

**Welfare Analysis**  
Consumer and Producer Surplus

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- Welfare Analysis**
- To determine the impact on trade policies, we must determine how the participants in the economy are affected
    - Participants include:
      - Consumers (Households)
      - Producers (Firms)
      - Government

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- Consumer Surplus**
- Consumer Surplus (CS) is a method to determine the net benefit of consumption
  - Definition: “extra amount consumers are willing to pay for an item compared to what they have to pay”
    - Graphically, this is the area under the demand curve

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### Consumer Surplus II

- Area under demand curve is the total value of consumption
- At \$10, value to consumer is (a+b+c), but consumer must pay (b+c)
- So CS = a

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### Consumer Surplus III

- If the price falls to \$5, then the total value of consumption is (a+b+c+d+e)
- Consumer must pay (c+e)
- So, CS= (a+b+d)

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### Producer Surplus (PS)

- “Extra benefit” to producers
- “What producers can charge” – “What producers willing to charge”
- Graphically: Area between market price and supply curve

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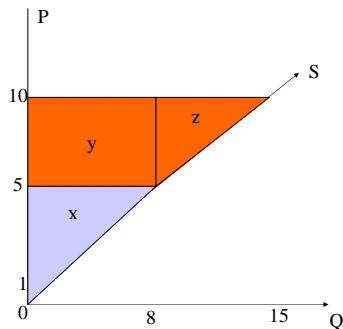
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### Producer Surplus II

- Suppose the market price is \$5
- Firm is willing to sell unit 8 at \$5, but for units 1-7, the firm is willing to sell each at a price less than \$8
- $PS = x$




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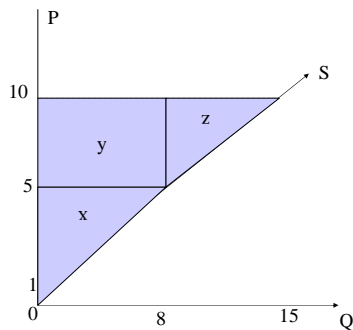
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### Producer Surplus III

- If the market price rises to \$10, the firm is willing to sell at most 15 units.
- For units 1-14, the firm is willing to sell at a price lower than \$10
- $PS = (x+y+z)$




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### Market Equilibrium

- A nation's welfare can then be determined by the sum of consumer surplus (CS) and producer surplus (PS) (plus any government revenue)

$$\text{Welfare} = \text{CS} + \text{PS} + \text{GR}$$

- Note that an increase in market price decreases CS yet increases PS
- So an increase in market price does not necessarily have a negative impact on the economy.

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