UNIT I

CLASSICAL THEORIES OF INTERNATIONAL TRADE:

A. SMITH'S THEORY OF ABSOLUTE DIFFERENCES IN COSTS

According to Smith, "Whether the advantage one country has over another be natural or acquired, is in this respect of no consequences".

A country -X commodity- A country specialize in X production – Y absolute disadvantage = Production of X more.

B country – Y commodity – B country specialize in Y Production -X absolute disadvantage = Production of Y more.

Absolute Differences in Costs

Country	commodity X	commodity Y
A	10	5
B	5	10

A=Absolute advantage in X (10X >5Y)

B= Absolute advantage in Y (10Y >5X)

Therefore 10Xof A >1 > 5Y of A

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5Y of B 10Y of B

Before trade both country produce 15 units of each – 1 units of labour.

After trade A specialize in X use both units of labour – increase 20 units of X.

B specilaise in Y use both units if labour – increase 20 units of Y.

The Gain from both country 5 units.

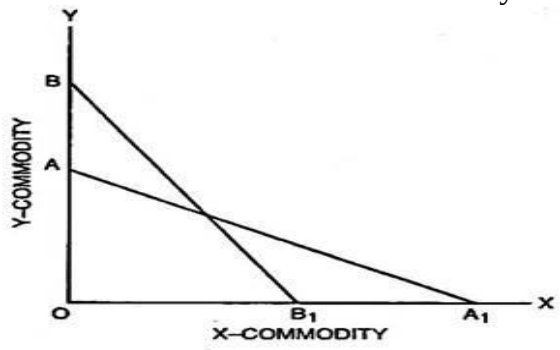


Fig. 2.1

AA1 PPC of county A- Produce OA1of X OA of Y

BB1 PPC of country B- produce OB1 of X OB of Y

A absolute advantage X OXA > OXB

B absolute advantage Y OYB > OYA.

A. RICARDO'S THEORY OF COMPARATIVE DIFFERENCES IN COSTS

According to him, trade takes place only on comparative differences in costs. Production cost differ- country can produce one commodity at lower cost than other.

If country specializes in the production of that commodity in which comparative cost of production is the least—trade – export – comparative cost is less and import comparative costs are high.

ASSUMPTIONS:

- 2X2 model that 2 country England and Portugal, Wine and Cotton.
- Similar tastes in both country.
- Labour – FP.
- The supply of labour unchanged.
- All units of labour are homogeneous.
- Commodity are produced under Law of constant costs.
- Technology remain unchanged.
- Trade take place on the basis of barter system.
- Factors of production are perfectly mobile.
- No transport cost.

Country	Wine	Cloth
England	120	100
Portugal	80	90

- England use more labour than Portugal in production of both commodities.
- Portugal possess an absolute advantage in both wine and cloth.
- Portugal benefit more by producing wine and export it to England. (80:120).
- England specialize in production of cloth. It has least comparative disadvantage. (100/90).
- The cost of production of cloth in England in less 100/90 men as compared with wine 120/80 men. The trade is beneficial for both countries.

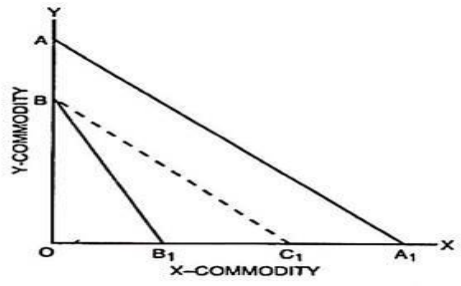


Fig. 2.2

OX axis represents X commodity, OY represents Y commodity, AA1is PPC of Portugal, BB1is PPC of England. Portugal enjoys ab absolute advantage in production of both wine and cloth over England. OA1 of wine, OA of cloth as against OB1 of wine and OB of cloth produced by England.

The slope of BC1 reveals that Portugal has greater comparative advantage in production of wine. OBC1>OB1 in England.

England had the least comparative dis advantage in the production of cloth OB. Thus Portugal export OC1 of wine to England in exchange for OB of cloth.

CRITICISMS:

- Unrealistic assumption.
- No similar tastes.
- Unrealistic assumption of constant costs.
- Ignores transport costs.

- Factors are not fully mobile internally.
- 2X 2 model unrealistic.
- Unrealistic assumption of free trade.
- Unrealistic assumption of full employment.
- Neglects technology.
- One sided theory.

MODERN THEORY OF INTERNATIOAL TRADE:

THE HECKSCHER – OHLIN THEORY:

According to H.O. theory states that the main determination of the pattern of production, specialization and trade among regions is the relative availability of factor endowments and factor prices.

Countries that rich in capital will export capital intensive goods and countries that have much labour will export labour intensive goods. Thus the main cause of trade between regions is the difference in prices of commodities based on relative factor endowments and factor prices.

ASSUMPTIONS:

- 2X2 model. A and B Country, X and Y commodities.
- Perfect competition.
- Full employment of resources.
- Quantitative differences in factor endowments in different regions.
- Labour intensive and capital intensive.
- Perfect mobility of factors of production.
- Free trade
- No transport cost.
- Constant returns to scale.
- Tastes and preferences are identical.
- No change in technology.
- There is incomplete specialization.

Explained in terms of two definition:

- Factor abundance in terms of Factor prices.
- Factor abundance in Physical terms.

Factor abundance in terms of Factor prices:

The alternative criterion for defining relative factor-abundance is the price criterion. The criterion lays down that a country having capital relatively cheap and labour relatively costly is capital-abundant and vice-versa, irrespective of the physical quantities of capital and labour that they have.

Country A can be called as relatively capital-abundant if $(P_{KA}/P_{LA}) < (P_{KB}/P_{LB})$. Here P denotes prices. K and L signify capital and labour respectively. A and B indicate countries A and B respectively. Similarly country A can be regarded as labour- abundant and capital-scarce, if $(P_{LA}/P_{KA}) < (P_{LB}/P_{KB})$.

Now suppose country A is capital-abundant and labour-scarce, the interest rates will be relatively low and wage rates will be relatively higher when compared with interest rates and wage rates in country B. Therefore, country A will decide to produce and export capital-intensive commodity (say, machine) and import labour-intensive commodity (say, cloth). Now this generalization can be proved through Fig. 7.3.

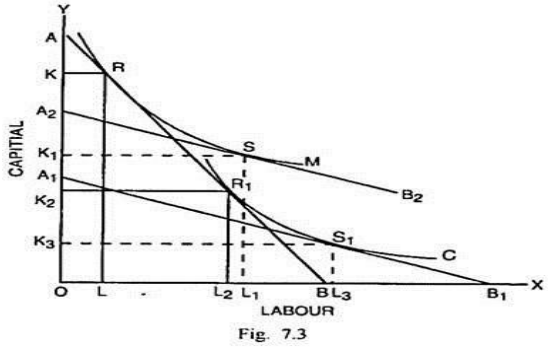


Fig. 7.3

AB is the factor-price line for country A and A_1B_1 is the factor price line for country B. As the slope of AB is greater than that of A_1B_1, capital is relatively cheap in country A and labour is relatively cheap in country B. It signifies that $(P_{KA}/P_{LA}) < (P_{KB}/P_{LB})$.

Now the factor price line AB is tangent to the isoquant M of the capital-intensive commodity machine at R. It means country A can produce certain number of units of machine, say 100 machines, by employing OK units of capital and OL units of labour. OL amount of labour is equal to AK amount of capital. In other words, the cost of producing 100 machines in country A in terms of capital is OA.

The factor price line A_2B_2 of country B is parallel to A_1B_1. It is tangent to the isoquant M at S. It signifies that country B can produce 100 machines by employing OK_1 units of capital and OL_1 units of labour. It means A_2K_1 units of capital are equal to OL_1 units of labour and the total cost of producing 100 machines in country B is OA_2 in terms of capital. From this, the conclusion can be derived that the production of machine is more capital-intensive in country A than in country B.

Similarly in the production of one unit of cloth (say, 1000 metres) in country A, OL_2 units of labour and OK_2 units of capital are employed at R_1, the point of tangency between country A's factor price line AB and the isoquant for cloth C representing 1000 meters of cloth. Given this factor combination, OK_2 units of capital are equal to BL_2 units of labour and the cost of producing 1000 metres of cloth in country A in terms of labour is OB.

In country B, given the factor price line A_1B_1, the point of tangency between A_1B_1 and isoquant C is S_1. Country B employs OK_3 units of capital and OL_3 units of labour for producing 1000 metres of cloth. Now the quantity of capital OK_3 equals B_1L_3 units of labour.

The cost of producing 1000 metres of cloth in labour terms is OB_1 in country B. This shows that labour-abundant country B makes more use of labour in producing 1000 metres of cloth than country A. B will specialise in the production and export of cloth while country A will export more capital-intensive commodity machine.

Factor abundance in Physical terms:

Physical Criterion:

According to this criterion, a country is said to be relatively capital abundant, if and only if, it is endowed with a higher proportion of capital to labour than the other country.

The country A can be called as relatively capital abundant, if the following condition is satisfied:

$$\frac{\bar{K}_A}{\bar{L}_A} > \frac{\bar{K}_B}{\bar{L}_B}$$

Where K and L refer to capital and labour respectively. Bars over K and L signify the fixed factor quantities in each country. The subscripts A and B refer to countries A and B.

Similarly the relative scarcity of labour, in physical terms, in country A can be expressed as:

$$\frac{\bar{L}_A}{\bar{K}_A} < \frac{\bar{L}_B}{\bar{K}_B}$$

For country B, relative labour-abundance can be indicated by:

$$\frac{\bar{L}_B}{\bar{K}_B} > \frac{\bar{L}_A}{\bar{K}_A}$$

And capital-scarcity in this country can be denoted by:

$$\frac{\bar{K}_B}{\bar{L}_B} < \frac{\bar{K}_A}{\bar{L}_A}$$

Given the above conditions, H-O theory lays down that country A will produce capital-intensive commodity (say machines) and country B will have a bias in producing labour-intensive commodity (say, cloth). If both the countries produce machines and cloth in the same proportion and production occurs along OR in Fig. 7.1, the country A would be producing at C and country B at D. The points C and D lie on the respective production possibility curves PQ and P_1Q_1 of these two countries.

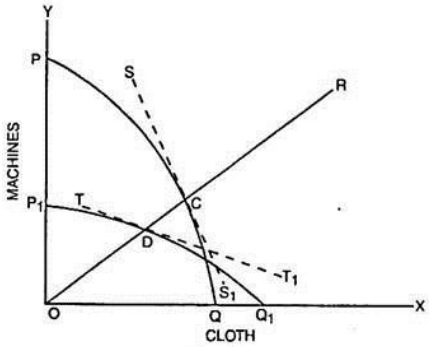


Fig. 7.1

Since at point C, the slope of country A's production possibility curve is more steep than the slope of the production possibility curve of country B at D, this will imply that MC of producing cloth in country A is higher than the MC of producing cloth in country B. So if the production takes place at points C and D, machines can be produced more cheaply in country A and cloth can be produced more cheaply in country B.

Since country A is capital-abundant and the production of machines is capital-intensive, country A will tend to extend the production of machines. Country B, at the same time being labour-abundant, will tend to extend the production of cloth, which is relatively labour-intensive.

The Heckscher-Ohlin theorem can, however, be valid on the basis of this physical criterion and give the above conclusion only if the consumption pattern in both the countries is identical and the income elasticity of demand for each commodity equals unity. If the demand conditions are different in two countries, the conclusion that capital-abundant countries will export capital-intensive commodity and vice-versa cannot be sustained. This can be shown through Fig. 7.2.

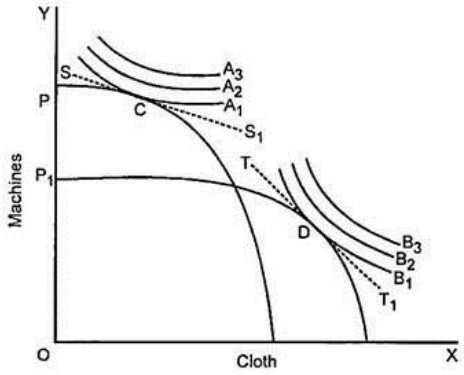


Fig. 7.2

Even in Fig. 7.2, the opportunity cost curves PQ and P_1Q_1 indicate that country A is capital-abundant and country B is labour-abundant. The pattern of demand is different in the two countries. The community indifference curves A_1, A_2 and A_3 indicate demand pattern in country A and the indifference curves B_1, B_2 and B_3 indicate the demand pattern in country B. The iso-revenue curve SS_1 related to country A is less steep than the iso- revenue curve TT_1 for country B, therefore-

$$\frac{\text{Price of Cloth}}{\text{Price of Machine}} \text{ in A} < \frac{\text{Price of Cloth}}{\text{Price of Machine}} \text{ in B.}$$

Now demand conditions indicate that machines are costly in country A while cloth is costly in country B. Therefore, country A may decide to export cloth and country B may export machines. So the pattern of demand may off-set the Heckscher-Ohlin generalisation that capital-abundant country will export capital-intensive commodity and vice-versa.

Superiority of Heckscher-Ohlin Theory over the Classical Theory:

Heckscher- Ohlin theory does not contradict the Ricardian theory. It rather supplements it as it attempts to investigate the basic forces determining the comparative advantage of one country over the other.

However, H-O theory makes some departures from the traditional theory and in the process, effects significant improvements upon the latter in following respects:

a. Based on General Theory of Value.
b. No Need for Separate Theory.
c. Ultimate Cause of Trade.
d. Permanent Basis of Trade.
e. Two Factors of Production.
f. Stress on Relative Product or Factor Prices.
g. Emphasis on Gains vs. Bases of Trade.
h. Qualitative vs. Quantitative Differences in Factors.
i. Production Function.
j. Product Specialisation.
k. Locational Theory.
l. Distributions of Income and Welfare.
m. Integration between the Theory of Value and Theory of International Trade.

Criticism of Heckscher-Ohlin Theory:

No doubt, the Heckscher-Ohlin theory has been found to be more exact, precise, scientific and analytically superior to the earlier approaches to the theory of international trade, still it has certain deficiencies for which it has been criticized by many a writer.

a. Partial Equilibrium Analysis.
b. Oversimplifying Assumptions.
c. Static Analysis.
d. Identical Factors.
e. Neglect of Product Differentiation.
f. Factor Proportions and Specialisation.
g. Neglect of Factor Demand.
h. Factor Mobility.
i. Neglect of Technological Change.
j. Factor-Intensity.
k. Neglect of By-Products.
l. Possibility of Trade Even under Identical Proportions.
m. Vague Theory:

THE LEONTIEF PARADOX

Leontief in his study reached the paradoxical conclusion that US which possesses a relatively large amount of capital and a relatively small amount of labour in relation to the rest of the world, exported labour intensive goods and imported capital intensive goods. This results has come to be known as the Leontief paradox.

Capital and labour requirements in per million dollars of US exports & import replacement 1947.

Factor requirements	export	Import replacement
capital	$2,550,780	$3,091,339
Labour	182,312	170,004
Capital labour ratio	$ 13,911	$ 18,185

CRITICISMS OF LEONTIEF PARADOX:

1. 1947 not a typical year.
2. Problem of aggregation.
3. Incompatibility of input – output model.
4. Low capital labour ratio in industry.
5. Consumption patterns.
6. Durability of capital.
7. Tariffs ignored.
8. Neglect of natural resources.
9. Comparison of capital intensity irrelevant.
10. Labour productivity.
11. Neglect of human capital.
12. Unbalanced trade.
13. Factor intensity reversals.

SAMUELSON THEROEM

Factor price equalization theory relates movements in commodity prices to the ratio of factor rewards. But Samuelson theorem relates movements in commodity prices to individual rewards. It states that in a two factor and two commodity economy a rise in the prices of a commodity increases the real reward of the abundant factor used in the production commodity of which the price has risen, and decreases the real reward of the scarce factor, and vice versa.

ASSUMPTIONS

a. There are two countries.
b. Two commodities, wheat and watches.
c. Neither commodity is an input into production of another.
d. Only two factors- labour and capital.
e. Production function of both commodities are linear and homogeneous of degree one.
f. Both factors are fixed in supply.
g. Both factors are fully employed.
h. Both factors are mobile between sectors but not between countries.
i. Perfect competition in the factor and product market.
j. Production of watches is relatively capital intensive and that of wheat is relatively labour intensive.
k. Labour is an abundant factor of production and capital is a scarce factor.
l. Terms of trade between two countries remain unchanged.
m. Opening of trade raises the relative price of wheat.

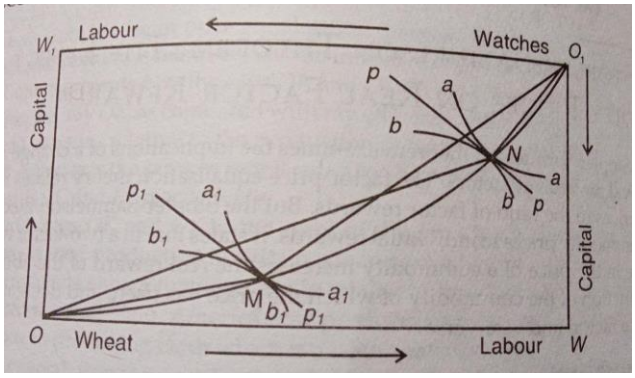
EXPLANATION

Under this assumption moving from no trade to free trade unambiguously raises the returns to the factor used intensively in the rising price industry (wheat) and lower returns to the factor used intensively in the falling price industry (watches). This theorem is explained with box diagram.

O labour intensive wheat production; O1 is capital intensive watch production; OO1 is contract curve; a1a1 is isoquant of wheat; b1b1 isoquant of watches. M Production before trade. P1p1 is factor price ratio line.

When trade takes place, the country will export wheat so it moves along the contract curve from M to V. Now country will increase the proportion of labour to capital in production of wheat. Trade tends to increase the relative price of export commodity wheat. After trade steep slope of price line PP tangent at N shows that after trade, the price of wheat has increased relative to watches.

DIAGRAM



IMPLICATIONS

a. Inequality of income distribution.
b. Labour abundant developing countries, the policy of export promotion rather than import substitution.

HABELER THEROY OF OPPORTUNITY COSTS

This theory says that is a country can produce either X or Y, the opportunity costs of a commodity X is the mount of the other commodity Y, that must be given up in order to get one additional units of commodity X. Thus, the exchange ratio between the two commodities is expressed in terms of opportunity costs. It is illustrated in international trade theory with production possibility curve.

ASSUMPTIONS

a. There are two country A & B.
b. Two factors of production, L&C.
c. Each country produce two commodities X &Y.
d. Perfect completion in factor and commodity markets.
e. Price is equals to its marginal money cost.
f. Price of each factor equals to its marginal value productivity.
g. Supply of each factor is fixed.
h. Full employment.
i. No change in technology.
j. Factors are immobile between the two countries.
k. Perfectly mobile within the countries.
l. Free trade.

EXPLANATION OF THE THEROY

Under different cost conditions that determines the basis and gains from international trade under the theory of opportunity costs

If the amount of Y required to be given up to get additional of X remain constant, the PPC would be straight line, and it would indicate constant opportunity costs.

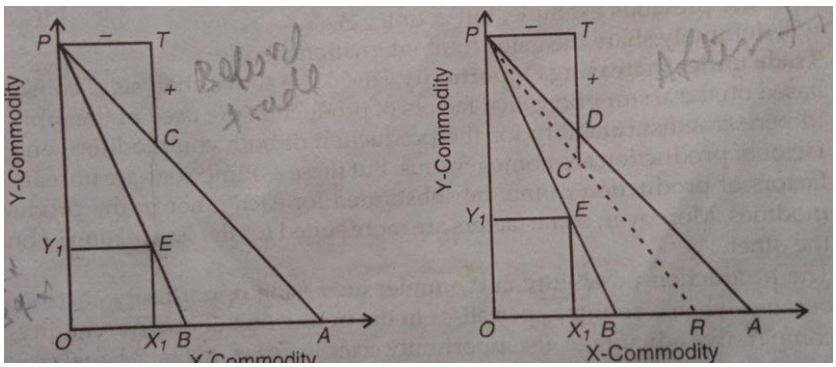
If more quantity of Y is required to be given up in order to additional quantity of X, PPC would be concave to the origin and it would indicate increasing opportunity costs.

If in order to get an additional of X, less quantity of Y is required to be given up, the PPC would convex to the origin, and would indicate diminishing opportunity costs.

TRADE UNDER CONSTANT OPPORTUNITY COSTS

Under this costs, the PPC is a straight line explained in the following diagram.

DIAGRAM



PA is PPC of country A, PB is PPC of country B. Country A produce OP of Y commodity OA of X commodity. Similarly, country B produce OP of Y commodity and OB of X commodity. At point E country B can produce OX1 of X, OY1 of Y. PPC determines the relative price of the two commodities, they are the same at all points on a straight-line curve. If opportunity cost leaving a unit of one commodity in order to have an additional unit of other is constant. The cost ratio of the two commodity in country B is OP/OB, and in country A, OP/OA.

Relative price is differ in the two countries, trade is possible between two. Taking the two countries A &B, both can produce the same amount of OP of Y, but A can produce larger amount of X. It can produce OA of X as compared to OB of country B. So, commodity X will be cheaper in A than in B, and Y will relatively cheaper in B than in A. A has comparative advantage in production of X and B has comparative advantage in production of Y. Country A exports X to B, B exports Y to A.

Before trade B was consume and produce at E point on its domestic price line PB. After trade B specialize in production of Y, it moves from point E to D on the new international price line PA, consume PT of X imports it from A and exports TD of Y. So entering into trade with A, country B has definitely gained.

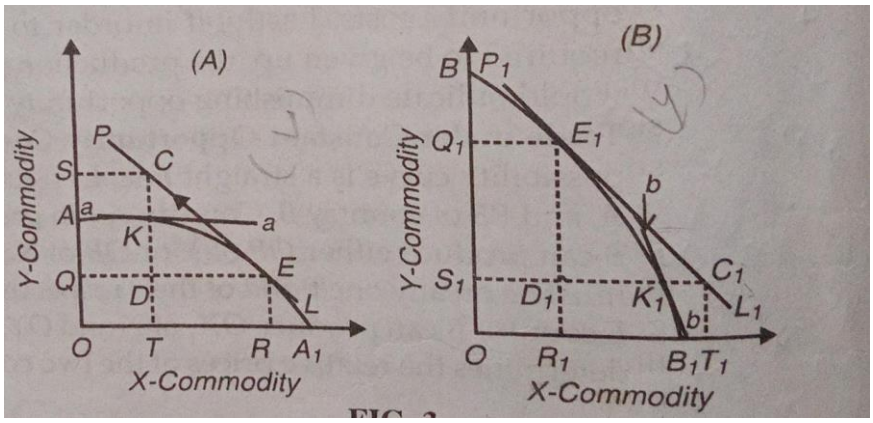
But country A has not gained from trade with B because the relative price of X and Y did not change in it before and after trade. After trade, the production and consumption level shifts to E to C on international price line PR, country B export TC of Y to country A in exchange of PT of X.

TRADE UNDER INCREASING OPPORTUNITY COSTS

The PPC under increasing opportunity costs is concave to the origin because country specialize in production of one commodity. In diagram, panel A, AA1 is the PPC of country A which is concave to the origin. The slope of curve shows the country specialize the production of X commodity. aa indicates the domestic price line of A. Absence of trade, country A produce and consume both X and Y at point K. Trade take place the new equilibrium point E is determined by international price line PL. It means commodity X is more expensive in international market than domestic market (PL>aa). At point E, they produce OR of X and OQ of Y. Consumption of country A at point C, exports TR of X, imports QS of Y. The trade triangle is CDE. Thus entering into trade country A is able to consume more both X and Y because C is above and right to the point K.

In Panel B, BB1 is the PPC of country B. Country specialsie in the production of Y commodity. bb indicates the domestic price line of B country. Absence of trade country B produce and consume both at point K1. If trade takes place, the new equilibrium point E1 implies commodity Y has become more expensive in the international market than domestic market (P1L1 less steep than bb). Moving K1 to E1 it will produce OQ1 of Y and OR1 of X. Consumption point of the country B is At C1, exports D1E1 of Y, imports D1C1 of X. Trade triangle is E1D1C1, domestically consume OS1 of Y and OR1 of X commodity.

DIAGRAM



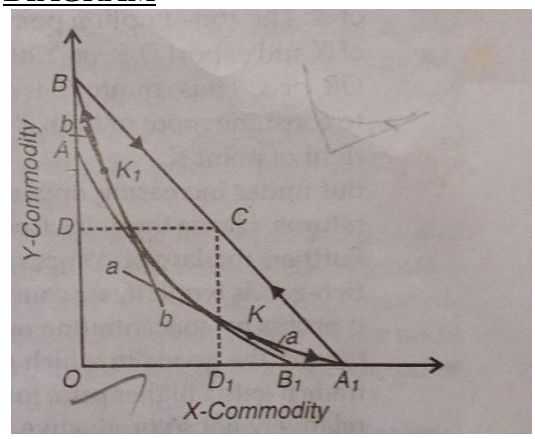
TRADE UNDER DECRESING OPPORTUNITY COSTS

Under this costs, the PPC curve are convex to the origin. Under this costs each country specializes in the production of only one commodity after trade. AA1 is the PPC of country A. Before trade, country A produce and consume at point K. aa is domestic price line. Country A shows that comparative advantage is greater in production of X commodity.

Entering into trade, international price line BA1 is steeper than domestic price line (aa). It means commodity X has more expensive in the international market. A will import D1A1 of X to country B and import D1C of Y from trade triangle CD1A and consume OD1 of X at home.

BB1 is the PPC of country B. Before trade country B will produce and consume at point K1. Bb is the domestic price line. Country B will shows that comparative advantage is grater in production of Y commodity. Entering in trade, the international price line BA1 is flatter than domestic price line (bb). It means commodity Y has more expensive in the international market. Country B will export DB of Y to country A and import DC of X from trade triangle BDC, and consume OD of Y domestically.

DIAGRAM



TERMS OF TRADE AND GAINS FROM TRADE

TERMS OF TRADE

It refer to the rate at which goods of one country exchange for goods of another country. It is a measure of purchasing power of exports of a country in terms of its imports, and is expressed as the relation between export prices and import prices of its goods. When the export prices of a country rise relatively to its imports prices, its terms of trade are said to have improved. On the other hand, when its imports prices rise relatively to its export prices, its terms of trade are said to be worsened.

TYPES OF TERMS OF TRADE

Jacob Viner and G.M.Meier have discussed many types of terms of trade. They are as follows:

a. Commodity or Net Barter Terms of Trade
b. Gross Barter Terms of Trade
c. Income Terms of Trade
d. Single Factoral Terms of Trade
e. Double Factoral Terms of Trade
f. Real Cost Terms of Trade
g. Utility Terms of Trade

FACTORS INFLENCING OR AFFECTING TERMS OF TRADE

a. Reciprocal demand
b. Changes in Factor Endowments
c. Changes in Technology
d. Changes in Tastes
e. Economic Growth
f. Tariff
g. Devaluation
h. Market Condition
i. Import Substitutes
j. International Capital Flow
k. BOP
l. Inflation and Deflation
m. Country Size
n. Nature of the Commodity

GAINS FROM TRADE

It refer to the net benefits or increases in goods that a country obtains by trading with other countries. It also means the increase in the consumption of a country resulting from exchange goods and specialization in production through international trade.

According to Adam Smith, the gain from trade resulted from advantages of division of labour and specialization both in national and international level.

TYPES OF THE GAINS FROM TRADE

a. Potential Gains from trade
b. Actual Gains from Trade

MEASUREMENT OF GAINS FROM TRADE

There are two methods adopted to measure the gains from trade are as follows:

a. Classical Method
b. Modern Approach

FACTORS INFLUENCING OR DETERMINING THE GAINS FROM TRADE

There are several factors which determine the gains from trade are as follows:

a. Differences in Cost Ratios.
b. Reciprocal Demand.
c. Level of Income.
d. Terms of Trade.
e. Productive Efficiency.
f. Nature of Commodities Exported.
g. Technological Conditions.
h. Size of the Country.

ROLE OF FOREIGN TRADE IN ECONOMIC DEVELOPMENT:

There are two ways to express the Role of Foreign Trade in Economic Development:

A. Direct Benefits.
B. Indirect Benefits.

A. DIRECT BENEFITS:

a. To break the vicious circle of poverty & promote economic development.
b. Extension of Market.
c. Increased Investment level.
d. Surplus Production.
e. Proper Utilization of Resources.
f. Internal & External Economies.

B. INDIRECT BENEFITS:

a. Import of Capital goods against Export of Staple Commodities.
b. Important Educative Effects.
c. Development of Industrial Technology.
d. Basics for Importation of Foreign Capital.
e. Checking of Inefficient Monopolies.

FOREIGN TRADE AND ECONOMIC GROWTH

Foreign trade enlarges the market for a country's output. Exports may lead to increase in national output and may become an engine of growth. Expansion of a country's foreign trade may energise an otherwise stagnant economy and may lead it onto the path of economic growth and prosperity.

Increased foreign demand may lead to large production and economies of scale with lower unit costs. Increased exports may also lead to greater utilisation of existing capacities and thus reduce costs, which may lead to a further increase in exports. Expanding exports may provide greater employment opportunities. The possibilities of increasing exports may also reveal the underlying investment in a particular country and thus assist in its economic growth.

Some of the important ways in which foreign trade contributes to economic growth are as follows:

i. The primary function of foreign trade is to explore means of procuring imports of capital goods, without which no process of development can start;

ii. Trade provides for flow of technology, which allows for increases in productivity, and also result in short-term multiplier effect;

iii. Foreign trade generates pressure for dynamic change through (a) competitive pressure from imports, (b) pressure of competing export markets,- and (c) a better allocation of resources;

iv. Exports allow fuller utilisation of capacity resulting in achievement of economies of scale, separates production pattern from domestic demand, increases familiarity with absorption of new technologies;

v. Foreign trade increases most workers' welfare. It does so at least in four ways:

(a) Larger exports translate into higher wages;

(b) Because workers are also consumers, trade brings them immediate gains through products of imports;

(c) It enables workers to become more productive as the goods they produce increase in value; and

(d) Trade increases technology transfers from industrial to developing countries resulting in demand for more skilled labour in the recipient countries.

vi. Increased openness to trade has been strongly associated with reduction in poverty in most developing countries. As the historian Arnold Toynbee said 'civilisation' has been spread though 'mimesis, i.e. emulation or simply copying.

In short, trade promotes growth enhancing economic welfare by stimulating more efficient utilisation of factor endowments of different regions and by enabling people to obtain goods from efficient sources of supply.
