Chapter 7: Consumers, Producers, and the Efficiency of Markets

Note 1: We will do chapter 7 before chapter 6!

We can use the tools we have learned to analyze economic events and government policies.

Example: Effect of 1906 earthquake on the housing market in the San Francisco

Goal of this example:
♦ Show once again how price equilibrates the market
♦ Explain that we are doing positive analysis (looking at what is, not what should be)

There was a huge shortage of housing immediately after the earthquake.

What was the market response?

1. The supply of housing shifts in (L).
2. There is no change in demand (since no change in population).
3. Excess demand (shortage) of housing.
4. The shortage causes price to rise.

Important:

- As long as people don’t move in or out of San Francisco, the earthquake does not affect demand
- In long-run (when there is sufficient time for new apartments and houses to be constructed), supply increases.
- We may end up back at the old equilibrium.
Welfare Economics

The study of how the allocation of resources affects economic well-being.

Normative analysis.

Lesson plan:

1. Start by looking at benefits that buyers and sellers receive from taking part in the market.

2. Study how society can make these benefits as large as possible.

3. Answer the question: is the market price (the equilibrium price) the "right price"?

Example.

The market price for turkey balances supply and demand.

The market price is, in a particular sense, the best one --- it maximizes the total welfare of consumers and producers of turkey.

One of the Ten Principles of Economics: Markets are usually a good way to organize economic activity.
**Tool: Marginal Analysis**

Compares *additional benefits* resulting from taking an *action* with the *additional costs* of the action.

Additional benefits = marginal benefits  
Additional costs = marginal costs

Action will be producing more or less of a product (could be buying more or less of the product).

**Marginal analysis says:**
If MB > MC ⇒ do the action.  
If MB > MC ⇒ don’t do the action.
MARGINAL BENEFIT (MB)

Observe the demand curve.

$P$ is the maximum price that someone is willing to pay to buy a given quantity of a good.

$P = \text{the maximum amount of other goods and services you are willing to give up for one more slice of pizza, for example.}$

Note: As the quantity $\uparrow$, the value of other items that people are willing to give up $\downarrow$.

Important concept:

Benefit from a product $= \text{value from the product}$

$= \text{maximum willingness to pay}$

We will see that the demand curve is a marginal benefit curve!
Example

Let's auction off a slice of pizza

<table>
<thead>
<tr>
<th>Willingness to pay</th>
<th>Benefit if final price is</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.70</td>
<td></td>
</tr>
<tr>
<td>John</td>
<td>$2.00</td>
</tr>
<tr>
<td>$2.00 - 1.70 = 30 cents</td>
<td></td>
</tr>
<tr>
<td>Paul</td>
<td>1.60</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>George</td>
<td>1.40</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ringo</td>
<td>1.00</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Say there are two slices and bidding stops at $1.50

<table>
<thead>
<tr>
<th>Willingness to pay</th>
<th>Benefit if final price is</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.50</td>
<td></td>
</tr>
<tr>
<td>John</td>
<td>$2.00</td>
</tr>
<tr>
<td>$2.00 - 1.50 = 50 cents</td>
<td></td>
</tr>
<tr>
<td>Paul</td>
<td>1.60</td>
</tr>
<tr>
<td>$1.60 - 1.50 = 10 cents</td>
<td></td>
</tr>
<tr>
<td>George</td>
<td>1.40</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ringo</td>
<td>1.00</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Note: The price has fallen. John's benefit has increased.
Consumer Surplus

= the maximum amount willing to pay – amount actually paid.

= the benefits buyers receive from a good (based on their perceptions)

= a good measure of economic well-being for policymakers

Let's make a demand curve for pizza and show consumer surplus graphically

<table>
<thead>
<tr>
<th>Price</th>
<th>Buyers</th>
<th>Quantity demanded</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than $2.00</td>
<td>None</td>
<td>0</td>
</tr>
<tr>
<td>$1.60 (slightly more) to $2.00</td>
<td>John</td>
<td>1</td>
</tr>
<tr>
<td>$1.40 (slightly more) to $1.60</td>
<td>John, Paul</td>
<td>2</td>
</tr>
<tr>
<td>$1.00 (slightly more) to $1.40</td>
<td>John, Paul, George</td>
<td>3</td>
</tr>
<tr>
<td>$1.00 or less</td>
<td>John, Paul, George, Ringo</td>
<td>4</td>
</tr>
</tbody>
</table>

The area below the demand curve and above the price measures consumer surplus in a market

Why?

Because the height of the demand curve measures the value buyers place on the good (their willingness to pay for the good)

**Note:**

The difference between each buyer's willingness to pay and the price they pay is their consumer surplus

⇒ The total area below the demand curve and above price is the sum of the consumer surplus of all buyers in the market

**Show:** A lower price raises consumer surplus
Observe the supply curve.

What is on the vertical axis?

$P =$ minimum price for which some pizza producer will produce a given slice of pizza. At any lower price, they will not produce. At any lower price, they will not cover their costs.

What sets the lower bound? The costs of producing.

What are these costs? The marginal costs (the cost of producing the additional slice)!

Marginal cost = minimum supply price = price

A supply curve is a marginal cost curve.
Producer Surplus

Producer surplus

= amount actually received – the minimum for which the product would be produced.

= a measure of the benefit to sellers of participating in the market

Good example: Hiring someone to paint your apartment

<table>
<thead>
<tr>
<th>Willingness to sell</th>
<th>Price = 600</th>
<th>Price=800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jen 900</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Jed 800</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>June 600</td>
<td>0</td>
<td>200</td>
</tr>
<tr>
<td>Jack 500</td>
<td>100</td>
<td>300</td>
</tr>
</tbody>
</table>

Producer surplus increase when price increases

The area above the supply curve and below the price measures producer surplus in a market

Why?

Because the height of the supply curve measures the value sellers place on the good (their marginal costs of production)

Note:

The difference between each buyers willingness to sell and the price they receive is their producer surplus

⇒ The total area above the supply curve and below price is the sum of the producer surplus of all sellers in the market
Market Efficiency

We have showed that the forces of supply and demand allocate resources efficiently.

**Efficiency** - The property of society getting the most it can from its scarce resources.

Note that total surplus is maximized at the market equilibrium (show graphically)

⇒ The market equilibrium is efficient!!!

Even though each buyer and seller in a market is concerned only about his or her own welfare, they are together led by an invisible hand to an equilibrium that maximizes the total benefits to buyers and sellers.

A word of warning: to come to this conclusion we made several assumptions about how markets work.

When these assumptions do not hold, our conclusion that the market equilibrium is efficient may no longer be true.

1. Markets are perfectly competitive.

In some markets, a single buyer or seller may be able to control market prices.

This ability to influence prices is called *market power*.

*Market power* can cause *markets to be inefficient* because it keeps the price and quantity away from the equilibrium of supply and demand.
2. Outcome of the market matters only to buyers and sellers in the market. No external costs and/or benefits.

An *external cost* is a cost not borne by the producer but by other people.

An *external benefit* is a benefit that accrues to people other than the buyer of a good.

Sometimes these external benefits and costs occur when goods are produced or consumed.

These side effects --- *EXTERNALITIES* --- cause welfare in a market to depend on more than the value to the buyers and the costs to the sellers.

Because buyers and sellers do not take these side effects into account when deciding how much to consume and produce, the equilibrium in a market can be inefficient from the standpoint of society as a whole.
Market Failure

Market failure – the inability of some unregulated markets to allocate resources efficiently.

Market power and externalities are examples of market failures.

When markets fail, public policy can potentially remedy the problem and increase economic efficiency.

Microeconomists devote much effort to studying

• when market failure is likely

• what sorts of policies are best at correcting market failures.