Intro to Economics lecture-04

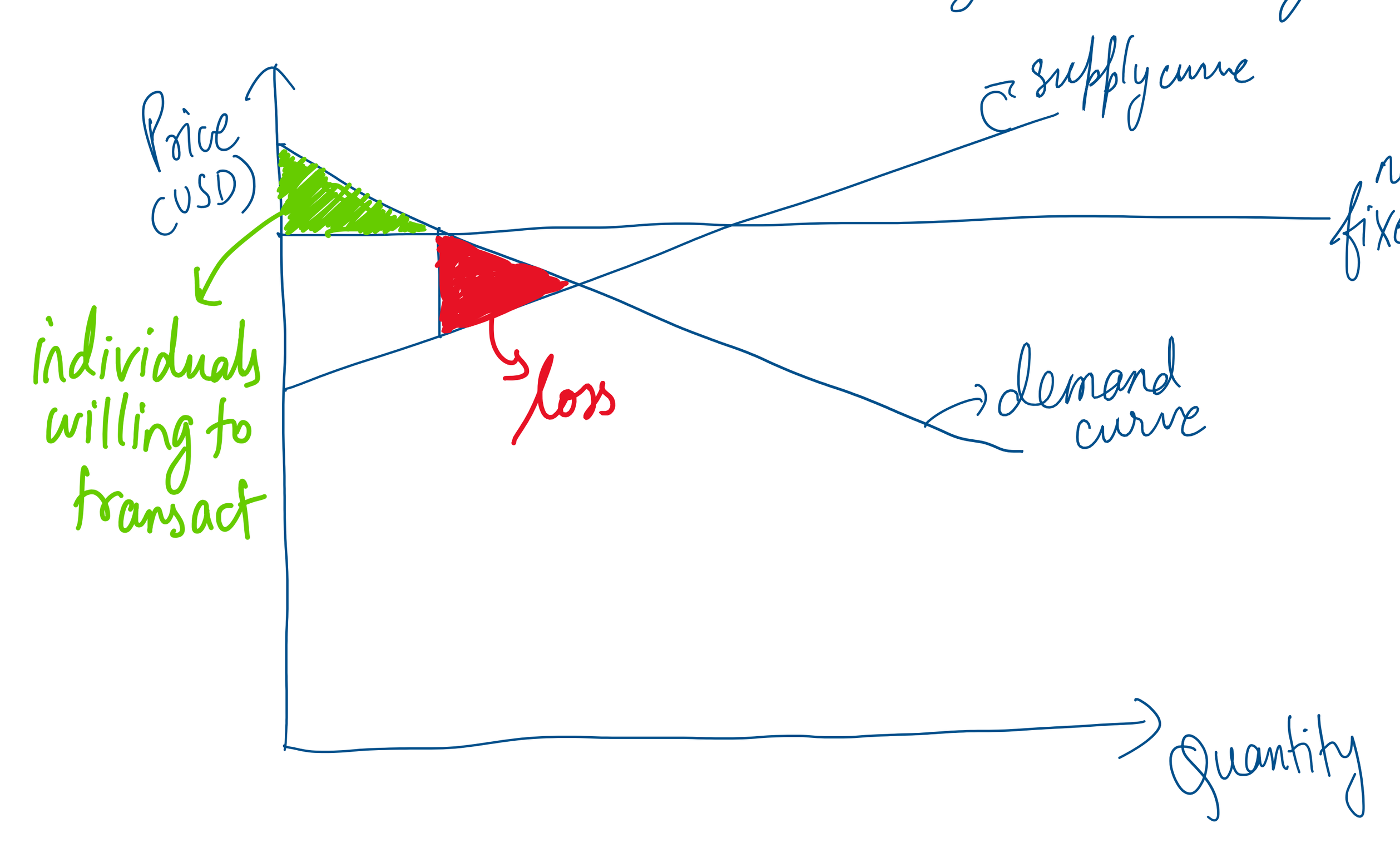
Thursday, 9 September 2021 13:05

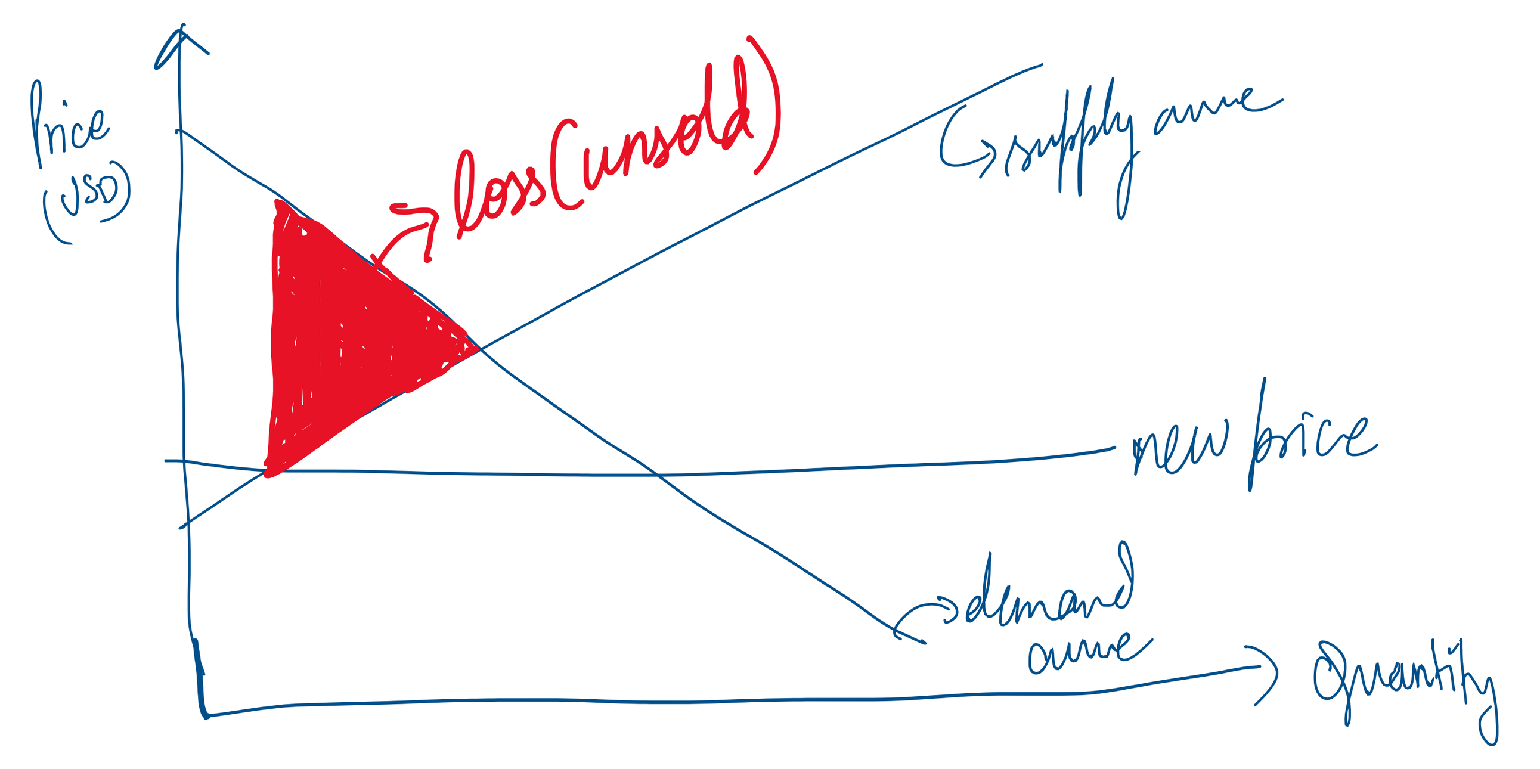
Efficiency

→ under perfect competition alongside some assumptions, market eq^m is Pareto Efficient.

→ This is part of the First Welfare Theorem

→ Additional assumptions are:
- well defined prices (no arbitrage) → agree on same price
- No (+/−) externalities generated by transactions/consumption





Price Elasticity of Demand

$$\epsilon_{P,d} = \frac{\%\text{ change in quantity demanded}}{\%\text{ change in price}}$$

negative

a measure of responsiveness of demand on Δprice.

⇒ Determinants of Elasticity
- Availability of close substitutes
- Whether agents are physically or chemically dependent on good
- Information about the present value of good.
- Persistence of change in price.
- Percentage of income spent on good

⇒ Midpoint method

$$\frac{\left[\frac{Q_2 - Q_1}{\left(\frac{Q_1 + Q_2}{2}\right)}\right]}{\left[\frac{P_2 - P_1}{\left(\frac{P_1 + P_2}{2}\right)}\right]}$$

⇒ Price Point elasticity $= \frac{\Delta Q}{\Delta P} = \frac{dQ}{dP}$ = multiplicative inverse of the slope of demand curve at a point

Price Point elasticity $= \frac{\Delta Q}{\Delta P} \cdot \frac{P}{Q}$

Price elasticity [absolute value]

- < 1 : good INELASTIC
- 0 : perfectly inelastic
- > 1 : ELASTIC
- ∞ : Perfectly elastic

⇒ demand is increasingly responsive as elasticity increases

Cross-Price Elasticity

relation of complements & substitutes

$$\epsilon_{A,B} = \frac{\%\text{ change in quantity of A demanded}}{\%\text{ change in price of B}} = \frac{\frac{Q_2^A - Q_1^A}{\left(\frac{Q_1^A + Q_2^A}{2}\right)}}{\frac{P_2^B - P_1^B}{\left(\frac{P_1^B + P_2^B}{2}\right)}}$$

$$\epsilon_{A,B} = \left(\frac{Q_2^A - Q_1^A}{P_2^B - P_1^B}\right) \cdot \left(\frac{P_1^B + P_2^B}{Q_1^A + Q_2^B}\right)$$

Cross Price Elasticity of A with respect to B

- +ve : Substitutes
- −ve : Complements

Income Elasticity of Demand

$$\epsilon_{I,d} = \frac{\%\text{ change in quantity demanded}}{\%\text{ change in income}}$$

- Normal good (+ve)
  - Necessity: $\epsilon_{I,d} \in (0,1)$
  - Luxury: $\epsilon_{I,d} \in (1,\infty)$
- Inferior Good (−ve)

Price Elasticity of Supply

$$\epsilon_{P,S} = \frac{\%\text{ change in quantity supply}}{\%\text{ change in price}}$$

Factors affecting:
- Time required/cost of altering input to increase supply.
- Length of production process vs time to respond to change in price.
- The number of producers
- Scarcity of inputs.

End of Lecture.