# International Economic Cooperation

Unit -I

# Theory of Reciprocal Demand

- Comparative cost difference between the countries sets the outer limits between which international trade can take place profitably.
- But the theory does not provide the actual point of terms of trade where the countries will actually agreed to trade with each other.
- J. S. Mill propounded the theory of reciprocal demand or the law of international values to explain are determined by the equation of reciprocal demand.
- Reciprocal demand means the relative strength and elasticity of demand of the two trading countries for each other's product in terms of their own product.

# Theory of Reciprocal Demand

- In Mill's own words, "*The actual ratio at which goods are traded will depend upon the strength and elasticity of each country's demand for the other country's product, or upon reciprocal demand. The ratio will be stable when the value of each country's exports is just enough to pay for its imports*".

# Mill's theory is based on the following assumptions

- Full employment conditions;
- Perfect competition;
- Free foreign trade;
- Free mobility of factors;
- Applicability of the theory of comparative cost;
- Two country, two commodity model.

# Changes in Demand and Supply Conditions

❑**Changes in Supply Conditions**:

- Changes in supply conditions as a result of cost-reducing improvements in technology bring changes in terms of trade.
- An improvement in the cloth industry of UK increases the productivity in that industry, makes cloth cheaper in terms of Indian wheat (i.e., the same amount of wheat is exchanged for more cloth) and thus makes the terms of trade in favour of India, the importer of cloth in exchange for wheat.

# Changes in Demand and Supply Conditions

## ❑ Changes in Demand Conditions

- The extent to which the barter terms of trade change depends not only on the increased production in exporting country, but also on the importing country's elasticity of demand for imports in terms of its exports.

I. If India's elasticity of demand for UK’s cloth in terms of its own wheat is more elastic, then the barter terms of trade will change in favour of India more than the fall in price of cloth in terms of wheat.

II. India's demand for cloth in terms of wheat is unitary elastic, then the barter terms of trade turn in favour of India equal to the fall in the price of cloth in terms of wheat.

III. If India's demand for cloth in terms of wheat is less elastic, then the barter terms of trade will change in favour of India less than the fall in the price of cloth in terms of wheat.

# Mill's views on Terms of Trade

| Country | Domestic Barter Rate |
|---|---|
| India | 1 Wheat =0.5 cloth |
| United Kingdom | 1 Wheat=0.9 cloth |

- Table shows that India has comparative advantage over UK in wheat.
- India will gain by producing wheat, exporting it to UK at a price more than its domestic barter rate (i.e., 1 Wheat =.5 Cloth) and importing cloth from UK.
- Similarly, UK will gain by producing cloth, exporting it to India at a price more than its domestic rate (i.e., 1 Wheat = .9 Cloth) and importing wheat from India.
- Comparative cost theory does not determine what the actual terms of trade will be.

# Mill's views on Terms of Trade

If Indian wheat is exchanged for UK cloth at a rate of 1 Wheat =.9 Cloth, then all gains of trade will go to India. This is the upper limit.

If Indian wheat is exchanged for UK’s cloth at the rate of 1 Wheat =.5 Cloth, then all gains will go the UK.

This is the lower limit. If Indian wheat is exchanged for UK cloth at the rate of 1 Wheat=.7 Cloth, then the gains from trade will be evenly distributed between India and UK.

# Mill's views on Terms of Trade

| |
|---|
| The actual terms of trade (or ratio of exchange) will be determined by the relative elasticity of demand on the part of India for English cloth and on the part of UK for Indian wheat. |
| If UK’s demand for Indian wheat is more intense (or less elastic), the ratio of exchange will be determined near 1 Wheat= .9 Cloth. |
| In this case the terms of trade will be favourable to India and unfavourable to UK because more gains from trade will go to India. |
| If Indian demand of English cloth is more intense (or less elastic), the ratio of exchange will be determined near 1 Wheat=.5 Cloth. |
| In this case, the terms of trade will be favourable to UK and unfavourable to India because more gains from trade will go to UK. |

# Reciprocal Demand Elasticity

- The reciprocal demand elasticity refers to the ratio of proportional change in the quantity of imports demanded to the proportional change in the price of exports relative to the price of imports. Thus, elasticity of reciprocal demand

$$= \frac{(Percentage\ change\ in\ imports)}{\left(\frac{Percentage\ change\ in\ price\ of\ export}{Percentage\ change\ in\ price\ of\ imports}\right)}$$

$$e = \frac{\%\Delta M}{\left(\frac{\%\Delta P_x}{\%\Delta P_m}\right)}$$

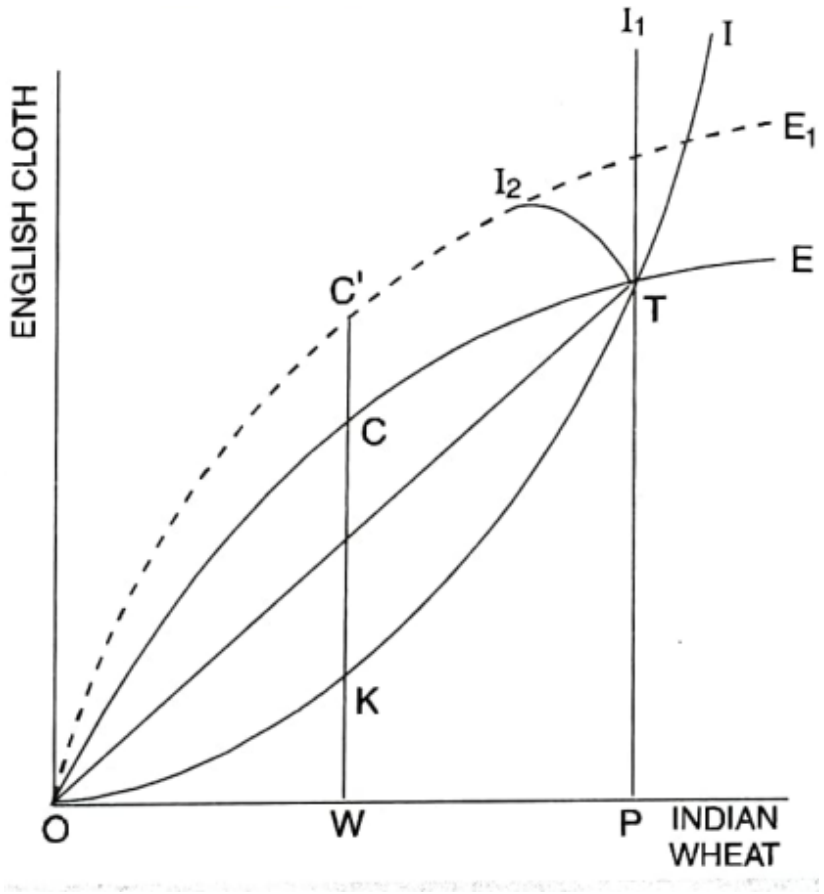
- Where, $e$=Elasticity of reciprocal demand

  $\Delta M$ = Change in quantity of imports

  $\Delta P_x$= Change in price of exports

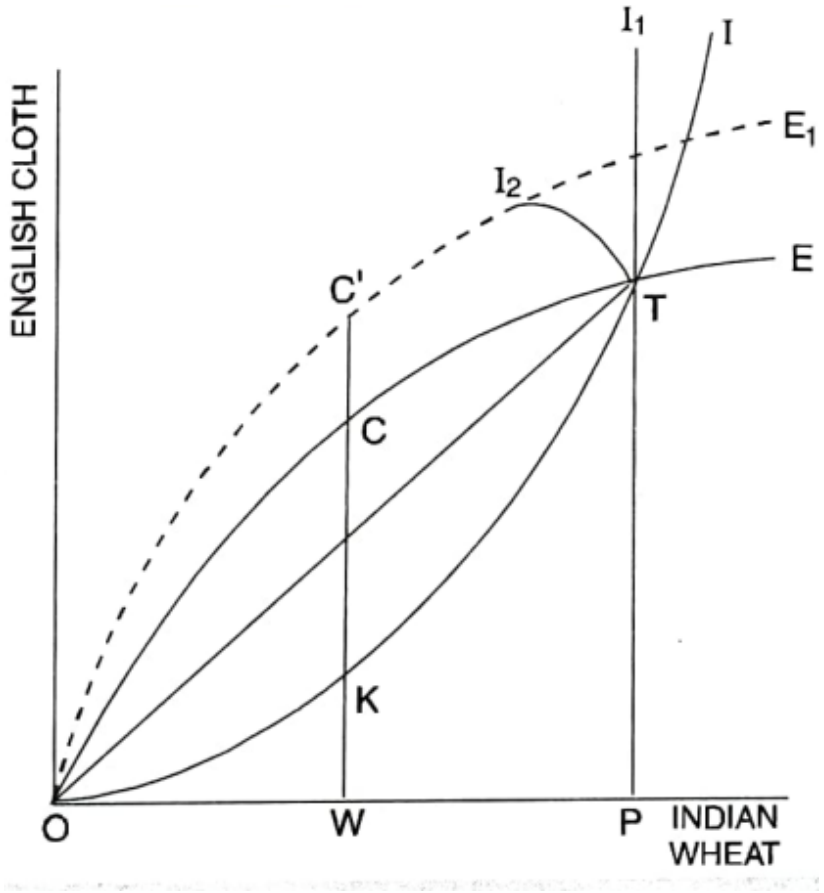
  $\Delta P_m$= Change in price of imports

- If $e$>1, then terms of trade will be favourable for the concerned country and its share of gain will be larger;
- if $e$<1, terms of trade will for the concerned country and the share of gain will be smaller;
- if $e$=1, the gain from terms of trade will be equally distributed between the two countries.




# Offer Curve Approach

- The determination of equilibrium terms of trade can be graphically illustrated with the help of offer curve
- The offer curve is a typical demand curve as it shows the demand for one commodity (imports) in terms of the supply of another commodity (exports).
- OI is India's offer curve indicating India's demand for cloth in terms of wheat.
- It represents the quantities of wheat which India is willing to offer in exchange for English cloth.
- As the quantity of cloth increases, India will be offering lesser and lesser amount of wheat in exchange for cloth.




# Offer Curve Approach

- For example, in exchange for KW cloth, India is willing to offer OW wheat.
- Similarly, OE is UK's offer curve of cloth for wheat, representing UK's demand for Indian wheat.
- For example, UK is willing to offer CW cloth in exchange for OW wheat.
- T is the equilibrium point where TP cloth is exchanged for OP wheat. Here reciprocal demands are equal.
- Line OT shows the equilibrium terms of trade.

❑**Effect of Change in Supply:**

- As a result of cost reducing improvement in the cloth industry of UK, $OE_1$ is UK's new offer curve.
- Now UK is willing to offer C'W cloth for OW wheat, whereas previously it was offering CW cloth for OW wheat. The terms of trade change in favour of India as a result of this improvement.

❑**Effect of Change in Demand:**

- The extent of change in terms of trade will depend upon the slope of India's offer curve.
- Positively sloping India's offer curve after point T (i.e., TI) represents India's more elastic demand for cloth in terms of wheat and makes the terms of trade in favour of India more than the fall in cloth's price in terms of wheat.
- If India's offer curve is vertical straight line after point T (i.e., $TI_1$), it shows unitary elastic demand for cloth in terms of wheat and the terms of trade will change in favour of India equal to the fall in cloth price in terms of wheat.
- If India's offer curve is backward sloping after point T (i.e., $TI_2$), then the terms of trade will change in favour of India less than the fall in price of cloth relative to wheat.

# Limitations

- The theory is based on unrealistic assumptions, such as perfect competition and full employment.
- Actual trade is not restricted to two country, two commodity model.
- Mill concentrates on the elasticity of demand, thus neglecting the impact of elasticity of supply. According to the modern economists, terms of trade are generally influenced by (a) elasticity of demand for exports, (b) elasticity of demand for imports, (c) elasticity of supply exports, and (d) elasticity of supply of imports.
- Graham has criticised the reciprocal demand aspect of Mill's theory. It has exaggerated the role of reciprocal demand and neglected the comparative cost conditions in determining the terms of trade.