CONSUMER AND PRODUCER SURPLUS

Revised by Solina Lindahl
WHAT YOU WILL LEARN IN THIS CHAPTER

• What is consumer surplus?
• What is producer surplus?
• What is total surplus and why is it used to illustrate the gains from trade in a market?
• What accounts for the importance of property rights and economic signals in a well-functioning market?
• Why can a market sometimes fail and be inefficient?
MEASURING MARKET EFFICIENCY

• Markets are (usually) efficient: we can measure their benefit to society by measuring:
  – **consumer surplus**.
  – **producer surplus**.
CONSUMER SURPLUS PART 1

- **Consumer surplus**: the difference between market price and what consumers (as individuals or the market) would be willing to pay.
• A consumer’s **willingness to pay for a good** is the maximum price at which he or she would buy that good.
The total consumer surplus is the entire shaded area—the sum of the individual consumer surpluses of Aleisha, Brad, and Claudia ($29 + $15 + $5 = $49).
LEARN BY DOING PRACTICE QUESTION 1

• George is considering the purchase of some new shirts for work. He is willing to pay $35 for the first shirt, $25 for the second shirt, and $15 for the third.

• Oxford Clothiers, his favorite shirt manufacturer, is selling shirts for $28 each.

  a) **What is the efficient number of shirts for George to buy?**
  
  b) **What is George’s consumer surplus?**

• Explain your answers.
CONSUMER SURPLUS PART 3

- Consumer surplus is the area beneath the demand curve and above the price.
CONSUMER SURPLUS RISES WITH A FALL IN PRICE

**FIGURE 4-4**
Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers
HOW THE GAINS IN CONSUMER SURPLUS ARE SPLIT

FIGURE 4-5
Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers
THE SUPPLY CURVE FOR USED TEXTBOOKS

FIGURE 4-6
Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers
PRODUCER SURPLUS PART 1

- **Producer surplus:** the difference between market price and the price at which firms are willing to supply the product.

- **Individual producer surplus** is the net gain to an individual seller from selling a good. It is equal to the difference between the price received and the seller’s cost.
PRODUCER SURPLUS PART 2

• **Total producer surplus** is the sum of the individual producer surpluses of all the sellers of a good in a market.

• Economists use the term **producer surplus** to refer both to individual and to total producer surplus.
**TABLE 4-2 Producer Surplus When the Price of a Used Textbook = $30**

<table>
<thead>
<tr>
<th>Potential seller</th>
<th>Cost</th>
<th>Price received</th>
<th>Individual producer surplus = Price received - Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew</td>
<td>$5</td>
<td>$30</td>
<td>$25</td>
</tr>
<tr>
<td>Betty</td>
<td>15</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Carlos</td>
<td>25</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Donna</td>
<td>35</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Engelbert</td>
<td>45</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>All sellers</strong></td>
<td></td>
<td></td>
<td><strong>Total producer surplus = $45</strong></td>
</tr>
</tbody>
</table>
PRODUCER SURPLUS PART 4

FIGURE 4-7
Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers
FIGURE 4-8
Krugman/Wells, *Microeconomics*, 5e, © 2018 Worth Publishers
PRODUCER SURPLUS RISES IF THE PRICE INCREASES

FIGURE 4-9
Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers
CONSUMER SURPLUS, PRODUCER SURPLUS, AND THE GAINS FROM TRADE

- **Total surplus**: the sum of the producer and consumer surpluses.
LEARN BY DOING: DISCUSS

With a partner, discuss and be ready to share:

• **Are you in favor of legalizing the sale of kidneys?** Why or why not?

• Do you support the move to distribute organs in the United States based on “net benefit” rather than simply who’s been on the waiting list longest? Why or why not?
THE EFFICIENCY OF MARKETS (1 of 2)

• Total surplus is maximized with markets: Markets are efficient.

• Three ways you might (unsuccessfully) try to increase the total surplus
  1. reallocate consumption among consumers
  2. reallocate sales among sellers
  3. change the quantity traded
WHY REALLOCATING CONSUMPTION LOWERS CONSUMER SURPLUS

• Every student who buys a book at the market equilibrium has a willingness to pay of $30 or more, and every student who doesn’t buy a book has a willingness to pay of less than $30.

FIGURE 4-12
Krugman/Wells, Microeconomics, 5e, © 2018 Worth Publishers
WHY REALLOCATING SALES LOWERS PRODUCER SURPLUS

• Any student who sells a book at the market equilibrium has a lower cost than any student who keeps a book.
WHY CHANGING THE QUANTITY LOWERS TOTAL SURPLUS

- Anyone who wouldn’t have bought the book has a willingness to pay of less than $30, and anyone who wouldn’t have sold has a cost of more than $30.
Competitive markets are usually efficient:

1. They allocate consumption of the good to the potential buyers who most value it.
2. They allocate sales to the potential sellers who most value the right to sell the good (e.g., who have the lowest cost).
3. They ensure that all transactions are mutually beneficial: Every consumer who makes a purchase values the good more than every seller who makes a sale.
EQUITY AND EFFICIENCY

• Efficiency is important, but society also cares about equity. (Principles 7, 8, and 9; Pages 13 - 15)
• Sometimes societies choose to have governments intervene in markets to increase efficiency (even though it reduces efficiency).
WHY MARKETS TYPICALLY WORK SO WELL

- Well-functioning markets are effective because of:
  1. property rights.
  2. economic signals.
WHY PRIVATE PROPERTY MATTERS

• Private property rights create and protect incentives to trade with others—and to innovate.

• **Property rights** are the rights of owners of valuable items, whether resources or goods, to dispose of those items as they choose.
LEARN BY DOING: PRACTICE QUESTION 2

• In your opinion, which is the best way for society to distribute its goods? Why?
  a) The free market outcome should not be tampered with.
  b) “From each according to his ability; to each according to his need.”
  c) Distribute goods so that society’s total happiness is maximized, even if it requires taking some from the wealthiest to give to the poorest.
WHY GOOD ECONOMIC SIGNALS MATTER
PART 1

- Equilibrium prices signal to resources exactly where they are most valued.
- **An economic signal** is any piece of information that helps people make better economic decisions.
WHY GOOD ECONOMIC SIGNALS MATTER
PART 2

• Prices translate complex information into an easy signal for producers:
  – Profits rise in industries when consumers want more of that industry’s products.
  – Profits decline in industries when consumers want less of that industry’s products.
  – The high price of ice in post-Katrina New Orleans made it more attractive for firms to provide ice where society needed it most.
LEARN BY DOING: DISCUSS PART 2

• Think, pair, share:
  – Discuss with your neighbor: Are you in favor of “price gouging” (charging what the market will bear) during natural disasters?
  – Why or why not?
A FEW WORDS OF CAUTION

• Markets aren’t always efficient; sometimes they fail.

• **Inefficient:** Opportunities are missed. Some people could be made better off without making other people worse off.

• *We’ll learn more about market failures later.*