Welfare Analysis

Consumer and Producer Surplus

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

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
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 \(CS = a\)

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, \(CS = (a+b+d)\)

Producer Surplus (PS)

- “Extra benefit” to producers
- “What producers can charge” – “What producers willing to charge”
- Graphically: Area between market price and supply curve
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
- \( PS = x \)

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
- \( PS = (x+y+z) \)

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)

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\text{Welfare} = \text{CS} + \text{PS} + \text{GR}
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- 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.