

Chapter 4 – Applications of Supply and Demand

There are no terms in this chapter. There are no new concepts. There isn't too much that's new. However, they do offer some strange "applications" for supply and demand, as well as a few conventional ones that you should know already, say, the price of computers.

1. **Predicting the Number of Friends You Will Have:**

Suppose John makes \$30/hour and Jack makes \$40/hour. Jack's time is more valuable than John's. If they have the same "demand" for friends, John should have more friends than Jack because John's time is less valuable, hence, he can spare more of it. In a way, John pays a lower price for friendship (\$30/hour instead of \$40) than Jack.

2. **The Price of an A:**

Consider two teachers, Professor Brown and Professor Lawson. Even if Professor Lawson is accepted to be a better professor, Professor Brown can woo students by lowering the price of an A, or in other words, make his class easier. Hence, the demand to get into Professor Lawson's class is higher (better professor, more students want to be in the class) but the price for Professor Brown's class is lower (easier A, less time). The economist will estimate equal number of students in both classes.

3. **Price of Speeding tickets:**

The more police you have catching speeders, the lower the price of each ticket. If the ticket was \$100 with a 10% chance of getting caught every time someone speeds, the actual "value" of the ticket is \$10. Now, if the price was raised to \$200, but only a 5% chance of getting caught (fewer cops), the "value" of the ticket is still \$10.

4. **Does the used car market hurt the new car market?**

Car Dealer's End: If the used car market didn't exist, more people would buy new cars, increasing demand
Practical End: If people knew that they can sell the new car later, they will be more compelled to buy a new car

5. **Price of Oil:**

If oil is worth \$20/barrel now, but due to lack of resources, will probably be worth \$30 in the future, it would be better to leave it in the ground, since the supply would be lowered w/o a lowering in demand. However, the increased profits must overcome the interest earned on selling the oil now (If I make \$100,000, it can earn 5% interest/year, so by leaving it in the ground, I lose \$5000 in interest payments.) It also doesn't take into consideration any other factors, such as conservation programs, tariffs, etc.

6. **Being Nice:**

You're nicer to some than others, because the "supply" of "niceness" is limited, and you're nicer to those who can "pay" you the most for it, and in this case, be nice to you.

7. **Paying sales tax:**

Consumers pay the sales tax, but sellers actually lose money, because the increase in price will shift the equilibrium price. For example, if \$1 tax is charged on all videos, given the supply, stores can only sell a video that originally cost \$8 for \$8.50, but they have to give \$1 to the government, leaving them with only \$7.50, which is less than before the tax was imposed

8. **Parking spaces and being late to class:**

Many university students are late to class because they can't find parking spaces. Why? Because there is a shortage in parking spaces, implying that the equilibrium price is not being charged. However, the payment is not in money, but in time. A student has to leave the house earlier (more time, more payment) to find the parking space on time, and if he doesn't, he pays by being late to class.

9. **Supply and Demand and the Freeway:**

Freeways are jammed because demand exceeds supply. However, charge tolls, and demand falls, and traffic flow again

10. **Aisle Seats and Commercial Flights:**

People tend to like aisle seats better than middle seats, so the demands for aisle seats are higher. However, there are an equal number of aisle and middle seats, so the supply is the same. The higher demand could push aisle seat prices above middle seat prices, or be first come first serve, causing people to leave the house earlier, thus paying through spending more time.

Added 2/24/03 – For those of you at the HS, don't worry about it if you don't get this stuff yet. There's a whole lot more going on here than simple supply and demand

1. Markets automatically adjust to changes, mostly by adjusting prices in the short run.
2. Depending on the nature of the supply curve, the long run effect is usually much more slight and gradual than the short run effect. If there's a shortage in the short run, production increases, and the price usually falls back to what it was before the shortage occurred. This is assuming that the long run supply is perfectly elastic
3. **Price ceiling** – max price of something
4. Price ceilings set above the equilibrium price has no effect. Price ceilings below the equilibrium price, there's a shortage, as the demand is higher than the supply, since the price cannot adjust itself back to equilibrium
5. **Search activity** – the time spent looking for someone with whom to do business. This is added to the opportunity cost of an object or service. When there's a price ceiling, search activity increases.
 - a. If you include the price of searching for a good deal, the opportunity cost of the item/service may be higher than if the ceiling had not existed
6. **Black market** – illegal market in which the price exceeds the legally imposed price ceiling
 - a. W/ price ceilings in place, demand exceeds supply, so suppliers try to find ways to increase prices w/o getting busted. However, they run the cost of getting caught
7. Price ceilings are inefficient since they inhibit the laws of supply and demand, and marginal benefit is no longer equal to marginal cost. Since the quantity supplied is less than the competitive quantity, there is a deadweight loss, borne by consumers who can't find the product at the low price and producers who can't afford to produce the product. However, those who do find the product gain, assuming they don't spend more time searching
8. Price ceilings aren't necessarily fair, especially when they're based on other factors such as race, ethnicity, or sex
9. **Price floors** – the lowest price possible for an item and service
10. **Minimum wage** – lowest price for labor – protects low skill workers from falling wages since the demand for low skill labor drops as technology improves
11. At a certain wage, there's a certain supply of low skill labor. In order to get more low skill labor, we must increase the wage
12. The long run supply of low skill labor is usually about the same – supply is perfectly elastic
13. At equilibrium, assume that people have no incentive to leave the low skill market. When a demand in low skill labor drops from equilibrium, the wage for low skill labor drops in the short run. But in the long run, as people in low skill labor jobs have more incentive to get out of that market, the supply of low skill labor will drop, until the price returns to the equilibrium wage, where there is no more incentive to leave the low skill market
14. However, sometimes the return to the equilibrium wage can take a long time, and to protect workers, government enacts minimum wage
15. W/ minimum wage, there's more workers than there are jobs(higher supply than demand at that price), hence there's unemployment. Those unemployed might lose more time/money searching for jobs than if they just took a lower pay job (which is now illegal)
16. However, a higher wage might motivate workers to work harder, reduce the turnover rate, and make firms more efficient, hence giving them a reason and the ability to hire the same amount of workers at a higher wage, so it's not necessarily bad. However, it could also cause young people to quit school early and go work, since they can make more money, which isn't a good thing
17. Minimum wage is inefficient – it causes a waste of labor(unemployment) and an inefficient amount of job search
18. **Taxes** – taxes increase the selling price, which decreases demand. The tax revenue is the area between the two supply curves on the y axis and from the new point of equilibrium to the y axis on the x axis
19. Taxes act like a wedge between the price buyers pay and sellers receive – buyers see the after tax price, sellers see the before tax price
20. If the buyer and seller pay the tax equally, and the equilibrium price is halfway between the before and after tax prices. Tax division is based on elasticities of supply and demand
21. **Perfectly inelastic demand** – vertical demand curve, will buy no matter what the price, buyer pays the entire tax
22. **Perfectly elastic demand** – horizontal demand, don't buy unless it's at a certain price, seller pays the entire tax
23. **Perfectly inelastic supply** – supply curve vertical, will produce same amount no matter what, seller pays entire tax
24. **Perfectly elastic supply** – supply curve horizontal – will only produce at a certain price, buyer pays entire tax
25. **Sales Tax in practice** – the upper triangle w/ the Y axis is the consumer surplus, the lower triangle is the producer surplus, the rectangle from the y axis to the new equilibrium point on both the old and new supply curves is the tax revenue, while the small triangle to the right of the tax revenue is the deadweight loss
26. Buyers pay most of the taxes because government only taxes goods who's demand is highly inelastic(beer, cigarettes)
27. Taxes are not efficient in practice – there's a deadweight loss since the tax puts a wedge between marginal cost and marginal benefit. If supplies and demands were perfectly elastic or inelastic, there is no deadweight loss. The more elastic or inelastic supply and demand, the less deadweight loss

28. **Illegal drugs** – since buyers and sellers run the risk of getting caught, the quantity supplied is less than if it wasn't illegal, and the demand is less. However, if both run equal risk, the price does not change.
29. Theoretically, if penalties were high enough and enforcement was perfect, the quantity supplied/demanded can be reduced to 0. However, this isn't practical
30. In the US, the penalty for a seller is higher than a buyer, so the price of the drug rises above the equilibrium price w/o any regulations
31. **Taxes or prohibition** – taxes generate revenue, which could be used to fight tax evasion. However, prohibition might scare some people away and change preferences, and people don't like the idea of the government making money on sale of harmful substances
32. **Agricultural Markets** – supply is inelastic since after they plant, they can't adjust to the market
33. Sometimes, a poor harvest can lead to an increase in profits, since there's less quantity, the price increases, and w/ perfectly inelastic supply, depending on how much was lost, it can actually be profitable. On the other hand, a good harvest could actually decrease revenue. However, although a poor harvest could help some farmers it might hurt others, who's entire crop wiped out
34. All this works because demand for agricultural markets is generally inelastic. If demand was elastic, then it would go the other way – good harvest, more revenue. Bad harvest, less revenue
35. **Inventory** – if food is stored, then quantity produced is not quantity supplied. $Quantity\ supplied = quantity\ produced + inventory(+/-)$
36. Inventory holders want to buy at low prices and sell at high prices (duh)
37. Inventory stabilizes the market by making up for fluctuations in production and keeping price constant
38. They stock up when it's too much and the price is low, they sell when there's a shortage and the price is high. In the end, the price remains the same
39. However, although consumers pay the same price, farm revenues fluctuate since inventories don't bring farmers any more money. Now, larger harvest always bring larger revenues since the price remains constant and only the quantity changes
40. **Subsidies** – give farmers money, lowers the market price, brings overproduction, and creates deadweight loss
41. **Production limits** – keep the price from dropping too low. Sorta like a price floor, bad for consumers
42. **Price floors** – creates surplus, similar to the surplus in labor w/ minimum wage. Government buys the surplus, but if the price is always above the equilibrium, the gov buys more than it sells, and taxpayers end up paying. Helps farmers
43. **Holds Inventories** – the government holds inventories, but due to the price floor, it usually loses money
44. These methods help farmers produce and survive, at the cost of the consumers