

Market Equilibrium and Applications

I. Market Equilibrium

In the previous chapter, we discussed demand and supply, both for individual consumers and firms and for markets. In this chapter, we will combine both of these concepts to discuss equilibrium in the market.

A. Definitions

The definitions given in this section are general definitions. That is, the concept of equilibrium generally relates to all types of situations and economic models, not just the demand and supply model currently being discussed.

- Equilibrium

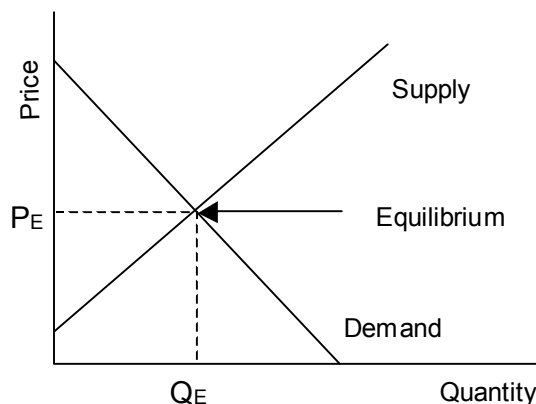
An equilibrium generally means that when one is at the equilibrium then no force exists that will move one away from the equilibrium.

- Stable Equilibrium

A stable equilibrium is a specific type of equilibrium. It has the characteristic described above, which is true of all equilibria, of having no tendency to move away from the equilibrium once it is attained. However, it has one important additional characteristic. When not at the equilibrium some force exists that will cause a move back to the equilibrium. (An unstable equilibrium has the opposite characteristic.) Generally, equilibria in economic models are stable.

B. How does the market attain equilibrium?

Putting together the demand and supply curves in the same model, what is the equilibrium in the market? Most students are not surprised to learn that equilibrium occurs as shown in Graph 1, where the demand and supply curves intersect. Formally, this occurs at the price (P_E) where quantity demanded (Q_E) equals quantity supplied (Q_E).



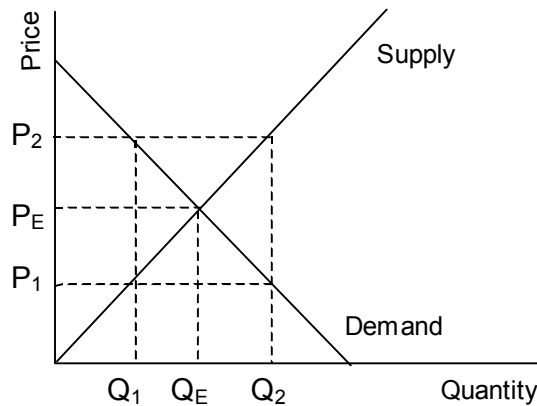
Graph 1

Although this is the equilibrium in the demand and supply model, it remains important to understand why it is the equilibrium. That is, how does the equilibrium meet the characteristics defined above that must exist for something to be a stable equilibrium? We must essentially show that the equilibrium has three characteristics:

- When the actual price exceeds the equilibrium price some force exists that moves the market back to the equilibrium price.

In Graph 2, suppose that the actual price, at P_2 , in the market exceeds the equilibrium price, P_E . This means, first of all, that the quantity demanded (Q_D) no longer equals the quantity supplied (Q_S).

Recall that Q_D is given by the demand curve at the given price. Likewise, Q_S is given by the supply curve at the given price. Hence, when price equals P_2 , then Q_D will equal Q_1 and Q_S will equal Q_2 ; quantity supplied is more than quantity demanded. This result is known as an excess supply or a surplus.



Graph 2

When a surplus occurs that means that firms are unable to do what they desire in the market given the price. Given a price of P_2 , firms produce and would like to sell a quantity of Q_2 , but can only actually find buyers for a quantity of Q_1 . The difference between the two equals the actual surplus. Notice, however, that consumers can do what they wish in the market given the price.

How do firms and consumers respond when faced with a surplus? Given that consumers can already buy as much as they wish in the market given the price, they do not change their behavior. Firms, on the other hand, cannot sell all of the output that they produce. Left with unsold inventory, firms respond by attempting to sell that inventory. How do they induce consumers to buy their production, rather than their competitors? The most basic way to do so is by offering the product to consumers at a lower price. However, such price competition by firms will continue as long as any surplus exists. As a result, the price will decrease until the surplus dissipates.

Thus, the force that causes the price to fall back to the equilibrium when a surplus exists is price competition by that sector of the market that cannot do what it wishes at the market price, in this case firms.

- When the actual price is less than the equilibrium price some force exists that moves the market back to the equilibrium price.

In Graph 2, suppose that the actual price, at P_1 in the market is less than the equilibrium price, P_E . This means, first of all, that the quantity demanded (Q_D) no longer equals the quantity supplied (Q_S). When the price equals P_1 , then Q_D will equal Q_2 and Q_S will equal Q_1 ; quantity demanded is more than quantity supplied. This result is known as an excess demand or a shortage.

When a shortage occurs, consumers are unable to do what they desire in the market, given the price. Given that firms can already sell as much as they want at the price, firms will not change their behavior at the given price. However, consumers cannot buy all of the good they want at the current price. Faced with unmet demand, consumers respond by all of them attempting to buy the limited quantity available for sale. How do consumers induce firms to sell their limited production to them? Again, the most basic

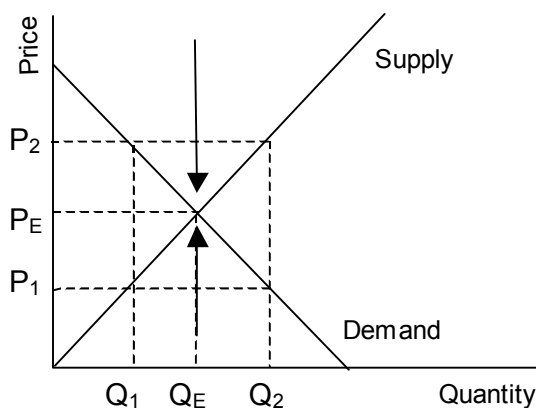
method, which is consistent with profit-maximization, is for consumers to offer to pay higher prices. However, such price competition, this time by consumers, will continue as long as the shortage exists. Thus, the price will continue to increase until the shortage completely disappears.

Although it is price competition, just as when a surplus exists, that forces the market to move back to the equilibrium, in this case it is by consumers and not firms.

- When the actual price equals the equilibrium price no force exists that moves the market away from the equilibrium price.

We discovered above that it is price competition, by firms when a surplus exists and by consumers when a shortage exists, that moves a market back to the equilibrium. Does such a force also exist at the equilibrium? Price competition exists when not at the equilibrium because the resulting surplus or shortage leaves either firms or consumers unable to act as they desire given market conditions. The price competition that moves the market back to equilibrium is a direct result from actions taken by the dissatisfied actor in the market – either by firms competing and lowering prices when a surplus exists or by consumers competing and raising prices when a shortage exists.

Thus, price competition only exists when one of the actors in the market is dissatisfied, when they either cannot sell or buy all that they desire at the market price. But at the equilibrium price and quantity of P_E and Q_E in Graph 2, both firms' and consumers' desires are being met exactly because quantity demanded equals quantity supplied. The fact that there exists neither a surplus nor a shortage means that no price competition will form moving the market away from the equilibrium.



Graph 3

Thus, as shown in Graph 3, both of the requirements for a stable equilibrium are met – when not at the equilibrium some force, price competition, moves the market back to equilibrium and when at the equilibrium the price competition does not form, keeping the market at the equilibrium. Although the force in the demand and supply model moving the market to equilibrium is price competition, students often have difficulty remembering which actor is competing. To understand this point, just ask who it is that doesn't get to do what they desire at the current market price. That will be the party who changes their behavior and competes in an attempt to reach a desirable outcome. Clearly, the party who has already attained his desires given the situation in the market will not change her behavior in order to compete.

II. Predictions about Equilibrium Price and Quantity

The main purpose of the demand and supply model is to be able to make predictions about the impact of a given change in the market upon equilibrium price and quantity. These predictions depend upon the following steps:

- 1) Identify exactly the impact upon the given market. (That is, which market is being impacted and by what event?)
- 2) Does the change affect demand, supply, or both?
- 3) In which direction is demand or supply affected?
- 4) What happens to equilibrium price and quantity as a result?

For example, if the price of wheat increases, what impact will this have upon the market for bread? Wheat is an input into the production of bread. Hence, the supply of bread will be affected because supply deals with production. Recall from our discussion of [demand and supply](#) in the previous chapter that when input prices increase, the costs of production are in turn increased, which decreases the supply of the good, in this case bread. What is the impact on equilibrium price and quantity? The specific impact is discussed separately for each of eight different possible scenarios below. These will focus on answering only the last of the four questions above – what happens to equilibrium price and quantity for a given change in demand or supply. The student should be prepared to answer the other three questions as well.

B. Change in either Demand or Supply

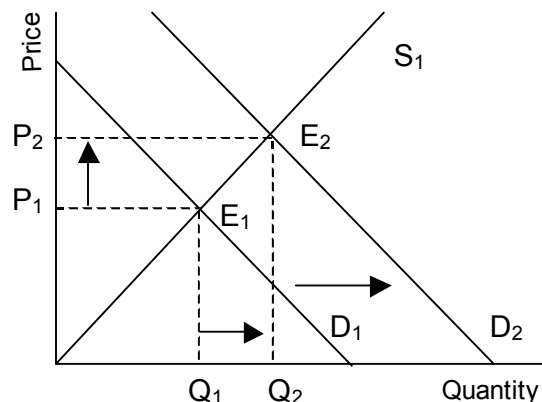
- Increase in Demand

An increase in demand occurs when the demand curve shifts to the right, as shown in Graph 4. The original D curve equals D_1 and coupled with the Supply curve of S_1 , means that the original equilibrium equals E_1 . Before the demand shift, price and quantity equal P_1 and Q_1 , respectively.

However, when the demand increases (shifts right) at a price of P_1 the market is no longer in equilibrium. Rather, a shortage or excess demand now exists.

As discussed above, when a shortage occurs price competition by consumers forces the price to rise to a new equilibrium, E_2 , where the new equilibrium price and quantity equal P_2 and Q_2 respectively. Notice that this process of price competition does cause us to move to the equilibrium. However, in the future, we will not discuss the process in each instance but just assume that the process works and moves us to the new equilibrium.

The end result is that both equilibrium price and quantity increase.

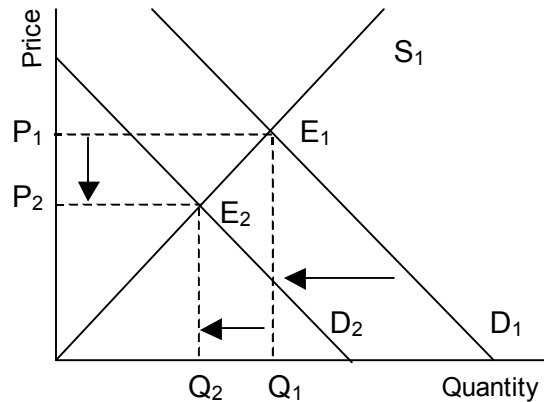


Graph 4
Increase in Demand

- Decrease in Demand

A decrease in demand occurs when the demand curve shifts to the left as shown in Graph 5. Again, the original demand curve equals D_1 and coupled with the Supply curve of S_1 , means that the original equilibrium equals E_1 . Thus, price and quantity equal P_1 and Q_1 before the demand shift, respectively.

However, when the demand decreases to D_2 , the market moves to a new equilibrium, E_2 with equilibrium price and quantity both decreasing to P_2 and Q_2 , respectively.

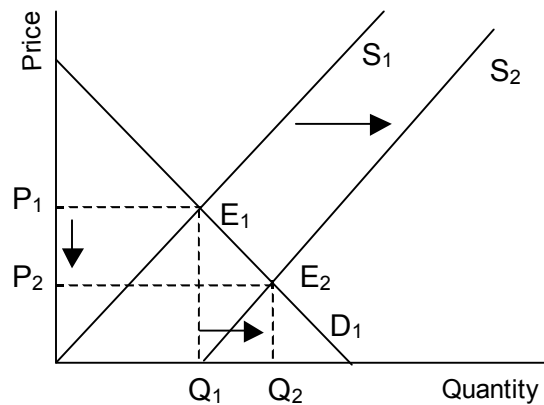


Graph 5
Decrease in Demand

- Increase in Supply

An increase in supply occurs when the supply curve shifts to the right as shown in Graph 6. The original demand and supply curves equal D_1 and S_1 , respectively. Thus, the original equilibrium equals E_1 , with a price and quantity equal to P_1 and Q_1 respectively.

However, when the supply increases to S_2 , the market moves to a new equilibrium, E_2 , with equilibrium price decreasing to P_2 while equilibrium quantity increases to Q_2 .

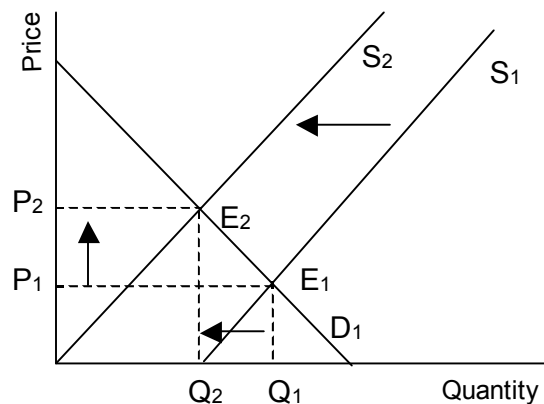


Graph 6
Increase in Supply

- Decrease in Supply

A decrease in supply happens when the supply curve shifts to the left, shown in Graph 7. Again, the original demand and supply curves equal D_1 and S_1 , respectively. The original equilibrium equals E_1 , with a price and quantity equal to P_1 and Q_1 respectively.

When the supply decreases to S_2 , market forces move the market to the new equilibrium, E_2 , with equilibrium price increasing to P_2 and equilibrium quantity decreasing to Q_2 .



Graph 7
Decrease in Supply

The above four types of demand and supply shifts are the basic results of the demand and supply model. They will serve as the basis for much that comes in the class. Let us now consider how to use the graphs. Here is one example of a simple type of question that is relevant.

Which of the following would be most likely to result in an increase in equilibrium price and a decrease in equilibrium quantity in a market?

- A. An increase in Demand (Supply is constant.)
- B. A decrease in Demand (Supply is constant.)
- C. An increase in Supply (Demand is constant.)
- D. A decrease in Supply (Demand is constant.)

Answers A through D are illustrated by Graphs 4 through 7, respectively. Carefully examine each graph to find the one that shows the indicated move in equilibrium price and quantity. Clearly, choice D is the correct answer, which is shown in Graph 7. The student should note how a change in the stem of the question would change the correct answer. For example, if it asks about an increase in both equilibrium price and quantity then the correct answer is choice A. Make sure you understand all of the other possible questions based on this type.

In addition to the above type of question, students should be prepared to ask more difficult questions; questions that rely upon them correctly working through all four of the steps discussed above. Consider, for example, the following question:

Suppose that the price of gas increases. What impact, if any, will this change have upon the market for cars?

- A. The change will have no impact on the market for cars.
- B. Equilibrium price and quantity of cars will increase.
- C. Equilibrium price and quantity of cars will decrease.
- D. Equilibrium price will increase while quantity will decrease.
- E. Equilibrium price will decrease while quantity will increase.

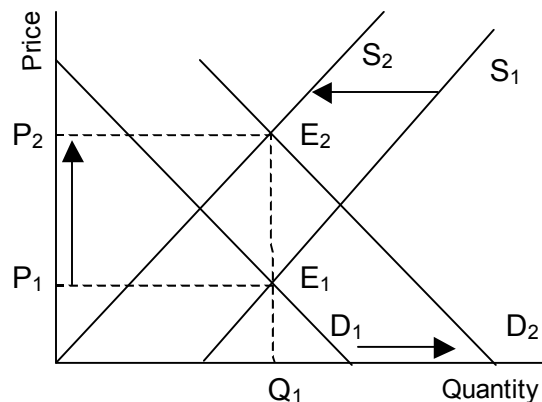
In order to answer this question you must decide which will be affected, Demand or Supply. Be careful, it's possible that neither will be affected, in which case the correct answer is A. Recall, that cars and gasoline are complements in consumption. Since Demand is related to consumption, it is the demand curve that will be affected and not the supply curve. Likewise, since complementary goods are those that are consumed together, when the price of gas increases, people will buy less gas (law of demand). However, with lower use of gas also comes less demand for cars. As a result, the demand for cars will fall. As shown by Graph 5, when the demand for a good falls, then the equilibrium price and quantity of that good will also fall. Hence, choice C is the correct answer.

C. Change in both Demand and Supply

It is possible for both demand and supply to be affected simultaneously in the real world. As a result, it is useful to be able to make predictions about what will happen in a market when such a result occurs. For example, suppose that some change occurs in the market for gasoline that induces both consumers and firms to expect that the price of gas will rise in the future.

Recall that an expected higher price will induce consumers to buy more of the good now since it is cheaper now than it is expected to be in the future. Hence, demand for gas now will increase. Likewise, an expected higher future price will induce suppliers to sell less of the good now since its relatively cheaper price is less attractive to profit maximizing firms than the future expected higher price. Hence, supply for gas now will decrease.

What happens to equilibrium price and quantity in this situation? A simultaneous decrease in Supply combined with an increase in Demand is illustrated in Graph 8. The original demand and supply curves are D_1 and S_1 , respectively. The new demand and supply curves, after the effect of the price expectations occur, are D_2 and S_2 , respectively.



Graph 8

The graph illustrates that equilibrium price will increase but that quantity remains constant. This result, however, is somewhat deceptive. Notice that, as discussed above, the result of a decrease in Supply (Graph 7) is to increase price and decrease quantity while the result of an increase in Demand (Graph 4) is to increase both price and quantity. Clearly, because the changes in both demand and supply curves cause price to increase, then price will increase.

However, each shift has an opposite impact on equilibrium quantity. The supply shift decreases quantity, while the demand shift increases quantity. Graph 8 illustrates the result that occurs if these two opposing impacts on quantity exactly cancel each other out. This only occurs when the two shifts are of the **same magnitude**. However, it is just as possible that quantity could increase (demand shift larger) or decrease (supply shift larger). Without information about the magnitude of the two shifts we simply cannot determine what will happen to quantity.

This discussion highlights an important point about simultaneous shifts of both supply and demand. In each of the four cases discussed below, either equilibrium price or quantity will be indeterminate without information about the magnitude of the shifts. However, simply drawing a graph as we did above with only a single shift of a single curve, leads one to misleading conclusions without that information. This is because when drawing such a shift on a graph one must make an assumption about the relative magnitudes of the two shifts. As a result, it is actually more useful to not draw any additional graphs. Instead, simply look at the four graphs that we've already discussed above and consider the impact of each shift separately.

- Increase in both Demand and Supply

	Impact on Price	Impact on Quantity
Demand Increases (Graph 4)	Increases	Increases
Supply Increases (Graph 6)	Decreases	Increases
Total Impact	Indeterminate	Increases

- Increase in Demand; Decrease in Supply

	Impact on Price	Impact on Quantity
Demand Increases (Graph 4)	Increases	Increases
Supply Decreases (Graph 7)	Increases	Decreases
Total Impact	Increases	Indeterminate

- Decrease in Demand; Increase in Supply

	Impact on Price	Impact on Quantity
Demand Decreases (Graph 5)	Decreases	Decreases
Supply Increases (Graph 6)	Decreases	Increases
Total Impact	Decreases	Indeterminate

- Decrease in both Demand and Supply

	Impact on Price	Impact on Quantity
Demand Decreases (Graph 5)	Decreases	Decreases
Supply Decreases (Graph 7)	Increases	Decreases
Total Impact	Indeterminate	Decreases

Notice that in the four cases, one has price increasing, one has price decreasing, one has quantity increasing, and one has quantity decreasing. Students should be prepared to answer applied questions where both demand and supply curves shift simultaneously. This would be similar to the question asked above about the market for gasoline where expectations about future prices affect both demand and supply simultaneously. Other examples of such questions are in the practice exam questions.

III. Applications

One of the main purposes of teaching the demand and supply model in a principles class is that the model is extremely powerful in predicting how markets work. This section gives two of the many possible examples of how the model is useful in analyzing market outcomes. Considered below is the impact of a particular type of governmental market intervention, known as price controls. Price controls refer to the government attempting to control the market price through legal intervention in the market. Two different types of price controls, price floors and price ceilings, are defined and analyzed separately.

A. Price Ceilings

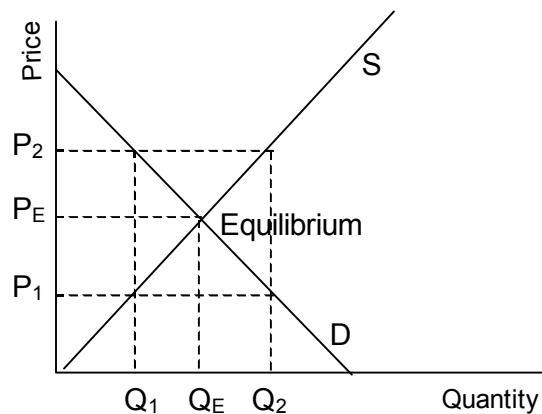
- Definition

A price ceiling is a maximum legal price. The name is descriptive of the effect of a maximum legal price. Similar to a ceiling, the market price can be below the ceiling, but not above it. There are a number of examples of price ceilings. One example is rent controlled housing. A number of jurisdictions, usually urban areas, impose a price ceiling, often called rent controls, on housing in an attempt to reduce the prices consumers pay for housing. President Clinton's health reform plan early in his first term proposed price controls as a method of controlling rising medical costs, especially for physicians. Another example of comprehensive price ceilings were wage and price controls on a wide variety of goods imposed by President Nixon in the early 1970s in an attempt to curb inflationary pressures.

- What is an effective price ceiling?

An effective price ceiling is one that, when enforced, will cause the market to move away from the equilibrium.

Which of all the possible ceiling prices are effective and which ineffective? Graph 9 shows the normal, free-market equilibrium where quantity demanded equals quantity supplied, at a price of P_E and a quantity of Q_E . It also shows two other prices, one higher than the equilibrium price (P_2) and one lower (P_1).



Graph 9
Price Ceilings

Which of these two prices, or both, would be effective price ceilings? The answer to this question depends upon a clear understanding of the definitions of both an effective price ceiling and a price ceiling itself. Recall that a price ceiling is a maximum legal price. Hence, the actual market price can be below but not above a ceiling price. An effective price is one that when enforced will move the market away from the equilibrium. Put together, these two concepts mean that only ceiling prices set below the equilibrium, such as P_1 in Graph 9, will be effective.

Ceiling prices below the equilibrium price are effective while those above are ineffective because the market in the absence of some intervening factor will always attempt to be

at the equilibrium price. However, a ceiling price set above the equilibrium, such as at P_2 , still allows the market to be at the equilibrium. On the other hand, at P_1 , even though the market attempts to be at the higher equilibrium price of P_E , the enforced ceiling price will not allow this.

- Equilibrium

Now consider the impact of only effective price ceilings. That is, consider only the impact of ceiling prices that are set below the equilibrium price. There are three possible outcomes, all of which are discussed in more detail below. Either the market will (1) make no change and remain at the original equilibrium or (2) the price of the good will decrease but a shortage of the good will develop or (3) the price of the good will actually increase.

- Enforceable price ceilings?

Which of the above three outcomes occurs depends crucially upon whether or not the government can actually enforce the ceiling price. This is not a trivial question, either. Clearly, the actors in the market will have an incentive to attempt to avoid the regulation and return to the equilibrium, just as happens when the market is not in equilibrium for other reasons. For example, one way to get around rent control laws for housing is to pay what is commonly known as “key money.” That is a payment upfront to have the keys in an apartment changed when changing renters. However, if the key money is substantial (say it is \$5,000), then this is clearly an attempt to avoid the price ceiling.

Thus, the analysis of the impact of the price ceiling depends crucially upon whether or not the price ceiling can be enforced.

- Ceiling Price is Enforced

If the ceiling price equals P_1 as shown by Graph 9, then the result is straightforward. At this price in the graph, then a shortage occurs, with quantity demanded equaling Q_2 and quantity supplied equaling Q_1 . While the price does fall to the ceiling price, some consumers are not able to buy the good. That is true even of some consumers who previously were able to buy the good at the equilibrium.

- Ceiling Price is Not Enforced

There are actually two possible outcomes if the price ceiling cannot be enforced. In this case, someone is being paid a price in excess of the ceiling price for the product. The outcome depends crucially upon who gets that extra money.

1. If the extra money simply goes to the firm producing the good, then they respond as do all firms when receiving a higher price. They increase their quantity supplied. Likewise, consumers respond to the higher price by reducing their quantity demanded. As a result, the market simply moves back to the original equilibrium. (Note: the market might not go back all the way to the original equilibrium if the cost of avoiding the price ceiling is substantial. In that case, the equilibrium quantity will be lower.)

2. If the extra money does not go to the firm producing the good but, instead ends up going to some third party, then quite a different outcome results. Why might this even be a possibility? This commonly occurs because it is easier for the government to enforce the ceiling price upon the original producers but it cannot enforce the ceiling price on people who buy and then resell the product. This is the classic formation of a black market.

What happens in a black market? First, because the producing firms are not receiving a higher price, they do not change their behavior. They continue to produce at the same level, Q_1 , in Graph 9. Hence, the crucial question is how will consumers react to the formation of the black market. Recall that they are generally now buying the product, not from the firm at a price of P_1 but from the black marketeers.

The black marketeers will attempt to resell the good at the highest price they can in the market. How high will consumers be willing to pay in order to ensure that they receive the limited quantity available? The relationship between quantity and price for consumers is given by the demand curve. Hence, when the quantity available equals Q_1 , then the price in the market will equal P_2 . This is commonly known as the black market price.

To recap the situation under a black market:

- For some reason, usually because it is easier to enforce the price ceiling upon the firms in the market than upon third parties, the higher price due to cheating on the regulation goes to third parties, known as black marketeers.
 - Since the firms producing the product do not receive a higher price they continue to produce the lower output (Q_1 in figure 9 when the ceiling price equals P_1 .)
 - The black marketeers buy the product from the producers and resell it to consumers at a higher price.
 - The higher price is given by the demand curve in the market at the given quantity level induced by the price ceiling (Q_1 and P_2 in Graph 9.)
 - This is an equilibrium in the market. That is, both quantity demanded and quantity supplied are the same (Q_1) precisely because consumers and firms face different prices.
- Does the Price Ceiling Improve the Position of Consumers?

The normal justification for the imposition of price ceilings is to improve the welfare of consumers in a market where prices are considered too high by some subjective standard. Thus, it is crucial to ask as part of our analysis, how well do price ceilings achieve their stated goal?

The results are actually not encouraging, as an examination of the results above clearly indicate. Consider each of the three possible outcomes:

- When the ceiling price is enforced, the price does fall in the market to whatever price is set by the government. However, a shortage occurs in the market so that some consumers are unable to buy at this lower price. Hence, some consumers will be better off, those who can buy the good at the lower price. However, other consumers will be worse off, those who cannot buy the good at all but would have at the higher price.
- When the ceiling price is not enforced and the illegal higher price is paid to the firms producing the good, the market does not change with the regulation. As a result, the price ceiling does not advantage consumers. In fact, consumers may be worse off if avoiding enforcement, as is likely, is costly to them. Furthermore, the government will be wasting some resources in passing and attempting to enforce the regulation. Hence, there exists no possibility of a consumer advantage and significant possibility of substantial costs.
- When the ceiling price is not enforced and a black market forms, consumers actually end up paying a higher price and also buy a lower quantity. For both reasons, they are worse off as a result of the price ceiling.

B. Price Floors

- Definition

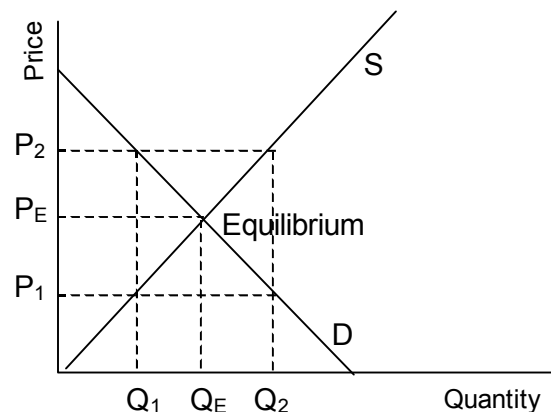
A price floor is a minimum legal price. The name is descriptive of the effect of a minimum legal price. Similar to an actual floor, the market price can be above the floor, but not below it. Examples of price floors include the national minimum wage in the U.S. and price floors imposed for a number of agricultural products.

- What is an effective price floor?

An effective price floor is one that, when enforced, will cause the market to move away from the equilibrium. Which of all the possible floor prices are effective and which ineffective?

In Graph 10, the equilibrium in the absence of any price controls will be at P_E and Q_E . The graph also shows a price above (P_2) and one below (P_1) the equilibrium price.

Which of these two prices, or both, would be effective price floors? Again, to understand this point, one must clearly understand the definitions of both a price floor and of an effective price floor. Because a price floor is a minimum legal price, the actual price can be above, but not below, a given price floor. Likewise, because an effective price floor is one that forces the market away from the actual equilibrium only prices above the equilibrium price, such as P_2 in Graph 10, will be effective. If the price floor were set below the equilibrium price, at P_1 in Graph 10, then the market legally can and would still choose



Graph 10
Price Floors

the equilibrium price.

- Equilibrium

Next consider only the impact of effective price floors, those that are set above the equilibrium price. In the case of price floors, there are only two possible outcomes. Either the market will (1) make no change and remain at the original equilibrium or (2) the price will increase but a surplus of the good will also result.

- Enforceable Price Floors?

Which outcome will actually occur, similar to the analysis for price ceilings, depends crucially upon whether or not the price floor can actually be enforced. Again, the actors in the market have an incentive to avoid the floor and return to the equilibrium.

- Floor Price is Not Enforced

If the floor price is not enforced, then there exists only one possible outcome. At the floor price a surplus would exist so price competition by firms would force the price back to the equilibrium, at a price of P_E and a quantity of Q_E . Similar to the same situation for price ceilings, there would potentially exist significant costs to the unenforceable floor price as firms attempt to avoid the regulation.

- Floor Price is Enforced

The situation that results is quite different if the floor price is enforced. In that case, at a floor price of P_2 , then quantity demanded would only equal Q_1 while quantity supplied would equal Q_2 . Hence, a surplus would occur with firms unable to sell all that they wish to at the higher price.

- Supporting an effective price floor

Price floors are usually intended to advantage firms or, in the case of minimum wage laws, individuals who supply labor. However, as we've seen above they do not necessarily work as planned. Either they have no impact on the market, even though imposing substantial enforcement costs, or they do increase the price while causing a surplus. In the latter case, only those firms who can sell their product will be better off. Other firms will be worse off and may even be forced out of business.

As a result, the government often enacts programs, known as price supports, in order to alleviate these problems. These programs tend to involve some type of government subsidy.

- Government subsidies

A government subsidy is when the government either pays for part of the higher price for the good, or more commonly, buys up the extra surplus at the floor price. Such subsidies are often called price supports because they are enacted in order to keep the price at the higher level. For example, price support programs are common in agricultural industries where products have price floors imposed.

What does the government do with the product that it buys up in the subsidy program? Often they will use the good as part of a welfare program to support poor people, perhaps giving the good away to welfare recipients or other qualifying individuals. Such has commonly been the case for milk price support programs, for example.

- What is the effect if the price floor is not subsidized?

In this instance the surplus persists and eventually some firms will go out of business. But the cycle will not stop there. The higher price of the good and resultant higher profits for surviving firms will induce other firms to enter the industry, which will cause another surplus. As a result, more firms will go out of business. This cycle could possibly continue indefinitely.

Another important point is to carefully examine the impact on other markets. Consider for example the impact of minimum wage legislation. Currently, the minimum wage is \$5.15 an hour. Suppose the minimum wage is increased, as has been discussed during the current congressional session. Then the effect will be dependent upon which workers are considered. Higher skilled workers have higher wages and, hence, are not affected by the change because the price floor is not effective for them. It is only the lower skilled and wage workers who are affected directly. The impact is as discussed above for these unskilled workers.

However, skilled workers are indirectly impacted by the minimum wage in the following manner. As the wage increases for unskilled workers, they become less desirable to firms, who reduce their employment. For skilled workers, especially those who are close substitutes for the unskilled workers, employment increases as a result. That is, firms' demand increases for those skilled workers who are substitutable for the lower paid unskilled workers. As demand increases (shifts right) this will increase both employment and wages, not for the lower skilled workers, but for skilled workers. Thus, even though the minimum wage is unlikely to help unskilled workers, ultimately causing unemployment for unskilled workers, it will advantage skilled workers. Of course, the regulation is not originally intended (or is it?) to advantage skilled workers.