

Lecture 9: Market Change

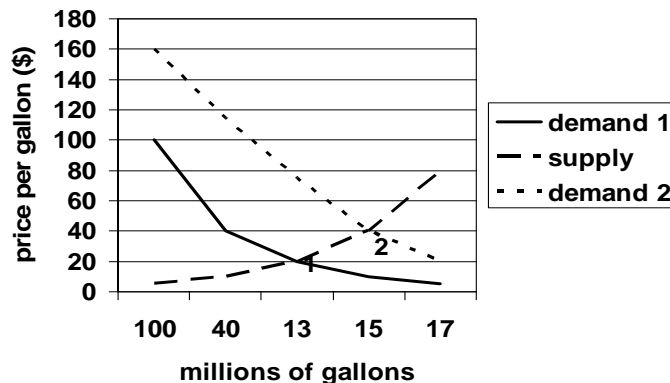
1. Markets are rarely "in equilibrium". Something is always changing to change demand or supply (remember the "factors" we talked about that *shift* the demand and supply curves). One real benefit of economics is helping predict what happens to the equilibrium price and equilibrium quantity when something happens to change supply or demand.

There are two situations in which to examine these changes: the "*short run*" and the "*long run*". The short run is the period of time during which the number of sellers is constant. Changes in production only occur from a fixed number of sellers.

The long run is the period of time during which the number of sellers can change, so changes in production can also occur from either increases or decreases in the number of sellers.

Short Run

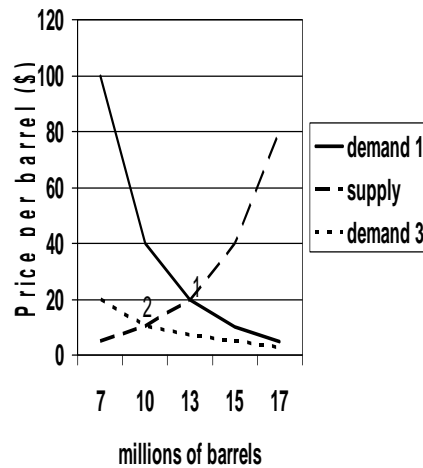
a. any factor that causes the demand curve to "*increase*" (more is bought at every price) will cause equilibrium quantity and equilibrium price to both increase



Example: An increase in income (if oil is a normal good), an increase in population, a decrease in car prices (cars and oil are complements), an increase in natural gas prices (oil and natural gas are substitutes), or an increase in preferences for oil would cause the demand curve to move from demand 1 to demand 2. The equilibrium price increases

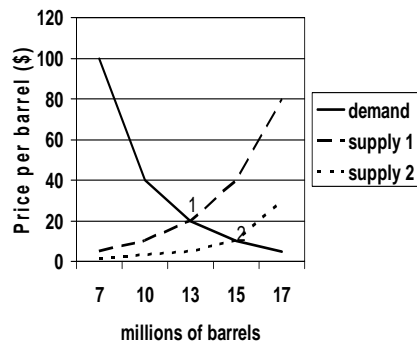
from \$20 to \$40, and the equilibrium quantity increases from 13 million to 15 million. Market equilibrium moves from point 1 to point 2.

b. conversely, any factor that causes the demand curve to "*decrease*" (less is bought at every price) will cause equilibrium quantity and equilibrium price to both decrease



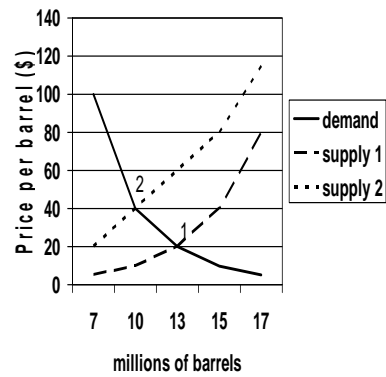
Now the equilibrium price is \$10 and the equilibrium quantity is 10 million (point 2). The decrease in demand could have been caused by a decline in buyer income, a decline in population, an increase in the price of complements (cars), a decrease in the price of substitutes (natural gas), or a decline in preferences for oil (maybe due to environmental concerns).

c. As you know, the supply curve can also move. For example, a reduction in costs per unit, or an improvement in technology, will cause the supply curve to move "down", as in the following figure. The equilibrium quantity increases and the equilibrium price decreases:



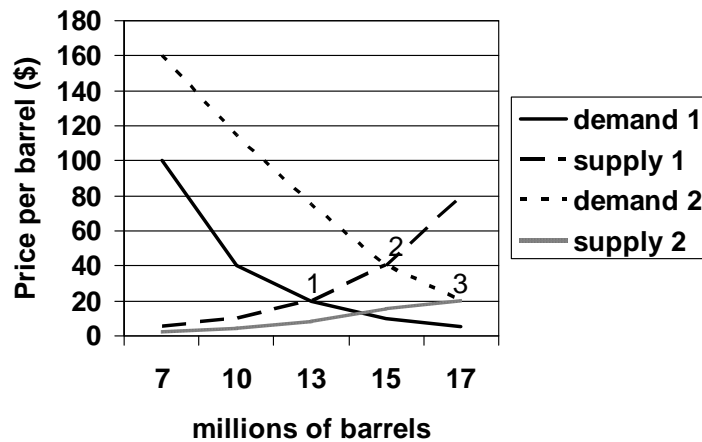
With "supply 2", the equilibrium price has fallen from \$20 to \$10 and the equilibrium quantity has increased from 13 million to 15 million. Market equilibrium moves from point 1 to point 2.

d. Or, an increase in costs per unit, or a deterioration in technology, will cause the supply curve to move "up", thereby increasing the equilibrium price and decreasing the equilibrium quantity (again, the move is from point 1 to point 2).



b. Long run

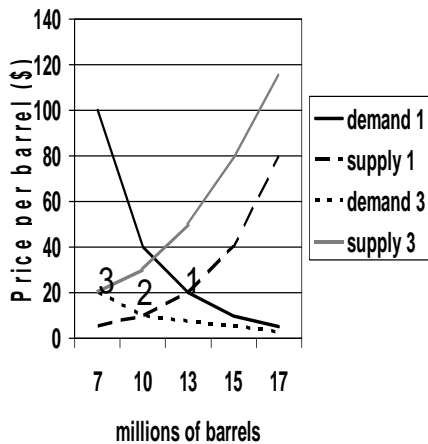
Here, the number of businesses can change in response to changes in profitability (except in the case of a monopoly, that is, only one producer in the market). For example, if an increase in world income causes the demand for oil to increase, oil prices to rise, and the profitability of producing oil to increase, then eventually oil producers will have an incentive to find more oil and sell. This increases the supply and lowers the price until profitability returns to "normal levels". In terms of our graph:



Where demand 2 and supply 1 intersect is the higher price for oil and the higher profitability (point 2). Supply 2 represents the "increase" in supply of oil due to its increased profitability. The intersection of demand 2 and supply 2 is now the new equilibrium (point 3). Notice the price has fallen back to \$20 per barrel. It wouldn't necessarily have to fall this low, but it would fall from where it was (\$40 per barrel).

Another good example of this is rental housing for students. As the student population at NCSU increased, the demand for student rental housing increased, and rents and profitability rose. Eventually this motivated developers to build or convert more units to rental housing. This brought rents and profitability back down.

On the other hand, if demand decreases and price and profitability decline, supply will eventually decrease, which ultimately increases prices and profitability:



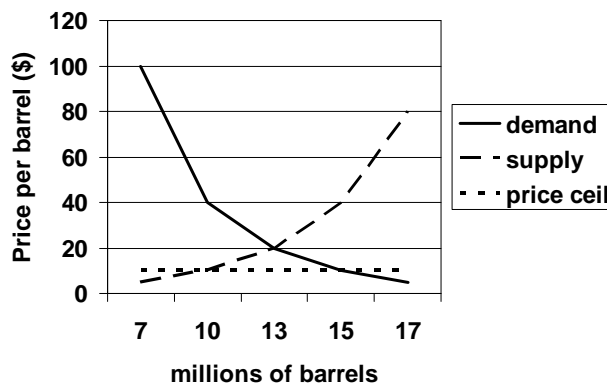
The original equilibrium is the intersection of demand 1 and supply 1 (point 1). Demand declines to demand 3, and at the intersection with supply 1, the price is lower and the quantity is also lower (point 2). Then, supply is reduced to supply 3, and at the final equilibrium of demand 3 and supply 3, the price rises back up but quantity is even lower (point 3).

This scenario happened in the oil market in 2000 and 2001. A worldwide recession reduced income and reduced demand. Oil prices plunged to \$10/barrel. In 2002 and 2003 this motivated oil producers to reduce supply and increase price.

3. What happens with a fixed supply? Well, obviously, there's no ability to change supply, so this is why prices can fluctuate wildly in such markets. Price changes are totally driven by demand changes. Profitability can rise and fall, and there's no ability of producers' to change supply.

4. Government restrictions on price

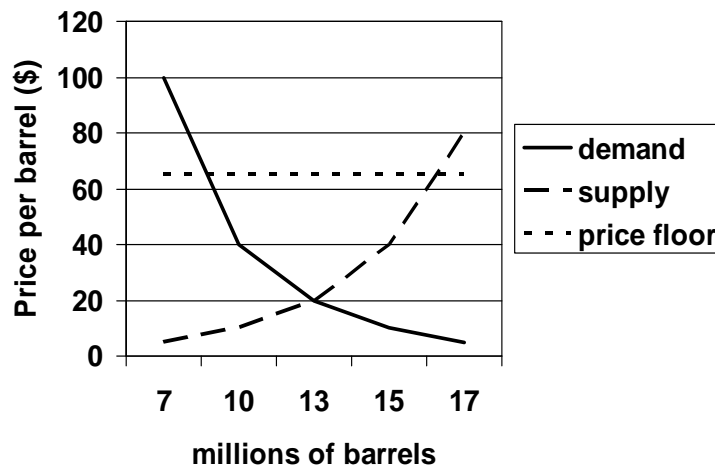
What happens if the government, or some other body, imposes a "*price ceiling*", where the equilibrium price can't be above a certain level. If the ceiling is below the equilibrium price, then a permanent shortage occurs, meaning the quantity buyers want to purchase is less than the quantity businesses want or produce and sell. The shortage is effectively eliminated by "other costs" - increased waiting time, ore maybe cheating and "underground" markets:



In the figure, the equilibrium price is \$20 per barrel, but the legal price ceiling is \$10 per barrel. At \$10 per barrel, buyers want more than businesses will sell.

There's also the opposite situation - a price floor. Here the government says the price can't be *below* a certain level. A permanent surplus results. The government will have to buy up the surplus to maintain the price floor.

Below, the price floor is at \$65 per barrel, and the quantity buyers want to purchase is much less than the quantity sellers want to produce and sell. The surplus of about 8 million barrels (16 million supplied minus 8 million purchased) will have to be stored.



5. Creative Destructionism: the idea that markets are always changing, and there is constant "creation" at the same time there is constant "destruction". So, cars replace wagons, planes replace trains, digital cameras replace film cameras, and DCDs replace video tapes. All of this happens as businesses are motivated to give consumers better products.

6. Multiplier: the idea that economic change reverberates throughout the economy. So, if the local textile mill closes, this will affect food and clothing stores and banks. Or, if

Dell builds a factory in NC, suppliers of computer parts and other businesses will see increased business.

A number, the "multiplier", tells us how much total change occurs in response to an initial change. If the multiplier is "2", it means the total impact on the economy is \$2 for every \$1 of initial change.