LAP

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It's the Law

Supply and Demand

Objectives:

A Explain the nature of supply and demand.

B Explain factors that affect supply and demand.

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MBA Research & Curriculum Center

1375 King Avenue, P.O. Box 12279, Columbus, Ohio 43212-0279
Ph: (614) 486-6708   Fax: (614) 486-1819

So What?

A major tech company recently released a new version of its popular smartphone. Excitement had been building for months, and many customers preordered the phone long before it was available. Some customers even lined up outside the store the night before it was released to make sure they could buy one! During the first couple of weeks following the phone's release, scalpers were able to resell the phones for as much as twice their original selling price.

Given how many people wanted to purchase the phone, the company increased production to try to keep up with demand and rushed more phones into stores as soon as it could. There came a point, though, when the lines of customers disappeared. Now, it's easy to get the phone, and scalpers couldn't resell one if they tried.

This is all part of supply and demand! What's in one minute is out the next. This doesn't just affect businesses—it has an impact on you, too! What if you wanted to buy the phone but every store and website was sold out? There was high demand, but no supply. On the other hand, what has happened since the company increased production and plenty of phones have become available? Now there is supply, but the demand is decreasing. The ultimate goal is to match supply with demand—that way you can get the phone you want, and the company can sell all of the phones it makes.

How Much Do They Want?

You probably see at least one coffee shop every day. Maybe you drive past one on your way to work or school, or maybe there's one in your favorite grocery store. You might visit one to work on homework while enjoying some coffee, or maybe you and your classmates or coworkers get together at one to work on a project. Why are coffee shops so popular? Because there's demand for the products—coffee, tea, baked goods, etc.—that they sell. This means that consumers are ready to buy at a particular price at a particular time. Many customers are willing to pay the price to enjoy specialty coffee in the atmosphere of a coffee shop. Sounds simple, right? Actually, it's a little more complicated than that.

▲ *Lots of people visit coffee shops every day, but why are they so popular? Because there's demand for the products that they sell.*

What They Can Afford

For demand to exist, consumers must have a desire for a good or service. Customers want specialty coffee, so there is demand. But here's the catch. Potential customers also must have the *buying power* to pay for the good or service. If customers want specialty coffee but do not have money to pay for it, there is no demand. For example, a person might want a $5 grande vanilla latte but only have $3.

Of course, paying for the coffee means that customers won't be able to spend their money on something else. If customers aren't willing to give up some buying power in exchange for coffee, there is no demand. If a person has $5 but prefers to buy a value meal from a fast food restaurant, demand for coffee does not exist.

As you can see, the money involved has a lot to do with demand. In fact, the **law of demand** states that the quantity of a good or service that consumers will buy varies inversely with the price of the good or service. In other words, consumers usually will buy more at lower prices, and less at higher prices. For example, how many grande vanilla lattes would you buy if they were $8 each? Would you buy more if they were $2 each? The answer probably is yes.

What Is Available

The other side of the story is supply. Supply is the quantity of a good or service that producers are able and willing to offer for sale at a specified price in a given period of time. For example, the corner coffee shop may have enough ingredients to make 100 grande vanilla lattes each day. That is the amount, or supply, that is available to sell.

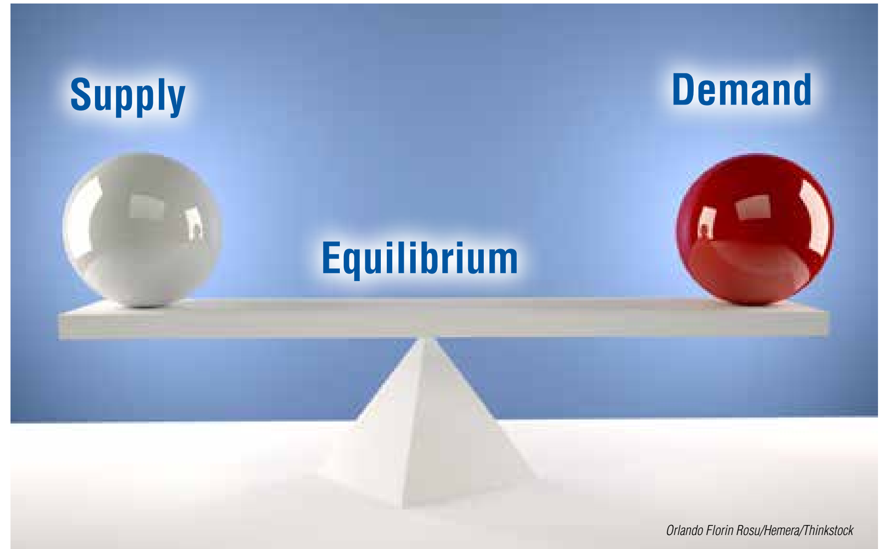
Money also has a lot to do with supply. According to **the law of supply**, the quantity of a good or service that will be offered for sale varies in direct relation to its selling price. The higher the price, the greater the quantity supplied because producers are able to earn more profit. For example, the coffee shop is able to sell a grande vanilla latte for $6 instead of $5. Therefore, the shop decides to keep enough ingredients in stock to make 120 of them every day. Selling 120 grande vanilla lattes for $6 each means higher profits. However, if the shop is only able to sell the coffee for $4, it might cut back on the supply because profits will decrease.

Still confused about supply and demand? Sometimes concepts are easier to remember when they're set to a popular song! This video, created by high school students, might help: "The Law of Supply and Demand // Super Bass Economics Parody" at http://www.youtube.com/watch?v=lYYiP1YDviM.

Make It a Combo

The law of supply and the law of demand don't exist independently—we have to consider them together. By combining them, we get the **law of supply and demand**. This law states that the supply of a good or service will increase when the demand is great and decrease when demand is low. When demand is great, prices usually increase, and the supply increases. When demand is low, prices usually decrease, and the supply also decreases. If you think about it, this makes sense. It is profitable for businesses to sell more products when customers want them and are willing to pay the price.

The combination of supply and demand has a big effect on what is available. Businesses tend to supply more of a product when they think consumers are willing and able to buy more. On the other hand, they usually decrease the supply when they find that fewer consumers will buy. Businesses are trying to balance supply and demand so they have the products that customers want. They want to achieve **equilibrium**—the point at which the quantity supplied is equal to the quantity demanded.



▲ *Businesses are always trying to find balance. When the quantity they supply is equal to the quantity that customers demand, they've reached equilibrium.*

What's the Market?

As supply and demand change, prices also change. This change creates either a buyer's market or a seller's market.

When a **buyer's market** exists, the price of a product is low because there is a large supply and a small demand. This is the best time for consumers to buy because they can purchase products at reduced prices. Businesses must lower prices to encourage consumers to buy the large supply. For example, an automobile manufacturer produces 100,000 two-seater convertibles but is only able to sell 60,000 at the original price of $50,000. To sell the remaining 40,000, the manufacturer needs to lower the price because the supply is far greater than the demand. The manufacturer might even lose money because it must lower the price to the point that consumers are willing to buy. While this is bad news for the manufacturer, it's great news for customers—they can save quite a bit of money!

What happens when this situation is reversed? When the quantity demanded is much greater than the quantity supplied, prices are higher and a **seller's market** exists. The demand is so great that consumers will buy regardless of high prices. For example, suppose the automobile manufacturer produced only 30,000 two-seater convertibles, but 60,000 consumers want them. Then, the manufacturer could charge more than $50,000 because many consumers are competing to buy the convertibles. Consumers might not be saving money by buying the car, but they're willing to pay the price anyway.

Don Mason/Blend Images/Thinkstock

▲ *When demand for cars is so great that consumers will buy regardless of the price, a seller's market exists.*

What's the Price?

How do businesses figure out to what extent the changes in price will affect sales? The key to this problem is **elasticity**, which is an indication of how changes in price will affect changes in the amounts demanded and supplied. When consumers adjust their demand for products based on price, demand is said to be **elastic**. This means that demand changes when prices change. When prices go up, consumers often cut back and buy less, which leads to a decrease in demand. On the other hand, consumers often demand more when prices start to fall.

The goal of businesses is to find the equilibrium price—the point at which the quantity of a good or service that buyers demand is equal to the quantity that sellers are supplying. Then, everyone wins. However, this situation rarely occurs because there are so many goods and services available. Also, many of these products are extras or luxuries that consumers do not need to survive. Think of the wide range of items that you can purchase if you have the money—TVs and other expensive electronic equipment, jewelry, cruises, etc. Although you might *want* a new TV, you likely don't need one to live. The demand for goods and services like these is very elastic and often driven by price. For example, more consumers will book a cruise when the price is low than when it is high.

Another factor that often creates elastic demand is the availability of substitute products. Let's focus on the cruise, again. Many cruise lines offer trips ranging from three days to two weeks. They also offer many different types of accommodations from an inside cabin to a suite with a balcony. If one cruise is too expensive, consumers have many other less costly ones to choose from. They can make substitutions to get the cruise that has the right price.

Elasticity is an indication of how changes in price will affect changes in amounts that are demanded and supplied. Consumer demand often changes when prices fluctuate.

Finally, the amount of a consumer's income that must be spent on a product also creates elastic demand. For example, expensive products such as cars, houses, and boats usually require the use of a lot of income. The demand for those items changes based on the level of a consumer's income. Those consumers who have high incomes are more likely to buy those products than consumers in the middle- or low-income range. The reason for this is that most consumers spend the majority of their income on the goods and services they need to survive. The demand for these types of goods and services usually is inelastic.

Inelastic demand exists if the demand for a good or service is constant, even if the product's price changes. Some products are considered necessities that consumers must purchase regardless of their cost. Most consumers consider it necessary to pay for electricity, prescription drugs, gasoline, and certain food products. The demand for these products will remain about the same even when prices increase. Most consumers continue to buy gasoline for their cars no matter how much it costs because they need to drive to work or take their children to school.

Although there aren't significant changes to inelastic demand, it can still change slightly. Just think about staple food items like milk or bread. When the price increases, some consumers may not buy as much but the overall demand will stay about the same. Price doesn't influence inelastic demand as much as it influences elastic demand.

▲ *No matter how much gasoline costs, people still need to buy it if they want to drive to work or school! This means that demand for gasoline is inelastic, or constant.*

Summary

The economic principle of supply and demand determines what goods and services will be available and how much they will cost. Also, understanding how supply and demand interact is basic to understanding how prices are determined.

The Gray Zone

When the weather service predicted a blizzard for the northeast part of the country, customers started to stock up on supplies like canned goods and bottled water. Pretty soon, shelves were empty at many stores.

In one small town, the local grocery store owner raised prices in anticipation of the storm. A loaf of bread went from $2.00 to $3.25, and a jar of peanut butter went from $3.25 to $4.50. Customers were so worried about the impending storm that they bought all the stock and asked for more. Fortunately, the store had additional products in the storage area to put on the shelves. But this time, the store owner decided to raise prices again—$4.75 for a loaf of bread and $6.75 for a jar of peanut butter. When only a few items were left, the owner raised prices even more.

After the storm had passed, some of the store's customers talked about the way the store owner had handled the situation. They thought that maybe the owner had taken advantage of the demand to raise prices because it was the only store in town. What do you think? Is it always ethical to raise prices when the demand is great and the supply is limited?

1. What is demand?
2. Explain the law of demand.
3. What is supply?
4. Explain the law of supply.
5. Explain the law of supply and demand.
6. What is a buyer's market?
7. What is a seller's market?
8. What is elastic demand?
9. What three factors determine a product's elasticity?
10. What is inelastic demand?

What Makes the Difference?

Price isn't the only factor that affects supply and demand. It may have a big influence, but many other factors are significant as well.

Demand or No Demand

First, let's examine the major factors that affect demand. Some of these factors influence the type of product in demand as well as the quantity demanded.

■ Utility

A product that has utility will satisfy a customer's wants or needs. If the product provides satisfaction—if it is useful or needed—there will be a demand for it. However, usefulness of a product depends on the consumer. What is useful to one person may be of no use to another person. For instance, a person who doesn't own a car doesn't need to buy gasoline or car insurance. However, these products are very useful to car owners because they cannot operate their vehicles without them. The utility of these products for car owners creates demand.

How useful consumers think some products are also depends on a person's age, gender, occupation, education, and income. For example, women have more use for cosmetics than men do. College students need to buy textbooks and supplies that other consumers do not want. Also, external influences have an effect on a person's idea of utility. Advertisements, commercials, and store displays encourage people to think they need certain products. And, don't forget about peer pressure. Consumers' friends have an impact on the products they demand. (To learn more about utility, check out *Use It* [LAP-EC-013].)

▲ *Some products have a great deal of utility to some people, but no utility to someone else. For many women, cosmetics have utility...but to someone who doesn't wear makeup, those cosmetics have no utility at all!*

Buying power

If consumers do not have money to spend, they cannot buy products. Therefore **buying power**, the amount of money available, is a major factor affecting demand. For example, if you spend all of your income on necessities such as rent and utilities, you don't have money available to buy other, less necessary goods and services. However, if you receive a raise that gives you an extra $40 a week, you would have money to spend on other products. Your buying power would increase, and you might be able to buy the concert tickets you want (but don't need).

Price of other goods and services

Depending on what product a customer is looking for, there are often substitute goods and services available. As an example, let's consider automobile tires. If a customer only wants inexpensive tires that will last for a short time, there is no demand for high-quality, expensive tires that come with a 60,000 mile warranty. If lower priced substitutes provide what customers want, the demand for those products increases, and demand for the higher priced product decreases.

The price of complementary products also has an effect on demand. Some products are used together, so the demand for the main product influences the demand for the complementary product. For example, snow skiing is a popular activity. However, if the cost of lift tickets increases substantially, the demand for those tickets might decrease. If fewer people are skiing, the demand for skis and accessories also goes down.

▲ *Sometimes, demand for one product can influence the demand for another product. This affects complementary products like ski lift tickets and skis. If fewer people buy ski lift tickets, the demand for skis will also go down.*

■ Consumers

Consumers themselves have an effect on demand. The number of consumers in certain groups often determines the demand for certain products. When there are more health-conscious consumers, restaurants must increase their healthy menu options. (Read *Fast Food Chains Boost Sales with Healthier Options* at http://greatist.com/health/chain-restaurants-boost-sales-healthier-options-020813 to learn more about fast food restaurants' efforts to meet this demand.) And, when there's an increase in the number of senior citizens, there's an increase in the demand for retirement communities.

Another factor that influences a consumer's decision to buy or not to buy is his/her standard of living. People usually buy products to maintain the quality of life and general living conditions to which they are accustomed. For example, the demand for Rolls Royce automobiles is significantly less than the demand for Chevrolets because buying a Rolls Royce reflects a very high standard of living.

Finally, consumer expectations affect demand. If consumers think prices will drop and they will get a bargain later, they often wait to buy. This decreases demand. However, they might demand a lot now if they think the price is the lowest it will ever be.


Catherine Yeulet/iStock/Thinkstock

▲ *When there are more health-conscious consumers, you might see more salads and other healthy foods on menus. This is because consumers themselves have an effect on demand. The number of consumers in certain groups often determines the demand for certain products.*

To Supply, or Not to Supply

Since businesses try to provide the products that consumers want, it is easy to understand why demand has a big influence on supply. When demand is high, businesses increase production to make sure that adequate quantities are available for sale. When demand is low, businesses cut back to avoid having too many products that cannot be sold. However, there are other factors that cause changes in supply.

Cost of production

Businesses consider the cost of producing a product when deciding how much of it to supply. If production costs are higher than the prices most consumers will be willing to pay, businesses will produce less. They will supply only enough to meet the limited demand. Remember the Rolls Royce? It is expensive to make them, and the selling price is very high. Therefore, the company produces only a few to sell to those who can afford to pay the price.

On the other hand, when production costs decrease, businesses often make more because they can charge a lower price. Consumers usually buy more when prices are low, so businesses increase the supply. For example, the cost of producing most electronic goods (like computers and televisions) has decreased significantly over time. As a result, supply has increased, while selling prices have continued to go down.

Another issue that affects the cost of production is labor costs. When employees demand and receive higher wages and better benefits, the cost of production increases. This might result in a business making fewer products but charging more for each one. Or, a business might decide to stop making the product.

Number of producers

As more and more companies enter the market and provide similar products, the supply also increases. For example, at one time only a few clothing manufacturers made jeans. As the popularity of jeans increased, more and more companies started making jeans. Today, department stores produce their own private-label jeans, plus they sell designer and brand-name jeans made by others. Consequently, there is an enormous supply of jeans in the market.

Limited demand:
Rolls Royce automobiles are expensive to make, and the selling price is very high. The company produces only a few to sell to those who can afford to pay the price.

Future prices

Would you sell a product today for $10 if you knew that you could sell it for $20 in two months? Probably not. The same is true of businesses. If they expect prices to increase substantially, they might wait to sell. That affects supply because businesses are keeping products off the market until the price is right. For example, if coffee growers think the price of coffee beans will double in the near future, they might store the beans until then to earn more profit. In the meantime, the supply of coffee decreases. (Think that coffee growers wouldn't stoop to holding back their beans until the price goes up? Then you need to read *Brazil's Coffee Growers Seen Holding Back Beans on Minimum Price* at http://www.bloomberg.com/news/2013-05-03/brazil-s-coffee-growers-seen-holding-back-beans-on-minimum-price.html.)

On the other hand, if businesses think prices will decrease in the future, they might increase supply now. Then, the supply in the future will be less because of lower prices.

Disasters and emergencies

The weather and other natural disasters may influence supply. For example, if orange trees in Florida freeze, the supply of Florida oranges will decrease. If the wheat crop in Iowa is destroyed by a tornado, the supply of flour will be reduced. And, according to the article *5 Disasters Affecting Gas Prices* (http://www.investopedia.com/financial-edge/0611/5-disasters-affecting-gas-prices.aspx), events as diverse as political unrest, wildfires, and pipeline spills can cause the supply as well as the price of gasoline to fluctuate.


Purestock/Thinkstock

▲ *Companies sometimes make decisions about supply based on future prices. If coffee growers think that the price of coffee beans will go up, they might keep the beans off the market until the price is right!*

Government

Various governmental rules and regulations have an effect on supply. For example, there are taxes on many types of imported goods that are intended to limit the supply of those goods. There are also taxes on products that the government thinks are harmful in order to control the supply.

In addition to taxes, the government may put restrictions on the use of certain natural resources that can harm the environment. Of course, this will affect supply—few companies will want to provide a product that people aren't allowed to use! And, government rules and subsidies for farming can influence what crops farmers grow (or don't grow). These regulations affect supply, as well.

Technology

Advances in technology tend to lower the cost of production and increase supply. At one time, most products were made by hand. Now, computerized production methods and automated equipment produce large quantities in a short period of time. They have replaced the large number of employees needed to do the same amount of work. Also, advances in technology usually reduce prices over time, which leads to an increase in supply. For example, when television was first available, the supply was limited, and the price was high. Today, there is a huge supply of TVs in all sizes, shapes, and styles. Most people are able to afford at least a small television.

Finally, technology has led to a decrease in the supply of some products and has even eliminated the supply of others. At one time, office employees used typewriters instead of computers. Your grandparents might have used rotary phones, but now you probably use a smartphone. You probably haven't even *heard* of the mimeograph machine that once made copies, let alone used one! And, the laptop and tablet computers we use today bear little resemblance to the personal home computers of the 1980s.

PressureUA/iStock/Thinkstock

▲ *The technological advances that lead to new products, like smartphones and tablet computers, can also decrease (or even eliminate) the supply of some old products, like rotary phones and typewriters.*

Summary

Although price affects supply and demand, many other factors also have a major influence. Other than price, factors that affect demand include utility, buying power, price of other goods and services, and consumers themselves. Demand also affects supply. Other factors that affect supply include cost of production, number of producers, future prices, disasters and emergencies, government, and technology.

Make It Pay!

What sorts of products do you buy on a regular basis? Think about necessities, like soap, toothpaste, and shampoo. Why do you buy the brands you do? Is it because they're cheap? Or do you have other reasons?

Now, think about the products you buy that are not necessities, like mp3 players. Why do you decide to buy them? Is it just because you have extra money to spend, or do you want to buy the products your friends buy? Is cost a part of your decision-making process, or are you willing to pay whatever it takes to have the latest electronic device?

Finally, think about the difference between buying necessities and buying the products you want. How upset would you be if the store ran out of your favorite brand of toothpaste? Would you react differently if the store ran out of the specific iPod you had your heart set on buying? In each case, what would you do to solve your problem of supply and demand?

1. What factor determines whether a product satisfies a customer's wants or needs?
2. List three other factors that influence demand.
3. List six factors that influence supply.