Chapter 3 Sample
High School Economics by Laurence Christopher

OVERVIEW

This chapter will introduce the most basic economic concept of all: demand and supply. We will learn how households determine the quantity of goods to buy and at what prices, based on a number of factors, such as the household's income or its personal preferences. We will also learn how firms make decisions about the quantity of a good or service to provide, based on prices and other factors that impact their production of these goods and services.

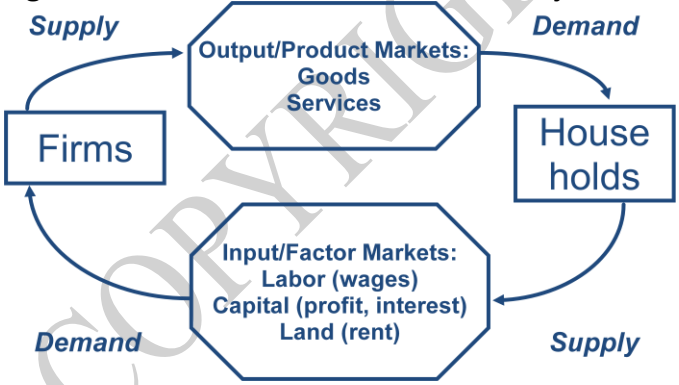
We will start by exploring the relationship between households and firms.

SECTION 1: CIRCULAR FLOW DIAGRAM

Economists use the term household to describe consumers. The U.S. Census Bureau defines a household as one or more individuals living under the same roof. Usually we are talking about a family, but a **household** could be one individual or group of individuals that purchase goods and services and offer their labor, money or land for use by others to make goods or services. We call the ones who produce the goods or services a **firm** or business. Economic activity in the market flows in a circular motion from the firms to the households and back to the firms. The **market** is the interaction of households and firms, or buyers and sellers.

We call this interaction of the households and firms the **Circular Flow of Economic Activity,** and the diagram in its simplified version looks like Figure 1 below.

Figure 1: Circular Flow of Economic Activity



We divide economic activity into two markets: the output/product market and the input/factor market. The **output/product market** is the interaction of firms offering goods and services to the households in exchange for profit (money). The **input market** (often called the **factor market**) is the interaction of the households offering their labor, capital (money) or land to the firms in exchange for wages, interest payments or rent. This interaction has a circular motion as one person's spending is another person's income. A firm hiring a worker creates income for the household which the household spends on the goods and services the firm offers creating income for the firm, and so on...

To create the diagram of the circular flow of economic activity, we have simplified economic activity at this point, excluding the government's role in the economy as well as the financial and international markets. As we stated in the forward, often we have to eliminate the number of variables to explain key concepts, like the interaction of the households and the firms.

SECTION 2: DEMAND

Note that the circular flow diagram indicates that the households demand goods and services from the firms. **Demand** is defined as the willingness and ability of a household to purchase a good at various price levels. Demand is more than just wants: remember, we learned that people have unlimited wants, and trying to measure those would not be of much help. However, if we could determine the amount of a good that a household would not only want but would also have the ability to pay for, that would be a very helpful measure. For example, how many slices of pizza would you buy if the price were 50¢ a slice? You might want four slices but would only be willing to part with $1.00 of your limited amount of money, so you would demand two slices of pizza at 50¢ each. We call the amount you would be willing and able to purchase at every price level **quantity demanded**. If the price per slice were to go up, what would happen to the number of slices (quantity demanded) you would be willing and able to purchase? It would go down.

We call this relationship between price and quantity demanded of a good the law of demand. The **law of demand** states that as the price of a good rises, the quantity demanded of the good falls, and as the price falls, the quantity demanded rises. This is a simple concept that makes sense to most consumers; as we shop, we will buy more of a good if its price falls than if it rises.

The exact quantity you, as a consumer, will demand of a good depends on a number of variables, such as how much money you have, your taste and preferences for certain goods and services and the price of other available goods that either accompany the good or could act as a substitute. Of course, all of these factors change over time as well. We will come back to these factors shortly.

The more you consume of a product, the less satisfaction you will receive from each additional unit; we call this relationship the **principle of diminishing marginal utility**. In economics, marginal means one additional unit, and we know that utility means satisfaction or use. So this principle states that as we consume more of a product, we get less use or satisfaction from each additional unit we consume. Let's take an example of a candy bar. Picture your favorite candy bar. How much satisfaction do you receive from that first candy bar? Quite a bit, we would bet. How about the second candy bar? Does it give you the same amount of satisfaction? Probably not. The third would give you even less satisfaction, and at some point, there would be a negative utility to the consumption of another candy bar because you would become sick.

The principle of diminishing marginal utility helps explain why we will pay more for the first good but not quite as much for the second or third. We can apply the same principle to your car. Nothing is quite as exciting, from a material point of view, as your first car. It gives you great utility, especially in a small town like Hastings where there is little public transportation to speak of. Does a second car give you as much utility as the first? No. It might be more stylish or give you some added capacity to carry stuff from one place to another; however, you are unlikely to be "willing" to part with as much money to buy that second car while the first one is still working just fine.

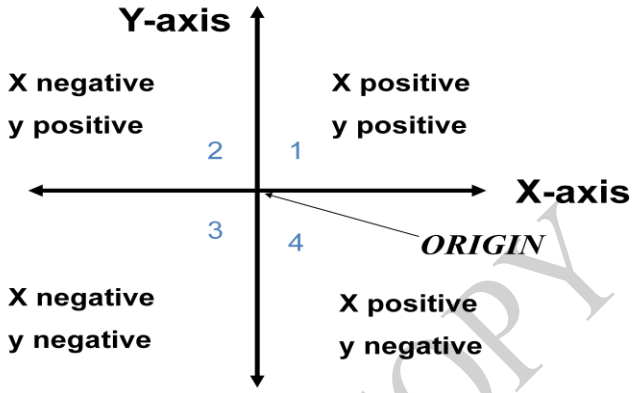
This principle of diminishing marginal utility helps explain the slope of the demand curve, but what does the term slope mean? And how do we graph demand?

Graphing Demand

Let's take a moment and review some key concepts from math to understand constructing and reading a graph. Because economists use graphs to explain a number of economic concepts, it is very important that you be able to read a graph.

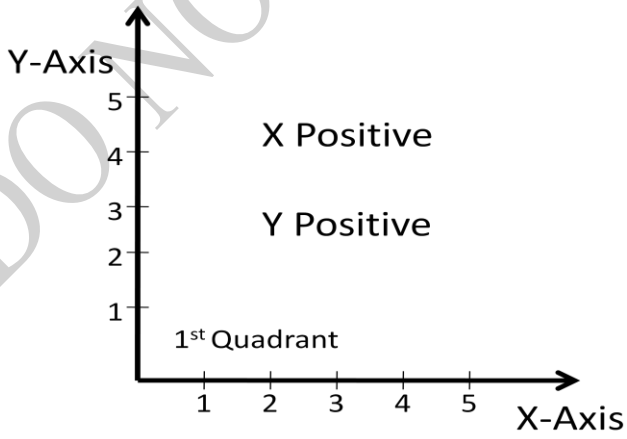
A graph is a two-dimensional representation of the relationship of two variables. In our case, the two variables are the quantity of a good's demand and its price. We will use a Cartesian graph. If you don't remember the Cartesian coordinate system, there are four quadrants, or sections. The vertical (up and down) axis is the Y axis, and the horizontal (across) axis is the X axis. Below the intersection of X and Y, the Y axis is negative, and above the intersection, the Y axis is positive. To the left of the intersection of X and Y, the X axis is negative, and to the right of the intersection, the X axis is positive. See Graph 1.

Graph 1: Cartesian Coordinate System



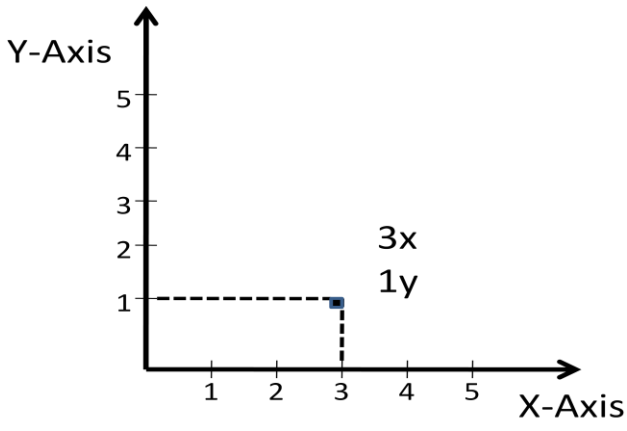
In this textbook, we will concentrate on the first quadrant where both the Y and X axis are positive, meaning that as we move upward and to the right, the numbers get larger.

Graph 2: The First Quadrant



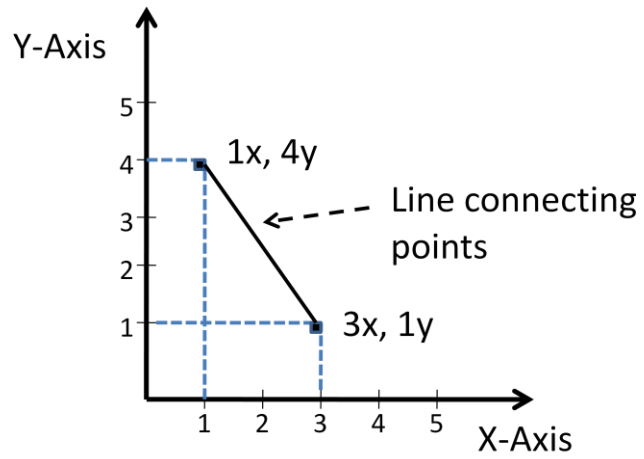
If we were to graph 3x and 1y, we would find the following point on the graph.

Graph 3: Graphing 3x and 1y



When we use two or more sets of coordinates or points, we can create a connecting line that may demonstrate a relationship such as adding 1x and 4y to our graph.

Graph 4: Creating a Relationship Curve

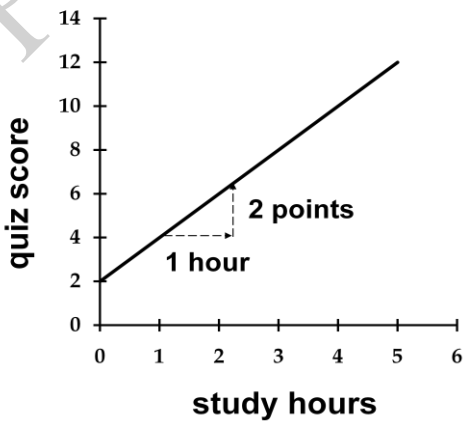


The slope of the line is the change in Y over the change in X or $\frac{\Delta y}{\Delta x}$, or, if there are two points, $\frac{y2-y1}{x2-x1}$, or what mathematicians call "rise over run." In our case the slope of this line is $\frac{1-4}{3-1}$ or $\frac{-3}{2}$ which is -1.5. Because we have arrived at a negative number (-1.5), we know that there is a negative slope and a negative or inverse relationship between X and Y. Mathematicians use the term **inverse relationship** to describe the relationship when one variable increases while the other decreases. A **direct relationship** describes the relationship when one variable increases and so does the other variable. We aren't going to be calculating slope in this textbook, but you should understand the difference between an inverse and direct relationship. A direct relationship between the two variables will lead to a positive slope (upward sloping line – left to right) and an inverse relationship will lead to a negative slope (downward sloping line – left to right).

Let's use an example of two variables that have a positive or direct relationship: the number of hours you study for your first quiz in economics and the score you receive. Using the data table or schedule 5, we can graph your success on the next quiz.

Graph & Table 5: Hours Studying For Quiz

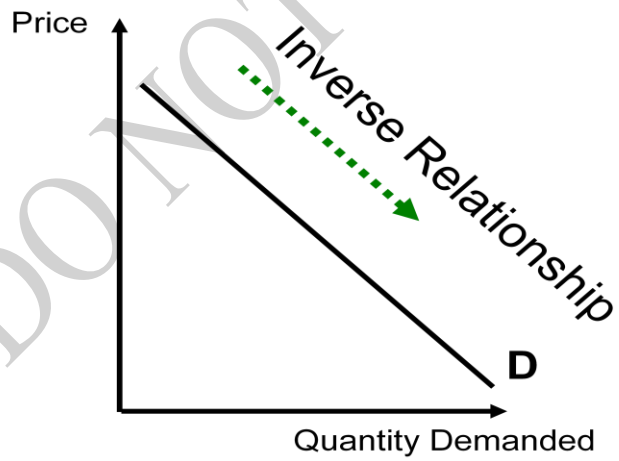
study hours	quiz score
0	2
1	4
2	6
3	8
4	10
5	12



As you increase your hours of study, you will increase your score on the quiz. This relationship seems to make sense. In our example, the slope is very simple to calculate. Each hour nets an additional two points or a slope of 2 ($\frac{4-6}{1-2}$ *or* $\frac{-2}{-1}$ or 2). Because 2 is a positive number, we know there is a positive or direct relationship between the number of hours you spend studying and your score on your next quiz.

As we said earlier, based on the law of demand, demand has an inverse relationship between our two variables, price and quantity demanded. The graph for a typical demand curve looks like Graph 6 below. As the price rises, the quantity of goods demanded falls or decreases. This is an inverse relationship and a negative slope.

Graph 6: Typical Demand Curve



Why do price and quantity have an inverse relationship for households? The answer should make sense to you; as prices rise, you will be willing and able to buy fewer goods. On the other hand, if prices fall, you will be willing and able to buy more goods. For example, you go to the store to buy groceries, and when you arrive at the store, the price of hamburger is lower than you expected. Will you buy more or less of the hamburger than you planned? The answer is more. The opposite is true if, all other things being equal, you find the price higher than you expected; you will buy less than planned.

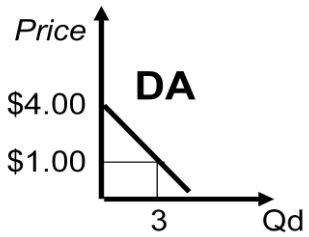
Why do we say "all things being equal?" Imagine you have a barbeque planned, and your girlfriend or boyfriend is coming over for lunch, and you promised him or her hamburgers. Rather than disappoint your date, you might pay a higher price than you normally would. Sometimes other factors enter our decision-making process and will alter our original demand. We are going to consider this further in Section 3. For now, we want to move from a single household to all the households in the local hamburger market.

From Individual to Market Demand

Each household has its own demand schedule and curve for whatever good it is considering. Let's do a specific example with one of teenagers' favorite foods, cheeseburgers. Remember, a graph is a representation of a set of data or schedule with two variables: in our case, the price of a cheeseburger and the quantity of cheeseburgers demanded at each of those price levels. Using three households, we will develop individual demand schedules and curves for cheeseburgers.

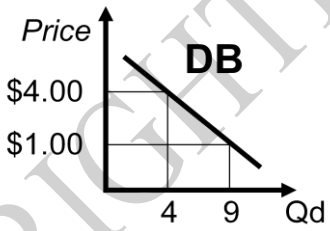
Household A is of modest means (very little income), and its members would demand zero cheeseburgers at $4.00 per cheeseburger. However, as the price falls, the quantity of cheeseburgers it demands will increase. Household A's demand schedule and graph are represented by DA (demand for household A) below. Note on the X axis "Qd" represents quantity demanded.

Household A	
Price	**Quantity**
$4.00	0
$1.00	3



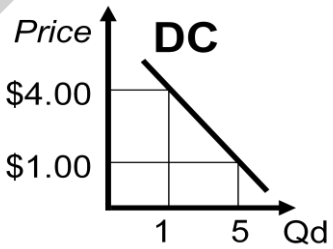
On the other hand, household B has considerably more money to spend and would demand four cheeseburgers at $4.00 per cheeseburger and 9 at $1.00 per cheeseburger. See the DB graph below.

Household B	
Price	**Quantity**
$4.00	4
$1.00	9



Household C's demand schedule is below.

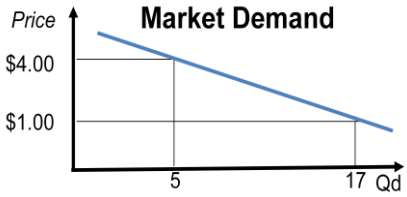
Household C	
Price	**Quantity**
$4.00	1
$1.00	5



To find **market demand** for cheeseburgers, we add all the individual demand schedules together, and we have the market demand for this community as illustrated by the market schedule in Graph 7.

Graph 7: Market Demand

Market Demand	
Price	**Quantity**
$4.00	5
$1.00	17

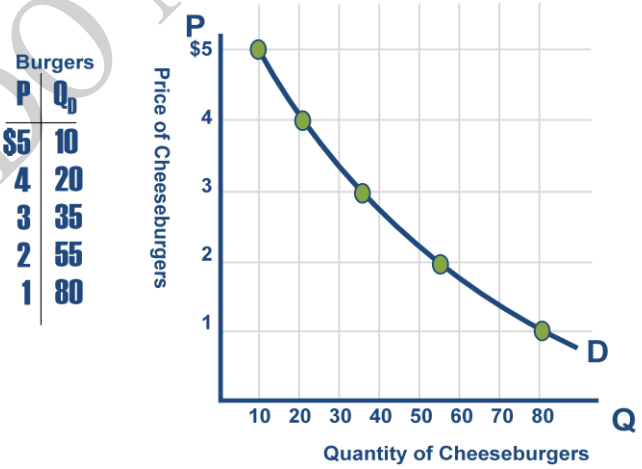


At $4.00 per cheeseburger, only 5 cheeseburgers will be demanded, but as the price falls to $1.00, 17 cheeseburgers will be demanded for this market.

Of course, we were only using a small community of three households. There isn't likely to be a single fast-food restaurant that would service just three households, but for our purposes these examples illustrate market demand.

Let's look in more detail at a market demand curve for cheeseburgers and see how we can apply what we have learned so far.

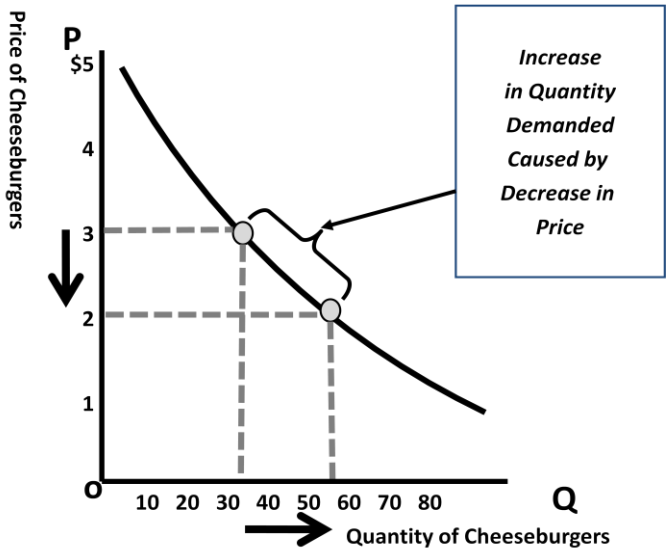
Graph 8: Demand Schedule/Curve for Cheeseburgers



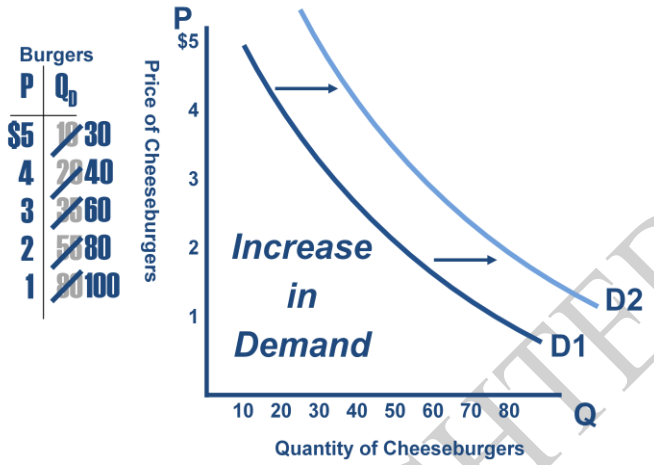
Notice as the price of cheeseburgers rises, the quantity of cheeseburgers demanded falls. That decrease is the law of demand at work. Also, note the negative slope of the demand curve. An increase in price will cause a decrease in the quantity of cheeseburgers demanded, and a decrease in price will cause an increase in the quantity of cheeseburgers demanded.

Sometimes factors that created our original demand schedule for cheeseburgers might change, such as the amount of money we make, or a new study showing that beef is bad for us. The new factors would change our whole demand schedule, not just the quantity of cheeseburgers demanded. This is an important distinction: a change in the price of the cheeseburger will change the quantity demanded, but a change in one of the factors of demand will shift the whole demand curve.

Graph 9: Increase in Quantity Demanded



Graph 10: Increase in Demand



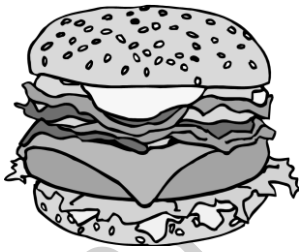
SECTION 3: CHANGES IN DEMAND

What are these **factors of demand** that will shift the entire demand schedule and therefore the demand curve? There are five we will consider: income, tastes and preferences, expectations for the future, change in the price of a substitution good and the change in the price of a complementary good.

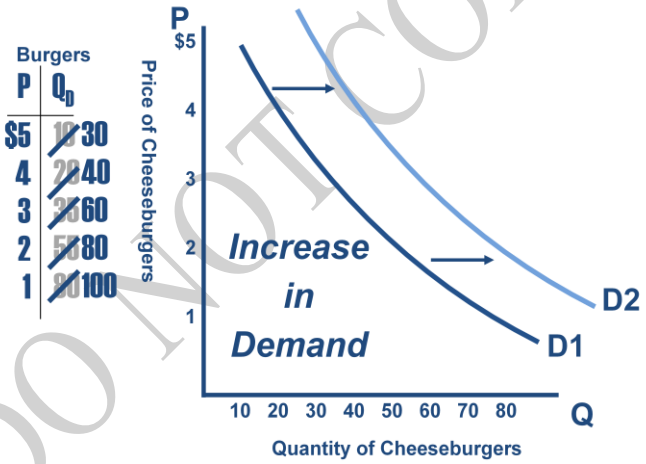
Income

As the income we earn changes, we change the quantity of cheeseburgers we will demand at every price level; we call this concept the **income effect.** As we increase our income, we increase our ability to purchase more goods that we want; therefore, we increase our quantity demanded at every price level. See Graph 10 above. On the other hand, if we decrease our income, we will decrease our ability to purchase goods and therefore decrease our quantity demanded at every price level.

For example, if you get a raise, you can now afford to stop with your friends after work to grab a cheeseburger at the local McDonald's whereas before, you didn't have enough money to spend on a cheeseburger even though you wanted one. You have now increased your demand for cheeseburgers at every price level. See Graph 11.



Graph 11: Increase in Demand Caused by ↑ Income

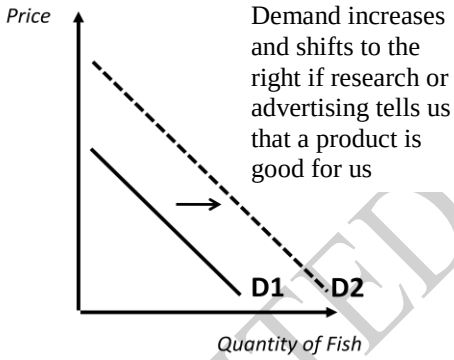


There is an exception to the income effect: as we earn more money, we will demand less of some goods. These goods are called **inferior goods** because we only buy them when we don't have much money. Bologna as opposed to ham, hamburger as opposed to steak, public transportation as opposed to your own car are just a few examples of inferior goods. A **normal good** is one you would demand more of as your income rises. Let's use an example. If you lose your job, you have to cut back expenses, so you reduce your demand for steak and instead buy more hamburger or even Ramen Noodles, depending on how poor you are. So, when you have less income, you will increase your demand for inferior goods like hamburger or Ramen Noodles while you decrease your demand for normal goods like steak. Finally, it is important to understand that calling a good an inferior good doesn't mean it is of very poor quality; it may or may not be. We simply define an inferior good as one that we buy less of as we earn more income. Back to our example. There are always some students who say "but we love Ramen Noodles." Yes, that is true, but when you have lots of income, they are a side dish; when you are poor, they become the main course as many of you will find out after you begin college.

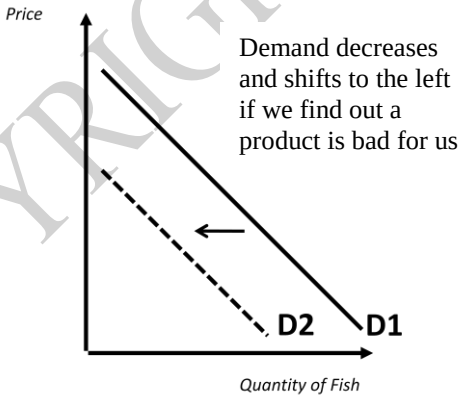
Taste and Preferences

Changes in our incomes have the biggest impact on changing demand for normal goods. However, other factors, such as our tastes and preferences, change our demand. Our tastes and preferences change all the time, sometimes by our choice, sometimes by the effects of advertising, or sometimes by our reading new research about the safety of some goods. For example, clothing styles are constantly changing partly because we desire a new fashion look and partly because advertisers tell us we need a new fashion look.

A few years ago, research showed that fish was a brain food: eating fish makes you smarter. What do you think happened to the demand for fish? Yes, it went up considerably. About five years ago, the Michigan Department of Natural Resources did testing and found that most of the fresh-water fish in Michigan's lakes and rivers were contaminated with mercury and other toxins that are bad for humans. When this information was released, it severely hurt the fish industry in Michigan, and the demand for fresh fish fell. Since that time, the DNR has backed off and said it was probably safe to eat fresh fish from Michigan's lakes and rivers about once a week. We are constantly being barraged with new information about the safety of foods and other goods. When it was discovered in 2006 that there was e coli bacteria in some packaged spinach and salads, the demand for these goods fell drastically for a period of time; the same is true for tomatoes in the summer of 2008.



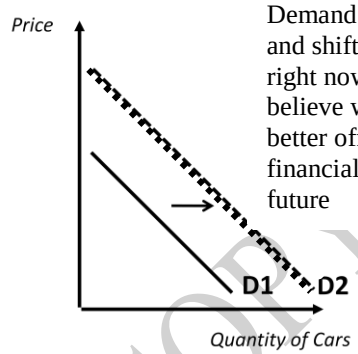
Demand increases and shifts to the right if research or advertising tells us that a product is good for us



Demand decreases and shifts to the left if we find out a product is bad for us

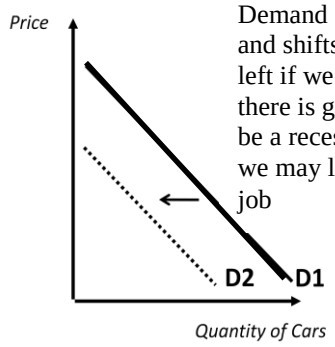
Expectations for the Future

The third factor shifting demand is our expectations for the future in terms of our income and what we think will happen to prices. Many Americans borrow to buy products now that they plan to pay for with future income. If we are afraid that our future income is going to be decreased or completely eliminated, we would not borrow to spend now. What would we do? Most likely we would save our money now to cover the possible loss of income in the future. What would happen to the demand for normal goods? If we are saving our money, then we aren't spending it, and demand would fall.



Demand increases and shifts to the right now if we believe we will be better off financially in the future

This is one of the reasons politicians and economists are reluctant to suggest that we are heading into a bad economic time or what we call a recession. If households hear we are going to have a recession, they worry they may lose their jobs, so they start saving and quit spending. Of course, if enough of us quit spending, the economy would go into a recession; demand for all goods and services would fall as people saved their money rather than spending it. We will return to this concept in Chapter 16.



Demand decreases and shifts to the left if we believe there is going to be a recession or we may lose our job

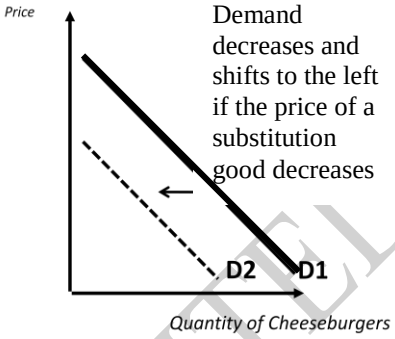
Many people borrow money (credit) to spend now, if the availability of loans was limited we would spend less and therefore demand less now. Of course, the opposite would be true if credit became more readily available; we would borrow and spend more now, thus increasing demand. We will revisit this concept in Chapter 13.

We also adjust our demand based on what we think will happen to prices. We will increase our demand now for goods such as gasoline if we think its price will rise this weekend. Have you ever noticed how new goods introduced to the market cost a lot of money, but after they are on the market a while, their price falls? This price drop is especially true with electronic goods like computers, TVs and DVD recorders. Most people wait for the prices to fall before they buy the latest technologically advanced TV or computer.

Changes in Price of Substitution Goods

The fourth factor to shift demand is the change in the price of a substitution good. A **substitution good** is one good that can replace another good as almost identical. For example, what might you substitute for a cheeseburger? How about chicken or pizza? Pizza might not taste just the same as a cheeseburger, but it is a substitution good for many people; it will serve as a reasonable replacement for a cheeseburger if the price of a cheeseburger becomes too high. When a good is identical to the original good, we call it a perfect substitute. One gallon of gasoline is a perfect substitute for another, most of the time.

If the price of pizza decreases considerably, people will substitute pizza for cheeseburgers, assuming pizza is a substitute for cheeseburgers. Just the opposite would happen if the price of pizza would rise; people would buy more cheeseburgers and less pizza. This is the **substitution effect**. The prices of substitution goods will impact the demand for the original good.



Demand decreases and shifts to the left if the price of a substitution good decreases

Change in the Price of a Complementary Good

The final factor that will shift demand is the change in the price of a complementary good. A **complementary good** is one that goes with another good, like catsup and a burger. As the price of a complementary good rises, the demand for the original good falls and vice versa. The ultimate example is gasoline and cars. What has happened to the demand for large gas-guzzling SUVs and luxury cars as the price of gas has increased dramatically recently? The demand has fallen drastically as American automakers have found out recently.

Some goods don't have any relationship to each other, they are neither complementary nor substitution goods, we call these **neutral goods**. An example would be a car and a DVD player.

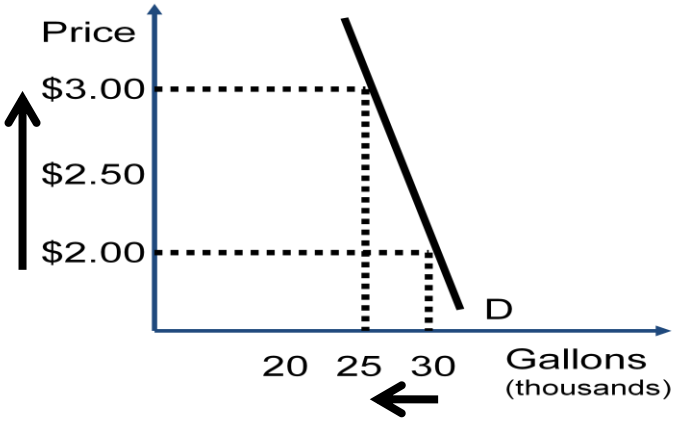
SECTION 4: ELASTICITY OF DEMAND

The slope of the demand curve varies depending on how much we need the good or service we are graphing. We call the response to the change in quantity demanded as the price changes **elasticity of demand**. The more responsive the change in quantity demanded is to a change in price, the more **elastic** the good. **Luxuries** are goods that are nice to have but that we don't need, like fur coats or big roomy cars. Luxuries are fairly responsive to price changes and therefore have **elastic demand**. The quantity demanded of an **inelastic good** doesn't change much when the price increases and have **inelastic demand**. Gasoline is a great example of an inelastic good. The price of gasoline has increased up to 35% recently, and the amount of gasoline demanded has hardly changed at all. We often call inelastic goods **necessities**. Other inelastic goods include water, electricity and medicine.

Generally speaking, on a graph an inelastic demand curve is between a 45º and 90º angle while an elastic demand curve is between 0º and 45º. If the percentage change in price is exactly the same as the percentage change in quantity demanded, then the curve would be a 45º line.

In a more advanced study of economics, we would use a formula to determine elasticity: $\frac{\%\Delta QD}{\%\Delta P}$. If we take the gasoline example below, we can calculate the change in price at +50% and the change in quantity of gasoline demanded at -17% or $\frac{-17\%}{50\%} = -.34$. The closer the negative number is to 0, the more inelastic the good is: -1 is called **unit elastic**. The farther negative from -1, the more elastic the good is.

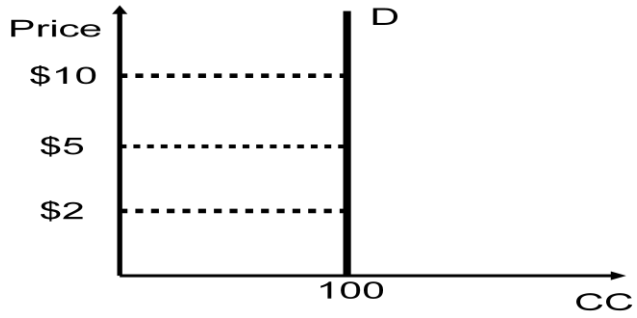
Graph 12: Inelastic Good Gasoline



Let's take an example of medicine, in particular insulin for a diabetic. If the price of insulin increases, does the

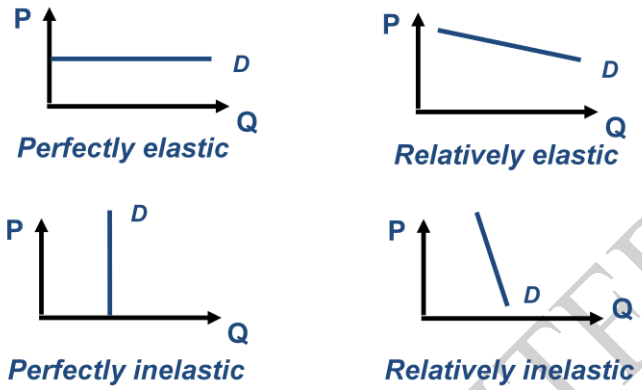
diabetic use less insulin? No, nor would she increase her dosage if the price falls. Insulin is a **perfectly inelastic** good, and the demand curve of a perfectly inelastic good is a vertical line as shown in Graph 13.

Graph 13: A Perfectly Inelastic Good: Insulin



We aren't going to spend time memorizing the elasticity formula; for a basic economics course, we can use the general shape of the demand curve to give us an indication of the good's elasticity.

Graph 14: Elasticity and Slope of Demand Curve



SECTION 5: SUPPLY

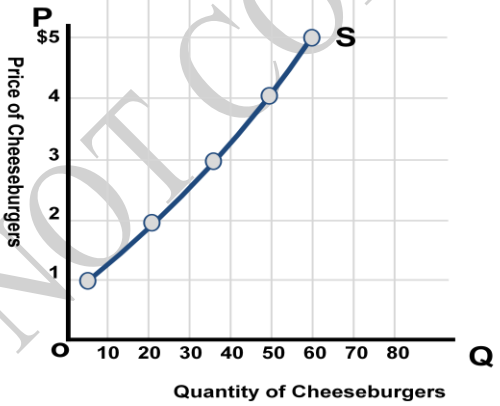
We now want to study a firm's transforming resources into finished goods and services, or the other half of supply and demand. **Supply** is the willingness and ability of a firm to produce a good at various price levels. Remember that a firm needs both the "willingness and the ability" to produce a good. Many people would love to go into business and sell goods but don't have the ability; others might have the ability to produce goods but don't have the desire to start a business of their own.

To understand supply, we need to switch hats and quit thinking as a consumer, and start thinking as a business owner. From this perspective, it makes sense that as prices go up, the quantity of goods a business supplies will also increase. Understanding this relationship brings us to the law of supply.

The **law of supply** states the higher the price, the more goods a firm will offer for sale, and, conversely, the lower the price, the fewer goods a firm will produce. We are going to explain this law of supply in more detail in Chapter 6, but for the time being it certainly makes sense that as prices rise, more firms are willing and able to sell a good and make a profit. Let's take the cheeseburger example below; at $1 each, only a handful of companies can produce the cheeseburgers and turn a profit at that low price, but if we raise the price to $5 a cheeseburger, even the inefficient firms can make a profit at that very high price level.

Graph 15: Supply Schedule & Curve for Cheeseburgers

Burgers P	Q_S
$5	60
4	50
3	35
2	20
1	5

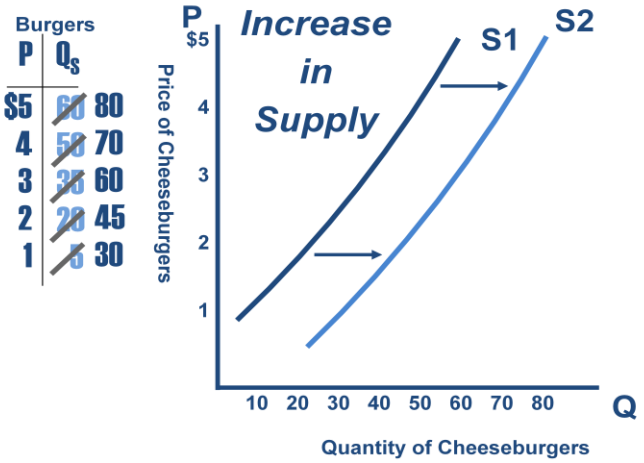


Notice that the slope of the supply curve is upward, or positive. That indicates a direct relationship between the price and the quantity supplied of the product. In other words, as we learned above, as the price goes up, the firm will produce more goods or services, and as the price goes down, the firm will produce fewer goods or services.

Sometimes factors that created our original supply schedule for cheeseburgers might change, such as the cost of beef, or the wages paid to the workers. These changes would alter our whole supply schedule, not just the quantity of cheeseburgers supplied. This is an important distinction: a change in the price of the cheeseburger will change the quantity supplied, but a change in one of the factors of supply will shift the whole supply curve.

Graph 16: Change in Price Changes Quantity

Graph 17: Change in Supply Schedule & Curve



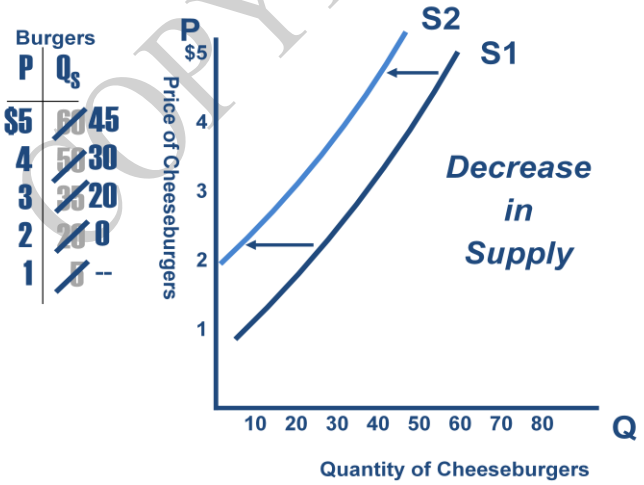
SECTION 6: CHANGES IN SUPPLY

Numerous factors can change the supply schedule and thus shift the supply curve. These **factors of supply** are wages, the cost and availability of materials, the cost and availability of capital goods or machinery, changes in technology, natural disasters such as droughts, and man-made disasters such as war or riots. As we will learn in Chapter 6, all of these factors affect the cost to the firm of producing the product; the cost of production is what determines how much a firm is willing and able to produce at various price levels.

Changes in Cost of the Factors of Production

For example, as the cost of beef rises, the firm will have to pay more for the hamburger it uses to make the cheeseburgers it sells. With the increase in cost, the firm will have to receive more per burger to make up for the additional cost, so the whole supply schedule will change and the supply curve will shift to the left.

Graph 18: Decrease in Supply Due to ↑ Price of Materials

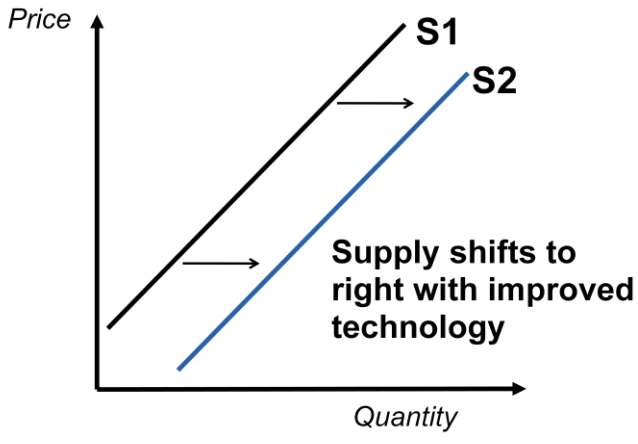


This concept that changing costs will cause a shift in the supply curve applies to all the factors of production; as the cost of production increases, the firm will supply less at every price level, as the cost of production decreases, the firm will supply more at every price level. For example, Graph 17 would represent the changes in supply should the firm negotiate a reduction in the wages paid to its workers, thus lowering its cost and increasing its supply.

For the most part, changes in technology increase supply. For example, take the simple handheld calculator. When the author was in junior high school, he saw his first one; it was really cool. We students passed it around the classroom, and everyone did the same thing: typed in a formula, like 2 + 2, and made sure the calculator gave the correct answer. Very few people had these calculators because they were very expensive to make, and they sold for $125 each. Today, technology has improved so much that the handheld calculator is very small and can perform many more calculations for a fraction of the cost. In fact, you could buy a very nice graphing calculator today for the cost of a handheld calculator in 1974 that only did simple arithmetic. Because of changes in technology, companies can now produce a processor that can do millions of calculations on the space that would take up the head of a pin, and they can produce calculators in mass quantity at a lower price.

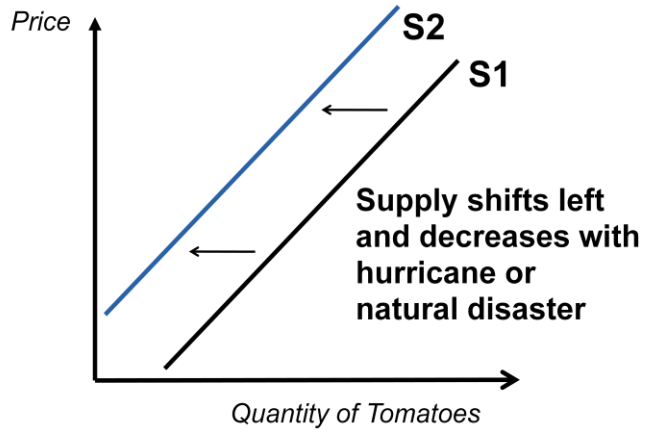
The impact of changes in technology can be seen best in the area of electronics. Not only calculators, but TVs, cameras and just about anything you can think of in the area of electronics have changed dramatically just in five years. For example, how many of you have a digital or HD TV today? The cost of producing these has fallen tremendously as new technology is applied to the industry, thus lowering the price firms are willing and able to sell HD TVs for today.

Graph 19: Improvements in Technology



The impact of disasters will generally have a negative impact on supply; for instance, a lack of rain will decrease the production of agriculture products. The major hurricanes that hit Florida a few years ago had a devastating impact on Florida's number-one agricultural product, tomatoes. The supply of tomatoes was severely decreased because of those hurricanes. You might remember when fast-food restaurants stopped giving you tomatoes on your sandwiches unless you specifically asked for them, and often you would have to pay extra if you did want a slice of tomato on your sandwich.

Graph 20: Natural Disasters Decrease Supply



SECTION 7: ELASTICITY OF SUPPLY

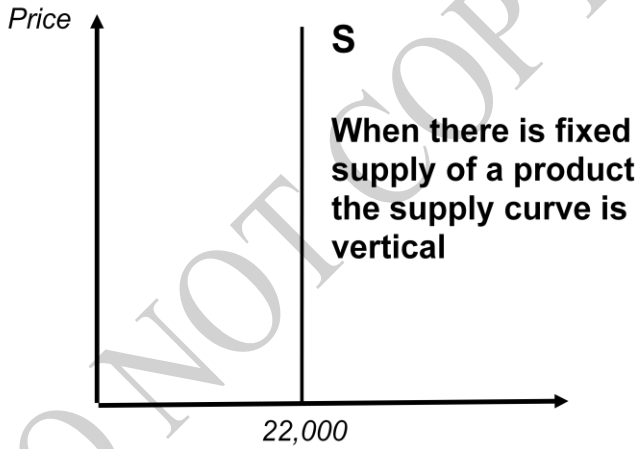
Earlier in this chapter we learned about the slope of the demand curve and elasticity of demand. The slope of the supply curve varies as well. **Elasticity of supply** measures the relationship between the percentage change in quantity supplied and the percentage change in price. The formula for determining elasticity of supply = $\frac{\%\Delta QS}{\%\Delta P}$.

Elastic supply is when the quantity supplied changes by a greater percentage than the percentage change in price does. For example, suppose the price of cars increases by 15% and the quantity supplied increases by 25%; we would say that the supply of cars is elastic. In other words, an increase in price causes auto manufacturers to produce significantly more cars. The supply is very responsive to changes in price.

When the quantity supplied doesn't change much with the change in price, we call it **inelastic supply**. When the supply curve is vertical and there is no change in output with a change in price, we say that is **perfectly inelastic supply**.

A stadium or arena hosting musical concerts has only so many seats; let's say 22,000. That means no matter what the price is, the arena can only offer 22,000 tickets to any event. Because the number of seats is fixed, there is no added cost to provide another seat to allow more people to see the concert. A lower price wouldn't mean the owners of the arena would offer fewer of the 22,000 seats for sale for the concert. The supply curve is completely vertical.

Graph 21: Perfectly Inelastic Supply – Arena



In the case of perfectly inelastic supply, the price is determined solely by the demand. However, the interaction of supply and demand is a question for the next chapter when we learn how supply and demand interact to determine price. We will come back to this example at that time.