

Lecture # 3 -- Supply and Demand Experiment

- Today's class consisted of a simulated market experiment. It included 4 rounds of a simulated market of buyers and sellers. Rounds 3 and 4 included a \$4 tax on either buyers or sellers. You can download the spreadsheet with the results of the experiment, along with the corresponding supply and demand diagrams, from the web site.
- Lessons from the simulated market:
 1. Note the importance of perfect information. In both classes, the predicted equilibrium price was between \$21 and \$22. In the 12:45 class, the initial sales happened to be between \$21 and \$22. Thus, there was not much price fluctuation. In contrast, the 3:45 class shows the importance of information. Early in the experiment, prices fluctuated before converging around \$21. As each side learned what the other side was willing to pay (or charge), prices converged towards an equilibrium. As a result, there was less price fluctuation in round 2. The quantity bought and sold was exactly as predicted in the 3:45 section, and just a bit above or below equilibrium in the first two rounds in the 12:45 section.
 2. Even though some people had low marginal costs or high valuations, they were able to wait and get a price close to the equilibrium.
 3. Note that the tax affects both buyers and sellers, even though only one side is legally responsible for it. For example, with a tax on buyers, consumers must consider how the quantity supplied changes (a movement along the supply curve) as they lower their bids. Similarly, with a tax on sellers, the sellers must account for how the quantity demanded changes (a movement along the demand curve) as they raise prices. For example, in the 12:45 section the tax in round 3 was on buyers. With a tax on buyers, the price offered was lower than the no-tax equilibrium. However, it did not fall by \$4. Rather, it was about \$2 less than the price in round 2 of \$21. Since buyers had to pay a \$4 tax on top of that price, their total payments went up.

Also, note that the results do not change much whether the tax was charged to buyers and sellers. This is particularly notable in the results for the 12:45 section. In round 4 the tax was on the sellers. As a result, prices increased to cover the additional costs. The new price averaged around \$23 --- roughly \$2 higher than the prices observed in rounds 1 and 2. But, as with the tax on buyers, the price did not increase enough to cover the full cost of the tax. In both cases, buyers and sellers were each responsible for about \$2 of the \$4 tax. In fact, as we'll see next week, if we repeat this enough, the results between a tax on buyers and a tax on sellers shouldn't change at all.

4. Finally, at the end of class I discussed the concepts of consumer and producer surplus. We'll go over this more formally next week, but the

basic intuition is that the difference between the demand curve and the price represents the extra value that consumers get (e.g. their net benefit), and the difference between the supply curve and price is the extra profit that producers get. These represent the extra value created by the marketplace.