**Title:** **Supply and Demand**

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**SUPPLY AND DEMAND**

The market process is generally modeled using the economic concepts of supply and demand. The plans/desires of consumers are embedded in the concept of demand and the plans/desires of producers in the concept of supply. The plans of these two types of economic actors are brought together in markets, which are the entities in which transactions occur. In a modern economy, markets do not require that the buyers and sellers meet in a geographic place, so markets no longer require actual "marketplaces."

The concept of demand represents the market activity of consumers. Demand is defined as the quantity of a good or service that consumers will be both willing and able to purchase at any given price during a specific period of time, holding all other factors constant. Demand is, therefore, a relationship between price and quantity demanded. Many factors other than price affect the amount consumers

[Image Omitted: ebf\_0002\_0002\_0\_img0179.jpg ]  ***Table 1*
Widgets**

| **Widgets** |
| --- |
| **Quantity supplied** | **Price** | **Quantity demanded** |
| 50 | $13 | 10 |
| 40 | $11 | 20 |
| 30 | $ 9 | 30 |
| 20 | $ 7 | 40 |
| 10 | $ 5 | 50 |

choose to purchase, and these factors are what is being held constant within the concept of demand.

Demand can be illustrated in a schedule that shows how many units of a good or service consumers will purchase at several distinct prices. Table 1 shows how many units of a good (widgets) consumers will purchase at a number of different prices. This relationship between price and quantity demanded can also be represented graphically. A demand curve represents the maximum price that consumers would be willing to pay for a particular quantity of the good. Consumers are willing to purchase something because they value that product more than its opportunity cost. The opportunity cost is the value of the best alternative they could purchase with the same money. That is, when a consumer chooses to spend $2 on a hamburger, he or she has decided that the hamburger provides more satisfaction (at that moment in time) than anything else that could be bought with that $2. Thus, the demand curve represents the value of the product to the consumer. The area under the demand curve provides a measure of the total value that consumers receive from consuming that amount of the product.

The nature of this relationship between price and quantity demanded is so consistent that it is called the law of demand. This law states that the relationship defined by the concept of demand is an inverse or indirect one. When prices rise, other factors held constant, consumers will purchase less of the good, and vice versa. The rationale for the law is that when the price of a product changes relative to the price of other products, consumers will change their purchasing patterns by buying less of the now higher-priced good and purchasing more of other goods which are now relatively less expensive that satisfy the same basic wants. Goods that satisfy the same basic wants are called substitutes. For example, if the price of beef rises relative to the price of pork, chicken, and turkey, consumers will shift some of their purchases from beef to pork, chicken, and turkey.

Supply can be defined as the relationship between the price of a good or service and the quantity producers arePage 715  |  [Top of Article](http://go.galegroup.com/ps/downloadDocument.do?actionCmd=DO_DOWNLOAD_DOCUMENT&bucketId=&inPS=true&prodId=GVRL&userGroupName=apollo&tabID=&docId=GALE%7CCX1552100301&dynamicEtocAvail=&pubDate=&downloadFormat=HTML#contentcontainer) willing and able to make available for sale in a given period of time, holding other things constant. A supply schedule showing how many widgets producers will make available for sale at several distinct prices is also shown in Table 1. Supply represents graphically the minimum price that consumers are willing to accept in order to make a given amount of the good or service available for sale. As such, it is the opportunity cost to society of producing that particular good.

The law of supply states that this relationship is a direct one. When the price of a good rises, holding other factors constant, producers will be willing to supply more of the product. The rationale for this law is that resource owners will want to use their resources in the most valuable way possible. For example, if the market price of corn rises relative to that of wheat, farmers will choose to plant more of the land available to them in corn and less in wheat.

**EQUILIBRIUM**

A market is a place where suppliers and demanders meet to conduct an exchange. Modern markets do not require these two parties to be in the same place or even to communicate their desires at the same time. The market process can be thought of as a type of "auction process." Given the supply and demand curves shown in Figure 1, if an auctioneer was to call out a price of $5, consumer would be willing and able to purchase 50 units (the quantity demanded), but producers would be willing and able to supply only 10 units (the quantity supplied). If consumers want to buy 50 units and there are only 10 for sale, there is a shortage of 40 units (quantity demanded minus quantity supplied). Whenever there is a greater quantity demanded than supplied, there will be a shortage. Consumers will then attempt to compete for the scarce units. This competition will take the form of bidding up the price.

To continue with the auction illustration, the auctioneer sees that people want to buy more than is available, and so he calls out a new, higher price of $7 per unit. At $7, the consumers who valued the product more than $5, but less than $7, drop out of the market. That is, the quantity demanded falls from 50 units to 40 units. However, the law of supply tells us that the new, higher price will induce producers to increase the quantity supplied. The quantity supplied rises from 10 to 20 units. Consumers still want to buy more than producers want to sell, so there continues to be a shortage, but the shortage has been reduced from 40 units to 20 units. Consumers still must attempt to out-compete other consumers, and the price is bid up again. Only when the auctioneer calls out a price of $9 is the quantity consumers demand equal to the quantity that producers supply. This is called the market clearing price. This price "clears" the market because

[Image Omitted: ebf\_0002\_0002\_0\_img0180.jpg ]  ***Figure 1*
The market for widgets**

everyone who wants to buy at that price is able to and everyone who wants to sell at that price is able to. This makes the market stable because consumers no longer have a need to bid up the price. Thus, the market is at an equilibrium at the price for which the quantity demanded is equal to the quantity supplied.

If the price is above the market clearing price, consumers will be willing and able to buy less than producers are willing and able to make available for sale. For example, if the price is $13 (in Figure 1), quantity demanded will be 10 units and quantity supplied will be 50 units. Whenever quantity supplied is greater than quantity demanded, there will be a surplus. In this case, the surplus is equal to 40 units (quantity supplied minus quantity demanded). If there is a surplus in a market, producers will compete with each other for scarce buyers by bidding down the price. When the price falls to $11, consumers will increase the amount they want to buy to 20 units and producers will reduce the amount they want to sell to 40 units, so that the surplus falls to 20 units. But here, the producers will continue to try to outcompete other producers for the consumers in the market by offering their product for an even lower price. It is not until the price falls to the market clearing level of $9 that the surplus disappears and producers no longer need to bid the price down in order to sell their product.

If the price is below the market clearing price, consumers will up bid the price, and if the price is above the equilibrium price, producers will bid down the price. It is only at the equilibrium price that quantity demanded equals quantity supplied and the market price stabilizes. This is the only price for which consumers have no reason to offer a higher price and producers have no reason to offer a lower price.

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**NONPRICE DETERMINANTS OF DEMAND**

Consumers base their purchasing decisions on several factors other than price. These nonprice determinants of demand are the things that are held constant in the definition of demand. When these factors change, the relationship between price and quantity demanded changes; that is, the demand curve itself shifts. An increase in demand is represented graphically as a shift in the demand curve in a northeasterly direction (for example, from *D*0 to *D*1 in Figure 2), and a decrease in demand is represented as a shift of the demand curve in a southwesterly direction (for example, from *D*0 to *D*2 in Figure 2). The two main nonprice determinants of demand are consumers' incomes and wealth, and the prices of related goods. An increase in income and/or wealth can cause the demand for a good to either increase or decrease. If an increase in income/wealth causes the demand for a good to increase, the good is called a normal good. This increase in demand is illustrated in Figure 2 by a shift from *D*0 to *D*1, causing the market equilibrium to change from *E*1 to *E*2, resulting in an increase in the market price (from $9 to $11) and an increase in quantity bought and sold (from 30 to 40 units). If an increase in income/wealth causes the demand for a good to decrease, the good is called an inferior good. This is illustrated in Figure 2 by a shift in demand from *D*0 to *D*2. The market then clears at *E*3 with a lower market price ($7) and a smaller quantity (20 units). Likewise, the impact of a change in the price of a related good on a good's demand depends on whether the goods are related as substitute goods or complementary goods. Two goods are substitutes if an increase in the price of one causes the demand for the other to increase, and the goods are complements if an increase in the price of one causes the demand for the other to decrease.

**NONPRICE DETERMINANTS OF SUPPLY**

Producers base their decisions about what to produce with the productive resources they have at their disposal on more factors than just the prices of the different goods. These other factors are called the nonprice determinants of supply. The major nonprice determinants of supply are the prices of the inputs used to produce the product, the state of technology used to produce the product, and the prices of other goods that are related in production. An increase in supply is represented graphically as a shift in the supply curve in a southeasterly direction and a decrease in supply is shown as a shift in a northwesterly direction (see Figure 2). An increase (decrease) in the price of an input into the production of a good, which would increase (decrease) the cost of production, will cause the supply to fall (rise). For example, an increase in the price

[Image Omitted: ebf\_0002\_0002\_0\_img0181.jpg ]  ***Figure 2*
Changes in the supply and demand of widgets**

of fertilizer will cause the supply of corn to fall, holding other factors constant. If the supply curve were to shift from *S*0 to *S*2, everything else being equal, the market equilibrium would change from point E1 to E5, causing the market clearing price to rise (from $9 to $11) and quantity transacted to fall (from 30 to 20 units). An advancement in technology that lowers the cost of production will also cause supply of the good to rise. For example, the discovery of a new chemical agent that increases the yield of an acre of land planted in corn will increase the supply of corn, holding other factors constant. If the supply curve were to shift from *S*0 to *S*1, the market equilibrium would change from point *E*1 to *E*4, causing the market clearing price to fall (from $9 to $7) and the quantity transacted to rise (from 30 to 40 units). An increase (decrease) in the price of a different good that is produced using the same inputs (goods that are related in production) will cause producers to increase their production of the now higher-priced, and hence more profitable, good. In order to do this, resources will need to be reallocated away from the production of other goods. For example, an increase in the price of wheat (relative to the price of corn) will cause producers to shift factors of production toward the production of wheat and away from the production of corn.

**SEE ALSO** Macroeconomics/Microeconomics ; Pricing

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