirable given underutilized resources. Point Z is an unattainable production combination of tacos and computers because there are not enough resources to produce at this time.

Figure 3 illustrates economic growth on the production possibilities model. This graph measures types of goods in the economy more generally so it can depict the entire economy. Capital goods are tools, equipment and machinery that are used to produce other things, while consumer goods are goods bought by households for final use. Goods produced in the economy typically fall into one of these two categories. Curve B1 shows the economy’s original efficient combinations of capital and consumer goods production. Curve B2 shows the production possibilities curve for the economy following investment in physical capital and technology.
In the United States, the economy experienced a shift outward like this after the construction of the interstate highway system in the 1950s. The interstate system was a government investment in physical capital that allowed more production of other capital goods and consumer goods. The highways made the transportation of inputs and outputs cheaper and faster. Large-scale adoption of computers by industry in the 1990s is another example of investment in physical capital and technology leading to economic growth. Factors that lead to economic growth are listed below.

### 5 Factors of Economic Growth

1. Increase in the quantity or quality of physical capital (capital stock).
2. Increase in health or education (human capital).
3. Increase in production technology.
4. Increase in the labor force.
5. Increase in the quantity or quality of natural resources (land).

Note: One of the original examples of the PPC uses guns and butter as the two axis labels. This comparison is meant to show the trade-off that societies face between allocating resources to national defense or private consumption goods, or the trade-off that governments face when allocating their budget to defense versus social programs.

**Resources:**


Production Possibilities- EconMovies #3: Monsters Inc. [www.youtube.com/embed/UY1BLw-ShIM](http://www.youtube.com/embed/UY1BLw-ShIM)
Microeconomics

SSEMI1 Describe how households and businesses are interdependent and interact through flows of goods, services, resources, and money.

A simple economy is based on the interaction between two sectors: households and businesses. They each need each other to function. Businesses employ workers from the households and purchase resources from the households to produce goods and services. Then households purchase goods and services from the businesses with money they earned from selling their resources (including their labor). They are interdependent because businesses need households to both supply their resources and demand their goods, and households need businesses to both supply the goods and services they need and demand their resources. These individual interactions between households and businesses are the basis for microeconomics, while zooming out to see their impact on the economy as a whole is the basis for macroeconomics.

In a more complex, open economy, the government and foreign economies also interact with both households and businesses. Governments collect revenue through taxes from households and businesses and then use the money to provide public goods and services. They also employ workers from the households, and purchase goods and services from businesses. The foreign sector includes households and businesses from around the world who purchase US goods and services (exports) and supply goods and services to US households and businesses (imports).

SSEMI1 Describe how households and businesses are interdependent and interact through flows of goods, services, resources, and money.

a. Explain, using a circular flow diagram, the real flow of goods and services, resources, and money through the product market and the resource (factor) market.

The circular flow diagram is a model economists use to show the relationships in the economy. Businesses and households are the actors in the economy who interact in the resource and product markets.
**Households** are the owners of the productive resources (factors of production) in the circular flow model. They sell their land, labor, capital, and entrepreneurship to businesses (firms) in the **resources market** in exchange for income payments.

**Households** are the consumers of goods and services in the circular flow model. They buy goods and services from businesses. They spend the income they earned in the resource market to buy goods and services in the **product market**. Consumer “expenditures” is another term for spending.

**Businesses** (firms) are the consumers of the productive resources (factors of production) in the circular flow model. They purchase the use of land, labor, capital, and entrepreneurship from households in the **resource market** (also called the factor market) using the revenue they earned in the product market.

**Businesses** (firms) are producers of goods and services in the circular flow model. They sell goods and services to households in the **product market**. They earn revenue in exchange for their goods and services.

In the resource market, the payments for resources have specific names.

<table>
<thead>
<tr>
<th>Payments for Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource</strong></td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Labor</td>
</tr>
<tr>
<td>Capital</td>
</tr>
<tr>
<td>Entrepreneurship</td>
</tr>
</tbody>
</table>
On the diagram above, the outer circle represents the flows of money from households to businesses in the product market and from businesses to households in the resource market. All of the outer arrows flow in the same direction and represent money payments. The inside circle flows are goods, services, and resources.

Circular flow diagrams can be drawn differently. It is important for students to understand the relationships shown in the diagram. For example, the diagram below has the money flows on the inside circle, but the relationships are the same.

Federal Reserve Bank of Atlanta infographic – Circular Flow
To download the infographic, order copies of the poster, and preview related activities, visit: https://www.atlantafed.org/education/teach/infographic-posters/circular-flow.aspx

The graphs below show the role of the households and businesses in the product market and the resource market that are shown in the circular flow model. Once the students understand supply and demand, it is helpful to make the connection back to the circular flow to help students understand the difference between the product market and the resource market. You can use the circular flow to show them how the households are the suppliers and businesses are the demanders in the resource market. This is especially helpful when discussing the labor market, which is one of the resource markets.
Teaching tip: Connect the circular flow to the business cycle (SSEMA1c) and fiscal policy (SSEMA3). For example, you can walk students through how an increase in consumer spending would increase business revenue, which would increase their production and they would need to hire more workers, which would increase household income, which would increase consumer spending, etc. Describe this as an expansion in the business cycle. This is an excellent opportunity for role play or to get the students to share their own creative example of their own that goes all the way around. For example, Hagar goes out to get ice cream with her friends (consumer spending), the ice cream store’s revenue increases (revenue), the ice cream store pays their cashier, Minerva, with some of the revenue (wages), and then Minerva takes home her paycheck (income), which she uses part of to get her nails done (consumer spending), etc. Then you can have them point out the goods or services and resources in their story too. For a fun(ny) class activity, have student volunteers stand in a circle and come up with connected examples on the spot. For advanced students, this is a great way to introduce the spending multiplier and to show how saving is a leakage from the circular flow.

To show fiscal policy and the government’s role in the economy, the government can be added to the circular flow as an extension. You would add a box to the center with arrows flowing into the government from households and businesses in the form of taxes. Then add arrows flowing out of the government toward households and businesses labeled as government spending on public goods and services and transfer payments. You can also show students that stopping or slowing down one arrow has a chain reaction that causes other arrows to slow down as well. Show them the process by which decreases in consumer spending could lead to increases in unemployment that further decrease consumer spending. Connect it to fiscal policy intervention by explaining that if the flows between households and businesses start to slow down, the government can try to get the flow going again by increasing their government spending or decreasing taxes.
Resource
One of the most tried and true activities for teaching curricular flow is an activity called *Econoland*. If you ever have a chance to go to a GCEE teacher workshop, ask them about this lesson. Find workshops at [https://www.gcee.org](https://www.gcee.org/).

**SSEMI2 Explain how the law of demand, the law of supply, and prices work to determine production and distribution in a market economy.**

*In a market economy, consumers decide what to produce, firms decide how to produce, and the price system decides who will get the items produced. Consumers of goods, services, and resources behave according to the law of demand. **Demand** is the quantity a consumer is willing and able to purchase at each price. The law of demand says that as the price of a good rises the quantity of the good consumers are willing and able to buy will decrease. **Supply** is the quantity a seller is willing and able to sell at each price. The law of supply says that as **price** rises the quantity a seller is willing and able to sell will increase. A market-clearing or equilibrium price is one where the quantity of a good that buyers are willing and able to buy matches the quantity of a good that producers are willing and able to sell. As the market/equilibrium price in the market changes, it sends signals to buyers and sellers about how much they should be willing and able to buy and sell.*

**SSEMI2 Explain how the law of demand, the law of supply, and prices work to determine production and distribution in a market economy.**

a. Define the law of supply and the law of demand.
Federal Reserve Bank of Atlanta infographic – Supply and Demand

To download the infographic, order copies of the poster, and preview related activities, visit: https://www.atlantafed.org/education/teach/infographic-posters/supply-and-demand.aspx.

The law of demand says that as the price of a good rises, the quantity of the good consumers are willing and able to buy will decrease. For consumers, there is an inverse relationship between price and quantity demanded. The graph below illustrates this law.

As price rises from P1 to P2, the quantity of the good consumers are willing and able to buy falls from Q1 to Q2. This is the law of demand.
The **market demand curve** refers to all the quantities of a good, service, or resource buyers are willing and able to buy at each price. The **quantity demanded** is the amount of a good, service, or resource buyers are willing and able to buy at one specific price. In the graph below, the quantity demanded at a price of $1 is 200 units of the good. The market demand includes the quantities demanded at $1, $2, $3, and all other prices found along the curve. The table in the example below is the **Demand Schedule** and provides the data you use to create a demand curve.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>200</td>
</tr>
<tr>
<td>$2</td>
<td>150</td>
</tr>
<tr>
<td>$3</td>
<td>100</td>
</tr>
</tbody>
</table>

The **law of supply** says that as price rises the quantity a seller is willing and able to sell will increase. For sellers, the price and quantity supplied are directly related. The graph below illustrates this law.

The **market supply curve** refers to all the quantities of a good, service, or resource sellers are willing and able to sell at each price. The **quantity supplied** is the amount of a good, service, or resource sellers are willing and able to sell at one specific price. In the graph below, the quantity supplied at a price of $1 is 100 units of the good. The market supply includes the quantities supplied at $1, $2, $3, and all other prices found along the curve. The table in the example below is the **Supply Schedule** and provides the data you use to create a supply curve.
SSEMI2 Explain how the law of demand, the law of supply, and prices work to determine production and distribution in a market economy.

b. Describe various determinants (shifters) of supply and demand and illustrate on a graph how they can change equilibrium price and quantity.

Market equilibrium is the point of intersection between the market demand curve and market supply curve. This is also the point at which the quantity demanded by consumers is equal to the quantity supplied by producers.

If the price is set too high in a market (above the equilibrium price), there will be a larger quantity supplied than there is a quantity demanded, resulting in a surplus. If the market is left alone and given time, the producers will see the surplus as a signal that the price is too high, and that they have

https://www.atlantafed.org/education/teach/infographic-posters/supply-and-demand.aspx
produced too much. Producers will lower the price (put it on sale) to sell the excess inventory, and reduce the amount that they produce. Consumers will increase the quantity they purchase as the price decreases and the market will eventually return to equilibrium, where the quantity supplied equals the quantity demanded.

If the price is set too low in a market (below the equilibrium price), there will be a larger quantity demanded than there is a quantity supplied, creating a shortage. If the market is left alone and given time, the producers will see the shortage as a signal to increase production and raise the price. They will need higher prices to increase production since marginal costs increase with quantity. Buyers help determine this price by buying a smaller quantity of a good when they view the price charged by sellers as too high. Sellers respond by lowering the price. When buyers perceive a price as lower than equilibrium price, they will buy all of the available items as quickly as possible. Sellers will notice they are having trouble keeping the item in stock or lack the capacity to provide as many services as consumers want. Sellers will raise the price of the product. Through these interactions between buyers and sellers, price will work its way toward equilibrium.

Resource:
Pearl Exchange – market equilibrium activity from Jacob Clifford (ACDC Economics)

https://www.youtube.com/watch?v=KH06hccMpIQ (shortened version)
https://www.youtube.com/watch?v=KH06hccMpIQ (full-length version)

The determinants of supply describe the types of changes in a market that will cause the entire supply curve to move to the right or to the left. In other words, all sellers of a good, service, or productive resource will be willing and able to supply more or less of their product at all prices in the market. The shift will cause a change in the equilibrium price and equilibrium quantity in the market.
When supply increases (or the curve shifts to the right), the market price will fall and the market quantity will increase, as seen on the graph below.
The factors (determinants) that will lead to an increase in supply include:

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in costs</td>
<td>If the cost of electricity used to power an automotive factory falls, the supply of cars in the market increases.</td>
</tr>
</tbody>
</table>
|   - Prices of resources decrease  
   - Resource availability increases  
   - Wages for workers decrease  
   - Taxes decrease or subsidies increase | |
| Decreased government regulation of any phase of production or distribution (called deregulation) | When the U.S. stopped controlling the fares and routes for air travel in 1978, airlines made decisions based on market factors, increasing the supply of flights and the price of air travel fell. |
| Firms (or sellers) enter the market | As the international demand for pecans has driven up the price, more farmers are entering the pecan market. As trees become productive, the supply of pecans will increase. |
| Producer expectations of future price – if producers expect the price of a good or service to decrease in the future, they will increase supply now to sell before the price falls. *In doing so, they will cause the price to fall. (self-fulfilling expectations) | If airlines expect prices for airline tickets to fall in September when families are less likely to travel due the school calendar, they will supply more during the summer months when they can charge higher fares. |
| New technology lowers the cost of production | When auto manufacturers were able to implement robotics on the production line, automobiles were produced more quickly and at a smaller cost per unit. This allowed the industry to supply more cars. |
| Development of human capital – the education, training, skills or healthcare of the workforce – leads to higher worker productivity | Workers train on a new software package that will increase productivity in the market and allow supply to increase. |

When supply decreases (or the curve shifts to the left), the market price will rise and the market quantity will fall, as seen on the graph below.
The factors (determinants) that will lead to a decrease in supply include:

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Example</th>
</tr>
</thead>
</table>
| **Increase in costs**                                                       | - Prices of resources increase  
- Resource availability decreases  
- Wages for workers increase  
- Taxes increase or subsidies decrease                                          | If the price of peanuts rises, then the cost of making peanut butter will increase causing the supply of peanut butter to decrease. |
| **Increased government regulation of any phase of production or distribution** |                                                                                                                                               | If the government requires factories to reduce pollution, complying will initially increase costs of production in the market and reduce supply. |
| **Firms** (or sellers) leave the market                                      |                                                                                                                                               | During the COVID pandemic, numerous factors led restaurants to close, reducing the supply of restaurant meals available. |
| **Producer expectations** of future price – if producers expect the price of a good or service to rise in the future, they will decrease supply now so they can hold it and sell at the higher price. | - In doing so, they will cause the price to rise. (self-fulfilling expectations)  
- If producers expect consumers to be willing to pay a higher price for candy during holidays like Halloween, they will supply less now and put their efforts into producing for the period preceding the holiday when the price is higher. | |
| **Technology** limits production (note that this is unusual)                |                                                                                                                                               | If a cyberattack interferes with the GPS on which farmers rely to monitor and service their fields for a significant amount of time. |
| **Reduced worker productivity**                                             |                                                                                                                                               | An economic boom allows skilled workers to move from fast food jobs into white collar office administration jobs. Fast food producers are forced to hire less skilled workers and supply of fast food decreases. |
The determinants of demand describe the types of changes in a market that will cause the entire demand curve to move to the right or to the left. In other words, all consumers of a good, service, or productive resource will be willing and able to purchase more or less of a product at all prices in the market. The shift will cause a change in the equilibrium price and equilibrium quantity in the market.

When demand increases (or the curve shifts to the right), the market price will rise and the market quantity will rise, as seen on the graph below.
The factors (determinants) that will lead to an increase in demand include:

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prices of complementary goods – If the price falls for one good, the demand for its complement will increase (shift right). This is an inverse relationship.</td>
<td>When the price of cream cheese falls, the demand for bagels will increase.</td>
</tr>
<tr>
<td>Prices of substitute goods – If the price increases for one good, the demand for its substitute will increase (shift right). This is a direct relationship.</td>
<td>When the price of black bean veggie burgers rises, the demand for tofu veggie burgers will increase.</td>
</tr>
<tr>
<td>Change in income for normal goods – if income increases, the demand will also increase (shift right). It is a direct relationship.</td>
<td>If the government decides to lower income tax rates, consumers will have more disposable income so they can afford to buy more cars (a normal good). The demand for cars will increase.</td>
</tr>
<tr>
<td>Note that some goods are inferior goods. For these products, demand increases when incomes fall.</td>
<td>If there is a recession and people have less income, they may buy more ramen noodles (an inferior good).</td>
</tr>
<tr>
<td>Consumer expectations of future prices – if consumers expect the price to increase soon, their demand will increase now (shift right). They want to buy the good now, before the price increases.</td>
<td>If consumers expect producers to charge higher prices for candy during holidays like Halloween, some consumers will purchase candy early before prices rise for the holiday.</td>
</tr>
<tr>
<td>Also, if consumers expect their income to increase in the future, they will start spending more now and demand will increase (shift right).</td>
<td></td>
</tr>
<tr>
<td>Consumer preferences change (the item becomes more popular) due to:</td>
<td>If researchers publish a study concluding that eating a grapefruit every day causes people to lose weight, there will be an increase in demand for grapefruit.</td>
</tr>
<tr>
<td>• Successful advertising campaigns</td>
<td></td>
</tr>
<tr>
<td>• New information becomes available about the good</td>
<td></td>
</tr>
<tr>
<td>• New related goods become available</td>
<td></td>
</tr>
<tr>
<td>• Convenience or ease of accessing the good</td>
<td></td>
</tr>
<tr>
<td>• Trends or fads spread by media or social media</td>
<td></td>
</tr>
<tr>
<td>If the number of consumers with access to the good increases, the demand will increase (shift right). This can be affected by population shifts, migration, technology (online access to the good), and logistics/shipping.</td>
<td>As the number of Americans connected to the internet has risen, the number of consumers in the market for online retail has increased and demand has increased.</td>
</tr>
</tbody>
</table>
When demand decreases (or the curve shifts to the left), the market price will fall and the market quantity will fall, as seen on the graph below.

The factors (determinants that will lead to a decrease in demand) include:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prices of complementary goods – If the price rises for one good, the demand for its complement will decrease (shift left). This is an inverse relationship.</td>
<td>When the price of peanut butter increases, the demand for jelly will decrease.</td>
</tr>
<tr>
<td>Prices of substitute goods – If the price decreases for one good, the demand for its substitute will decrease (shift left). This is a direct relationship.</td>
<td>When the price of coffee falls, the demand for tea will decrease.</td>
</tr>
<tr>
<td>Change in income for normal goods – if income decreases, the demand will also decrease (shift left). It is a direct relationship.</td>
<td>During an economic recession, workers may take pay cuts or lose their job. If a worker’s income falls, he or she will have less to spend on goods and services. The demand for the product will decrease.</td>
</tr>
<tr>
<td>Note that some goods are inferior goods. For these products, demand decreases when incomes rise.</td>
<td>If reports come out that real GDP fell last quarter and consumers fear that a recession is looming, they will spend less and save more, decreasing demand for boats (and many other things).</td>
</tr>
<tr>
<td>Consumer expectations of future prices – if consumers expect the price to decrease soon, their demand will decrease now (shift left). They will wait to buy the good until the price falls.</td>
<td>If a series of airplane crashes will decrease consumer taste for air travel and demand will decrease.</td>
</tr>
<tr>
<td>If consumers expect their income to decrease in the future, they will spend less now and save more, which will decrease demand (shift left).</td>
<td></td>
</tr>
<tr>
<td>Negative information becomes available about the good</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Convenience or ease of accessing the good is limited</td>
<td></td>
</tr>
<tr>
<td>Trends or fads spread by media or social media</td>
<td></td>
</tr>
</tbody>
</table>

If the number of consumers with access to the good increases, the demand will increase (shift right). This can be affected by population shifts, migration, technology (online access to the good), and logistics/shipping.

As ride and room sharing apps have expanded, the number of consumers in the traditional taxi and hotel markets has decreased, decreasing demand for these services.

Real estate is heavily affected by supply and demand factors like the number of consumers and number of producers in the location, and how limited the supply is in terms of expansion based on factors like geography and public transportation. The graphic below shows the most expensive cities for real estate in the world.
How Much Real Estate Could You Buy for $1 Million?

In some cities, a million dollars goes a long way—in others, not so much. This graphic illustrates how many square feet of prime real estate you could buy in different cities around the world.

- Hong Kong 229 sq ft
- New York 558 sq ft
- Paris 455 sq ft
- Tokyo 992 sq ft
- Miami 839 sq ft
- Melbourne 907 sq ft
- Madrid 1,138 sq ft
- Dubai 1,469 sq ft

Hong Kong has been one of the world’s most expensive cities for decades.

Source: Knight Frank 2022


Resources
The Handshake Market is a great activity demonstrated by Jacob Clifford from ACDC Economics to simulate for students how various situations can impact the market: https://www.youtube.com/watch?v=oaTC60svo64

An article explaining how Uber pays attention to supply and demand to change prices from Planet Money: *When a $65 Cab Ride Cost $192*

https://www.npr.org/sections/money/2014/01/24/265396928/when-a-65-cab-ride-costs-192

**SSEMI2 Explain how the law of demand, the law of supply, and prices work to determine production and distribution in a market economy.**

- c. Explain and illustrate on a graph how prices set too high (e.g., price floors) create surpluses, and prices set too low (e.g., price ceilings) create shortages.

In some limited circumstances, governments or producers will choose to set a market price rather than allow the forces of supply and demand to determine the market price.

![Graph illustrating the effects of price ceilings and price floors.](https://www.atlantafed.org/education/teach/infographic-posters/price-ceilings-and-price-floors.aspx)

Federal Reserve Bank of Atlanta infographic – Price Ceilings and Price Floors
To download the infographic, order copies of the poster, and preview related activities, visit:

A **price floor** is a minimum legal price set above the equilibrium price. Since price floors are above equilibrium, there will be a larger quantity supplied \( (Q_s) \) than there is a quantity demanded \( (Q_d) \) (surplus). Since the price is legally not allowed to adjust below the price floor, and producers cannot lower the price to sell off their excess supply, the market will remain in disequilibrium until the law is changed. A price floor applied below the equilibrium price of the good will have no impact on the market.

A **price ceiling** is a maximum legal price set below the equilibrium price. Since effective (binding) price ceilings are below equilibrium, there will be a larger quantity demanded \( (Q_d) \) than there is a quantity supplied \( (Q_s) \) (shortage). Since the seller is legally not allowed to sell at a price higher than the set price ceiling, there will be a persistent shortage of the good, and the market will remain in disequilibrium until the law is changed. A price ceiling applied above the equilibrium price of the good will have no impact on the market.
In the example below, the demand and supply schedule table shows that equilibrium price is $2.00. This price is the one at which the quantity demanded is equal to the quantity supplied. If the maximum price is legally set at $1.00, this is a price ceiling. Under this condition, the quantity demanded is greater than the quantity supplied and there is a 100-unit shortage in the market. If the minimum price is legally set at $3.00, this is a price floor. Under this condition, the quantity demanded is less than the quantity supplied and there is a 100-unit surplus in the market. If a price floor were set below equilibrium, or a price ceiling were set above equilibrium, they would be non-binding and have no effect on the market price.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Demanded</th>
<th>Quantity Supplied</th>
<th>Condition in the Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>200</td>
<td>100</td>
<td>100-unit Shortage</td>
</tr>
<tr>
<td>$2</td>
<td>150</td>
<td>150</td>
<td>Equilibrium</td>
</tr>
<tr>
<td>$3</td>
<td>100</td>
<td>200</td>
<td>100-unit Surplus</td>
</tr>
</tbody>
</table>
SSEMI3 Explain the organization and role of business and analyze the four types of market structures in the U.S. economy.
While the course spends a significant amount of time describing a market with perfect competition, the real world has a variety of business structures and market structures that affect competition.

SSEMI3 Explain the organization and role of business and analyze the four types of market structures in the U.S. economy.

a. Compare and contrast three forms of business organization—sole proprietorship, partnership, and corporation with regards to number of owners, liability, lifespan, decision-making, and taxation.

While sole proprietorship, partnerships, and corporations are the three main ways to organize a business in the U.S., students should understand that there are many variations of these forms in real life with complex rules.

- **Sole proprietorships** are firms legally owned by only one person.
- **Partnerships** are firms legally owned by two or more people.
- **Corporations** are firms legally owned by stockholders who have purchased “shares” of the company in the hope that the value of their shares will increase over time and pay dividends. If the company is a public corporation these shares are also called **stocks** and can be purchased or sold on an exchange. **Dividends** are money payments distributing some of a firm’s profit to shareholders on a quarterly basis. Corporations also have the ability to raise money by issuing corporate **bonds** to raise money for ventures.

Each business organization has strengths and weaknesses. The standard requires students to compare them using the following categories:

- **Number of owners**
- **Liability** – the responsibility for paying the debts of the business
  - **Unlimited liability** means that if a business is unable to meet its financial obligations, the owner(s) of the business are personally responsible to pay those debts. This means the owner(s) could be required to liquidate personal assets such as their home to pay the debts of the company.
  - **Limited liability** is when responsibility for the debts of the business are restricted to the ownership stake (shares of stock) the business owner owns. The personal assets of the shareholder are not in jeopardy.
- **Lifespan** of the business refers to what happens to the business when an owner leaves or dies.
  - Limited life means the business closing or reorganizing a business under the new owner(s) when the previous owner(s) leaves the business.
  - Unlimited life means the business passes to new owners through the sale of shares without ending the business.
- **Decision Making** refers to the entity responsible for the day-to-day operating decisions of the business.
- **Taxation**
  - Sole proprietorships and partnerships face a single tax on their business profits as the owner(s)'s personal income. The amount of income they earn from their business will determine the personal income tax rate charged.
  - Corporations must also pay corporate income tax on profits. The remaining profit income distributed to shareholders in the form of dividends is also taxed. This is double taxation.

<table>
<thead>
<tr>
<th>Type of Business Organization</th>
<th>How many owners are there?</th>
<th>What type of liability do owners have?</th>
<th>What is the lifespan of the business?</th>
<th>Who makes the operating decisions?</th>
<th>What type of taxation do owners have?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sole Proprietorship</td>
<td>One</td>
<td>Unlimited</td>
<td>Limited</td>
<td>Owner</td>
<td>Single</td>
</tr>
<tr>
<td>Partnership</td>
<td>Two or more</td>
<td>Unlimited</td>
<td>Limited</td>
<td>Owners</td>
<td>Single</td>
</tr>
<tr>
<td>Corporation</td>
<td>Determined by who owns shares of the corporation’s stock</td>
<td>Limited</td>
<td>Unlimited</td>
<td>Board of Directors elected by shareholders, professional managers make day-to-day decisions</td>
<td>Double</td>
</tr>
</tbody>
</table>

Although not expressly required by this element, you may want to categorize these characteristics of the types of business organization into advantages and disadvantages. The following chart accomplishes this task and includes some other key comparisons.
SSEMI3 Explain the organization and role of business and analyze the four types of market structures in the U.S. economy.

b. Identify the basic characteristics of monopoly, oligopoly, monopolistic competition, and pure (perfect) competition with regards to number of sellers, barriers to entry, price control, and product differentiation.

The Four Types of Market Structures

Pure (Perfect) Competition is a market structure characterized by a very large number of buyers and sellers of an identical product. (Example: commodities like crude oil)

Monopolistic Competition refers to a market structure characterized by a large number of buyers and sellers of products that are similar to one another that can be differentiated by brand, quality, etc. (Examples: restaurants and retail clothing sellers)
An **oligopoly** is a market structure characterized by only a few sellers of a product who dominate the market. (Examples: breakfast cereals and natural gas)

A **monopoly** is a market structure characterized by only one seller of a product dominating the market. (Example: electrical power companies and cable television companies in certain areas)


In 2022, Google Chrome is currently dominating the market with a near monopoly, but many have dominated in the past and have been surpassed by competition who innovated better than they did. Ask students why they think this market becomes easily concentrated and if they think Google Chrome will continue to dominate in the long run.

The following characteristics are usually important when distinguishing between the four market structures:

**Number of Sellers:** Are there many, few, or one seller(s) of the product? The more sellers there are, the more competitive the market is.

**Barriers to Entry:** Are there any obstacles that prevent other firms from entering the market for the good? If barriers are weak or absent from the market, the market will be more competitive. Barriers to entry could be as a result of legal barriers from specific laws, patents, copyrights, and trademarks,
or they could be due to natural barriers like extensive economies of scale for large producers or dominating a key resource needed to produce the good.

**Price Control:** Can the individual firms in the market for a product exercise any control over the price they charge? If not, they are called a price-taker because they must accept the market price as their own. The weaker the control over price, the more competitive the market.

**Product Differentiation:** Is there any difference between the products sold by the sellers in the market for the good? Businesses can differentiate based on quality, service, brand, promotion/advertising, location, convenience, exclusivity, etc. If the products sold by the firms in the market are identical, there is no reason for sellers to engage in non-price competition which refers to methods other than price used to attract customers. If the products are well differentiated, different sellers will be able to charge a wide range of prices.

The chart below identifies the characteristics associated with each of the four market structures.

<table>
<thead>
<tr>
<th>Type of Market Structure</th>
<th>Number of Sellers</th>
<th>Barriers to Entry</th>
<th>Price Control</th>
<th>Product Differentiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pure (Perfect) Competition</td>
<td>Many</td>
<td>Low or No Barriers</td>
<td>None – price taker - must take the market price</td>
<td>None – products are identical</td>
</tr>
<tr>
<td>Monopolistic Competition</td>
<td>Many</td>
<td>Low Barriers</td>
<td>Some</td>
<td>Yes - firms must engage in non-price competition to distinguish their products from those of competitors</td>
</tr>
<tr>
<td>Oligopoly</td>
<td>Few</td>
<td>High Barriers</td>
<td>Yes – price leadership – when one big firm increases or decreases price, the others will follow to maintain market share</td>
<td>Varies – Oligopoly markets may sell identical or differentiated products – those with differentiated products will use non-price competition</td>
</tr>
<tr>
<td>Monopoly</td>
<td>One</td>
<td>High Barriers</td>
<td>Strong Control over Price</td>
<td>Not Applicable – there is only one seller’s product</td>
</tr>
</tbody>
</table>

Teaching Tip: Watch a segment of the show *Shark Tank* in class with your students and, based on the pitch, have them analyze how the business is organized as either a class discussion or an assignment. If a shark gives them an offer, ask them to analyze whether this would change the business organization. Ask them what market structure the product they sell is in and how they know. They
should mention the number of sellers, barriers to entry, price control, and product differentiation to justify their answer.

**Measuring the Level of Competition for Valuable Minerals**


Resource:
The Four Market Structures Candy - This simulation is an experiential learning activity to help students understand the four market structures. This video demonstrates it here: https://www.youtube.com/watch?v=KGrmnynjHjI.