

Review

Allocation

initial allocation

feasible allocation (individual rationality, no waste)

an allocation is Pareto dominated - inefficient

Pareto dominant - efficient

(optimal)

(x negative)

begin from transfer of asset holder.

gain from trade. - the difference in the sum of utilities.

the meaning of definition!

Total amount of money \Rightarrow same in allocation

no waste.

exchange from holding of assets.

Maximize the gaining from trade

M buyers

$v_1 \geq v_2 \dots \geq v_m$
most want to get the goods

N sellers

$c_1 \leq c_2 \dots \leq c_n$

most want to get rid of good

$M=1$ $N=2$ trade=1 trade = minimum (m, n)

$v_1=10$ $c_1=2$ $c_2=11$

gains from trade = 8

(4, 2, 2) \in eq

$$0 + m_b + 4 \cdot 2 + m_{D1} \quad t_{S2} = 2$$

$$0 + m_b - t_b \quad 0 + m_{D1} + t_{S1}$$

$$t_b = 4 \quad t_{S1} = 4 \text{ (units of money)}$$

$$\Delta \quad V_1 = 10 \quad \swarrow \text{give the goods} \quad C_1 = 2 \quad C_2 = 5$$

In general.

Thm: Suppose there are no ties in valuations or costs. Then in any Pareto optimal in which there are in trade, the first n sellers give the asset and the first n buyers receive the asset.

$$\swarrow \text{Valuation} \dots$$

$$V(m) = \sum_{i=1}^m V_i$$

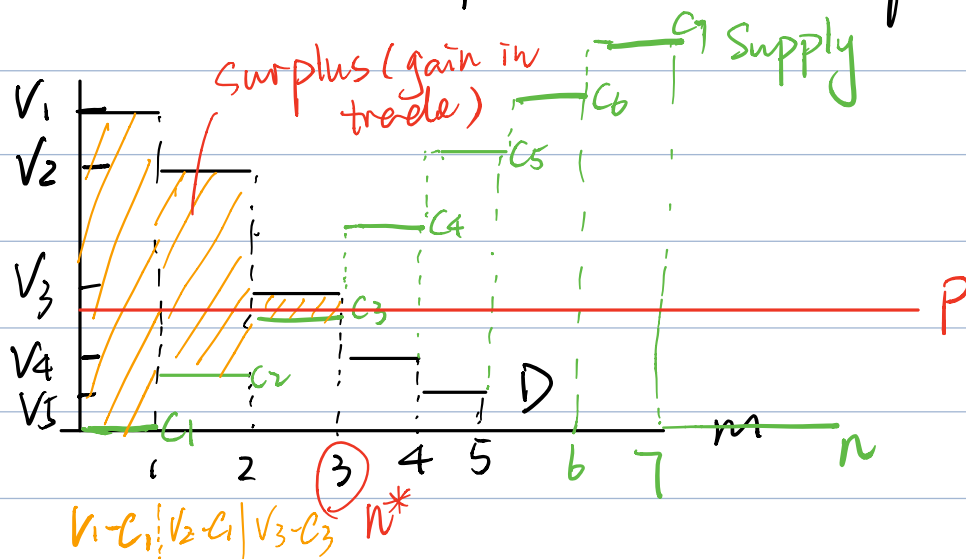
$$C(n) = \sum_{i=1}^n C_i$$

$$\Rightarrow \text{TS}(m) = V(m) - C(n) = \sum_{i=1}^m (V_i - C_i)$$

(total surplus)
(total gain from trade)

$$\text{Max TS}(n) \rightarrow n^*$$

under the condition of Thm, n^* is unique.



perfect Competition \Rightarrow interaction \Rightarrow price.