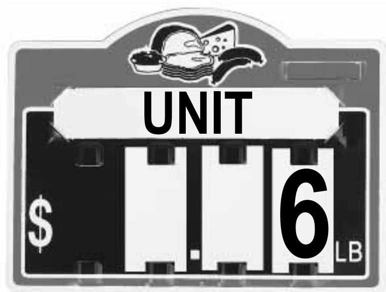


Markets

Lesson 26
How Markets Work

We who live in free market societies believe that growth, prosperity and ultimately human fulfillment, are created from the bottom up, not the government down. Only when the human spirit is allowed to invent and create, only when individuals are given a personal stake in deciding economic policies and benefiting from their success—only then can societies remain economically alive, dynamic, progressive, and free. Trust the people. This is the one irrefutable lesson of the entire postwar period contradicting the notion that rigid government controls are essential to economic development.

— Ronald Reagan

How should bread be distributed among the population? How about health care? If someone cannot afford bread or health care at the going price, should that person be denied these?

Economics is the study of the production, distribution, and consumption of goods and services. Since everyone cannot have everything he wants, some method of distributing goods and services has to be created. Several means of distribution are possible. Most or all of these have been tried in various times and places.

- Goods and services might be distributed on the basis of majority rule (that is, the majority decides who gets what).

- Distribution might be determined by contests, or by force (such as a small group with guns telling the population who gets what).

- Goods and services might be distributed on the basis of first come, first served. In such a system, those with handicaps would likely go without.

- Distribution might be determined by lottery. Sometimes tickets to a special event are awarded in this way.

- A decision might be made by government or by society that goods and services will be distributed equally to all.

- Distribution could be carried out on the basis of personal characteristics, such as intelligence, skin color, or height.

- Goods and services could be distributed according to who has the greatest need, although a way to determine this would have to be devised.

- Distribution could be accomplished by producers setting prices for the goods and services they want to offer and buyers who have the ability to pay being able to obtain them.

No method of distributing goods and services satisfies all the wants of all the people, but the best method of distribution that helps the most people and is most fair is through free markets in which prices are set for goods and services and people make purchases based on their ability to pay. The dynamic that makes a market work is supply and demand, and the chief factor in creating supply and demand is the prices at which goods and services are offered. If you understand supply and demand and the effect of prices, you will understand a great deal about economics.

Definition of Market

A *market* is anywhere sellers offer goods and services and buyers purchase them. It might be a real, physical location such as Wall Street or a Saturday morning farmers' market; it might be in the virtual space of the Internet; or it might range across the country or the world and take various forms, as is the case with the labor market. Some markets involve face-to-face transactions, while in other markets buyers and sellers never see each other.

New York City Public Market, 1948

People sometimes talk about the market in general, referring to all buyers and sellers; but markets exist for many specific goods and services. Economists might refer to the lumber market, the personal computer market, the home health services market, and many others. You might hear people talk about money markets, or the housing market.

Every market has a market structure, which is the way it operates. Market structures vary depending on what is being bought and sold and how specific the market is that is being described. The stock market, for example, operates differently from the market for antiques. The agricultural market is a broad term, while the market for corn or soybeans is more specific. The number of producers in a market can vary depending on the good or service they provide.

Markets are interrelated, in that what happens in one market can affect what happens in other markets. Increased demand in the oil market, for instance, can raise prices in the corn market. Ethanol, which is an alternative to gasoline, is produced from corn and is more attractive when oil prices go up. On the other hand, a decrease in the price for personal MP3 players might lead to a decrease in the price for compact discs, as more people use MP3 players and the demand for CDs falls.

Goods and services are offered in markets. Services involve the performance of work or professional activity. An attorney offers legal services. A lawn care company offers a service to its customers. In neither case does the buyer purchase a material item (except perhaps a legal document, such as a will). Instead, the buyer pays for work done for him or on his behalf.

Korean Clothing Store

Goods can be defined is several ways. *Capital goods* are things like machinery that produce other items. *Producer goods* include tools and raw materials used to make other products. *Consumer goods* are purchased by the end user to meet his wants and needs and are consumed, such as candy bars and light bulbs. Consumer goods can be divided into *durable goods* such as cars and refrigerators, which are intended to last a long time, and *non-durable goods* (sometimes called *soft goods*) such as cleaning supplies and clothing which are consumed and thus not expected to last for long. Generally, durable goods are more expensive.

Markets involve producers and consumers. Individuals and companies are both producers and consumers. A toy company, for instance, consumes energy and produces toys. A worker at the toy company produces toys and consumes food and clothing.

What Markets Do

Markets accomplish several key functions in the economy. First, markets define the nature and extent of economic freedom for an economy. The nature and amount of the goods and services that are available, the ability of consumers to obtain those goods and services, and the ability of producers to bring new and improved goods and services to the market are all indicators of the economic freedom that is present in an economy.

Second, markets accomplish the allocation of resources and the distribution of goods and services that most fairly reflect what buyers and sellers value.[1] In other words, a free market provides what sellers want to offer and what buyers want to obtain. A market economy is sometimes called a consumer economy or a consumer-driven economy because the driving force in a market economy is what consumers want and are willing and able to buy.

Third, markets determine the amount of goods and services that are produced and the prices that are charged for those goods and services. In the United States, no bureaucrat sits in Washington or in a state capital and decides how many toy stores, for instance, can open in a city. That is determined by what the toy market will bear; in other words, whether there are enough consumers in the toy market in a city to support the number of toy stores that are open. No bureaucrat decides what will be charged for a computer or for a woman's dress. This also is determined in the market. If computers cost too much, fewer people will buy them. If they cost too little, producers will not be able to continue making them profitably.

Competition

Markets enable sellers and buyers to compete. *Competition* takes place when there are many sellers and many buyers for the same or similar goods and services. Economists use the term *perfect competition* for the situation in which there are many sellers and buyers and where each individual seller and buyer has a negligible effect on the price that is charged. *Imperfect competition* is when there is a limited number of suppliers or buyers and one can have a significant effect on price.

Shopping Center on Long Island, New York, 1951

Sellers compete in several ways. They compete in terms of price, quality, product design, product variety, customer service, and advertising effectiveness. If the Alpha Company produces widgets for 49 cents each, the Beta Company will look for ways to make comparable widgets for 44 cents (perhaps by using less expensive materials or more efficient machines) or to make widgets for 49 cents that have more features than those produced by Alpha or that are available in more colors. If the Gamma Company ships orders for widgets in five days, the Delta Company will offer to ship orders in two days. The Epsilon Company, which produces a comparable widget, might develop an advertising campaign that appeals to buyers more effectively.

The level of competition in a market is affected by several factors. These factors include the number of buyers and sellers in the market, the ease with which new products can enter the market, the information consumers can obtain regarding the goods and services being offered, and the quality and quantity of substitute goods and services. Substitute goods and services are comparable but slightly different (and often of a somewhat lesser quality) than another product.

A command economy is not built on the principle of competition, but even a command economy will usually have some limited form of competition. When goods are scarce because of command policies, a black market or illegal market will often develop for goods for which there is high demand. Goods on the black market might be imported illegally or stolen from government factories and sold to black marketeers. These goods will provide competition for items available in state-run stores.

Competition benefits buyers or consumers in several ways. Competition is a motivation for suppliers to improve product quality, quantity, and variety; it encourages greater productivity, which leads to lower costs, which leads to lower prices; and it encourages better customer service. Competition motivates people and companies to invest in more advanced technology that will improve the operation of the business, such as in production or record-keeping. Competition also fosters economic growth. If widgets become popular, more people will want to get into the widget business and build new factories which will employ more workers. This leads to a better quality of life as people benefit from owning widgets and as more people are employed in producing them. As we discussed in an earlier lesson, the self-interest of suppliers in producing items that people want leads to more choices being available, which increases the national level of well-being. Markets enable this dynamic to happen.

The Monopoly

The best-known and probably the most-feared form of imperfect competition is the *monopoly*, in which there is one seller of a good or service without a close substitute. With a monopoly, the single supplier can determine the price for and availability of what it offers.

Having a monopoly might sound like an ideal position for a producer, but a monopoly has many negative attributes for consumers. A monopoly is the enemy of efficiency because the supplier has no motivation to improve production or distribution. Monopolies tend to produce less (and to provide goods and services of lower quality and with higher prices) than when competition exists. Monopolies usually need laws that give special protection to them, which implies political conditions that limit individual freedom. In a free market, one or more entrepreneurs will almost always develop substitute goods to compete with a potential monopolist. It is possible for public resentment to build toward a monopoly, to the point that many will choose to do without rather than to buy from the monopolist. This can lead to a business failure unless laws are in place to protect the monopolist.

Monopolies do not allocate resources efficiently in an economy. Goods and services are not made available to all who can afford them based on competitive prices. Instead, only those who are able to pay the monopolist's price can obtain the good or service. The actions of the monopolist can result in a scarcity of some products and a surplus of others; but because there is no competition, those surplus products are not made available as widely as they are in a competitive market. To protect consumers, monopolies are illegal in the United States.

True monopolies are rare in a competitive economy. In a sense, every company has a monopoly on products that it produces; but in most cases other companies have competing or substitute goods that prevent monopoly conditions from existing. For instance, the Coca-Cola company has a monopoly on Coca-Cola. No other company can produce that exact product. However, many other soft drink companies compete successfully with Coca-Cola by offering other soft drinks, so the soft drink market is not monopolistic.

Shades of variation exist with regard to monopolies. *Monopolistic competition* is when several producers offer different unique goods and services that still compete with each other. There are many buyers and sellers, no one producer controls the market, producers can enter the market freely, consumers can discern non-price differences among the producers, and producers have some degree of control over price. One example of a market with monopolistic competition is the restaurant market. In a sense, Chili's, Applebee's, and Ruby Tuesday each have a monopoly on what they offer; but in another sense they all compete for the same business of consumers who dine out.

In 1939, this housewife was invited to share her thoughts about advertising geared to housewives with the Congressional Monopoly Committee. She mentioned that some ads are useless because they do not mention the grade or weight of the fabric used. She also stated firmly, "I don't go in for colored pictures."

One company can so dominate a field that it is sometimes said to have a *virtual monopoly*. Some believe that Microsoft has a virtual monopoly on computer operating systems with its Windows product. About 90% of computers sold in the United States come with the Windows operating system installed. However, Microsoft still develops new and more advanced versions of Windows regularly because the people who run the company know that competing products exist or can be produced.

Every state has compulsory school attendance laws for children. About 11 percent of children attend private schools, about 2 percent are homeschooled, and the rest attend public schools. Some would say that public schools have a virtual monopoly on education in America. Many indicators suggest that this virtual monopoly has not improved the quality of the service being offered.

Another form of monopoly is called a *natural monopoly*. This is a situation in which economies of scale are such that production and distribution of a particular good or service is most efficiently accomplished by a single provider. The most common example of a natural monopoly are utilities such as water and electricity service. It would be expensive, unsightly, and probably economically harmful to have two or more sets of electrical transmission wires, water pipes, or sewage disposal systems running throughout a town. What has developed in most places is that one company or one department of government provides a service for a city, but the provider is regulated by law in terms of what it can charge and how much and how often it can increase rates. A utility licensed by a county might also be required to extend service to rural areas. No one expects such a provider to lose money, but the assumption is that regulations are needed to prevent the provider from charging exorbitant fees as the only choice that people have.

But the economy is always changing, and some natural monopolies do not seem so natural any longer. For instance, many communities have historically contracted with one cable television provider to offer service to residents. The cable service is regulated by the local government in terms of price and quality of service. The contract is for a set period of time and has to be reviewed every few years before it is renewed. Several national companies offer cable television service, so there is competition among them, even though the residents of a particular community might not have a choice. In such a case, the citizens trust the government to make the choice that is best for them. In addition, satellite television providers that contract with individual consumers offer direct competition to cable systems. Communities have also traditionally had one provider of telephone service as a public utility.

Working on Telephone Lines, 1942

However, some cities no longer recognize a natural monopoly in such industries and now allow multiple providers to compete for customers of television service and telephone service. Cellular phone companies also provide competition to what are called landline companies. To make the situation even more intricate, because of advances in digital transmission technology, some companies offer telephone, television, and Internet service either separately or in package deals. As a result of this competition, consumers are able to benefit from lower prices, better quality, and improved service. If a customer is not pleased with one company, he can change to another provider.

Other Forms of Imperfect Competition

A monopoly is where there is one provider of a particular good or service. An *oligopoly* is where there are only a few large providers, and one provider can have an impact on the market. One example is the passenger jet construction industry. Only a few companies in the world make passenger jets, so any one of them can have a major impact on the market.

A *monopsony* is a market in which there is only one buyer or only one significant buyer. In the United States, the Federal government is the only buyer of military aircraft. Other countries might purchase American-built planes, but domestically there is only one buyer of what the relatively few builders of military planes have to offer. As a result, the government has a large influence on the nature of planes that are produced. Plane manufacturers have to listen to what the government wants if they expect to receive the construction contract. Some economists see major sports leagues as monopsonies. The National Football League, for example, is the only significant buyer in the professional football labor market.

Lockheed Aircraft Plant Assembly Line, 1980

An *oligopsony* is a market in which there are only a few major buyers, any of which can exert a significant influence on the market. Large grocery store chains have something of an oligopsony in buying agricultural products. A few national chains buy the vast majority of what is grown for retail sale in the United States and much of what is grown in several other countries. Small local farmers have little chance to sell what they produce to large grocery chain stores. In another example of an oligopsony, only three tobacco product companies buy 90% of the tobacco grown in the United States.

Ways of Influencing the Market

In a market economy, sellers are supposed to compete on the basis of price, quality, and the other factors mentioned earlier. Sometimes, however, sellers get together behind the scenes to influence the market in a practice called *collusion*. Providers in a market (say the passenger airline industry) might decide that they will all raise their prices ten percent, or the companies in collusion with each other (say the retail home improvement industry) might decide to allow each company to take over the market in a particular region of the country (Company A in the South, Company B in the Midwest, and so forth). Collusion that uses artificial constraints other than the competitive market to fix prices or reduce competition in order to raise prices is a restraint of trade. Such action reduces competition and is against the public interest. In the United States, collusion is illegal.

Collusion is relatively more difficult in a market with many sellers because it is difficult to get many providers to agree to an arrangement. One or more sellers would likely not agree to the arrangement and would try to take business away from those who made the collusion agreement. Collusion is often difficult to detect.

A group of providers that engage in collusion to increase profits is called a *cartel*. One of the best known world cartels is the Organization of Petroleum Exporting Countries (OPEC).

No international law forbids such collusion. The number of countries that export petroleum is relatively small, and OPEC representatives meet regularly to set production goals in order to limit supply, increase demand, and thus maximize profits. The presence of OPEC has no doubt contributed to an increase in oil prices, but the cartel has historically found discipline among its members difficult to maintain. A primary principle by which countries operate is that of national self-interest. One or more OPEC members will routinely decide that their self-interest is better served by ignoring the cartel agreement and increasing production in an attempt to increase their profits.

Employees at the Mid-Continent Refinery
Tulsa, Oklahoma, c. 1943

A *boycott* is an organized action by buyers to bring attention to what they see as a wrong policy in an attempt to change that policy. Boycotts are legal as long as they are voluntary and nonviolent. The right to buy includes the right not to buy. However, coercion to enforce a boycott, such as a union intimidating or expelling members who do business with a particular company that the union leadership opposes, is an action that is in restraint of trade and is illegal in the United States.

In 1955, the Montgomery, Alabama bus system practiced racially-segregated seating. Rosa Parks, a black woman, refused to give up her seat (which was next to where whites were seated) to a white man. Parks was arrested. In response, blacks in Montgomery boycotted the bus system by refusing to use city buses. This caused a significant loss of revenue and highlighted what blacks saw as the unjust policy of segregation and discrimination. The boycott lasted about one year, at which time the Montgomery city government agreed to end segregation and discrimination on city buses.

For many years some nations and companies participated in a boycott against the Republic of South Africa because of that country's policy of apartheid or racial segregation. Various groups have organized boycotts to promote particular causes. For instance, some groups encourage people not to buy the products of companies that sponsor what the group sees as immoral television programs or programs with hosts that are advocates of positions with which the group disagrees.

Do Markets Exploit the Poor?

A common charge made against market economies by those who favor a socialist or planned (i.e., command) economy is that markets exploit poor people. These advocates say that the capitalist desire to offer goods and services at the lowest price possible drives down wages for workers who produce goods that the workers themselves cannot afford at their income level. A typical scenario that is portrayed is that of an American company paying workers in a foreign country a few dollars per day to produce goods that will be sold in America for many times what the worker is paid. In addition, critics charge that markets exploit poor buyers who do not have the education or discernment to reject crass or misleading advertising appeals.

The fact is that competitive markets are the best way for the poor to become better off. Market economies tend to make life better than in command economies. The freedom of a market economy allows and encourages technological progress, makes more and cheaper goods available to more people, and gives entrepreneurs the opportunity to develop new products that can create wealth for owners and workers. Poverty is present in market economies for several reasons (which we will explore later), but the evidence is overwhelming that widespread and chronic poverty is more common in command economies because command economies lack the competition that motivates providers to offer better goods and services at lower prices. Without free markets, the gap between rich and poor is wider because in a planned economy, only the relatively few leaders and planners have the opportunity to get the best of things.

Iraqi Worker at a Metal Fabrication Plant in Ferris, Iraq, 2008

Workers in other countries are generally paid less than workers in the United States, but when a factory is built in a third-world country people flock to it hoping to get a job. The wages they hope to earn are better than what many other people earn in those countries. Wages and working conditions have improved in the United States since the late 1800s, not from our having a command economy but from having a free economy with regulations. The same kind of progress is taking place in many developing countries today.

Markets, not bureaucratic decisions, are the best hope for the poor.

Wherever He entered villages, or cities, or countryside,
they were laying the sick in the market places, and imploring Him
that they might just touch the fringe of His cloak;
and as many as touched it were being cured.
Mark 6:56

Assignment for Lesson 26

Reading

Read "The Entrepreneur As American Hero" (*SGR,* p. 61).

If you are using the optional Quiz and Exam Book, *answer the questions for Lesson 26.*

Lesson 27
Supply and Demand

Advice is the only commodity on the market where the supply always exceeds the demand.
— Anonymous

The principle of supply and demand is the basis on which markets work. Suppliers or producers offer goods and services in the market, and consumers purchase the goods and services they want and need. This dynamic is illustrated in the circular flow diagram found in Lesson 2.

Supply

Supply is the total amount of a product or service that is available for purchase. The factors that a producer considers when deciding what product or service to supply in the market and in what amount to supply it are called *determinants of supply*. These factors include:

- price of the good (Can a supplier receive a price for his good or service that will make it worthwhile for him to offer it?)
- price of substitute goods (Will he be able to make a profit despite competition from other similar goods or services?)
- disposable income (Do potential buyers have the money to purchase it?)
- price of resources (Can the producer afford the materials needed to make the good at a price consumers can afford?)
- changes in technology (Can new technology, such as the invention of better manufacturing equipment, make production less expensive?)
- expectation of future price increases (Can the producer reasonably expect to continue making a profit, especially in the face of inflation?)
- number of suppliers (Is the market for this good or service already crowded?)

- consumer tastes (Do people want this good or service?)
- taxes and subsidies (Does the government offer any incentives or disincentives for producing this good or service?)

The law of supply states that, all else being constant, as the price for a product or service increases, production will increase. Producers have an incentive to supply more when they believe that they will make more profit by doing so. On the other hand, as the price for a product or service decreases, production will decrease. In addition, when the cost for what a supplier has to pay for resources or ingredients or any factor of production increases, production falls. Conversely, when the cost of production falls, supply increases. In other words, supply is directly related to price and inversely related to the cost of production.

Greeting Card Display in Pelham, New York, 1947

Suppose the average retail price of a greeting card is $2.00. At this price, the Howdy-Do Greeting Card Company prints 100,000 cards per year.

But then a rage for sending greeting cards sweeps the country, and the increased demand causes cards to begin selling for $2.50 each, with no increase in the cost of production. Howdy-Do begins to produce another 50,000 cards per year. The supply increases as the price increases.

However, this forces Howdy-Do to hire an additional worker, which increases its production cost. Then, because of the increased demand for cards, the demand for paper also increases. This causes the production cost of the cards to increase further. The owners of Howdy-Do decide that they will lay off the additional worker and only print 100,000 cards. The supply decreases as the cost of production increases. Given the increase in production costs, the company now can actually make more money printing fewer cards and having fewer employees.

Graphing Supply

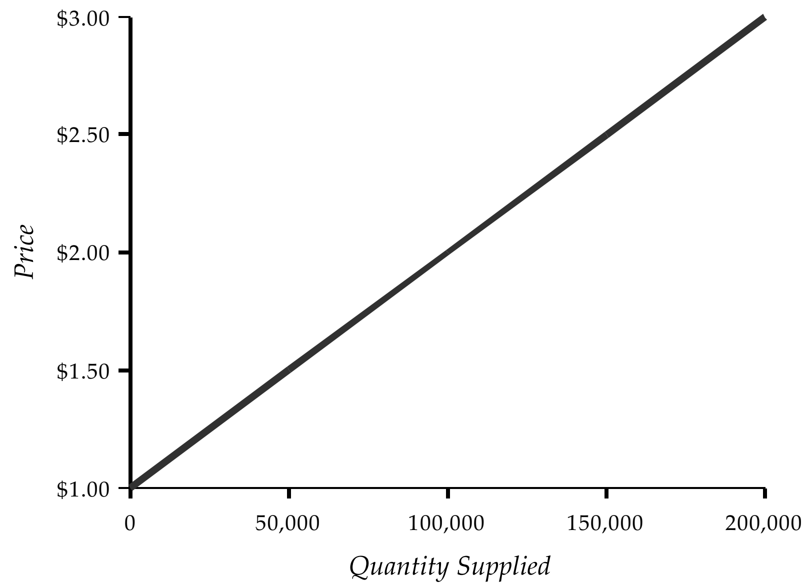
Supply is commonly portrayed by two graphics. The first is a supply schedule, which is a chart showing how much of a product or service a company will supply at a given price. To the right is a supply schedule for greeting cards.

If the retail price per card was 50 cents, the company could not afford to produce any cards; but as the retail price per card increases, the company is willing to produce an increasing supply of cards.

Supply Schedule for the Howdy-Do Greeting Card Company

Retail Price Per Card	Quantity Supplied
1.00	0
1.50	50,000
2.00	100,000
2.50	150,000
3.00	200,000

The second way that supply is shown is by a supply curve. This is a graph with x and y axes showing the relationship between price and quantity supplied. Again, as the price increases, production increases. In economics, the price is always the y or vertical axis and the quantity supplied is always the x or horizontal axis.



Note that the supply curve slopes upward from the lower left to the upper right and is typically drawn as a straight line for illustrative purposes. This graph illustrates the law of supply (as price increases, production also increases).

Demand

The other side of the principle is *demand*, which is the total amount of a product or service that consumers are willing to purchase at a given price. The factors involved in causing consumers to purchase goods and services are called *determinants of demand*. The main determinants of demand are:

- price (How much does this good or service cost?)
- price of substitute goods (What is the cost of another good or service that could satisfy my needs and desires?)
- price of complementary goods (What additional goods or services will I have to buy if I buy this one?)
- population (What is a reasonable estimate of the number of people who will want to buy this good or service?)
- level of income (Can the potential population afford it?)
- personal tastes (Will people want it?)

- government policies (Will buying this good or service force me to complete government paperwork? Can I get a tax deduction if I buy it? Will I have to pay an additional tax if I buy it? Are there any government health or safety warnings that discourage me from buying it?)

The law of demand states that, all else being equal, when the price of a good or service rises, demand falls. Likewise, when prices fall, demand increases. Demand is inversely related to price. Returning to the greeting card example, increased demand led to the retail price rising to $2.50 each. Then some companies began producing fancier cards for $3.00 each. As a result, the average price for all cards began rising toward $3.00. Card companies were happy to produce more cards at this price; but as a result of this development, consumers started changing their habits. They began using plain paper, making phone calls, or sending e-mails. The demand for greeting cards fell as the price increased.

Complementary goods are goods that are commonly bought together, so much so that a change in price for one product leads to a change in demand for the other. A decrease in the price of spaghetti will lead to an increase in demand for tomato sauce. Derived demand is the demand by a producer for a factor of production that occurs as a result of the production of another product or service. Producers who make shirts have a derived demand for sewing machines; their demand for sewing machines is derived from their production of shirts.

Shirt Factory in Troy, New York, 1907

Graphing Demand

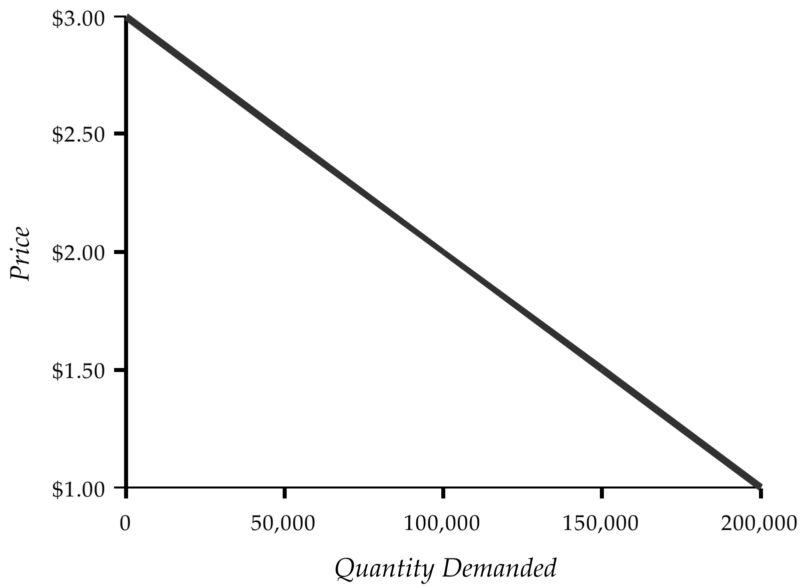
Like supply, demand can be illustrated in two ways. The *demand schedule* is a chart that shows the relationship between price and demand.

Demand Schedule for the Howdy-Do Greeting Card Company

Retail Price Per Card	Quantity Demanded
1.00	200,000
1.50	150,000
2.00	100,000
2.50	50,000
3.00	0

Cards offered at $1.00 each would generate a large demand. At the other end of the price range, few consumers want to pay $3.00 per card.

This information can also be shown by a *demand curve* on a graph.



The demand curve (line) slopes downward from upper left to lower right. It is the opposite of the supply curve. Thus we see that, as the price rises, demand decreases. This was demonstrated in 2008 with gasoline prices. As the price for gasoline rose to about $4.00 per gallon, consumers decreased their demand for it. They took fewer pleasure trips, consolidated shopping trips, and used alternative means to get to work instead of driving their cars. Eventually gasoline prices fell, in part because of this lower demand.

How Supply and Demand Work Together

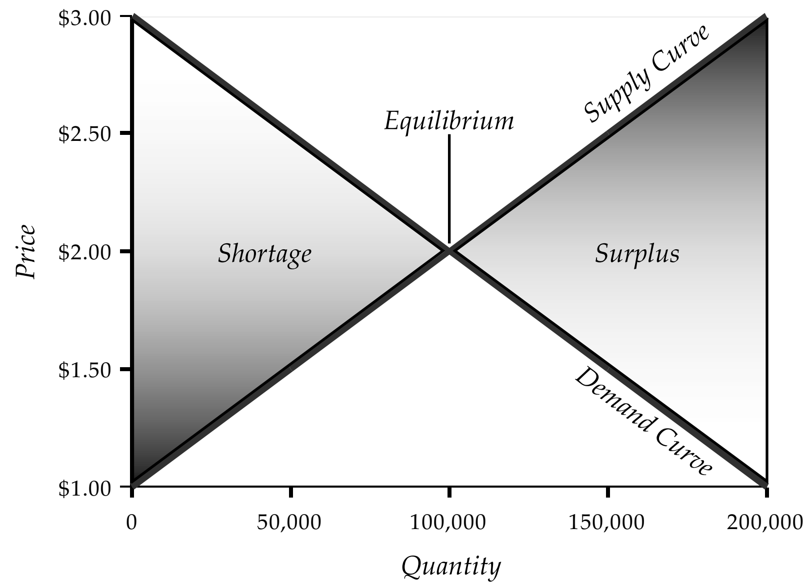
In a free market, *sellers determine supply and buyers determine demand*. As we noted earlier, as price increases, supply increases; as price decreases, demand increases. When the price is too high, suppliers have a *surplus* or excess supply on the market because consumers do not want to pay that much. When the price for a good or service is too low, buyers face a *shortage* because the excess demand is greater than suppliers' willingness or ability to produce goods and services at lower prices.

The conflicting principles regarding supply and demand are:

1. Suppliers tend to offer more at higher prices; but

2. Consumers tend to buy more at lower prices.

The law of supply and demand states that the price of a product or service adjusts to bring supply and demand into balance. This is demonstrated if we put the supply curve and the demand curve on the same graph.



The point where the supply curve and the demand curve cross is called the *equilibrium price* or *market clearing price*. This is the price for which suppliers are willing and able to offer their goods and services and the price that consumers are willing to pay. Theoretically, this is the price that will bring about the sale of all of a particular good or service in the market. Thus we see that supply and demand affect the quantity of goods and services offered in the market and the price charged for those goods and services. In our example, consumers would be happy to buy a large quantity of cards at $1.00 each, but Howdy-Do could not supply them at that price and make a profit. On the other hand, Howdy-Do would be happy to supply a large amount of cards at $3.00 each, but the company would not sell many. On the graph, we see that the equilibrium price for greeting cards is $2.00. The conflicting principles mentioned above intersect at the equilibrium price. We also see the illustration of surplus and shortage. Surplus exists when supply exceeds demand, and shortage exists when demand exceeds supply.

Kinds of Goods

Normal good: a good for which demand rises when income rises

Inferior good: a good for which demand rises as income falls

Substitute good: a good for which demand rises when the price for another good rises

Complementary goods: goods for which an increase in the price of one leads to a decrease in demand for the other

The example used here and the laws of supply and demand are a simple theoretical construct designed to help us see how the complex economic market works. Things usually do not work out this neatly. It is rare that exactly 100,000 greeting cards are sold for exactly $2.00 each and then the shelves are bare. Some cards will not be sold even at the equilibrium price, perhaps because the supply of cards in one place exceeds the demand there. These leftover cards might be sold at a deep discount to a bargain store, where they are offered at a much lower price; or they might be collected by the distributor and sold to a recycling company that will turn them back into plain paper to be used for some other product. On the other hand, the supply could theoretically be exhausted and some consumers would have to use plain paper or e-mail to send their greetings.

Which Comes First: Supply or Demand?

Does a producer develop a product or service and then develop a market for it among buyers, or does a demand for a product or service arise among consumers and then producers respond by making goods that meet that demand? The answer is yes: it can happen both ways. Few producers will pursue an idea for a product just on the hope that sufficient demand will develop. History is littered with inventors' big ideas that went nowhere with the public. Instead, producers usually try to meet the wants and needs that they perceive already exist among potential customers.

Sometimes products are developed because of accidental discoveries. This was the case with Post-It Notes. In 1970 a 3M Company researcher was trying to develop a strong adhesive, but instead he came up with a weak adhesive that didn't stick very well and thus didn't seem to have a market. Then four years later, another 3M scientist was singing in his church choir. The markers he used to help him find the songs kept slipping out of his book. He remembered his co-worker's weak adhesive, applied some of it to small pieces of paper, and the Post-It Note was born. Through 3M's effective marketing and promotion, the company was able to identify and help develop a demand for note paper that stuck, but not too tightly.

More often, producers respond to a demand—or at least a perceived demand—from consumers. The increase in women working outside of the home contributed to a greater demand for house cleaning services, which today is a multi-million dollar industry. The first computer was developed in response to a need by the United States Army during World War II to calculate artillery trajectories quickly. Advances in computer speed and capacity moved relatively slowly until people saw the possibilities for computers performing many kinds of functions using digital technology—not only making mathematical calculations but also word processing, information storage and retrieval, graphic design, and eventually communication among many computers. Technological improvements in memory capacity and processor speed made computers faster, smaller, and more powerful. The supply of more advanced computers has increased to keep pace with the growing demand for faster, smaller, and more powerful computers.

Advancement of Computer Technology

1961

1981

1995

Say's Law

French economist Jean-Baptiste Say (1767-1832) proposed a principle that relates to supply and demand, which has since become known as Say's Law. This principle states that production, or supply, creates its own demand for what is produced. According to Say, the pay that workers receive for producing a good provides the means whereby producers can purchase what they produce; and thus demand will grow as supply grows. As this principle is re-enacted in many industries across the economy, the economy grows. Supply sometimes exceeds demand in some segments of the economy, which results in temporary unemployment; but the market generally corrects itself such that supply and demand remain in fairly close balance.

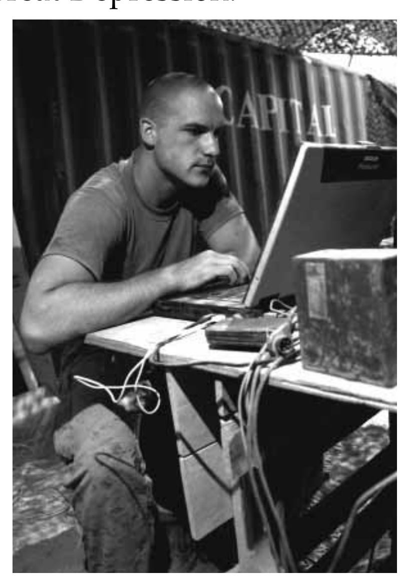
In this view, the economy grows by increasing production, not consumption. Production creates its own consumption. One corollary of Say's Law holds that recessions or economic slowdowns are not caused by inadequate demand or a scarcity of money. Government efforts to stimulate demand or to print more money, therefore, focus on the wrong end of the equation. The Austrian School of Economics and the Chicago School of Economics promote Say's Law.

By contrast, classic Keynesian theory emphasizes aggregate demand. For Keynesians, the amount supplied is determined by the demand. Keynes advocated government programs to stimulate demand during periods of recession so that consumers are able to purchase goods, which will enable people to be hired by producers and put to work. Proponents of Say's Law would say that such programs take potential investment money that could stimulate production and instead direct it to be used by the government. Such programs slow down or even prevent the recovery that would be possible if production were stimulated.

This difference of opinion is reflected in the debate over what kind of economic policies the government should pursue. Should government try to stimulate demand by focusing on assistance to individuals who can then increase consumption; or should government encourage an increase in production, which then will produce its own demand among individuals? In determining what to do, politics gets involved because some elected officials believe that, if government assistance is spread throughout a larger segment of the voting public, the people will re-elect those representatives who supported government assistance programs. We will discuss this topic more in the lesson on the Great Depression.


1997


2002


2009

Aggregate Demand and Aggregate Supply

Economists talk about supply and demand in terms of a particular good or service, such as computers or health care. The terms that economists use for the overall economy are *aggregate supply* and *aggregate demand*. The *aggregate supply* is the total quantity of goods and services that sellers are willing and able to provide at any price. *Aggregate demand* is the total of all goods and services that households, companies, and the government are willing and able to buy at any given price in a given period of time. The four components of aggregate demand are consumption, investment, government spending, and net exports.

Aggregate supply and aggregate demand are macroeconomic (big picture) terms. They are especially important when discussing government policies that affect the overall economy. People involved in making economic policy for the government might consider moves that would increase disposable income or how changes in tax laws might affect aggregate supply or aggregate demand.

And my God will supply all your needs
according to His riches in glory in Christ Jesus.
Philippians 4:19

Assignment for Lesson 27

Econ Lab

Talk about supply and demand with someone in a business. Talk to him or her about how they determine the supply and demand in the market for what they produce; the supply and demand regarding the factors of production they have to obtain (prices, changes in prices at different times of the year, what factors are most difficult to obtain, and other issues); and supply and demand for the goods or services they produce (peak times of demand during the year, how they determine price and how price is affected by supply and demand, and other issues). Organize what you learn and put it in writing. You might want to send it to this person to see if you have understood it correctly.

If you are using the optional Quiz and Exam Book, *answer the questions for Lesson 27.*

Lesson 28
Prices

The price of anything is the amount of life you exchange for it.
— Henry David Thoreau

Price is what consumers pay when they buy a good or service and what suppliers receive when they sell a good or service. Price is a powerful factor in economics. Consider some of the roles that prices play.

In everyday conversation, price and cost are practically synonyms ("How much did that jacket cost?" "The price was thirty dollars.") However, in economics, price is what a consumer pays for a product or service; and cost refers to the supplier's cost of production.

The Power of Price

- Price influences supply and demand. The quantity supplied varies directly with price (that is, the higher the price, the more that is produced). The quantity demanded varies inversely with price (the higher the price, the less that is demanded).

- Price determines who does what work, or even what work is done at all. Goods that do not command a price that generates a profit for the supplier do not get produced. Costlier goods are generally produced by more skilled workers, who usually get paid more.

- Price determines who is able to have the goods and services that are produced, according to consumers' ability to pay. Those who are not able to pay as much do not have as much.

- Price affects consumers' buying habits. Consumers will buy less or will buy substitute goods when prices are high.

- Price is an efficient way to allocate scarce resources. Prices reflect the value that people place on resources. Higher prices mean a higher perceived value, sometimes because a resource is scarce or because it is expensive to produce. As we noted earlier, price is a more efficient way to allocate scarce resources than having central planners allocate those resources.

- Price is the determining factor in creating market equilibrium, creating the point at which supply matches demand.

These are ways in which price is a cause for certain things to happen in economics, but price can also be an effect. Various factors can have an effect on prices. Competition has an impact on prices. Competition among buyers for the same amount of goods supplied leads to higher prices because prices rise when demand exceeds supply at the existing price. Competition among suppliers for the same number of buyers leads to lower prices because prices fall when supply exceeds demand at the existing price.

Facts About Prices

Everything has a price. Price reflects what consumers value and the choices they are willing to make. People commonly think of prices in terms of what goods and services cost, such as the price of bananas or the price a plumber charges; but everything has a price. The price for money is called interest. The price for labor is expressed in terms of wages and salaries.

Markets determine prices. In the market, generally speaking, buyers want the lowest price possible and sellers want the highest price possible. A producer of candy bars does not simply decide that it will charge $5.00 for its candy bar. The producer has to determine the minimum price it can charge to make production worthwhile, as well as what price the market will bear by considering the price of competing candy bars, the price of substitute goods such as other candy, and how many bars the company is likely to sell.

A *price maker* is a producer who has enough influence in the market to have an impact on what price is charged for its good or service. A *price taker* is a producer who has little influence on the market by itself and is forced to charge the prevailing price for its good or service. Rolls-Royce is able to set the price for its luxury cars because it has little or no direct competition and because of the perceived luxury and exclusivity of its cars. Milk producers, on the other hand, are price takers because they have to sell their milk at the prevailing price in the market.

A *relative price* is the price of one good or service expressed as the price for another good or service. Relative prices demonstrate the value that one good or service has compared to another. Relative prices are also helpful in measuring the relative scarcity of goods and services in a market economy. For instance, the fees charged by medical specialists are usually higher than those charged by general practitioners. Specialists must have additional training that adds to their educational cost, and they have a relatively smaller field of potential patients that they will see. A trip to a specialist might have the price of two or three office visits to the family doctor.

Price and Prosperity

A common assumption is that people build wealth by being able to charge higher prices for a particular product or service. However, America's great wealth and economic strength has actually come about largely because American businesses have lowered prices for goods and services, which has brought more buyers into the market.

Before Henry Ford developed assembly line production of automobiles, cars were primarily playthings for the rich. The assembly line made lower-price autos available to more people, and this development is what built Ford's great wealth. There are only so many rich people a company can sell to, but being able to sell to the mass market enables business owners to build greater wealth.

Sam Walton did not become a multi-billionaire by raising prices at Wal-Mart stores. Instead, he became wealthy by lowering prices and making the goods at Wal-Mart stores accessible to a greater number of people.

These and many other examples show that price is indeed a powerful tool in the marketplace. They also show that, many times, the smaller tool is most effective in getting a job done.

Price Discrimination

You might think that setting a price for a good or service would be simple: determine the cost of production, decide how much profit to make, set the price, and put the good or service on the market. But setting prices to make the most profit is not that simple. A variable factor is the willingness of different consumers to pay a given price. Producers respond to this difference in willingness by the practice of *price discrimination*, which is selling the same good to different consumers at different prices. This might seem unfair; but companies do it all the time, and we consumers accept it. Let's see how the process works.


Amusement Park Ride, c. 1921

First, imagine a monopolist who can charge any price for his product. He sets a price for the product, and some people buy it while others do not. Some who buy it would have been willing to pay more for it, and some who didn't buy it would have been willing to pay a lower price for it, so the producer's profit is less than it could be. But now let's also assume that the monopolist knows how much each consumer is willing to pay for the product. The monopolist will charge those various prices, and the result will be a greater profit.

We can be thankful that true monopolists are rare in our economy. However, companies still practice price discrimination to increase their profit on the basis of consumers' willingness and ability to pay different prices. For instance, most museums, amusement parks, and other businesses that charge an admission fee charge less for children. Parents might not be willing to pay the adult rate for a child and would choose to stay home, but the lower children's rate is an incentive for parents to bring their children. The result is greater profit for the business.

One of the great mysteries of life is the wide variation in airline ticket prices. It is possible that no two people on a plane paid the same price for their tickets, even though they all get on the same plane and go to the same destination. Airlines know that some people are willing to pay any price for a ticket, some business travelers don't care what the ticket costs because the company is paying for it, and some travelers are cost-conscious and want the best deal possible. Some people use a travel agent (who gets a fee from the airline for providing their services to the customer), others just want to do business with their favorite airline, while still others scour the Internet themselves for cheap tickets. Airlines set prices at different levels for a certain number of seats on each flight. As the time for departure nears, the price for unsold seats might change. The whole process is price discrimination. It works because the flying public accepts it.

Some companies sell goods to high-price stores, some goods (sometimes the same goods) to mid-price stores, and still other goods to discount stores. If they put

The Diamond-Water Paradox

A common brain teaser for students of economics is the paradox of value or the diamond-water paradox. The paradox is that, although water has greater practical value than diamonds—in other words, it is more necessary to life—water is much less expensive than diamonds. Why is this vital commodity so cheap? Several factors help to resolve the paradox.

1. *Generally less labor is expended to acquire water than is needed to obtain diamonds.*
2. *A unit of water is valued less by society than a unit of diamond.*
3. *The supply of water is much greater than the supply of diamonds, so we would expect water to have a lower price.*
4. *The marginal utility or usefulness of one unit of diamond is greater than the marginal utility of one unit of water. The next unit of water is more easily available and thus worth less than the next unit of diamond.*

all of their goods in one kind of store, they might not be able to make a profit because they wouldn't have enough customers in one kind of store. However, by distributing their goods to a wide range of consumers and using price discrimination as they determine the market for their goods in each kind of store, the company can make a profit.[1]

Artificial Price Controls

Many economists believe that the best way to bring about economic growth and improved economic well-being for the most people is to allow markets to operate by supply and demand so that prices will approach equilibrium without government intervention or other artificial attempts to control prices. Such artificial attempts are intended to help consumers, but in most cases they actually hurt the people they are intended to help. They distort what would be normal price incentives for producers and consumers.

As we indicated in the previous lesson, the market-clearing price is the price at which supply and demand intersect. A *price ceiling* is a maximum-allowable price set by the government that is below the market-clearing price. When a price ceiling is set, the price charged to consumers cannot go above the ceiling. A common example of a price ceiling is rent control, a policy in many large cities. The law is intended to insure the availability of affordable housing for the poor. What actually happens is that, over the long term, landlords have no incentive to maintain or improve housing units they own (usually apartments) because they cannot recover their expenses the way they could if they could raise rent to the level that the market would allow. If a landlord cannot earn a profit by charging only the legally allowable rent, he or she will close the building instead of operate it at a loss. The result is that, instead of a creating a supply of affordable housing, there is a shortage of decent, affordable housing because of the market distortion caused by rent control. Price ceilings lead to consistent shortages of goods and services because many providers do not find it worthwhile to offer the goods and services at the allowed price.

On the other hand, a *price floor* is a minimum-allowable price set by law that is above the market-clearing price. When a price floor is decreed, prices cannot go below the floor. The United States government sets a price floor for many agricultural products. Farmers are guaranteed a minimum price; and over the years the government has limited production or bought up the surplus at the artificial minimum to keep the price at or above the floor. A price floor creates a surplus because farmers grow more to take advantage of the guaranteed minimum prices and because some people cannot afford to pay the resulting higher prices for food. Agricultural price supports were supposed to help small farmers, but large agricultural corporations actually receive the bulk of government assistance. Although agricultural price floors are poor economic policy, they enable elected officials to brag about helping two voting groups: farmers, who

Egg Packing Facility

receive government payments, and the poor, who receive government assistance for buying food.[2]

Price is a powerful motivation for economic activity. It influences what goods and services are produced, how they are produced, and who obtains them. Prices reflect how people value goods and services. Because of the power of price for consumers, businesses and individuals can be tremendously successful on the basis of what they charge for goods and services. Interference with the operation of price can have a detrimental effect on the process of supply and demand. Never underestimate the power of price.

The one who had received the five talents came up and brought
five more talents, saying, "Master, you entrusted five talents to me.
See, I have gained five more talents." His master said to him,
"Well done, good and faithful slave. You were faithful with a few things,
I will put you in charge of many things; enter into the joy of your master."
Matthew 25:20-21

Assignment for Lesson 28

Reading

Read "The Market and Human Values" (*SGR*, p. 66).

If you are using the optional Quiz and Exam Book, *answer the questions for Lesson 28.*

Lesson 29
Market Changes

Over the years, the U.S. economy has shown a remarkable ability to absorb shocks of all kinds, to recover, and to continue to grow. Flexible and efficient markets for labor and capital, an entrepreneurial tradition, and a general willingness to tolerate and even embrace technological and economic change all contribute to this resiliency.
— Ben Bernanke, chairman of the Federal Reserve Board of Governors

"I lost my job ten months ago. I am a printer by trade. The new linotype machines are beautiful specimens of invention, but . . . . Of course, I don't blame the newspapers for getting the machines. Meanwhile, what can a man do? I've never learned but the one trade, and that's all I can do. I've tramped all over the country trying to find something. There are a good many others like me. . . ."

In the novel *In His Steps*, the desperate man who comes first to Henry Maxwell and then to Maxwell's church looking for help reveals by these words that he has been a victim of economic change. Printing technology had changed from handset type to typesetting machines, and men whose work was once essential to the publishing industry were now unnecessary.

> *My father operated a linotype machine for a newspaper for a number of years. When I first read* In His Steps, *I was unsettled by the thought that a machine that Dad had used to support his family had, when it was first introduced, caused some men to lose their ability to support their families. Dad worked for the newspaper long enough to see another technological change, when linotype machines were replaced by computer-driven typesetting machines.*

The economy in which we participate is constantly changing. Economies in previous centuries did not change much over long periods of time, but the rate of change today is rapid. Although basic economic principles remain the same, sometimes commonly accepted theories on how an economy works are modified on the basis of new experiences.

Changes in Markets

Markets are constantly changing because the goods and services supplied and the goods and services consumers want are constantly changing. Existing companies as well as start-up entrepreneurs are continually bringing new products to the market. Much of what consumers have to choose from today was not available twenty or thirty years ago. In addition, production methods are constantly improved; and new technologies for how

A Stenographer at Her Typewriter, 1923

goods are produced and sold are being developed. These changes are a form of competition, as new goods and services compete with and sometimes replace existing ones.

At one time, the mark of an up-to-date office was whether it had a new model typewriter. Today, typewriters are hard to find; almost all offices rely on computers. The mainstay of American transportation used to be the horse-drawn carriage; today, it is the automobile. The production of iron was once a major part of the American economy; but after steel was developed, steel production soon dwarfed America's iron output. The markets for typewriters, horse-drawn carriages, and iron are quite different today from what they were years ago.

The methods of producing and delivering goods and services have changed dramatically also. Production has increasingly shifted to other countries such as Mexico and China because labor costs are significantly lower there than they are in the United States. The small general store used to provide customers in most small towns with goods that they needed. Catalog sales introduced a new way of shopping that eliminated the need for even going to stores for many items. In turn, the Internet changed the importance of catalogs.

Farming used to be all-natural, and distribution only involved a farmer's local area. Railroads, especially refrigerated cars, vastly expanded the market for agricultural goods. Chemicals increased yield, but they have also brought problematic health side-effects. Today a growing segment of farming involves, of all things, a return to the past: all-natural methods and a focus on local markets.

Even the companies that offer goods and services change. New businesses are formed and existing businesses fold every day. The number and identity of auto companies that offer products to American car buyers have changed significantly over the years. Pontiac and Oldsmobile have joined Studebaker and Hupmobile as automobile makers that once were but now are no more, while new companies such as Hyundai and Kia have earned a place in the American market. Thomas Sowell noted that the companies listed in the *Fortune* 500, the list of America's top 500 companies complied annually by *Fortune* magazine, changed by half between 1980 and 1990.[1]

These changes do not come without an impact on the economy and on individuals and families. Change is difficult. The typesetter in *In His Steps* illustrates this impact. The alternative, however, is to not improve or grow. Jobs will be lost as production methods and markets for goods and services change; but some of those jobs will be replaced by jobs requiring new skills, and other jobs will be created as the economy grows and changes. These changes take time, and in the short run people do suffer economically. State and Federal governments provide job re-training programs to help workers make this transition. Meanwhile, some of the people affected by these changes will decide to go into business for themselves.

Changes in Supply and Demand

Several factors can affect the supply of goods and services in the market. These factors have a primary influence on suppliers. One leading factor is price. A change in the price of an item, or a change in the price of the factors of production, can change supply. As we noted in an earlier lesson, as the price of a good or service increases, supply increases because producers expect more profit. However, as the price for resources to make the good increases, supply of the good decreases because the producer expects less profit (unless the price for the good increases also to match the higher cost). Changes in technology that lessen the cost of production tend to increase supply.

The number of sellers in the market can affect supply, since more sellers will tend to offer a greater aggregate supply. The opportunity for profit by the seller, which can be affected by any number of factors, can change supply as well. Factors affecting profit include increased government regulations that add additional expense and new or increased taxes that discourage purchases.

General Store, 1940

Department Store, 2009

Factors that affect demand center on consumers. In addition to changes in price, demand can change because of a change in consumers' income, changes in consumer preferences, the number of consumers in the market, and the price of related goods and services. Related goods and services are those things that consumers will probably need to buy in order to use another good or service. For instance, if the price of MP3 players decreased significantly, the demand for headphones would likely increase even if the price of the headphones themselves did not change.

Effects of Changes in Price

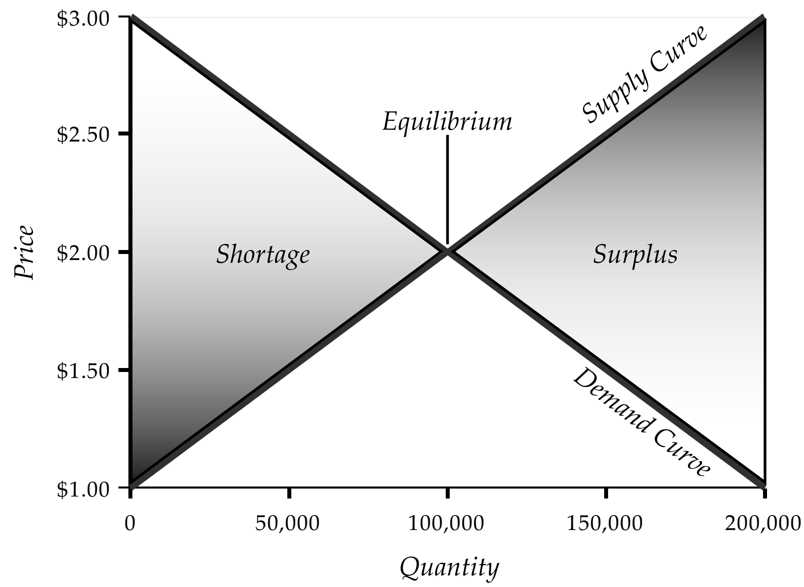
An increase in the price of a good or service causes consumers to look for substitutes, and demand for the original item decreases. A *substitute good* is a good for which demand increases when the price for another good increases. For instance, an increase in the price of beef can cause consumers to buy more turkey. Often an increase in the price of goods or services is an attempt by suppliers to cover increased costs of production, usually materials and labor.

A price increase for one good or service can lead to price increases for other goods or services. An increase in electricity rates, for instance, will likely cause workers in many industries to demand higher wages in order to pay their electricity bills. The cost of these higher wages will likely be passed on to consumers who purchase the goods and services that those workers produce in the form of higher prices.

Price stability exists when prices in an economy do not change significantly over a long period of time. Such a situation implies that neither inflation nor deflation is a problem. Unfortunately, price stability is rare. The long-term trend in the United States has been for prices to increase; however, products and services offered in the market are constantly changing, and prices for some products (such as computers) can decrease at times.

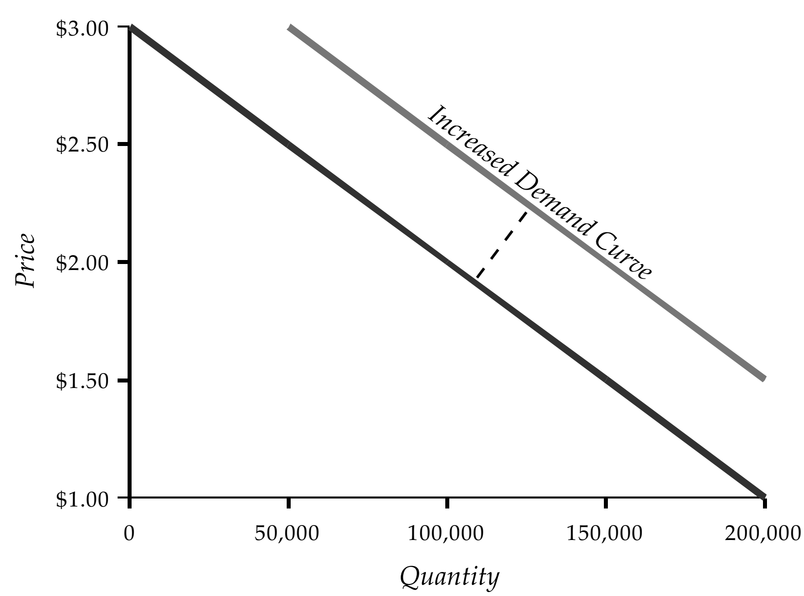
Changes in the Supply and Demand Curves

Recall the supply and demand graph from Lesson 27:

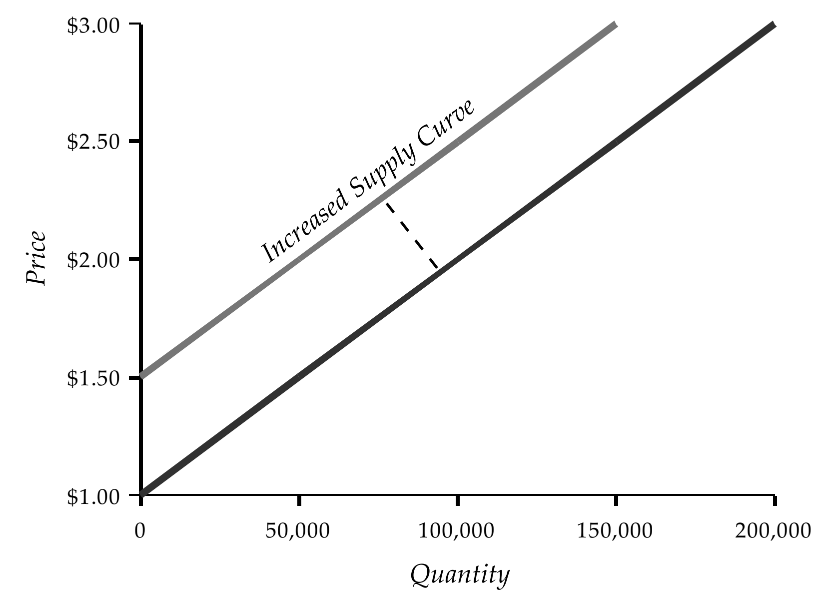


The graph can be changed to show changes in supply, demand, and price. First, we'll consider the demand curve. When price changes, demand simply moves up or down along the demand curve. This is what the graph is intended to show.

However, when a factor other than price changes, the demand curve shifts left (inward) or right (outward). For instance, if consumer income increases, people will be more willing to buy greeting cards even at a higher price or to buy more cards at a lower price. Thus, the curve shifts outward.



The same principle is true for the supply curve. When price changes, supply moves up or down the supply curve. When another factor affects supply, the supply curve itself shifts left or right. Suppose a new printing technology enables more cards to be produced at the same cost. The supply curve shifts outward. With this change in production cost, suppliers would be willing to produce more cards at both lower prices and higher prices.



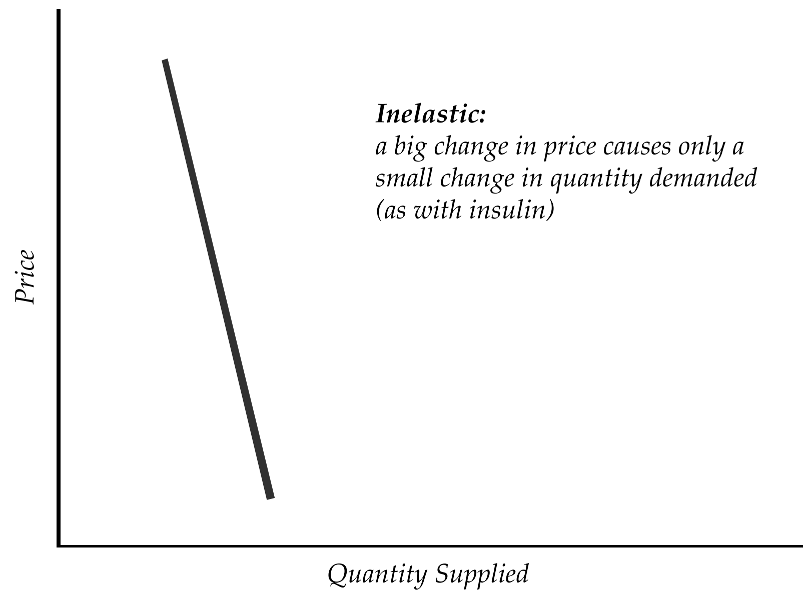
When either the supply curve or the demand curve shifts, or when they both shift, the result changes the equilibrium or market-clearing price.

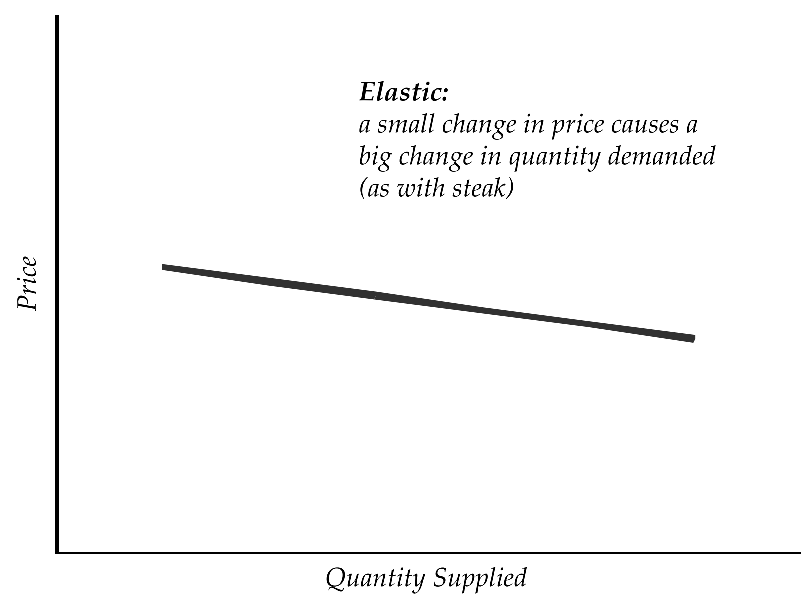
Elasticity

So, markets change; and buyers and sellers respond to changes in the market. But how much do factors change, and how much do buyers and sellers change what they do because of these factors? Answers to these questions can be found by studying what economists call *elasticity*. Elasticity is a measure of how much supply or demand changes as a result of other factors.

Price elasticity of demand is a measure of how much demand changes in response to changes in price. The answer indicates whether buyers consider a good to be a necessity or a luxury, a need or simply a want. If a good or service is seen as a necessity, demand will not change much even if the price changes. People still feel a need for the good despite the increased cost. For instance, if the price of insulin changed significantly, people with diabetes would still buy it. The price elasticity of demand for insulin is very small. In another example, when food prices increase, few people will quit eating. They might change what they eat, or they might eat at restaurants less; but they will still buy food. Demand for food is fairly inelastic; in other words, demand does not change even with increased prices. Generally, the more narrowly the market is defined, the more elastic (changeable) is the demand. While the food market is fairly inelastic, the market for steaks would likely be affected by a price increase; and people would buy something else instead of steaks. Demand for steaks is more elastic than demand for food in general. Another factor influencing elasticity is whether a good has a close substitute. Demand for name brand macaroni that had a price increase would likely be elastic if generic or store brands were available.

These graphs illustrate elasticity and inelasticity.





Cross-price elasticity of demand is a measure of how much demand for one product changes because of a price change for another good. When substitutes are available for a product, demand for one will likely increase when the price of its substitute increases. An increase in cable television rates, for instance, could mean a greater demand for satellite television service. When goods are complements (that is, using one good involves using another), a price increase for one will likely cause demand for both goods to fall. A rise in the price of printers will likely result in lower demand for printers as well as print toner.

Income elasticity of demand shows how much demand changes with regard to consumers' income. Generally, income elasticity of demand is small for what people believe to be necessities. They will likely buy necessities if their income goes up or down. Income elasticity of demand is greater for luxuries. People are more likely to buy luxuries if they have greater income and less likely if they have less income.

Price elasticity of supply shows how much the quantity supplied changes because of price. This provides another way to express the general principle that supply increases as price increases.

A formula for each of these provides a numerical reading for these indicators of elasticity. For each indicator, the formula is:

$$\frac{\text{percentage change in X (either demand or supply)}}{\text{percentage change in price (or income)}}$$

For instance, if demand for product A went down 30 percent when the price went up 10 percent, the price elasticity of demand would be 3. This would be a significant decline in demand because of a relatively smaller percentage change in price. The rule is that if the absolute value of elasticity shown by the ratio above is less than one, the demand for that product or service is considered to be inelastic (not very changeable). If the absolute value is greater than one, the demand for that product or service is considered to be elastic.

elasticity $<$ 1 = inelastic

elasticity $>$ 1 = elastic

Another statistic related to elasticity is the *impact on total revenue*, which is how total revenue is affected by changes in price. If demand for a good or service is inelastic, revenue will increase as price increases because consumers will buy the good or service as a necessity, regardless of price. If demand is elastic (that is, if demand can change), an increase in price will lead to lower revenue as consumers choose not to buy the product because of the higher price.

Short-Term and Long-Term Changes

Although the economy is constantly changing, significant changes in supply and demand usually occur gradually instead of dramatically. The supply and demand curves represent long-term trends. People tend to accept changes in price in the short term but then decide to change their behavior in the long term. When gasoline prices reached four dollars a gallon in 2008, at first many people simply paid the higher prices. As the weeks passed, however, many people began driving less and using public transportation. As a result, demand decreased and so did gasoline prices.

One reason that significant changes are slow to occur is because some elements of the economy are *sticky* or slow to change. For instance, even when prices are increasing due to inflation, wages are usually sticky or slow to change because many workers have contracts that are in force for one or more years or because employers are not likely to adjust wages every few weeks or months. Prices for some resources and for some finished goods are sticky if a contract has been signed that commits a supplier to a certain price for a period of time. Sticky prices are also called *menu costs*. This term comes from the practice of restaurants getting menus printed with prices that the owner hopes will be profitable for a long time. It would be expensive for a restaurant to need to have new menus printed every month or two. If a restaurant faces an increase in prices for the food it buys from a supplier, the restaurant is likely to keep menu prices the same for the short term. Eventually, however, the restaurant will need to adjust its menu prices to reflect the restaurant's costs more accurately.

Sometimes significant changes do occur quickly. These are called *supply shocks* or *demand shocks*. Supply shocks are events such as a truckers' strike or a cutback in oil production by OPEC countries. Demand shocks include such things as a run on supplies before a hurricane comes ashore or the discovery of contaminated products and the resulting fall-off of customer purchases of that product. The impact of these shocks is significant, but supply and demand generally return to more normal levels over the long term.

Come now, you who say, "Today or tomorrow we will go to such and such a city,
and make a profit and spend a year there and engage in business and make a profit."
Yet you do not know what your life will be like tomorrow. You are just a vapor
that appears for a little while and then vanishes away. Instead, you ought to say,
"If the Lord wills, we will live and also do this or that."
James 4:13-15

Assignment for Lesson 29

Writing

Write a 200 word essay that tells what you think are the three most important changes in the American economy in the last 100 years. Tell what those changes are and why you think these are the most important ones. Conclude by discussing what you think will be (or what you hope will be) three changes in the American economy that you will see in your lifetime.

If you are using the optional Quiz and Exam Book, *answer the questions for Lesson 29.*

Lesson 30
Market Failure

The inherent vice of capitalism is the unequal sharing of blessings; the inherent virtue of socialism is the equal sharing of miseries.

— Winston Churchill

In this unit, we have discussed how markets based on supply and demand are an efficient way to distribute goods and services. Not only are goods and services available to people who can pay for them, but market economies make possible the economic productivity and growth that enable more people to have the money to buy goods and services. Price is the key factor that makes supply and demand work. Competition helps keep prices low. In the ideal market, supply and demand cause the market to be cleared of all goods and services that are offered at the equilibrium price.

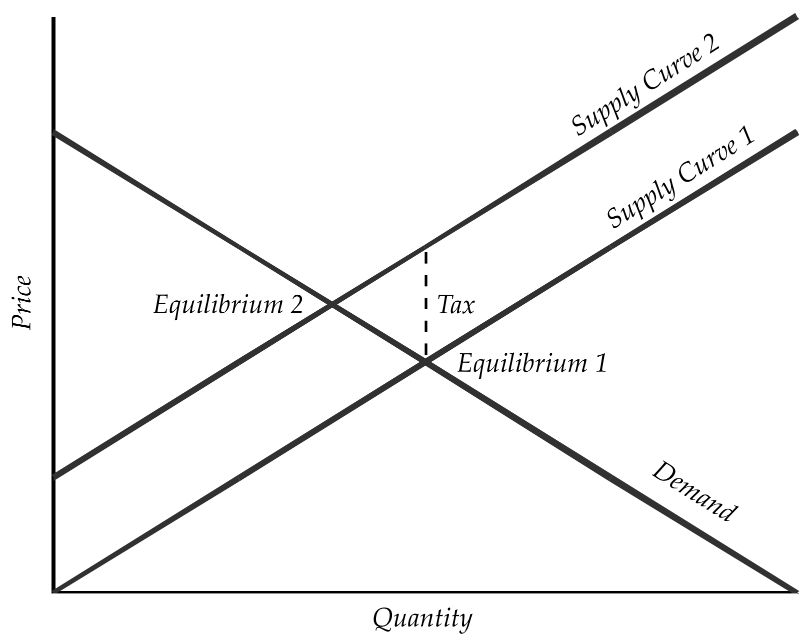
Peoples Drug Store in Washington, D.C., c. 1920

However, we live in the real world; and here not all markets for goods and services are cleared. Supply and demand based on price does not always bring about the most efficient distribution of goods and services. This is called *market failure*, when the market fails to allocate resources efficiently.

Factors That Cause Market Failure

Market failure can occur for several reasons. *Monopolies* cause market failure because a company with a monopoly does not have to set its price as a result of competition. The monopolist can charge whatever he wishes. Some customers will be able to buy, and some will not. The goods and services will not be distributed efficiently to the widest possible number of people at the market-clearing price. The position of a monopolist or oligopolist is sometimes called *market power*. Shortages and surpluses matter less to someone who controls the entire market.

Taxes affect supply and demand equilibrium by increasing the cost of goods and services. This increased cost tends to lower demand. Look at the chart below. Supply Curve 1 shows the ideally efficient supply without taxes. Supply Curve 2 represents the movement of the supply curve after the imposition of a sales tax. Demand decreases because of the higher price. The effect of the tax is to move the market away from greatest efficiency. The imposition of income taxes has the same effect, since consumers have less money to purchase the same goods and services. Higher taxes imposed on businesses leave less money for companies to pay workers. This results in lower employment and lower job creation.



Of course, governments would be hard pressed to operate without some level of taxation. National defense, police protection, and other public goods and services provided by government cost money. Our society agrees through the decisions of elected officials to fund public goods. Some might say that the public goods provided by government simply replace some private goods in the economy. However, governments usually do not provide services as efficiently as private companies do; so there is some effective loss to the economy because taxes tend to interfere with the operation of supply and demand in the market, and higher taxes tend to interfere more.

Price and quantity regulations interfere with market operations. We noted in Lesson 28 how artificial price floors and ceilings set by government cause inefficiencies in supply and demand. We will see later in this lesson that government orders for certain quantities of goods to be produced also prevent the most efficient intersection of supply and demand.

Externalities are effects from supply and demand activity that affect people who are not the actual buyers and sellers in a transaction. Industrial pollution is a commonly-cited externality. A company produces goods to sell to buyers, but in doing so it emits pollution that affects the health of other people who neither make nor buy the products. In another example, a smoker buys cigarettes from a store, and a child in the smoker's house develops health problems as a result. Those health problems involve costs that the people affected by them have to pay, but they are not considered part of the cost of production and are not paid for by the buyers of the products.

When *property rights are not well defined or enforced*, markets do not allocate resources well. Property rights involve the right to exclusive use of the property and the right to sell or give the property to others. Supply and demand assume that a producer owns the product and can sell it to a new owner. A lack of protection of property rights discourages people from buying goods or services. If the title of ownership is not made clear or if the government can seize the property of individuals at any time without cause, people will be reluctant to purchase a house or a piece of real estate.

Public goods are a reflection of market failure. *Private goods* are owned and consumed by one person, household, or company. They are what we usually think of when we think about goods and services. Public goods, by contrast, are goods and services that can be used by more than one person at a time. Public roads and public parks are examples of public goods. Private companies are not likely to make a profit if they offer such goods, and so markets generally do not provide them. Instead, the government offers these goods for the public as a whole to use. Public goods are funded by taxes that are paid by all taxpayers (and in some cases by fees paid by users). However, some people who pay taxes do not use all of these goods (elderly people do not receive direct benefit from public schools, for instance); and some people who use them do not pay taxes. Children in schools and out-of-town visitors in a park are two kinds of people who use public goods but do not pay for them. Government can have a positive influence in preventing market failure by keeping markets competitive and not protecting monopolies, by minimizing public goods and keeping taxes low, by keeping regulations to a minimum, by making sure that the costs of externalities are borne by the entities that produce them, and by clearly delineating and defending property rights. Government contributes to market failure when it fails to maintain these policies.[1]

Failure to Have a Free Market: What Happened Under Communism

Imagine living in an economy in which supply is determined not by what producers want to make and consumers want to buy but by what bureaucrats decide ought to be produced, where prices are determined not by what the market will bear but by what government officials think ought to be charged, where there is no competition that would lower prices and improve customer service, and where producers and workers are guaranteed that they will keep their positions regardless of productivity, quality of service, or level of sales. You don't have to imagine it (and you probably wouldn't want to). These were the characteristics of the Communist economies in the Soviet Union and Eastern Europe. The Communist party took control of the economy just as it took control of the government. And, just as the Communists managed to ruin society and political life, they also destroyed the economies of those countries because they did not allow market dynamics to work. Communist Party officials thought they could guide the economy by top-down decisions

Soviet Union Government Poster, 1950

instead of allowing markets to work from the bottom up. They couldn't. Bureaucrats couldn't know all of the knowledge diffused throughout millions of producers and consumers that enables markets to work (remember the essay, "I, Pencil"). Government planners feared punishment if they deviated from established rules—even if the rules were ridiculous—so they had no motivation to take risks or to propose changes. Resources and raw materials were distributed according to what planners wanted or what they thought party leaders wanted, not what potential consumers wanted. As a result, some industries had a surplus of materials that sat unused while other industries lacked materials and sat idle.

One story illustrates what it was like. A friend of ours, who spent a year in Communist Poland, told us about another American living in Poland who wanted to buy a large-sized shirt. All this person could find was small-sized shirts. He eventually learned the reason why. The shirt factories were given a quota of the number of shirts they were expected to make, but they were only given a certain amount of cloth which they were to use to make the shirts. As a result, all or nearly all of the shirts they made were small so that they could meet their quota, without regard for the actual market for different shirt sizes. This was typical. Stores had piles of some products and shortages of other products because that reflected what government planners had ordered, and subordinates dared not question the orders from higher up. This situation did not occur because the Communist world lacked resources; the Soviet Union had rich resources. It occurred because planners allocate goods and services poorly while prices in the market allocate goods and services effectively.

Market changes and market failures remind us of the uncertain and fluid nature of economies. During the 2008 recession, much was said about the uncertain economy that the United States was experiencing. But history has shown that we always have an uncertain economy. We never know for sure what will happen in the coming weeks, months, or years. The periods of prosperity and difficulty that we have experienced have been of varying duration, and the heights and depths to which the economy has moved have been of varying intensity. The only certainty we have about the economy is that we can't take it with us when we leave this world. Even in this world, wealth is a poor source of security. All markets will eventually fail, so we should be sure that our most important investment—our very selves—is in the hands of the One who will never leave us nor forsake us.

Do not store up for yourselves treasures on earth, where moth and rust destroy,
and where thieves break in and steal. But store up for yourselves treasures in heaven,
where neither moth nor rust destroys, and where thieves do not break in or steal;
for where your treasure is, there your heart will be also.
Matthew 6:19-21

Assignment for Lesson 30

If you are using the optional Quiz and Exam Book*, answer the questions for Lesson 30 and take the quiz for Unit 6.*