

# Theory of International Trade

# Theory of Absolute Advantage

- Absolute advantage refers to the capacity of any economic agent, either an individual or a group, to produce a larger quantity of a product than its competitors. Introduced by Adam Smith, in his 1776 work, "An Inquiry into the Nature and Causes of the Wealth of Nations," which described absolute advantage as a certain country's intrinsic capability to produce more of a commodity than its global competitors.

- Adam Smith's theory of absolute cost advantage in international trade was evolved as a strong reaction of the restrictive and protectionist mercantilist views on international trade. He upheld in this theory the necessity of free trade as the only sound guarantee for progressive expansion of trade and increased prosperity of nations. The free trade, according to Smith, promotes international division of labour.

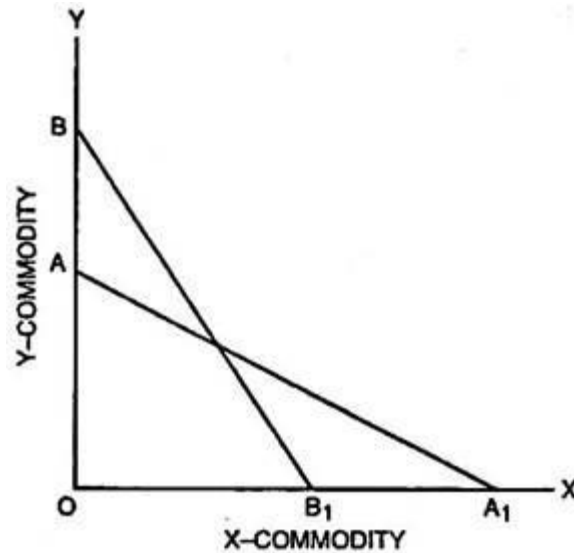
- Every country tends to specialize in the production of a commodity which it can produce most cheaply.
- The free international trade can make the countries specialise in the production and exchange of commodities in which they command some absolute advantage, when compared with the other countries.
- When countries specialise on the basis of absolute advantage in costs, they stand to gain through international trade, just as a tailor does not make his own shoes and shoemaker does not stitch his own suit and both gain by exchanging shoes and suits.

- Suppose there are two countries A and B and they produce two commodities X and Y. The cost of producing these commodities is measured in terms of labour involved in their production. If each country has at its disposal 2 man-days and 1 man-day is devoted to the production of each of the two commodities, the respective production in two countries can be shown through the following table.

Country	Units of Labour (Man-days)	Commodities		Ratio of Exchange
		X	Y	
A	1	20	10	1 Unit of X = 0.5 Unit of Y
B	1	10	20	1 Unit of X = 2 Units of Y

- In country A, 1 man-day of labour can produce 20 units of X but 10 units of Y.
- In country B, on the other hand, 1 man-day of labour can produce 10 units of X but 20 units of Y.
- It signifies that country A has an absolute advantage in producing X while country B enjoys absolute advantage in producing commodity Y.
- Country A will have to give up 1 unit of X for having 0.5 unit of Y. At the same time, the country B will have to give up 2 units of Y to have 1 unit of X.
- If country A specialises in the production and export of commodity X and country B specialises in the production and export of commodity Y, both the countries stand to gain.

- It is possible to explain the cost difference in two countries A and B concerning the commodities X and Y geometrically through the following diagram.



- In the diagram,  $AA_1$  is the production possibility curve of country A. Given the techniques and factor endowments, if all the resources are employed in the production of X commodity, it can produce  $OA_1$  quantity of X. On the contrary, if all resources are used in the production of Y, country A can produce OA quantity of Y.  $BB_1$  is the production possibility curve of country B.

- In case of this country, if all resources are employed in the production of X commodity,  $OB_1$  quantity can be produced. Alternatively, if all the resources are used in the production of Y, it is possible to produce OB quantity of Y. The slope of production possibility curve is measured by the ratio of labour productivity in X to labour productivity in Y in each country.

$$\text{Slope of } AA_1 = L_{XA}/L_{YA}$$

$$\text{Slope of } BB_1 = L_{XB}/L_{YB}$$

- Since slope of  $AA_1$  is less than the slope of  $BB_1$ , it signifies that country A has absolute cost advantage in the production of X commodity, while country B has the absolute cost advantage in the production of Y commodity.

# Theory of Comparative Cost Advantage

- Comparative advantage theory, first developed by 19th-century British economist David Ricardo, attributed the cause and benefits of international trade to the differences in the relative opportunity costs (costs in terms of other goods given up) of producing the same commodities among countries.
- Suppose India produces cloths and rice at a high cost while Japan produces both the commodities at a low cost. It does not mean that Japan will specialise in both rice and cloths and India will have nothing to export.

## **The Ricardian comparative costs analysis is based upon the following assumptions:**

- (i) There is no intervention by the government in economic system.
- (ii) Perfect competition exists both in the commodity and factor markets.
- (iii) There are static conditions in the economy. It implies that factors supplies, techniques of production and tastes and preferences are given and constant.
- (iv) Production function is homogeneous of the first degree. It implies that output changes exactly in the same ratio in which the factor inputs are varied. In other words, production is governed by constant returns to scale.
- (v) Labour is the only factor of production and the cost of producing a commodity is expressed in labour units.
- (vi) Labour is perfectly mobile within the country but perfectly immobile among different countries.
- (vii) Transport costs are absent so that production cost, measured in terms of labour input alone, determines the cost of producing a given commodity.

(viii) There are only two commodities to be exchanged between the two countries.

(ix) Money is non-existent and prices of different goods are measured by their real cost of production.

(x) There is full employment of resources in both the countries.

(xi) Trade between two countries takes place on the basis of barter.

Country	Labour cost per unit of commodity in man-hours	
	Cloth	Rice
Japan	12	10
India	16	12

The table indicates that Japan has an absolute advantage in producing both the commodities through smaller inputs of labour than India. Thus, it can be argued that Japan can produce everything within their economy and they do not have to import anything, whereas India will have to import both the commodities from Japan.

However, Ricardo tried to prove that Japan stands to gain from the export of commodity in which it has greater comparative advantage.

- Comparative advantage of Japan can be expressed in terms of cost ratio.
- Cost ratio of producing rice and cloths can be expressed as:

<b>Japan</b>		<b>India</b>	
<b>cloth</b>	<b>Rice</b>	<b>cloth</b>	<b>Rice</b>
$\frac{12}{16}$	$\frac{10}{12}$	$\frac{16}{12}$	$\frac{12}{10}$
0.75	0.83	1.33	1.2

- Japan has advantage in production of both cloths and rice. However, the difference in cost, i.e. the comparative advantage is greater in the production of cloth (  $1.33 - 0.75 = 0.58$ ) than in rice (  $1.2 - 0.83 = 0.37$ ).
- Even in terms of number of days of labour, Japan has more advantage in cloth (  $16 - 12 = 4$ ) than in Rice (  $12 - 10 = 2$ ).
- Accordingly, Japan will produce cloths where its comparative cost advantage is higher than rice, whereas India will specialize in Rice where its comparative disadvantage is lesser than cloth.

- **Comparative Cost Benefits Both:**

- Though Japan has clear absolute cost advantage, both Japan and India will benefit if they go for comparative cost. This can be proved with the help of internal exchange ratio.
- It is assumed that the two countries exchange goods at an international exchange rate 1:1.
- Thus, India will get 1 unit of cloth for 1 unit of rice. At home, it is required to sacrifice 1.33 units of rice for 1 unit of cloth. Thus, it is saves 0.33 of rice, because cloth is cheaper from Japan.
- In case of Japan, at home it will have to sacrifice 1.2 units of cloth for 1 unit of rice. But when it imports rice form India it will have to sacrifice only 1 unit of cloth. Thus it saves 0.22 of cloth.

# Heckscher-Ohlin's Theory of International Trade

- HO Theory provides a new approach to comparative advantage on the basis of general value theory.
- According to the theory, a nation will export the commodity whose production requires the intensive use of nation's relatively abundant and cheap factor and import the commodity whose production requires the intensive use of the nation's relatively scarce and expensive factors.

# Assumptions of the Theory

1. Two countries, having two factors, producing two commodities.
2. Perfect competition
3. Production is subject to constant returns to scale.
4. Factors are mobile within the country and immobile between countries.
5. Countries differ in factor supply and factor intensity.
6. Full employment of factors
7. Free trade
8. Free transportation

- **Factor Intensity:** In this model, Commodity Y is capital intensive if the capital – labour ratio ( $K/L$ ) in the production of Y is greater than ( $K/L$ ) used in the production of X.
- Thus factor intensity is measured in terms of ratio, not in absolute terms.
  
- **Factor Abundance:**
- A country's factor abundance is defined either in physical terms or in terms of relative factor prices.

- If, among the two countries, Country I is capital abundant it means,

$$\text{Total } K1/\text{Total } L1 > \text{Total } K2/\text{Total } L2$$

- Or, a nation is capital abundant when –

$$P_{K1}/P_{L1} < P_{K2}/P_{L2}$$

- The two methods convey the same meaning. The physical abundance of a factor explains supply side. The price ratios of factors depend upon prices of factors, which depend upon derived demand of the factors.

- In this two-nation model, demand is assumed to be same in both the nations.
- In a country where supply of K is more, its price has to be lower in comparison to the price of the other factor. If in country I, price of capital is lesser than price of labour, then –
  - $r_1/w_1 < r_2/w_2$
- Here, country I is a capital abundant country.

- On the basis of given analysis, following conclusions can be derived:
  1. Each country differs in factor endowments.
  2. Each country specializes production of that commodity whose production requires more of its abundant factor.
  3. Abundance of factors makes it cheaper in terms of its price.
  4. Low factor prices result into low cost of production and in turn, low commodity prices.
  5. Low commodity prices is the basis of international trade.