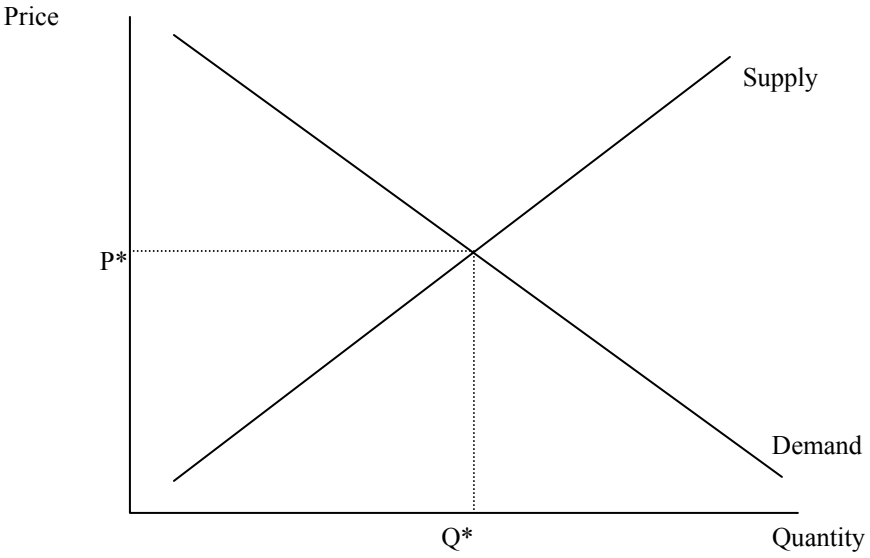
Competition – Demanders compete with other demanders. Suppliers compete with other suppliers.

Demanders like low prices for what they buy, but their competition with one another to consume stuff drives prices up. I'd prefer to pay only $0.25 for a Philly cheese steak at Peppino's, but I don't get to eat it because someone else offers to pay $4.50.

Suppliers like high prices for what they sell, but their competition with one another to sell their products (supply) drives prices down. I'd like to teach class for the Econ Department for $83,000 each semester, but competition drives the going rate to something like $7 a semester (chalk not included).

Somehow, we've got to allow this competitions amongst demanders and competition amongst suppliers play out. The way this is done in our economy, and many others, it by markets.

Market - process or location in which equilibrium is established and the otherwise inconsistent aspirations of demanders and suppliers are reconciled.



The equilibrium price is found at the intersection of the demand and supply curve, and is labeled P* and Q*. (There's nothing really sacred about the *. Usually the * notation will represent an equilibrium price and quantity. However, occasionally I'll use P_0 and Q_0, especially when we'll be comparing more than one equilibria.) Use whatever notation floats your boat.

Equilibrium - an outcome or state that will tend to persist unless disturbed by a change in one or more of the ceteris paribus conditions. It is also the state in which the aspirations of suppliers are consistent with each other and the state of the world.

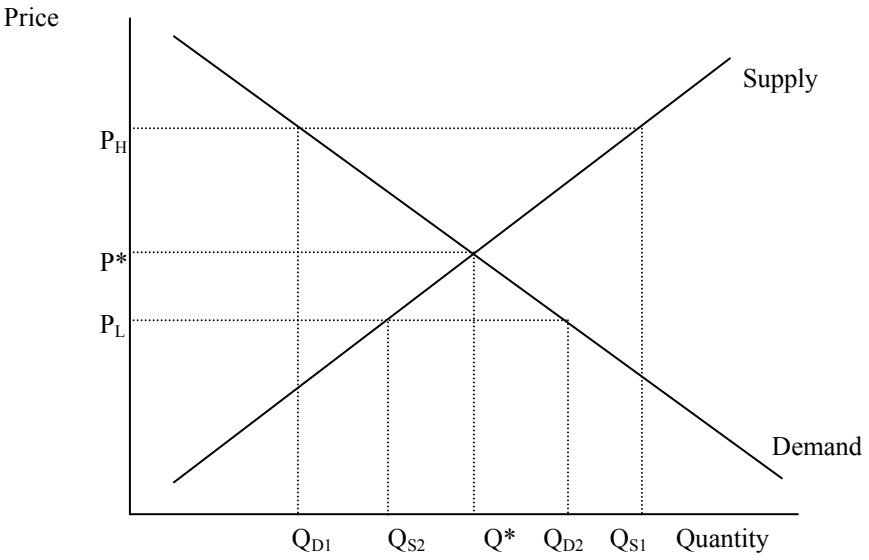
At P*, Demanders want to purchase Q* units. At P*, Suppliers want to supply Q* units. Everyone who is willing to pay P* can buy all the goods they want. Everyone who is willing to supply goods at P* is supplying what they want. Everyone's aspirations are consistent and everyone is happy. Let's all hold hands and sing. No one wants to change their behavior.

In other words, at equilibrium, the quantity supplied = the quantity demanded.

Once we are at equilibrium, we will stay at equilibrium, until a ceteris paribus condition is changed. However, every time we change a ceteris paribus condition, there will be a new equilibrium.

The question arises how do we get to P*. Do we automatically get there? Not really, but, as the following illustrates, we'll tend to move toward the equilibrium price, and once we get there, we'll tend to stay there (unless ceteris paribus conditions change. There may be some time for the price to adjust to its equilibrium level, but it will get there (more later…)

Suppose somehow that we are at P_H (a price above the equilibrium price). At this price, we find out how much suppliers want to produce by looking at their supply curve (Q_{S1}), and how much demanders want to consume by looking at the demand curve (Q_{D1}). At this price, $Q_{S1} > Q_{D1}$. This is called an excess quantity supplied (sometimes called a surplus, but think excess quantity supplied). Suppliers would like to supply more than demanders want to purchase. Suppliers will not be able to sell all of their goods at this high price. They will lower their prices; that is, there is downward pressure on price. This continues until the equilibrium price is reached.



Suppose somehow that we are at P_L. At this price, $Q_{D2} > Q_{S2}$. This is called an excess quantity demanded (sometimes called a shortage). At this low price, many consumers want to buy the product, but suppliers won't be willing to produce as much as the consumers desire. Consumers won't be able to purchase as much as they'd like and will be willing to pay higher prices. This will cause upward pressure on price.

The idea is, that if we find the price temporarily away from the equilibrium price, these pressures will cause the price to tend to return to equilibrium price. This is why equilibrium will "tend to persist" unless there is a change in a ceteris paribus condition.

P* and Q* are the equilibrium price and quantity. This occurs where the supply curve intersects the demand curve. The quantity demanded and the quantity supplied are equal in equilibrium.

Hey, I was just wondering what was going on with MV and MC at equilibrium?

Recollect that the height of a demand curve tells you that MV of consuming that unit. Thus, at Q*, the height of the demand curve is P*. Thus, at this point, MV = P*. The last unit of the good consumed has a marginal value that is just equal to the equilibrium price. Or some consumer is willing to pay P* for that last unit of the good consumed. (Remember what our decision rule?)

Also, remember that the height of a supply curve tells you the MC of producing that unit. Thus, at Q*, the height of the supply curve is P*. Thus, at this point MC = P*. The last unit of the good produced has a marginal cost that is just equal to the equilibrium price. (Remember our decision rule?)

Thus, putting these two tidbits together, we can conclude, at equilibrium that P* = MC = MV. Both the MV and MC are equal at the equilibrium quantity. So what? Well, it turns out this is a very desirable situation. It tells you that the last unit produced had a marginal cost this just equal to the marginal value. The "cost to society" of producing the last unit = "the value to society" of consuming the last unit. This has something to do with maximizing "the gains" from trade".

It will be a general rule, that when MV = MC, the "gains from trade" will be maximized. All the mutually beneficial exchanges will have occurred. So at least for now, let's just note that at equilibrium in our market, this potentially neat thing occurs. More later...

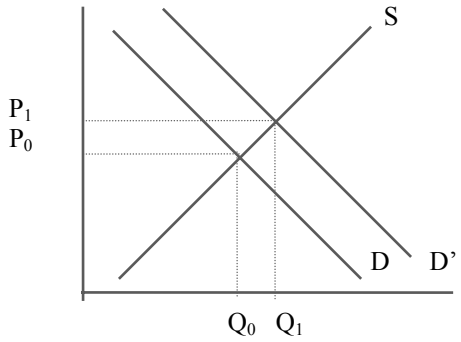
This won't always be the case. You don't need to worry about this a whole lot now, but later we will look at situations where this is not true. However, I just want to make a note about this. You'll see when we talk about price floors and ceilings, labor unions, monopolists, etc.

Comparative Statics

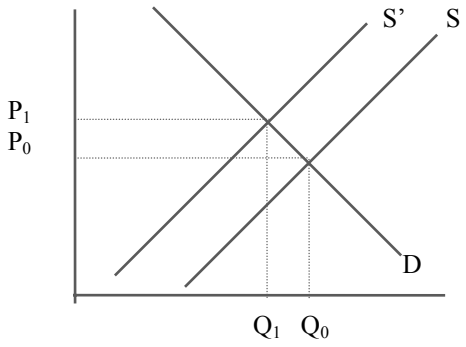
Note: these don't necessarily correspond to the exercises we did in class, but check them out anyway. Compare the equilibrium before and after a change in one or more ceteris paribus conditions.

1. Start in initial equilibrium (draw an initial S & D curve to start)
2. Change one or more of the ceteris paribus conditions
3. Examine the impact on demand or supply (shift the appropriate curve)
4. Examine new equilibrium (compare)

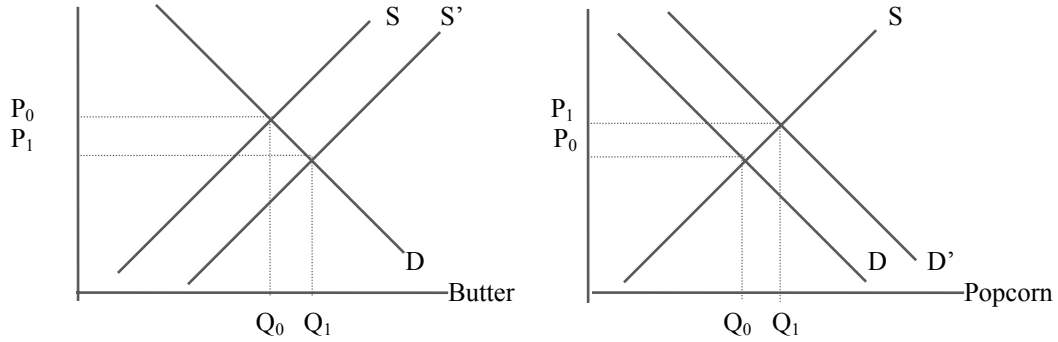
Examples. Suppose we are looking at the market for oranges. The initial equilibrium is (P_0, Q_0). There is an increase in income. Oranges are a normal good. This causes the demand curve to shift to the right. At the original price, P_0, there will be an excess quantity demanded, putting upward pressure on the price. The new equilibrium will be (P_1, Q_1). Both equilibrium price and quantity will increase.



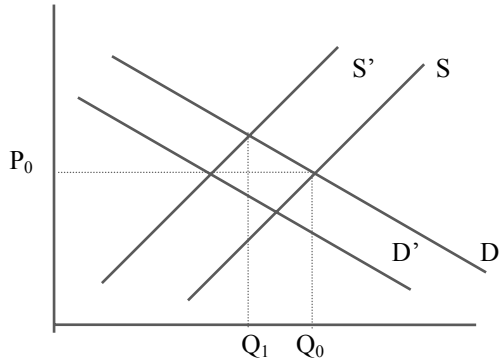
Now, suppose unusually cold weather occurs in Florida, destroying some of the orange crop. This causes a reduction in the supply of oranges. The initial equilibrium is (P_0, Q_O). The new equilibrium is (P_1, Q_1). The equilibrium price will increase and the equilibrium quantity will decrease.



Now suppose there are two goods, butter and popcorn, which are compliments. If there is an increase in supply for butter, what happens to the popcorn market? First, the initial equilibria in the markets are labeled (P_0, Q_0). The increase in supply in the butter market results in a lower price and higher quantity (P_1, Q_1). However, notice that one of the ceteris paribus conditions for the demand for popcorn is that the price of related goods is held constant. If we change one of these prices (butter) we must shift the demand curve for popcorn. Since butter is a complement for popcorn, and butter is cheaper, the demand for popcorn will increase. The new equilibrium in the popcorn market is (P_1, Q_1).



Suppose we are looking at the market for prostitution. Suddenly, AIDS is developed. What happens to the prostitution market? Again, the initial equilibrium is (P_0, Q_O). AIDS decreases the demand for prostitution, as well as decreases the supply of prostitution. The new equilibrium is (P_1, Q_1). You can think of AIDS as a sort of increase in the marginal cost of production of "prostitution services". Prostitutes will need to be paid a higher price to incur the risk of contracting AIDS.



As it is drawn, the price does not appear to have change. However, the change in price is ambiguous. This can be seen two ways. First, take the two changes one at a time.

Change	Effect on P	Effect on Q
Decrease in supply	increases	decreases
Decrease in demand	decreases	decreases
Total	ambiguous	decreases

The other way this can be shown is to use supply and demand shifts of different magnitudes. Draw this with a large demand curve shift and a small supply curve shift. Check your answer. Now draw it again with a large supply curve shift and a small demand curve shift. Compare. You should see that in one case the price rises, while in the other case, the price falls.

In general, if you simultaneously change both a ceteris paribus condition for both supply and for demand, the direction in the change of price or change in quantity will be ambiguous.

Just as a tip...If you can draw the picture, with about equal size shifts in the two curves, one of the price and quantity can be drawn such that it doesn't change. This is the ambiguous change.