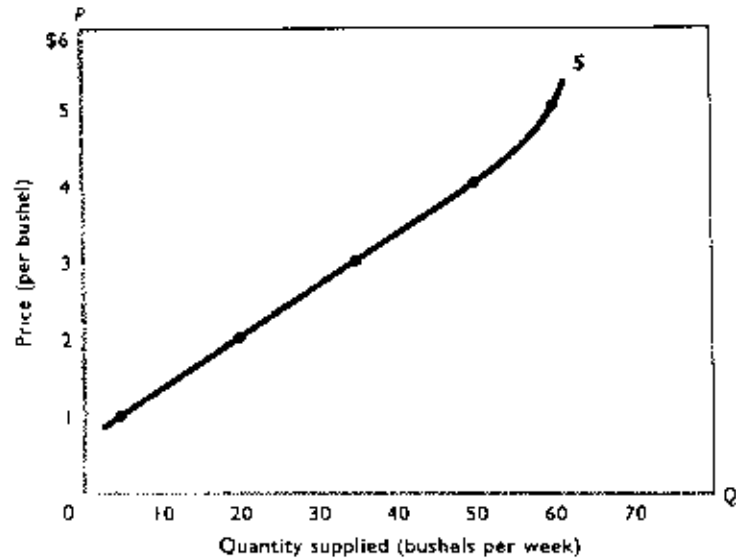


FIGURE 3.4 An individual producer's supply of corn. Because price and quantity supplied are directly related, the supply curve for an individual producer graphs as an up-sloping curve. Other things equal, producers will offer more of a product for sale as its price rises and less of the product for sale as its price falls.

Supply of Corn	
Price per Bushel	Quantity Supplied per Week
\$5	60
4	50
3	35
2	20
1	5



in Table 3.4 are for the many suppliers in the market, each willing to supply corn. Curve S_1 in Figure 3.5 is a graph of the market supply data. Note that the values of the axes in Figure 3.5 are the same as those used in our graph of market demand (Figure 3.3), except the change from “quantity demanded” to “quantity supplied” on the horizontal axis.

Determinants of Supply

In constructing a supply curve, we assume that price is the most significant influence on the quantity supplied of any product. But other factors (the “other things equal”) can and do affect supply. The supply curve is drawn on the assumption that these other things are fixed and do not change. If one of them does change, a *change in supply* will occur, meaning that the entire supply curve will shift.

The basic determinants of supply are (1) resource prices, (2) technology, (3) taxes and subsidies, (4) prices of

other goods, (5) producer expectations, and (6) the number of sellers in the market. A change in any one or more of these determinants of supply, or *supply shifters*, will move the supply curve for a product either right or left. A shift to the *right*, as from S_1 to S_2 in Figure 3.5, signifies an *increase* in supply: Producers supply larger quantities of the product at each possible price. A shift to the *left*, as from S_1 to S_3 , indicates a *decrease* in supply: Producers offer less output at each price.

Changes in Supply

Let's consider how changes in each of the determinants affect supply. The key idea is that costs are a major factor underlying supply curves; anything that affects costs (other than changes in output itself) usually shifts the supply curve.

Resource Prices The prices of the resources used in the production process help determine the costs of production incurred by firms. Higher *resource* prices raise production costs and, assuming a particular *product* price, squeeze profits. That reduction in profits reduces the incentive for firms to supply output at each product price. For example, an increase in the prices of sand, crushed rock, and Portland cement will increase the cost of producing concrete and reduce its supply.

In contrast, lower *resource* prices reduce production costs and increase profits. So when resource prices fall, firms supply greater output at each product price. For example, a decrease in the price of flat-panel glass will increase the supply of big-screen television sets.

TABLE 3.4 Market Supply of Corn, 200 Producers

(1) Price per Bushel	(2) Quantity Supplied per Week, Single Producer	(3) Number of Sellers in the Market	(4) Total Quantity Supplied per Week
\$5	60	×	12,000
4	50	×	10,000
3	35	×	7,000
2	20	×	4,000
1	5	×	1,000

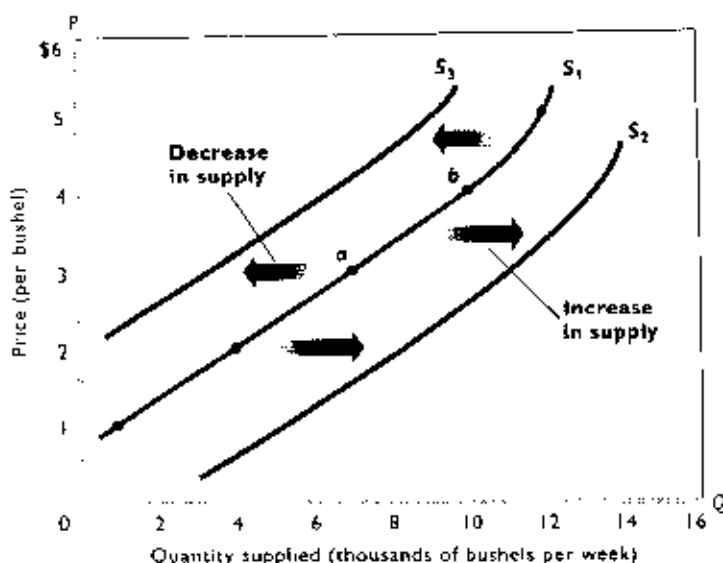


FIGURE 3.5 Changes in the supply of corn. A change in one or more of the determinants of supply causes a change in supply. An increase in supply is shown as a rightward shift of the supply curve, as from S_1 to S_2 . A decrease in supply is depicted as a leftward shift of the curve, as from S_1 to S_3 . In contrast, a change in the quantity supplied is caused by a change in the product's price and is shown by a movement from one point to another, as from b to a on fixed supply curve S_1 .

Technology Improvements in technology (techniques of production) enable firms to produce units of output with fewer resources. Because resources are costly, using fewer of them lowers production costs and increases supply. Example: Technological advances in producing flat-panel computer monitors have greatly reduced their cost. Thus, manufacturers will now offer more such monitors than previously at the various prices; the supply of flat-panel monitors has increased.

Taxes and Subsidies Businesses treat most taxes as costs. An increase in sales or property taxes will increase production costs and reduce supply. In contrast, subsidies are "taxes in reverse." If the government subsidizes the production of a good, it in effect lowers the producers' costs and increases supply.

Prices of Other Goods Firms that produce a particular product, say, soccer balls, can sometimes use their plant and equipment to produce alternative goods, say, basketballs and volleyballs. The higher prices of these "other goods" may entice soccer ball producers to switch production to those other goods in order to increase profits. This *substitution in production* results in a decline in the supply of soccer balls. Alternatively, when the prices of basketballs and volleyballs decline relative to the price of soccer balls, producers of those goods may decide to produce more soccer balls instead, increasing their supply.

Producer Expectations Changes in expectations about the future price of a product may affect the producer's

current willingness to supply that product. It is difficult, however, to generalize about how a new expectation of higher prices affects the present supply of a product. Farmers anticipating a higher wheat price in the future might withhold some of their current wheat harvest from the market, thereby causing a decrease in the current supply of wheat. In contrast, in many types of manufacturing industries, newly formed expectations that price will increase may induce firms to add another shift of workers or to expand their production facilities, causing current supply to increase.

Number of Sellers Other things equal, the larger the number of suppliers, the greater the market supply. As more firms enter an industry, the supply curve shifts to the right. Conversely, the smaller the number of firms in the industry, the less the market supply. This means that as firms leave an industry, the supply curve shifts to the left. Example: The United States and Canada have imposed restrictions on haddock fishing to replenish dwindling stocks. As part of that policy, the Federal government has bought the boats of some of the haddock fishers as a way of putting them out of business and decreasing the catch. The result has been a decline in the market supply of haddock.

Table 3.5 is a checklist of the determinants of supply, along with further illustrations. (**Key Question 6**)

Changes in Quantity Supplied

The distinction between a *change in supply* and a *change in quantity supplied* parallels the distinction between a change in demand and a change in quantity demanded.