Welfare Economics

- **Welfare economics** is the study of how the allocation of resources affects economic well-being.

- Buyers and sellers receive benefits from taking part in the market.

- The equilibrium in a market maximizes the total welfare of buyers and sellers.
What Does Consumer Surplus Measure?

• *Consumer surplus*, the amount that buyers are willing to pay for a good minus the amount they actually pay for it, measures the benefit that buyers receive from participating in the market.
CONSUMER SURPLUS

• **Willingness to pay** is the maximum amount that a buyer will pay for a good.

• It measures how much the buyer values the good or service.

• **Consumer surplus** is the buyer’s willingness to pay for a good minus the amount the buyer actually pays for it.
Using the Demand Curve to Measure Consumer Surplus

- The market demand curve depicts the various quantities that buyers would be willing and able to purchase at different prices.

- The area below the demand curve and above the price measures the consumer surplus in the market.
Figure 3 How the Price Affects Consumer Surplus

(a) Consumer Surplus at Price $P_1$

Price

Quantity
Figure 3 How the Price Affects Consumer Surplus

(b) Consumer Surplus at Price $P_2$

Price

<table>
<thead>
<tr>
<th>A</th>
<th>Initial consumer surplus</th>
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<tbody>
<tr>
<td>0</td>
<td>$P_1$</td>
</tr>
<tr>
<td>B</td>
<td>$P_2$</td>
</tr>
<tr>
<td>C</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Additional consumer surplus to initial consumers</td>
</tr>
<tr>
<td>E</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Demand</td>
</tr>
<tr>
<td>Q_1</td>
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</tr>
<tr>
<td>Q_2</td>
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Consumer surplus to new consumers
What Does Consumer Surplus Measure?

- *Producer surplus*, the amount that sellers receive from selling a good minus the amount that it cost to produce it, measures the benefit that sellers receive from participating in the market.
PRODUCER SURPLUS

- *Willingness to sell* is the minimum amount that a seller will sell a good for.

- It measures the cost to the seller of producing the good or service.

- *Producer surplus* is the price the seller receives seller’s for a good minus the amount it cost to produce it.
Using the Supply Curve to Measure Producer Surplus

- The market supply curve depicts the various quantities that sellers would be willing and able to sell at different prices.

- The area below the price and above the supply curve measures the producer surplus in a market.
Figure 6 How the Price Affects Producer Surplus

(a) Producer Surplus at Price $P_1$
Figure 6 How the Price Affects Producer Surplus

(b) Producer Surplus at Price $P_2$

- **Initial producer surplus**
  - $P_1$ to $Q_1$
- **Producer surplus to new producers**
  - $P_2$ to $Q_2$
- **Additional producer surplus to initial producers**
  - $D$ to $E$ to $F$

Price vs. Quantity graph showing the impact of price on producer surplus.
MARKET EFFICIENCY

• Three Insights Concerning The Competitive Market Equilibrium Outcome

  • Goods consumed by buyers who value them most highly measured by WTP (D).

  • Goods produced by sellers with lowest opportunity cost of production measured by WTS (S).

  • Sum of CS & PS, total well-being is maximized.
The Efficiency of the Equilibrium Quantity

- **Buyers**
  - Value to buyers is greater than cost to sellers.

- **Sellers**
  - Value to buyers is less than cost to sellers.
In the Chips

<table>
<thead>
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<th>Qs</th>
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Market Forces & Equilibrium

• Price floats to where \( Q_s = Q_d \) and the market clears.
• This price facilitates all transactions that can improve the well-being of market participants.

• Goods purchased by those with highest value.
• Goods produced by those with lowest opportunity cost.

• The well-being of society is maximized.
Figure 7 Consumer and Producer Surplus in the Market Equilibrium

Price

Equilibrium price

Consumer surplus

Producer surplus

Demand

Supply

Equilibrium quantity

Quantity
Summary

- Consumer surplus is the buyers’ willingness to pay for a good minus the amount they actually pay for it.

- Consumer surplus measures the benefit buyers get from participating in a market (in $).

- Consumer surplus can be computed by finding the area below the demand curve and above the price.
Summary

• Producer surplus is the amount sellers receive from selling a good minus their opportunity cost of production.

• Producer surplus measures the benefit sellers get from participating in a market (in $).

• Producer surplus can be computed by finding the area below the price and above the supply curve.
Summary

• An allocation of resources that maximizes the sum of consumer surplus and producer surplus is efficient.

• The competitive market equilibrium outcome maximizes the sum of consumer surplus and producer surplus and thus maximizes the well-being of market participants.

• All transactions that could possibly improve the well-being of market participants have taken place.