

# Supply

by Sophia Tutorial



## WHAT'S COVERED

This tutorial will cover the law of supply, exploring a supply schedule and supply graph. We will discuss why a supply curve is upward sloping, as well as the concept of ceteris paribus.

Our discussion breaks down as follows:

1. What Is Supply?
2. Supply Schedules and Graphs
3. Law of Supply
  - a. Ceteris Paribus
4. Exceptions to the Law of Supply

## 1. What Is Supply?

Typically in economics, we learn about demand before supply, simply because it's easier to think like a consumer. Demand focuses on behaviors like buying things, and looking for low prices, and not purchasing as much when prices go up.

To fully understand the relationship between price and quantity for supply, you have to think like a supplier or a producer of something. Even if you're not a business owner, you have likely supplied your labor, so supply is definitely relevant in your life.



### THINK ABOUT IT

Suppose your boss offered you minimum wage to work overtime this weekend. How many hours would you supply? Would it be worth your time? Well, what if he offered you \$100 per hour. Would you be willing to supply more hours? In this case, it may be well worth your time. Most people are actually willing to supply more hours at a higher wage.

Supply refers to being able to produce something and willing to supply it at a price.

## 2. Supply Schedules and Graphs

Here is a farmer's willingness to supply apples, detailed in a supply schedule. It shows the different prices of apples and the quantities that he's willing to supply at those various prices, in thousands of bushels.

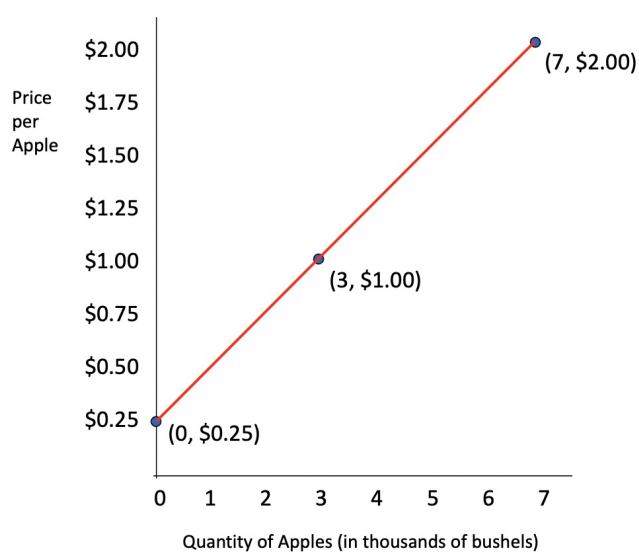
Price of Granny Smith Apples	Quantity of Granny Smith Apples Each Week
\$2.00	7
\$1.75	6
\$1.50	5
\$1.25	4
\$1.00	3
\$0.75	2
\$0.50	1
\$0.25	0

Notice that if the price per apple was \$2, which is quite an expensive apple, the farmer is willing to produce a large quantity--7,000 bushels.

However, as the price falls, he is willing to supply less of them. In fact, he is not willing to supply any at all once they reach \$0.25 per apple. At a certain price, this farmer will not be able to afford to stay in business and may decide to leave the market at that price.

Now, we can plot these points on a graph, with price on the y-axis and quantity on the x-axis.

Notice the relationship between price and quantity here. As the price rises, the farmer is willing to supply more. As price falls, the farmer is willing to supply less.



## 2. Law of Supply

So, why is the supply curve upward sloping? Well, hopefully it makes sense to you that this farmer has some kind of cost structure.

He can't just produce these apples for free, so in order to give him an incentive to work harder and produce more, the market needs to raise the price that he receives for his product.



#### HINT

It is the same concept as the one illustrated in the previous example, in which you might be willing to supply more hours if your boss pays you a higher wage. Similarly, the farmer is willing to produce more apples if the price he receives for his apples is worth his time and effort.

This is essentially the premise of the **law of supply**, which is defined as the positive relationship between price and quantity supplied. As price increases, the quantity supplied increases, and vice versa.



#### HINT

Notice that we use the term "quantity" here, which is an important distinction. We are referring to quantity supplied changing along with the price.

### 3a. Ceteris Paribus

Now, **ceteris paribus** is an important phrase which means holding all other variables constant. This means that as the price of Granny Smith apples falls, we can expect that farmers will produce fewer apples--again, because it's not worth their time and effort if they won't receive as high of a price.

Ceteris paribus assumes, though, that *only the price* of apples has changed, so therefore, this is the only reason that the farmers are producing fewer apples.

The price of their resources did not change, such as fertilizer becoming more expensive, or a missed opportunity with new technology, or anything else relative to their production process.

Only the price changed, which is the essence of ceteris paribus--isolating the price as variable that has changes, versus any other external factors.



#### TERMS TO KNOW

##### Law of Supply

The positive relationship between price and quantity supplied; as price increases the quantity supplied increases

##### Ceteris Paribus

Holding all other variables constant

---

## 4. Exceptions to the Law of Supply

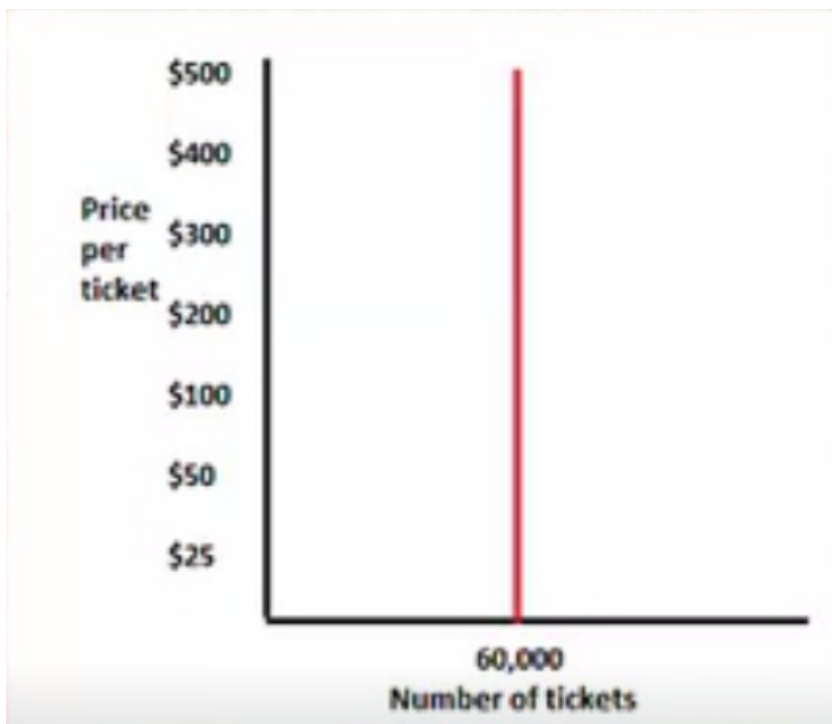
Do you think that there are any exceptions to the law of supply, that supply increases as price goes up or the quantity supplied decreases as price falls? Can you think of a situation where you might supply *more* of something--like your labor--if the price went down?

Suppose your wages or salary were cut. Now, some people might decide to not work as much because it isn't worth their time. However, some of us might need to work *more* in this situation simply to maintain our same income level, perhaps picking up a second job to do so.

If this is the case, and the price of your labor is falling yet you are supplying a greater quantity of hours, then, in fact, it represents a different relationship with your willingness to supply and the price of your labor.

Another exception to the rule involves something called a perfectly inelastic supply, where there is a fixed amount of something.

➦ **EXAMPLE** For instance, consider the number of tickets to a highly anticipated concert or sporting event. Some diehard fans might be willing to pay \$500 for a ticket, because whoever is selling them can't actually produce or sell more, because there is a fixed number of seats in the stadium, like 60,000 in the graph below. Regardless of the price, the supply is fixed at this quantity.



## SUMMARY

Today we learned **what supply is** and how the **law of supply** describes the positive relationship between price and quantity. The law of supply states that as price rises, the quantity supplied rises (and vice versa), assuming **ceteris paribus**, or all other variables fixed. We examined a **supply schedule** and used its data to draw a **supply graph**, noting the upward sloping supply curve, except in a few rare situations that are **exceptions to the law of supply**.

Source: Adapted from Sophia instructor Kate Eskra.



## TERMS TO KNOW

**Ceteris Paribus**

Holding all other variables constant.

**Law of Supply**

The positive relationship between price and quantity supplied; as price increases the quantity supplied increases.