MONETARY ECONOMICS

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PART - D

INTERNATIONAL TRADE

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1

CLASSICAL THEORY OF INTERNATIONAL TRADE

1. **Internal and international Trade**
   - Need for Separate Theory of International Trade
   - Arguments against a Separate Theory of International Trade
2. **Comparative Cost Theory**
   - Assumptions
   - (A) Equal Cost Difference
   - (B) Absolute Cost Difference
   - (C) Comparative Cost Difference
   - Overall Reduction of Production Cost
   - Terms of Trade and Gains from Trade
   - Summary
3. **Critical Evaluation of Comparative Cost Theory**
   - Comparative Cost Theory and Actual World Trade
4. **Modifications of Comparative Cost Theory**
5. **Theory of Comparative Cost and Underdeveloped Countries**
   - Arguments against Comparative Cost Theory
   - Kindleberger's Conclusion
   - Relevance of Theory of Comparative Cost

1

Classical Theory of International Trade

1. INTERNAL AND INTERNATIONAL TRADE

Internal or inter regional trade means trade between different regions of the same country It refers to the exchange of goods and services within the political boundaries of a nation Internal trade, is also called home trade or domestic trade. International trade, on the other hand, refers to the exchange of goods and services between different countries or trade across the political boundaries It is also known as foreign trade

International trade takes place because of the following reasons

(i) Human wants are varied and unlimited and no single country possesses the resources to satisfy all these wants. Hence there arises a need for interdependence between countries in the form of inter national trade

(ii) International trade is the result of ternional division of labour and specialisation in the countries

(iii) Factor endowments vary in different countries.

(iv) Labour and entrepreneurial skills vary in different countries.

(vi) Factors of production are highly immobile between the countries.

Need for a Separate Theory of International Trade

Economists are divided on the question whether international trade should have a separate theory or not. The classical economists are of the view that international trade differs fundamently from internal trade and therefore and a separate theory to explain international trade is necessary The main differences between international trade and internal trade which lead to the need for a seperate theory of international trade are as follows

1. Difference in Factor Mobility The main difference between internal and international trade is that the factors of production like labour and capital

are comparatively more mobile (though not perfectly mobile as the classical economists believed) within the country and comparatively less mobile (though not perfectly immobile as the classical economists believed) between the countries Within the country, the factors of production tend to move out of those areas where their prices are low to those areas where prices are high Thus, factor mobility within the country results in the equilisation of factor prices At the international level, on the other hand, the mobility of factors of production is restricted due to the factors like (a) high travelling expenses, immigration laws, citizenship qualifications, etc , (b) differences in climate, living conditions, language culture (c) racial, religious discriminations The relative factor immobility between the countries necessitates a separate theory of international trade

2 Different Currencies Another reason for a separate theory of international trade is the use of different currencies in different countries Even if the names of the currencies of some countries may be the same, the internal purchasing power and the systems of issue are different. Moreover, different foreign exchange policies are adopted by different countries Rates of exchange, i e , the prices of acquiring various currencies, differ as a result of these foreign exchange policies In fact, it is the difference in the foreign exchange policies rather than the existence of different national money which distinguishes international from domestic trade

3 Different National Policies Difference in the national policies of different countries also leads to the necessity of a separate theory of international trade Different countries follow different national policies relating to commerce, trade, taxation, industry, etc These policies are more or less uniform within the country but vary between countries Therefore, they affect the domestic trade uniformly, but influence the international trade differently Policies like tariffs, import quotas, subsidies, etc interfere with the free and normal movement of goods between the countries

4 Different Exchange Control Policies. Another reason for a separate theory of international trade is different exchange control policies adopted by different countries There are built in stabilisers in the inter-regional, and not the international, monetary flows If certain region in a country suffers from depression, people there will not be able to pay taxes and will receive more investment and subsidies from the government. But, no such automatic system of monetary adjustment exists at the international level Different countries facing different degrees of inflationary and deflationary situations adopt different exchange control policies, affecting the international trade differently

5 Differences in Natural Resources Different countries have different geographical conditions and are endowed with different natural resources

Some countries have abundance of natural resources, while others have scarcity Again certain types of natural resources are more abundant in some countries than in other countries On account of these differences the cost of producing the same good differs between countries Different cost conditions make international trade possible and profitable which results in the emergence of a separate theory of international trade

6 Different Political Groups. The existence of different political groups in different countries also result in a separate theory of international trade Internal trade occurs within the same political unit, while the international trade occurs between different political units The government of each country attempts to maximise the welfare of its own people against that of others Therefore each country adopts such an international trade policy that promotes its own interest at the cost of that of the other countries

7 Different Markets Separate theory of international trade is needed on account of the existence of different markets for different countries Internal trade occurs in a homogeneous home market, while international trade occurs in heterogeneous world markets Hetrogeneity of international markets is due to differences in climate, customs language, habits weights, measures, etc As a result of these differences, goods which are traded within the countrymay not be traded in other countries For instance, Indians use left hand driven cars, while Americans use right hand driven cars Thus the markets for automobiles are separated internationally

Arguments against a Separate Theory of International Trade

The Modern economists like Ohlin Haberler, have regarded the internal and international trade as similar and are of the view that there is no need for a separate theory of international trade According to Ohlin "International trade is but a special case of inter regional trade" In the words of Haberler 'Strictly speaking it is neither possible nor essential to draw a sharp distinction between the problems of foreign and domestic trade If we examine the alleged peculiarities of foreign trade we find that we are dealing with difference in degree rather than with such basic differences of a qualitative nature as would warrant sharp theoretical divisions" The following are the similarities between internal and international trade which are generally used as arguments against a separate theory of international trade

(i) The prices of domestically or internationally trades goods are determined in the same way through the equilibrium between demand and supply forces.

(ii) Factor immobilities give rise to both internal and international trade The classical economists are wrong in their assumption that factors

of production are perfectly mobile within the country and perfectly immobile between the countries In fact, factors are also mobile between nations and immobile within a nation As Kindleberger points out, "Today it is thought that this distinction of the classical economists has been made too rigorously There is some mobility of factors internationally - There is also some considerable degree of immobility within the countries"

(iii) Both types of trade occur due to division of labour and specialisation Each region or country tends to specialise in the production of those goods for which it is most suited

(iv) Participants in both internal and international trade aim at maximising their gain Traders want to maximise their profits and buyers want to maximise their utilities

Conclusion. In spite of the emphasis of the modern economists on the various similarities of internal and international trade, it is now a well-established fact that there do exist certain basic differences between internal and international trade and the dissimilarities between the two types of trade are more marked than their similarities Hence, the need for a separate theory of international trade remains

2 COMPARATIVE COST THEORY

The classical theory of international trade deals with three problems

(*i*) The condition for international trade, *i e* under what conditions the trade between two countries is possible ?

(ii) The determination of the direction of trade, *i e*, which commodity a country will export and which it will import ? and

(*iii*) The determination of terms trade, *i e* , at what rate the commodities will be exchanged in the international trade ?

Adam Smith and Ricardo concentrated on the first and second question, while the third question is left to be taken up by J S Mill Later on economists like Cairnes, Bastable, Taussig, Haberler, etc introduced many modifications to theory The classical theory of international trade is the comparative cost theory which states that a country, in the long run, will tend to specialise in the production of and to export that commodity in whose production it experiences comparative cost advantage and import that commodity in whose production it experiences comparative cost disadvantage In order to know the comparative cost advantage, we have to compare cost ratios and not costs and it matters little whether we compare the cost ratios of two commodities in one country or of one commodity in two

countries Specialisation and trade, according to the comparative cost principle will not only make all the trading countries better off but also maximise the world production through international division of labour

Assumptions

The classical theory of international trade on the following *assumpuons*

(i) Labour is the only factor of production and the value of a commodity is proportional to the quantity of labour required in its production

(ii) All labour units are homogeneous *i e* all the labourers equally efficient

(iii) Since there is a single factor of production commodities are produced at constant costs

(iv) Under the constant cost conditions, prices are determined by supply and the changes in demand have no effect on it

(v) Factors of production are perfectly mobile within the country but completely immobile among countries

(vi) There is free trade and government does not interfere in trade

(vii) There are no transportation costs

(viii) There is perfect competition in both commodity and factor makers

(ix) The theory is based on two countries—two commodity model

(x) The two countries have common monetary standard and the quantity theory of money is considered valid

In order to understand the classical theory of international trade more clearly, three types of cost differences are to be distinguished (a) equal cost difference (b) absolute cost difference, and (c) comparative cost difference

(A) Equal Cost Difference

If the two countries have equal differences in production costs international trade is not possible. This can be shown with the help of an example illustrated in Table 1

Table 1

Hours of labour necessary to produce a unit of wheat and cloth

	Wheat	Cloth	Domestic Barter Rate
India	$40\,a_1$	$80\,b_1$	1 Wheat = .5 Cloth
England	$60\,a_2$	$120\,b_2$	1 Wheat = .5 Cloth
Cost Ratio	a_1/a_2	b_1/b_2	
Equal Cost Difference	$a_1/a_2 = b_1/b_2$		

Table-1 shows that in India, the production of one unit of wheat requires 40 hours of labour and one unit of cloth requires 80 units of labour The domestic barter rate in India is 1 Wheat = 5 Cloth Similarly in England, one unit of wheat requires 60 hours of labour and one unit of cloth requires 120 hours of labour England's domestic barter rate is 1 Wheat = 5 Cloth In this case, both India and England have the same cost ratio If we assume a_1 and b_1 the unit labour cost of producing wheat and cloth in India a_2 and b_2 in England, then the nature of cost ratio is as follows

$$\frac{a_1}{b_1} = \frac{a_2}{b_2} \cdot \qquad \text{or} \frac{a_1}{a_2} = \frac{b_1}{b_2}$$

$$\frac{40}{80} = \frac{60}{120} = 5 \qquad \text{or} \frac{40}{60} = \frac{80}{120} = 6/7$$

Since the two countries have the same cost ratio, no incentive for trade exists In spite of the fact that India is capable of producing both commodities more cheaply than England, it will export any commodity to England only if it can get more than 1 Wheat = 5 Cloth (i e , India's domestic barter rate) But, on the other hand England will not import any commodity from India if it cannot get it at a price less than 1 Wheat = 5 Cloth (i e England's domestic barter rate) Thus, at equal cost differences, no country will be motivated to enter into trade with the other

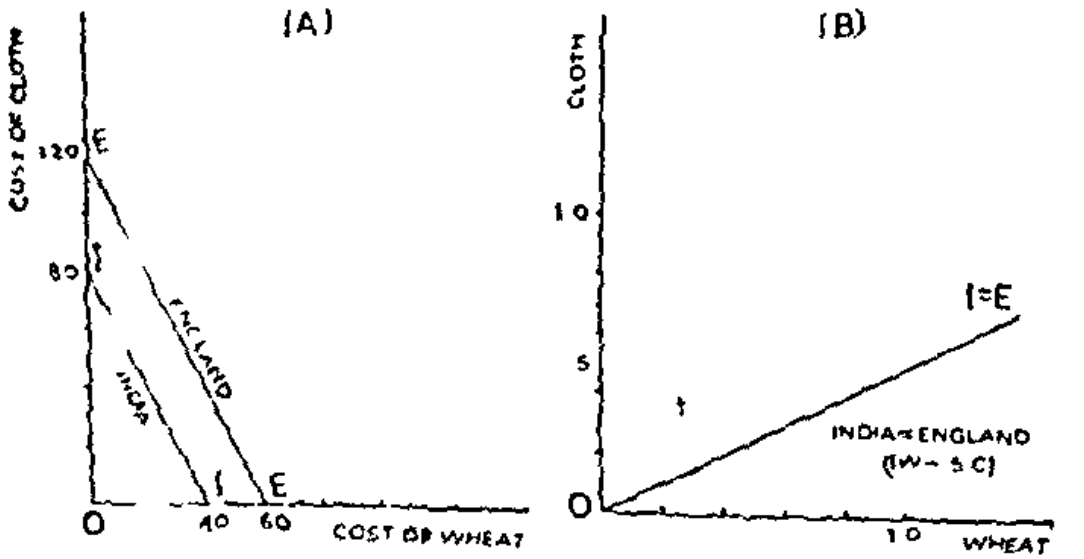

Fig 1

The non possibility of trade under equal cost difference condition is diagrammatically represented in Fig 1. In Fig 1A, lines II and EE are the production possibility curve for India and England respectively. The slopes of these curves represent the relative costs of production of wheat and cotton in India and England respectively. The production possibility curves are straight lines which show that the production is subject to the law of constant costs in

both the countries The relative position of II and EE curves show that India can produce both wheat and cloth at a cheaper rate than England But both the production possibility curves are parallel to each other, *i e*, the slope curves *is the same which means that both India and England* have the same cost ratio This indicates that there is no scope for trade between the two countries and specialisation by any country in any product will not be advantageous

Fig 1B illustrates the same idea with the help of offer curves Line I = E is the offer curve of India and England which represents that the cost ratio (or the domestic barter rate) in the two countries is the same (*i e*, 1 Wheat = 5 Cloth) The offer curve is a straight line which shows that it is drawn on the basis of the assumption of constant cost conditions. In a situation of equal cost ratios, trade between the two countries is not possible because India wants more than .5 units of cloth for one unit of wheat, while England, on the other hand, wants to give less than 5 units of cloth for one unit of wheat imported Thus, if there *is equal cost difference, there is no possibility of international trade and no* country will gain by specialisation

(B) Absolute Cost Difference

According to Adam Smith, trade between two countries will occur only if each country has an absolute cost advantage over the other in one commodity

Table 2

Hours of Labour necessary to produce a unit of wheat and cloth

	Wheat	*Cloth*	*Domestic Barter Rate*
India	$40a_1$	$80b_1$	1 Wheat = .5 Cloth
England	$80a_2$	$40b_2$	1 wheat = 2 Cloth
Cost Ratio :	a_1/a_2	b_1/b_2	

Absolute Cost Difference : $a_1/a_2 < 1 < b_1/b_2$

$$\frac{a_1}{b_1} < \frac{a_2}{b_2} \quad or \quad \frac{a_1}{a_2} < \frac{b_1}{b_2}$$

$$\frac{40}{80} < \frac{80}{40} \quad or \quad \frac{40}{80} < \frac{80}{40}$$

$$5 < 2 \quad or \quad 5 < 2$$

This is a case of absolute cost difference because

$$\frac{a_1}{a_2} < 1 < \frac{b_1}{b_2}$$

$$\frac{40}{80} < 1 < \frac{80}{40}$$

$$5 < 1 < 2$$

which means that India has an absolute cost advantage over England in wheat and England has an absolute cost advantage over India in cloth

Possibility of trade under the condition of absolute cost difference is shown in Fig 2. Fig 2A shows that the production possibility curve II and EE for India and England respectively have different slopes which means that both the countries have difference cost ratios India has an absolute cost advantage (80—40 = 40) in the production of wheat. On the other hand, England has an absolute cost advantage (80—40 = 40) in the production of cloth Since both the countries have absolute cost advantage in different products, both of them can benefit through mutual exchange of goods

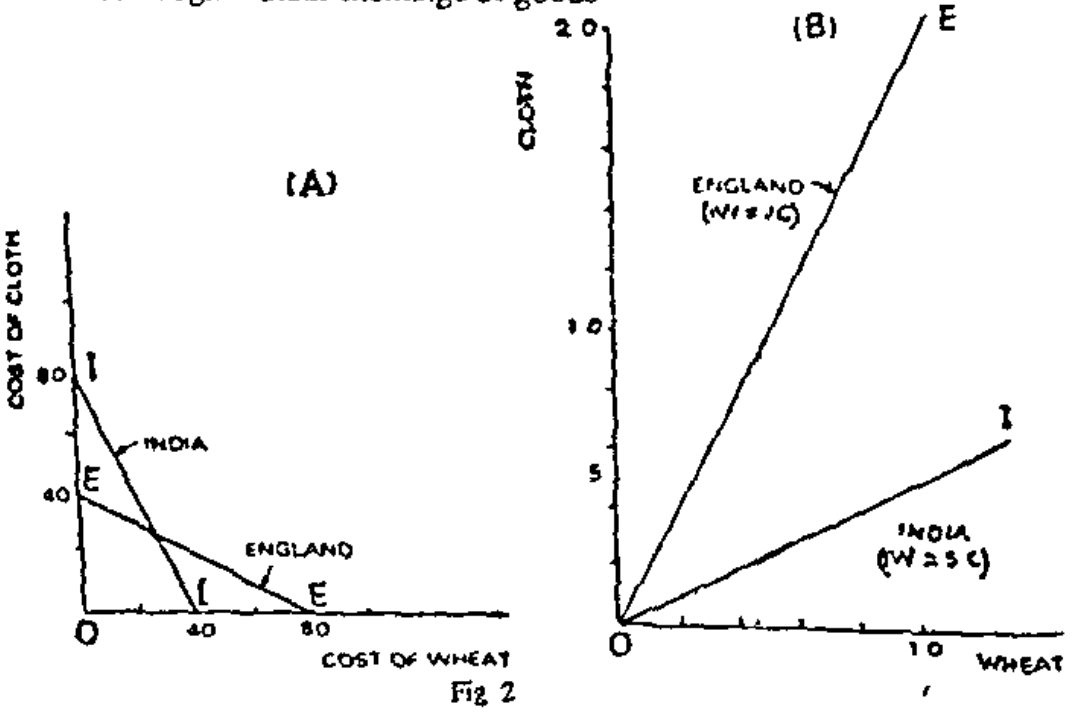

Fig 2

In Fig 2B, the same argument can be understood with the help of offer curves Line I is the offer curve of India which has been drawn on the basis of India's domestic barter rate (or cost ratio), *i e*, 1 Wheat = 5 Cloth On the other hand England's offer curve (line E) is drawn on the basis of its domestic barter rate (or cost ratio), *i e*, 1 Wheat = 2 Cloth In this case, *international* trade is bound to take place because India wants more than 5 units of cloth for one unit of wheat exported On the other hand, England is willing to give any price less than 2 units of cloth for one unit of wheat imported Thus, when there is absolute cost difference a country will specialise in the production of the commodity in which it has absolute cost advantage and will gain by exporting it

Adam Smith, however, did not visualise a less favourable situation for international trade Instead of being capable of producing one commodity absolutely cheaper than the other, a country may be able to produce both commodities absolutely cheaper than the other country What will be the direction of trade in this case Ricardo's analysis of comparative cost difference gives the answer

(C) Comparative Cost Difference

When a country has an absolute superiority over the other country in both the commodities, it will be beneficial for it to specialise in that commodity in which it enjoys comparative cost advantage

Table 3

Hours of labour necessary to produce a unit of wheat and cloth

	Wheat	*Cloth*	*Domestic Barter Rate*
India	$40\ a_1$	$80\ b_1$	1 Wheat = 5 Cloth
England	$90\ a_2$	$100\ b_2$	1 Wheat = 9 Cloth
Cost Ratio.	a_1/a_2	b_1/b_2	

Comparative Cost Difference $a_1/a_2 < b_1/b_2 < 1$

Table 3 shows that in India the production of one unit of wheat needs 40 hours of labour and the production of one unit of cloth 80 hours of labour *India's domestic barter rate is* 1 Wheat = 5 Cloth On the other hand, England requires 90 hours of labour to produce one unit of wheat and 100 hours of labour to produce one unit of cloth England's domestic barter rate is 1 Wheat = 9 Cloth In this case, India has an absolute cost advantage over England in both wheat and cloth, but is has comparative cost advantage over England in wheat. India will gain by producing only wheat, exporting it to England at a price more than its domestic barter rate (*i e* 1 Wheat = 5 Cloth) and importing

cloth from England Similarly, England will gain by producing only cloth, exporting it to India at a price more than its domestic rate (i e 1 Wheat = 9 cloth) and importing wheat from India The nature of cost ratios in this case is as follows

$$\frac{a_1}{b_1} < \frac{a_2}{b_2} \quad \text{or} \quad \frac{a_1}{a_2} < \frac{b_1}{b_2}$$

$$\frac{40}{80} < \frac{90}{100} \quad \text{or} \quad \frac{40}{90} < \frac{80}{100}$$

$$5 < 9 \quad \text{or} \quad 44 < 80$$

This is the case of comparatuve cost difference because

$$\frac{a_1}{a2} < \frac{b_1}{b_2} < 1$$

$$\frac{40}{90} < \frac{80}{100} < 1$$

$$44 < 80 < 1$$

which means that India possesses absolute advantage over England in both wheat and cloth, but it has comparative advantage in wheat than in cloth

In Fig 3, the production possibility curves for India and England (i.e lines II and EE respectuvely) show that India can produce one unit of Wheat

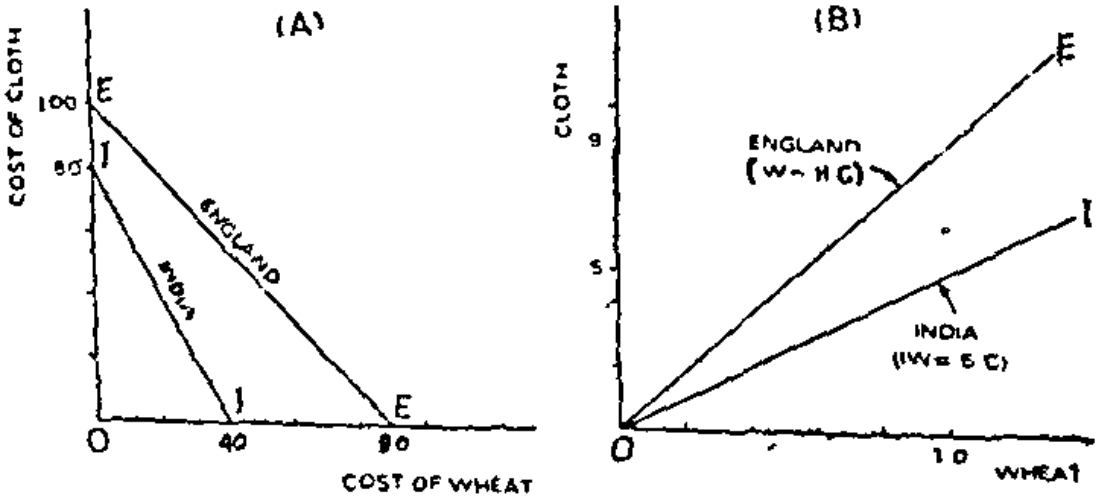

Fig 3

with 40 hours of labour whereas England requires 90 hours of labour to produce one unit of wheat , the absolute cost advantage in the production of wheat is 90—40 = 50 Again, India needs 80 hours of labour for producing one unit of cloth, wheres England needs 100 hours of labour , India's absolute cost advantage in the production of cloth is 100—80 = 20 Thus, India enjoys absolute cost

advantage in both wheat and cloth, but it possesses a greater comparative advantage in the production of wheat Similarly, England has absolute cost disadvantage in both wheat and cloth, but it has smaller comparative disadvantage in the production of cloth Thus, India will specialise in wheat and England in cloth

The same idea is represented in Figure 3B through offer curves India's offer curve (Line I) is drawn on the basis of its domestic barter rate (or cost ratio) *i e* , 1 Wheat = .5 Cloth Similarly, England's offer curve (line E) is drawn on the basis of its domestic, barter rate (or cost ratio), *i e* , 1 Wheat = 9 Cloth In this case international trade will take place and will be advantageous to both the countries because India wants more than 5 units of cloth for one unit of wheat exported and England is willing to give any price less than 9 units of cloth for one unit of wheat imported Thus, when there is comparative cost difference, a country will specialise in the production of the commodity in which it has greater comparative advantage (or lesser comparative disadvantage) and will gain by exporting it.

Overall Reduction of Production Cost

International trade based on comparative cost doctrine shows an overall reduction of production costs Before trade, India requires 120 hours (40+80) of labour to produce one unit of wheat and cloth each England requires 190 hours (90+100) of labour to produce one unit of wheat and cloth each After trade, India produces two units of wheat in 80 hours (40+40) of labour and England produces two units of cloth in 200 hours (100+100) of labour Thus, before trade, 4 units of both the commodities in two countries require 310 labour hours, whereas after trade the same four units require 280 labour hours There is an overall reduction of production cost by 30 labour hours through international trade

Terms of Trade and Gains from Trade

Comparative cost theory does not tell what the actual terms of trade will be It gives only the upper and lower limits of the range in which the trade between the two countries will be mutually beneficial The terms of trade refer to the rate of exchange and are determined by the cost ratios of production If Indian wheat is exchanged for English 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 English cloth at the rate of 1 Wheat = .5 Cloth, then all gains will go to England This is the lower limit. The actual terms of trade will be determined between these two limits. If Indian wheat is exchanged for English cloth at the rate of 1 Wheat = 7 Cloth, then the gains from trade will be evenly distributed between India and England

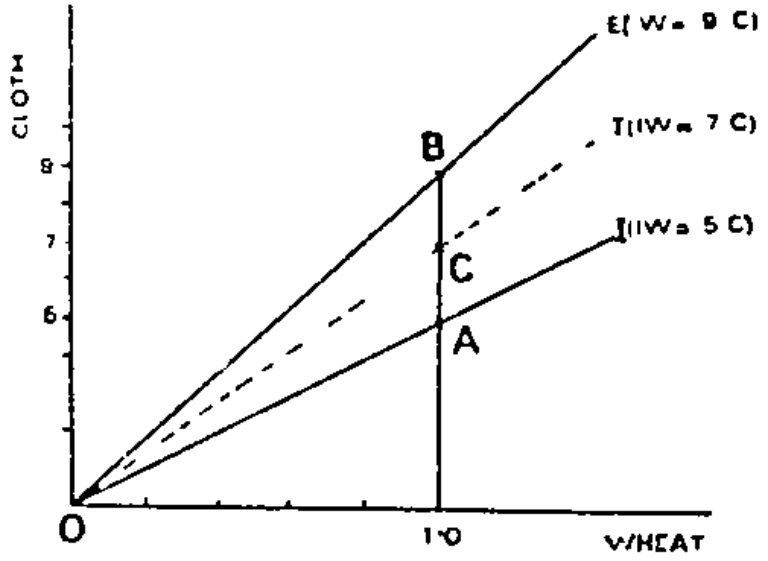

Fig 4

Fig 4 graphically represents the terms of trade and the distribution of gains from trade The terms of trade as reflected by the cost ratios of production are represented through the offer curves Line I represents the offer curve of India which is drawn on the basis of India's barter rate (or cost ratio) 1 Wheat = 5 cloth Line E is the offer curve of England which is drawn on the basis of England's domestic barter rate (or cost ratio) 1 Wheat = 9 Cloth India's offer curve (I line) shows that India wants more than 5 units of cloth for 1 unit of cotton exported. England s offer curve (E line) shows that England is willing to offer less than 9 units of cloth for 1 unit of wheat imported Thus, 1 Wheat = 5 Cloth and 1 Wheat = 9 Cloth are the two limits of the range in which the actual rate of exchange (terms of trade) will be determined

The actual rate of exchange will be determined on the basis of the relative bargaining strength of the two countries If the actual rate of exchange is fixed at the upper limit, *i e* 1 Wheat = 9 Cloth (as indicated by the offer curve E), it means India is powerful and England is weak in bargaining Or, in other words, England's demand for India's wheat is inelastic In such a situation, the whole gain from trade (*i e* , AB or 9—5 = 4 Cloth per unit of wheat) will go to India On the other hand if the actual rate of exchange is fixed at the lower limit, *i e* , 1 Wheat = 5 Cloth (as indicated by the offer curve I), it means England is strong and India is weak in bargaining and the whole gain from trade (*i e* , AB or 4 cloth per unit of wheat) will be received by England But, if both the countries are equally strong in bargaining the actual rate of exchange will be determined in the middle of the two limits, *i e* , 1 Wheat = 7 Cloth (as indicated by the offer curve T) The total gain from trade (*i e* , or 4 units of cloth per unit of wheat) will be equally distributed between India and England India's gain will be AC or 2 units of cloth per unit of wheat and England's gain will be BC or 2 units of cloth per unit of wheat.

Summary

The classical theory of international trade can be summarised in the *following way*

(i) International trade will not take place if the cost ratios of production are the same in the two countries

(ii) International trade is bound to take place if there is absolute cost difference between the two countries

(iii) International trade will also occur and will be *beneficial to both* the countries even in less favourable condition of comparative cost difference Each country will produce and export that commodity in which it enjoys comparative cost advantage

(iv) Trade on the basis of comparative cost advantage leads to the overall reduction of production costs

(v) *The terms of trade reflect the cost ratios of production in the two* countries The comparative cost theory tells the upper and lower limits of rate of exchange on the basis of the cost ratios

3 CRITICAL EVALUATION OF COMPARATIVE COST THEORY

The comparative cost theory of international trade is one of the major contributions of the classical economists Until the World War I the theory remained unattacked and was generally considered the most appropriate explanation of the basis of international trade Even the modern modifications and developments in the theory of international trade are more of a *complementary rather than destructive nature Prof Samuelson has aptly* remarked If theories like girls could win beauty contests comparative advantage could certainly rate high in that it is an elegantly logical structure " However comparative cost theory has been extensively criticised by many economists like Ohlin and Graham mainly because of its unrealistic assumptions and hypothetical character Some of the defects of the theory are given below

1 Assumption of Labour Cost. The most important criticism of the theory of comparative cost is that it is stated in labour or real terms. It assumes that labour is the only factor of production and the cost of production consists of labour cost alone The theory ignores the basic fact that labour is not the only factor of production and the production costs include non labour costs too

2. Defects of Labour Theory of Value The Labour theory of value on which the comparative cost theory is based has long been discarded because of the following defects (a) The labour theory is based on the unfound d assumption that labour is the only factor used in the production of commodities

(b) The labour theory assume homogeneous labour while in reality labour differs in efficiency and skill (c) Labour theory of value assumes that if other factors are used along with labour they are combined in fixed proportions But, in reality capital labour ratio varies from industry to industry (d) The labour theory of value is also based on the unrealistic assumptions of perfect competition and perfect mobility of labour (e) The labour theory of value was discarded by the non-classical economists since it ignored the role of utility in the determination of value

3 **Assumption of Constant Costs.** The theory of comparative cost assumes the existence of constant cost conditions. It maintains that the additional units of the same commodity can be produced at the constant average cost. The reality on the other hand is that there are either increasing costs or decreasing costs because of the operation of the laws of diminishing returns or increasing returns respectively Constant costs are the exception rather than the rule.

4 **Assumption of Factor Mobility** The classical theory of international trade is based on another unrealistic assumption that factors of production are perfectly mobile within the country and perfectly immobile between the countries The reality is quite different (a) Within in a country, factors of production do not move freely from one industry to another and from one region to another This is evident from the existence of different wage rates and interest rates in different industries and regions (b) Factors are not perfectly immobile internationally There have been many cases of movement of labour and capital from factor surplus to factor scarce countries

5 **Assumption of Two Commodities and Two Countries.** Another unrealistic assumption of the theory of comparative cost is that its operation is restricted to two commodities and two countries The theory breaks down when it is applied to the normal and more realistic situation of international trade among more than two countries and involving more than two countries.

6 **Neglect of Transport Costs.** The theory of comparative cost does not take into consideration the transport costs Neglect of transport costs is highly unrealistic because in practice transport costs play an important role in influencing the pattern of world trade. In fact, international trade occurs only when the comparative cost advantage exceeds transport costs.

7 **Static Theory** The unrealistic assumption like the existence of full employment, fixed and constant supply of factors of production etc , make the theory of comparative cost a static theory and render it unfit for the changing and dynamic world.

8 **One Sided theory** The comparative cost theory of international trade has been regarded as one sided theory because it takes into account only the supply or cost side and ignores the demand side The neglect of demand

conditions is responsible for the theory's inadequate explanation for the *determination of terms of trade*. In the words of Ohlin "The comparative cost reasoning alone explains very little about international trade. It is indeed nothing more than an abbreviated account of the conditions of supply."

9. Growing Emphasis on Self-Sufficiency. In modern times, because of defence and other strategic reasons, almost every country tries to achieve the objective of self sufficiency and may decide to produce certain goods even though they can be cheaply imported from other countries. For instance, all countries prefer to produce military equipment at home even if it can be imported from abroad at cheaper rates. Thus the theory of comparative cost is unrealistic and has little relevance in the actual world.

10. Impossibility of Complete Specialisation. Even if the various assumptions of the theory are accepted, the existence of comparative advantage may not lead to complete specialisation on the part of two countries *which enter into international trade*. As pointed out by Frank Graham, this may happen when one trading country is big and the other is small. The small country will be in a position to specialise fully as it can dispose of its surplus in the big country. But the big country cannot have complete specialisation because of the two reasons: (a) the small country will not be able to meet all the requirements of the big country. (b) The surplus of the big country will not be entirely absorbed by the small country.

Comparative Cost Theory and Actual World Trade

Historical evidence since World War II has shown that the theory of comparative cost does not sufficiently explain the trend and pattern of actual international trade. If we divide the world into two blocks, *i.e.* (a) the developed countries and (b) the less developed countries, and the commodities into two groups, *i.e.*, (a) the manufactured goods and (b) the primary goods, then on the basis of the comparative cost principle we expect that

(i) The developed countries have a comparative advantage over the less developed countries in manufactured goods relative to primary goods.

(ii) *The larger and growing part of the world trade is between developed* and less developed countries, and

(iii) The developed countries produce and export manufactured goods in exchange for primary goods from less developed countries.

But, the actual pattern of world is not in accordance with the theory of comparative cost. The following features of world trade make this clear.

(i) The largest part of world trade is among the developed countries themselves, rather than between developed countries and the less developed countries.

(ii) Although, in accordance with the theory of comparative cost, the developed countries, on balance, export manufactured goods to the less developed countries in exchange for primary production, but the largest part of world trade is the intra industry exchange of manu factures among the developed countries themselves

(iii) As against the comparative cost principle, export of manufactures from less developed countries are the fast growing part of world trade, although their absolute share is still small

(iv) Economics of scale, which arise from the division of labour and product differentiation, imply that trade between countries with modest comparative cost differences will be largely intra industry, and that trade between countries with substantial comparative cost differences will be largely inter industry A notable feature of trade among the developed countries is that it is a large and growing volume of intra industry trade, both absolutely and relative to inter industry trade

4 MODIFICATIONS OF COMPARATIVE COST THEORY

The theory of comparative cost has been criticised mainly because of its unrealistic assumptions Later economists were able to discard some of these assumptions without doing any harm to the basic argument Important modifications in the theory of comparative cost were made by J S Mill, Taussig, Haberler and Ohlin

1. Mill's Law of Reciprocal Demand. J S Mill made the theory of comparative cost determinate by stating the conditions for equilibrium terms of trade Comparative cost difference between the countries sets the outer limits between which international trade can take place profitably It does not tell us where between these limits, international trade will actually take place Mill's law of international values provides the answer to this question "The produce of a country exchanges for the produce of the other countries, at such values as are required in order that the whole of her exports may exactly pay for the whole of her imports" Or in other words, the equilibrium terms of trade are determined by the equation of reciprocal demand

2. Labour Costs Measured in Terms of Money. Ricardo's comparative cost theory was explained in terms labour costs But, the modern economy is a money economy in which transactions are made through money International trade is determined by absolute differences in money prices rather than by comparative differences in labour cost. Prof Taussig has shown how the comparative differences in labour cost can be converted into a absolute differences in money prices without affecting the real exchange relations This can be illustrated with the help of the following example

In India :

1 day's labour produces 40 units of wheat ,

1 day's labour produces 40 units of cloth

In England :

1 day's labour produces 20 units of wheat ,

1 Day's labour produces 30 units of cloth

In this example, India has an absolute superiority in producing both wheat and cloth But, it has comparative advantage in wheat. Thus, India will specialise in wheat and England will specialise in cloth

In order to convert the labour cost into money cost, let us assume daily wages as Rs 10 in India and Rs 8 in England

Table 4

Money Cost of Commodities

Country	*Product of one day's Labour*	*Daily Wages*	*Money cost or prices per unit of output* (3)/(2)
(1)	(2)	(3)	(4)
India	40 units of wheat	Rs 10	25 paise
	40 units of cloth	Rs 10	25 paise
England	20 units of wheat	Rs 8	40 paise
	30 units of cloth	Rs 8	27 paise

It is clear from Table 4 that money cost or price of wheat is lower in *India (25 paise per unit) as compared to that in England (40 paise per unit) Thus,* in view of Ricardo's comparative cost theory, India will specialise in the production of wheat and export it to England On the other hand, England has relatively less disadvantage in terms of money cost of producing cloth Thus, England will specialise in the production of cloth and export it to India.

3 Comparative Cost Theory in Terms of Opportunity Cost. Haberler was the first to abandon the labour theory of value as a fundamental premise of the theory of international premise of the theory of international trade and to restate the theory in terms of opportunity cost. The value of a commodity is determined not by the physical cost of resources required to produce it, but by the opportunities of production of other commodities which have to be foregone in order to obtain this commodity The theory of comparative cost now states that the country will specialise in the production of those

commodities which have comparatively low opportunity cost. Thus, the opportunity cost theory provides a broader and more realistic basis for international trade

4 **Comparative Cost Theory under Increasing Cost Conditions** The theory of comparative cost, stated in terms of opportunity cost, can be extended to cover more realistic conditions of increasing costs Increasing cost conditions prevail when (a) there are diminishing returns to scale and (b) all resources are not equally adaptable for the production of all the commodities, or in other words, certain factors are specific to certain commodities Increasing costs imply that the marginal costs of producing one commodity in terms of the other are increasing Or, in other words, in order to obtain additional units of commodity A, we must sacrifice increasing amounts of commodity B Under the increasing cost conditions, a country will specialise in the production of that commodity in which it has comparative cost advantage but the specialisation will not be complete simply because of the fact that additional amount of the commodity can be obtained only at increasing costs

5 **Ohlin's Modification** True, the differences in the comparative costs provide the foundation on which the international trade is possible But, the next question is why do the costs differ ? Ohlin s answer to this question is that commodities require different inputs and the countries vary in factor endowments A country has comparative advantage in those commodities which use intensively the country's relatively abundant factor and has comparative disadvantage in the products which use intensively the country's relatively scarce factor Ohlin thus takes a step further by basing the pattern of international trade on the economic structure of the trading countries

5 THEORY OF COMPARATIVE COST AND UNDERDEVELOPED COUNTRIES

So far we have been discussing the positive aspect of the comparative cost theory which showed that the theory has a scientific purpose of determining the direction of trade The theory also has a welfare aspect, in which it serves as a proof for the advantages of free trade Comparative cost difference between the nations not only directs them to trade freely with each other, but also ensures only directs them to trade freely with each other, but also ensures them gainful effects from such trade The question arises does this conclusion hold good if the trading nations exhibit different stages of economic development ? The classical economists are very optimistic in their reply They are of the view that uninterrupted trade between a rich and a poor country on the basis of comparative cost difference will not only make the former better off, but also function as an engine of growth in the latter International trade, by widening the markets and by stimulating the division of labour, accelerates the

process of economic development in the underdeveloped countries. But, the protectionists and growth economists have cast their doubts regarding the growth aspects of free trade in the less developed countries and have, therefore, recommended an alternative engine of growth (*i e* domestic industrialisation) for these economies They considered the classical theory of comparative cost inapplicable to the conditions and growth problems of these countries

Arguments against Comparative Cost Theory

The main arguments against the comparative cost theory regarding its applicability in underdeveloped countries are as follows

(i) The underdeveloped countries export primary products and the world demand for these products is highly unstable in the short period. This makes their export earnings uncertain

(ii) The world demand for primary products is not only unstable, but also is likely to be stagnant or declining in the long run. This is because of the low income elasticity of rich countries for primary goods As income increases, people tend to spend smaller amount of their income on necessities.

(iii) Factor prices in the underdeveloped countries are not the true indicators of their comparative cost. This is because of the imperfections in their factor markets.

(iv) Temporary protection to manufacturing industry during its early stage not only safeguards its growth from foreign competition but also enables it to enjoy the advantages of experience As the labour and management gain more and more experience in actual production their efficiency increases as a result of which the cost decreases and the industry becomes in the later stages, capable of resisting the foreign competition even without protection

(v) Development of manufacturing industry stimulates activity in other sectors of the economy through the linkage effects It, on the one hand, increases the demand for inputs from other sectors (backward linkage effect) and, on the other hand, supplies its output to other sectors which use it as input (forward linkage effect)

(vi) The policy makers in the underdeveloped countries have limited skill to anticipate correctly the changes in the trade conditions of the world market. This leads to the adoption of a policy favouring the diversification of economic structure of the country to enable it to meet the changing requirements of the world market.

(vii) From the experience of the colonial rule in these countries it can be concluded that free trade between the developed and under

developed countries on the basis of comparative cost difference has not only failed to be the engine of economic growth in the latter, but also has been responsible for the typical problems of the present-day underdeveloped countries Outside forces, in the form of foreign trade and colonial rule, uprooted the workers from traditional cottage industries, created conditions of population explosion (by providing between health facilities which reduced the death rate) and thus led to the present problem of disguised and open unemployment in these countries

Kindleberger's Conclusion

In fact, the impact of trade on growth is indeterminate and therefore cannot be generalised Kindleberger has constructed three models in this regard

(i) There are countries like England, Sweedon, Denmark, Switzerland, Canada, U.S A , where trade has stimulated growth

(ii) In the countries like Japan, trade acted as a balancing sector

(iii) In many countries, generally the underdeveloped countries, trade has been considered as a lagging sector

In this end, Kindleberger concludes "Trade can stimulate growth, when the demand is right abroad and supply is right at home It can inhibit it when the demand is wrong abroad and supply is wrong at home "[1]

Relevance of Theory of Comparative Cost

Despite the arguments against the comparative cost theory in solving the growth problems of the underdeveloped countries, the theory still has relevance for these countries

(i) For the underdeveloped countries which are small and which possess sufficient and suitable natural resources and for which stable demand conditions prevail in the world market, international trade, according to the comparative cost principle, provides an ideal path of economic development.

(ii) For the large, overpopulated countries with meagre natural resources and with unfavourable world demand for exports, domestic demand is necessary. But, such nations too cannot afford to ignore the opportunities of economic growth provided by the expansion of export of those commodities in which it has comparative advantage

(iii) The static nature of comparative cost should not render it in applicable in the developing countries and restrict it from adopting a policy of

1 C.P Kindleberger *Foreign Trade and the National Economy* (1962), p 211

protection By definition an *underdeveloped country is that which* has not been able to gain from its potential comparative cost advantage The policy of protection by reallocating the domestic resources enables the country to specialise in the long run in those fields of production where it has potential comparative cost advantage Thus the theory of protection far from being contradictory to the theory of comparative cost actually strengthens it by dynamising its character

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QUESTIONS

1 Distinguish between internal and International trade What are the similarities between the two types of trade ?

2 International trade is only one aspect of Inter regional trade Discuss

3 Give arguments for and against a separate theory of international trade

4 Critically examine Ricardo s theory of comparative cost advantage

5 Examine the statement that the theory of comparative cost explains international trade from the side of supply only

6 Explain the theory of comparative cost. What modifications have been made by the later economists to make it more realistic ?

7 Explain the classical theory of international trade How far is it applicable to the underdeveloped countries ?

2

GAINS FROM TRADE AND TERMS OF TRADE

1 **Gains from International Trade**
- *Numerical Example*
- Gains from Trade under Constant Cost Conditions
- Gains from Trade under Increasing Cost Conditions
- Summary of Gains from International Trade
- Distribution of Gains

2 **Terms of Trade**
- Meaning
- Types of Terms of Trade
- Net Barter Terms of Trade (NBTT)
- Gross Barter Terms of Trade (GBTT)
- Income Terms of Trade (ITT)
- Other Concepts of Terms of Trade

3 **Factors Influencing Terms of Trade**

4 **Equilibrium Terms of Trade or Theory of Reciprocal Demand**
- Mill s Theory of Reciprocal Demand
- *Charge in Demand and Supply Conditions*
- Illustration
- Reciprocal Demand Elasticity
- Offer Curve Approach
- Mill s Paradox
- Special Gains to Small Countries
- Criticism

5 **Terms of Trade and Economic Development**
- Secular Decline in Terms of Trade of Less Developed Countries
- Causes of Unfavourable Terms of Trade
- Adverse Effects of Declining Terms of Trade
- Remedial Measures

2

Gains from Trade and Terms of Trade

I. GAINS FROM INTERNATIONAL TRADE

It is customary to treat 'gains from international trade' different from 'advantages of international trade' While discussing 'gains from international trade', we generally illustrate with the help of geometry and numerical examples the superiority of post autarky (*i e* , with trade) situation over autarky (*i e* , without trade) situation On the other hand, the 'advantages of international trade' deal with the description of case for free trade versus protected trade

International trade as well as gains from trade are possible only under differing commodity exchange ratios or terms of trade between countries In fact gain in terms of trade is the gain of international trade International trade, on the basis of comparative advantage leads to international specialisation (*i e* , international territorial division of labour) which in turn, results in (a) optimum allocation of resources (b) maximisation of production, (c) increase in efficiency, and (d) improvement in consumption levels

Numerical Example

Gains from international trade in the form of increase in production can be illustrated with the help of the following example

In India :

1 day's labour produces 40 units of wheat

1 day's labour produces 40 units of cloth

In England :

1 day's labour produces 20 units of wheat

1 day's labour produces 30 units of cloth

Let us assume that each country has 2 day s labour and the output of different commodities can be added up

In the Absence of Trade Each country produces both the commodities 1 day's labour produces wheat and 1 day s labour produces cloth Total out put will be

India	40 units of wheat and 40 units of cloth
England	20 units of wheat and 30 units of cloth
Total Output	60 units of wheat and 70 units of cloth
or	130 units of wheat and cloth

When International Trade Takes Place India has comparative advantage in wheat and England in cloth Thus India will specialise in wheat and England will specialise in cloth Total output will be

India	80 units of wheat.
England	60 units of cloth
Total Output	140 units of wheat and cloth

Thus, it is clear that foreign trade leads to international specialisation which, in turn, results in the maximisation of output. This example is based on the assumption of constant cost conditions In reality, however, the law of increasing cost applies to production Increasing cost conditions reduce the scope of international specialisation, but do not eliminate it altogether

The gains from international trade under constant and increasing cost conditions are graphically represented below

Gains from Trade under Constant Cost Conditions

Under constant cost conditions international trade, according to the comparative cost advantage, leads to complete specialisation In other words each country specialises in the production of the single good in which it has comparative advantage Combined output of all the goods increases after trade The gains from international trade are divided among the trading countries according to the international exchange ratio

Figure 1 illustrates gains from international trade under the constant cost conditions The domestic cloth wheat exchange ratios are represented by line EK in England and line IE' in India. In the absence of trade, suppose India produces and consumes at point T (*i e* , OA of wheat and OB of cloth) and England produces and consumes at point R (*i e* , OC of wheat and OD of cloth) Now, using O' as the origin, turn the England curve EK upside down as E'K', but leaving it otherwise unchanged On E'K' line, England's production and

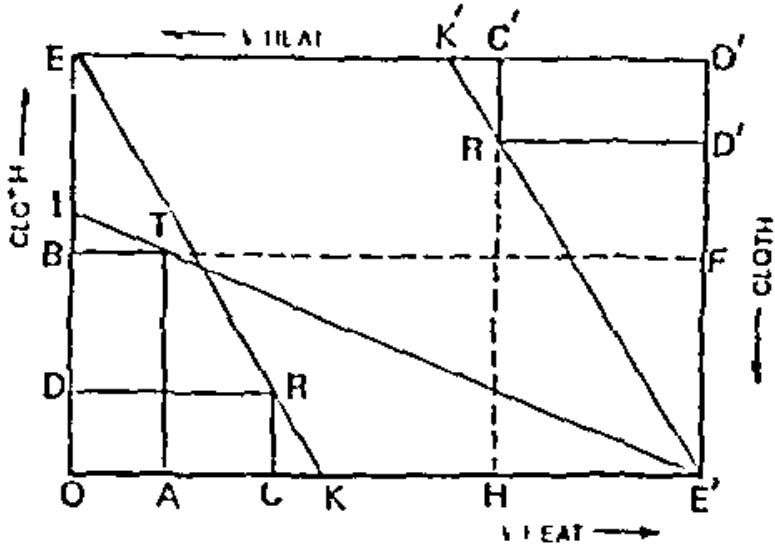

Fig. 1

consumption in isolation is at R' (*i e* , O'C' wheat and O'D' cloth) Thus, in the absence of trade, total combined production of wheat is OA (India) plus O C'or E'H (England), while total combined production of cloth is OB or E'F (India) plus O D (England)

After international trade, India specialises completely in wheat and produces OE' quantity of wheat. On the other hand, England specialises completely in cloth and produces a quantity of O E' Thus as a result of specialisation and international trade the combined production of wheat of both the countries is larger by the amount AH and the combined production of cloth of both the countries is larger by the amount D'F The production gains from trade under constant cost conditions are summarised below

Without trade.

Total wheat production = OA (India) + O C' or E H (England)

Total cloth production = OB or E F (India) + O D' (England)

With Trade

Total wheat production = OE' (India only)

Total cloth production = O'E' (England only)

Gains from Trade

Increase in total wheat production = AH

Increase in total cloth production = D F

Gains from Trade under Increasing Cost Conditions

While under constant cost conditions, there is complete specialisation of a country in the production of a commodity, under increasing cost

conditions complete specialisation is not possible But this does mean complete elimination of international specialisation and gains from trade increasing cost conditions The gains from trade under increasing cost conditions are illustrated in Figure 2

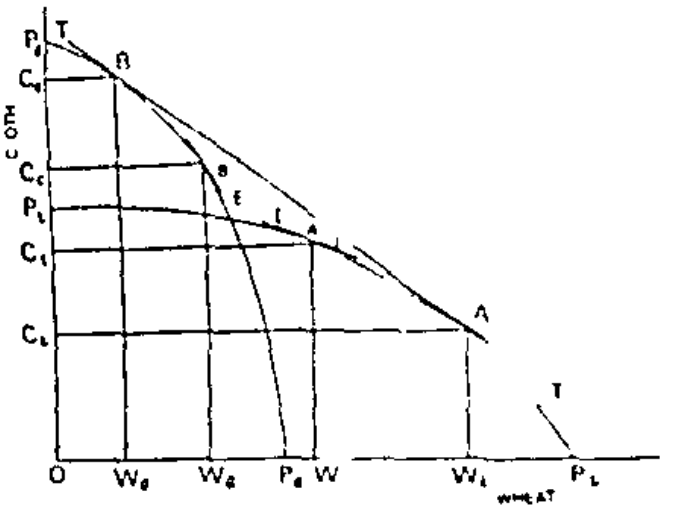

Fig 2

In Figure 2 P_1P_1 is the production possibility curve of India and P_2P_2 is the production possibility curve of England The production possibility curve represents the maximum amount of one good that the country can produce for given amount of other good Under the increasing cost conditions, the production possibility curve is concave to the origin which indicates that in order to produce more of one good, increasing amounts of other good are to be given up

From the different shapes of P_1P_1 and P_2P_2 curves, it is clear that in India, conditions favour the production of wheat rather than cloth, while, in England, the conditions favour the production of cloth rather than wheat. Point A is the autarky point for India and point B is the autarky point for England In other words, in the absence of trade, India is producing and consuming at point A (i e , OW_1 of wheat and OC_1 of cloth) and England is producing and consuming at point B (i e , OW_2 of wheat and OC_2 of cloth) The slopes of lines II and EE represent the domestic exchange ratios in India and England respectively These exchange ratios show that wheat is cheaper in terms of cloth in India and cloth is cheaper in terms of wheat in England

Under such conditions, both the countries will gain by entering into trade India has the comparative advantage in the production and export of wheat and England in the production and export of cloth India will gain by producing more of wheat and less of cloth, while England will gain a producing more of cloth and less of wheat Trade between the two countries will continue until the opportunity cost (as represented by the slope of production possibility

curve) in each country is equal to the international exchange ratio In this case, the international exchange ratio is given by line TT which is tangent to the two production possibility curves (P_1P_1 and P_2P_2) at points A' and B' Thus, A' and B' are the points of specialisation for India and England respectively After trade, India will expand the production of wheat from OW_1 to OW_1' and contract the production of cloth from OC_1 to OC_1' Similarly, England will expand the production of cloth from OC_2 to OC_2' and contract the production of wheat from OW_2 to OW_2' The results of trade are summarised below

	Before Trade	*After Trade*	*Change*	
India				
Wheat Production	OW_1	OW_1'	W_1W_1'	(>)
Cloth Production	OC_1	OC_1'	C_1C_1'	(<)
Wheat export		$W'_2W'_1$		
Cloth import		$C_1'C_2'$		
Wheat consumption	OW_1	OW_2'	$W_2'W_1$	(<)
Cloth consumption	OC_1	OC_2'	$C_2'C_1$	(>)
England				
Cloth Production	OC_2	OC_2'	C_2C_2'	(>)
Wheat Production	OW_2	OW_2'	W_2W_2'	(<)
Wheat export		C'_1C_2		
Cloth import		$W_2W'_1$		
Wheat consumption	OC_2	OC_1'	C_1C_2	(<)
Cloth consumption	OW_2	OW_1'	$W_1'W_2$	(>)

Gains from international trade are clear from the fact that India now obtains more cloth for every unit of wheat surrendered than before trade; the slope of TT is greater than II Similarly, England now obtains more wheat for every unit of cloth surrendered than before trade, the slope of TT is less than FF As long as each country is able to consume along the line of international exchange ratio (TT) rather than its own line of domestic exchange ratio (II for India and FF for England), both the countries will gain in welfare

Summary of Gains from International Trade

Various gains from international trade can be summarised below

(i) It encourages territorial division of labour or international specialisation because economies of scale are realised from expanded markets

(ii) International specialisation and economies in production lead to increase in productivity, low costs and cheaper prices

(iii) International trade increases real income and consumption This leads to expansion of employment and output and promotes economic growth

(iv) Trade enables a country to conserve certain scarce resources because the commodities which embody these resources can be imported from countries where they are abundant.

(v) Trade increases competition and efficiency in the trading countries

(vi) Trade leads to optimum allocation of resources

(vii) Trade makes possible the consumption of a variety of goods and thus improves the welfare of the people of the trading countries

(viii) International trade makes available even those goods which cannot be domestically produces

Distribution of Gains

The extent of gains from trade depends upon the difference between the domestic cost ratios of the trading countries. The greater the difference, the greater will be the gains from trade However, the gains from trade may not be evenly distributed between the trading countries Some countries may gain more, while others may gain less The distribution of gains from trade depends upon the terms of trade or the rate at which a country's exports are exchanged for imports The closer the terms of trade to the domestic exchange ratio of a country, the lesser will be the gains for that country and the greater will be the gains for the country

2. TERMS OF TRADE

Meaning

The concept of terms of trade refers to the rate at which a country exchanges exports for imports It expresses a comparison of two values : the export prices and the import prices In other words, the concept of terms of trade is defined as the ratio of export prices to import prices If the prices of imports rise more that the prices of exports, then the terms of trade become unfavourable to, or move against, the country in question because to obtain the same volume of imports, greater volume of exports are to be sold abroad Similarly, if the prices of exports rise more than the prices of imports, the terms of trade become favourable to the country

Types of Terms of Trade

G.M Myer has classified various concepts of terms of trade under three broad groups

(i) Those terms of trade that relate to the ratio of exchange between commodities They are

(a) Net barter terms of trade (NBTT)

(b) Gross barter terms of trade (GBTT)

(C) Income terms of trade (ITT)

(ii) Those terms of trade that relate to the interchange between productive resources They are

(a) Single factoral terms of trade (SFTT)

(b) Double factoral terms of trade (DFTT)

(iii) Those terms of trade that express the gains from trade in terms of utility analysis They are

(a) Real cost terms of trade (RCTT)

(b) Utility terms of trade (UTT)

Net Barter Terms of Trade (NBTT)

The ratio between export prices and import prices is called net barter terms of trade It is also known as ' the commodity terms of trade", Symbolically,

$$NBTT = \frac{P_x}{P_m}$$

where,

NBTT = Net barter terms of trade

P_x = Price index of exports

P_m = Price index of imports

If $P_x > P_m$, terms of trade is favourable and if $P_x < P_m$, terms of trade is unfavourable

To measures changes in the terms of trade over a period, the ratio of the change in export prices to the change in import prices is taken Then the formula becomes

$$NBTT = \frac{P_{x_1}}{P_{m_1}} \quad \frac{P_{x_0}}{P_{m_0}}$$

where subscripts 1 and 0 stand for current year base year respectively

The base year price index of imports and exports will always be equal to 100 *Therefore*

$$\frac{P_{x_0}}{P_{x_0}} = \frac{100}{100} = 1$$

Now, if the current year price index of exports (P_x) is 160 and the current year price index of imports (P_m) is 120 then the terms of trade will be

$$160/120 \quad 100/100 = 1\ 33 \quad 1$$

This means that in the current year the terms of trade show an improvement of 33% over the basis year This implies that if export prices rise relative to import prices, the terms of trade will rise or become favourable to the country If import prices rise relative to export prices the terms of trade will fall or become unfavourable to the country Thus the concept of net barter terms of trade is generally used to measure the gains from international trade

The main drawback of the concept of net barter terms of trade is that it measures only the gain or loss arising out of relative changes in the export and import prices and ignores the impact of other factors such as (a) changes in the volume of exports and imports (b) changes in the quality of exports and imports, (C) changes in the composition of trade (d) changes in the productivity of export industries and (e) unilateral payments

Gross Barter Terms of Trade (GBTT)

In order to overcome the deficiency in the net barter terms of trade P of Taussing devised the concept of gross barter terms of trade He pointed out that instead of relating import and export prices, quantity of imports and exports should be related Thus the gross terms of trade is the ratio of the total quantities of imports to the total quantities of exports of a nation in physical terms Symbolically,

$$GBTT = \frac{Q_m}{Qx}$$

where,

GBTT = Gross barter terms of trade

Q_m = Total quantity of imports

Q_x = Total quantity of exports

If $Q_m > Q_x$, terms of trade will be unfavourable and if $Q_m < Q_x$, terms of trade will be favourable

To measure the changes in terms of trade over a period of time, the index numbers of the quantities of imports and exports in the base year and the current year are related to each other Then the formula becomes

$$\frac{Q_{m_1}}{Q_{x_1}} \quad \frac{Q_{m_0}}{Q_{x_0}}$$

where the subscripts 1 and 0 indicate the current year and base year respectively

A rise in the current year s gross barter terms of trade means a favourable change It indicates that more imports are obtained from a given volume of exports than in the base year

Taussig s concept of gross barter terms of trade is also criticised on the following grounds

(i) It incorporates various types of unilateral payments like tributes immegrants remittances etc These payments remain unaffected whether there is any trade or not.

(ii) It reflects less price movements than changes in the balance of payments and capital movements

Income Terms of Trade (ITT)

G S Dorrance has improved upon the concept of net barter terms of trade by formulating the concept of income terms of trade Income terms of trade refer to the ratio between the value of exports to the import prices. In other words income terms of trade are the net terms of trade multiplied by volume of exports Symbolically

$$ITT = \frac{P_x Q_x}{P_m} = \left(\frac{P_x}{P_m}\right) Q_x = NBTT\, Q_x$$

where

ITT = Income terms of trade

Q_x = Volume of exports

P_x = Price of exports

P_m = Price of imports

The income terms of trade ind cate nation s capacity to import because $Px\ Q_x / P_m$ determines the volume of exports (Q_m) that a country can obtain with the export earnings The concept of income terms of trade has two major draw backs

(i) The income terms of trade indicate only the export based capacity to import and not the country total capacity to import. The total capacity to import depends upon factors like capital inflow receipts from invisibles and unilateral payments.

(ii) A change in the income terms of trade need not necessarily reflect the real gains from trade. Even when export prices fall and import prices remain constant the income terms of trade will improve if the physical volume of exports increase more than in proportion to the fall in export prices

Other Concepts of Terms of Trade

1. Single and Double Factoral Terms of Trade. Factoral terms of trade consider the changes in productivity in the production of export goods of two countries Factoral terms of trade may be single factoral or double factoral

(i) Single Factoral Terms of Trade (SFTT) Single factoral terms of trade is the net barter terms of trade adjusted for changes in the productivity of a country's factors in its export industries It measures "how much quantity of imports can be obtained per unit of factor input used in the production of exportables " Symbolically,

$$SFTT = NBTT \; Z_x$$

where,

SFTT = Single factoral terms of trade

Z_x = Export productivity index

A rise in SFTT implies that a greater quantity of imports can be obtained per unit of factor-input used in the production of exportables

(ii) Double Factoral Terms of Trade (DFTT) The double factoral terms of trade is the net barter terms of trade adjusted for changes in the productivity in producing both imports as well as exports Symbolically,

$$DFTT = NBTT \; \frac{Z_x}{Z_m}$$

where,

DFTT = Double factoral terms of trade

Z_m = Import productivity index

A rise in DFTT implies that one unit of home factors embodied in exports can now be exchanged for more units of the foreign factors embodied in imports

2 Real Cost Terms of Trade (RCTT). The concept of real cost terms of trade measures the gain from international trade in utility terms The real cost terms of trade can be calculated by multiplying single factoral terms of trade by the reciprocal of an index of the amount of disutility per unit of productive resources used in producing exports Symbolically,

$$RCTT = SFTT \; R_x = NBTT \cdot Z_x \cdot R_x$$

where,

RCTT = Real cost terms of trade

R_x = Index of amount of disutility incurred per unit of productive factors in the export sector

A rise in RCTT indicates that the amount of imports obtained per unit of real cost is greater

3 Utility Terms of Trade (UTT). The concept of utility terms of trade is an index of the relative utility of imports and domestic commodities foregone to produce exports The utility terms of trade is calculated by multiplying real cost terms of trade with an index of the relative utility of imports as compared with the commodities that could have been produced for internal consumption with those productive factors which are at present used in the production of export goods Symbolically,

$$UTT = RCTT\ U_m = NBTT\ R_x . U_m$$

where,

UTT = Utility terms of trade

U_m = Index of relative utility of imports as compared with those productive factors which are at present devoted to the production of export goods

3. FACTORS INFLUENCING TERMS OF TRADE

Terms of trade are influenced by a number of factors Important among them are given below

1. Elasticity of Demand. The elasticity of demand for exports and imports of a country influence its terms of trade If the demand for a country's exports is less elastic as compared to her imports, the terms of trade will tend to be favourable because the exports can command higher price than imports. On the other hand, if the demand for imports is less elastic than that for imports, the terms of trade will be unfavourable

2. Elasticity of Supply. The nature of elasticity of supply also significantly influence the country's terms of trade If the supply of a country's exports is more elastic than the imports, the terms of trade will tend to be favourable

3. Nature of Goods. If a country is producing and exporting only primary goods, and importing manufactured goods, the terms of trade will be unfavourable

4 Economic Development. The economic development has two types of effects. (a) *The demand effect* It refers to the increase in demand for imports

as a result of increase in income associated with economic development (b) *The supply effect* It refers to the increase in supply of import substitutes or import competing goods The net effect of economic development depends upon the extent of these two effects

5. Rate of Exchange Changes in the rate of exchange of a country's currency also affects its terms of trade If a country's currency appreciates, its terms of trade will improve because a rise in the value of the currency causes an increase in the export prices and decrease in the import prices

6 Tariff Policy. Tariffs and quotas also influence the terms of trade These measures, if not retaliated by other countries, improve a country's terms of trade by restricting imports

7. Size of Population An overpopulated country will have larger demand for imports As result, the terms of trade will tend to be unfavourable in this case relative to the underpopulated or optimally populated country

8 Size of Country. A larger country will tend to have less favourable terms of trade as compared to a smaller country This is because the smaller country can reap the gains of economies of scale enjoyed by the larger one in the international trade

9 Degree of Competition If a country enjoys monopoly power in case of its exports and there are many alternative sources of supply of its imports, then it will have favourable terms of trade

4 EQUILIBRIUM TERMS OF TRADE OR THEORY OF RECIPROCAL DEMAND

Mill's Theory of Reciprocal Demand

J S Mill made Ricardo's theory of comparative cost determinate by stating the conditions for equilibrium terms of trade Comparative cost difference between the countries sets the outer limits between which international trade can take place profitably It does not tell where, between the *limits*, international trade will actually take place Mill provides answer to this question

J S Mill propounded the theory of reciprocal demand or the law of international values to explain the actual determination of equilibrium terms of trade According to him, the equilibrium terms of trade 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. A stable ratio of exchange will be determined at a level where the value of imports and exports of each country is in equilibrium 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

(i) Full employment conditions ,
(ii) Perfect competition
(iii) Free foreign trade
(iv) Free mobility of factors,
(v) Applicability of the theory of comparative cost,
(vii) Two country two commodity model

Ellsworth has summed up Mill's theory of reciprocal demand in the following way

(i) The possible range of barter terms is given by the respective domestic terms of trade as set by comparative efficiency in each country
(ii) Within this range, th ctual terms depend on each country's demand for the other country's produce
(iii) Finally, only those barter terms will be stable at which the exports offered by each country just suffice to pay for the imports it desires

Changes in Demand and Supply Conditions

Mill's theory of reciprocal demand is more than a simple truism It indicates the forces and their *modus operendi* which bring about international equilibrium Mill analysed the impact of changes in supply and demand conditions on the terms of trade

1. 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 England 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.

2 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 England 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) If 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

Illustration

Mill's views can be illustrated with the help of Table-1

Table-1

Country	Domestic Barter Rate
India	1 Wheat = 5 Cloth
England	1 Wheat = 9 Cloth

Table 1 shows that India has comparative advantage over England in wheat. India will gain by producing wheat, exporting it to England at a price more than its domestic barter rate (*i.e.* 1 Wheat = 5 Cloth) and importing cloth from England Similarly England at a price more than its domestic rate (*i.e.*, 1 Wheat = 9 Cloth) and importing wheat from India

Comparative cost theory does not tell what the actual terms of trade will be. It gives only the upper and lower limits of the range in which the trade between the two countries will be mutually beneficial If Indian wheat is exchanged for English 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 English cloth at the rate of 1 Wheat = 5 Cloth Then all gains will go the England This is the lower limit If Indian wheat is exchanged for English cloth at the rate of 1 Wheat = 7 Cloth, then the gains from trade will be evenly distributed between India and England

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 England for Indian wheat If England'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 England because more gains from trade will go to India If, on the other hand, 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 England and unfavourable to India because more gains from trade will go to England

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

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

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

where,

e = Elasticity of reciprocal demand

ΔM = Change in quantity of imports

ΔP_x = Change in price of exports

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 be unfavourable for the concerned country and the share of gain will be relatively less, if $e = 1$, the gain from 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 - - a geometrical technique developed by Marshall 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)

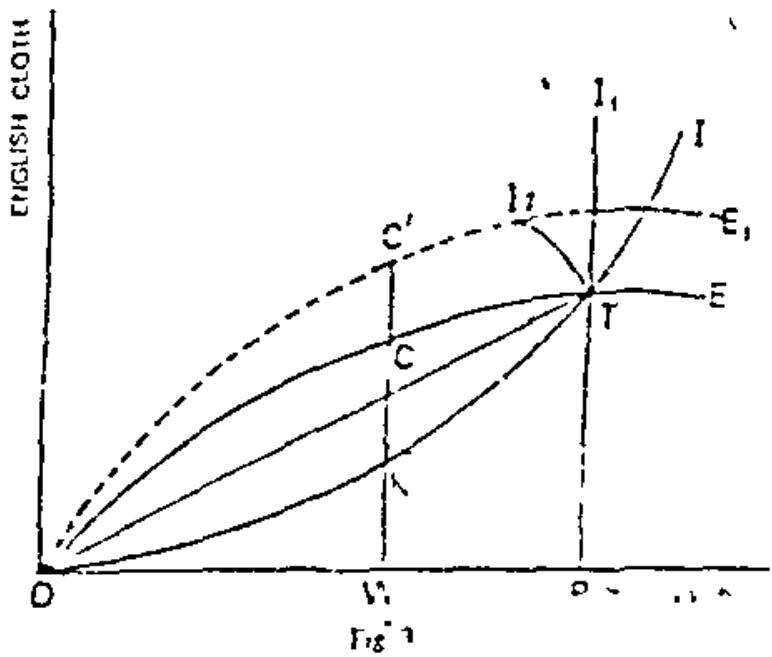

Fig 3

In Figure 3, we take up two countries, India and England India produces only wheat and England only cloth 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 For example, in exchange for KW cloth, India is willing to offer OW wheat Similarly, OE is England's offer curve of cloth for wheat, representing England's demand for Indian wheat For example, England 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 England, OE_1 is England s new offer curve Now England is willing to offer C W cloth for OW wheat, whereas previously she 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 back ward sloping after point T (*i e* , TI_2), then the terms of trade will change in favour of India more than the fall in price of cloth relative to wheat

Mill's Paradox

An important implication of the effect of improvement on the terms of trade is that a developing economy experiences unfavourable terms of trade as a result of technological advancement. In the words of Mill "The richest country, *ceteris paribus*, gain the least by a given amount of foreign commerce since, having a greater demand for commodities generally, they are likely to have a greater demand for foreign commodities, and thus modify the terms of interchange to their disadvantage" Edgeworth termed this phenomenon as 'Mill's Paradox' and Bhagwati called it 'immiserizing growth' The explanation of this statement is that as consequence of an increase in productivity, the supply of export goods increases and the developing country is faced with a problem of finding foreign markets for it. The situation is serious in those developing economies where the technological improvement is confined to the export industry only and foreign demand is inelastic

Special Gains to Small Countries

There is a theoretical possibility that small country may gain more than large countries from international trade This is because a small country can specialise in the production of single commodity without significantly affecting its price in the international market On the contrary, the large country specialises in the production of a single commodity, an increase in its supply will cause a fall in its price, thus adversely affecting the terms of trade The small country may be able to trade with a large country at the price ratio prevailing in the large country or very close to it. This bring all gains to the small country

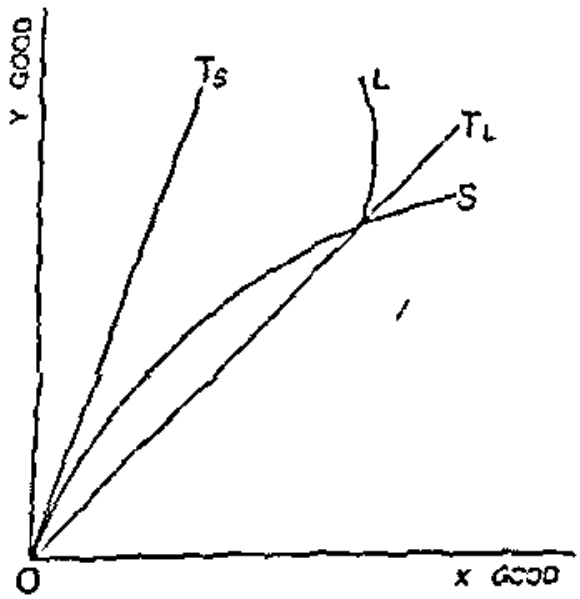

Fig. 4

Offer curve technique may be used to illustrate the hypothetical case of special gains from trade to the small countries. T_s represents the pre trade exchange ratio in country S, which is a very small country, and T_L is the pre trade exchange ratio in country L, which is a very large country OS is the offer curve of country S and OL is the offer curve of country L. Country S is so small that its offer curve crosses the straight line portion of the offer curve of large country L. Thus international trade takes place at the domestic exchange ratio in country L. This enables small country S to capture all the gains.

Criticism

Mill's theory of reciprocal demand has been criticised on the following grounds

(i) The theory is based on unrealistic assumptions, such as perfect competition and full employment.

(ii) Actual trade is not restricted to two country, two commodity model.

(iii) 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

(iv) 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

(v) Jacob Viner has criticised the theory as imperfect and inadequate

(vi) Shadwell has criticised the theory by saying that in this theory the exchange ratio is fixed at a point where the value of imports and exports are in equilibrium as a mere truism It does not throw any light on the determinants of terms of trade Bastable, however, does not agree with this criticism because Mill s theory not only states the equilibrium, but also discusses the forces that operate to bring it about.

5 TERMS OF TRADE AND ECONOMIC DEVELOPMENT

There is two-way relationship terms of trade and economic development. The terms of trade affect the nature and extent of a country's economic development. On the other hand, the course of economic development also affects the terms of trade An improvement in terms of trade promotes a country's development, while a deterioration in the terms of trade adversely affects the economic development. As economic development proceeds, there are likely to be changes in consumption patterns, technology, factor supply, factor prices and the competitive and monopolistic elements in market structure All these changes influence commodity prices and hence the terms of trade.

Secular Decline in Terms of Trade of Less Developed Countries

Economists like Prebisch and Singer have maintained the view that as indicated by the empirical evidence, there has been a secular deterioration in the terms of trade of the less developed countries and, as a result, the gains from international trade have gone more to the rich countries at the cost of the poor countries Prebisch Singer thesis can be summed up in the following four propositions. (a) In the long run, the terms of trade have a tendency to move against primary producers (b) Most of the under developed countries are primary producers and exporters of primary products (c) As a consequence, the international trade has led to the transfer of income form the under developed to the developed countries and thus has adversely affected the former's capacity to develop (d) As remedial measure, it is in the interest of the underdeveloped countries to industrialise and to use protective tariffs

Causes of Unfavourable Terms of Trade

The following are the main reasons for unfavourable and declining of trade of less developed countries

1 Prebisch's Arguments Prebisch has given the following arguments explaining the declining tendency of terms of trade of the less developed countries

(i) Nature of Product The less developed countries are mainly primary producing countries Their exports mostly include primary products and their imports include capital goods On the contrary, the developed countries produce and export manufactured goods The terms of trade between the primary products and manufactured products are generally determined against the former and in favour of the latter

(ii) Effect of Technical Progress Prebisch has argued that industrial countries keep the whole benefit of their technical progress, whereas the primary producing countries transfer a part of the fruits from their own technical progress to the industrial nations, According to him, money incomes and prices have risen more rapidly than productivity in industrial countries, whereas in the primary producing countries, the gains in productivity have been distributed in the form of price reductions This has led to the deterioration of terms of trade of the primary producing countries

(iii) Different Market Conditions Export prices in the industrial countries do not fall as a result of technical progress because (a) the manufacturers operate under monopolistic conditions in the product market, and (b) they do not operate under competitive conditions in the factor market, *i e* , labour market is dominated by trade unions Thus, the benefit of the improved technology is not transferred to the consumers in poor countries. The producers in the poor countries, on the other hand operate under competitive conditions both domestically and internationally Thus, as a result of technical progress in these countries, prices fall and the benefits flow to the consumers in the rich countries

(iv) Price Movements through Business Cycles Prebisch attributes the contrasing behaviour of prices in the industrial and primary producing countries to the different movements of primary product prices and industrial prices over successive business cycles. The prices of primary products have risen sharply in the prosperous periods and have fallen in the downswing of the business cycle. In contrast, although manufacturing prices have risen in the upswing of the cycle, these have not fallen so much in the depression because of the rigidity of industrial wages and price flexibility due to monopolistic conditions. Thus, over successive cycles, the gap

between the prices of the two groups of commodities has widened and the primary producing countries have suffered in unfavourable movement in their terms of trade

(v) Disparity in Demand Declining terms of trade of the less developed countries is also due to long term disparity in the demand for manufactures and primary products In the industrial countries the income elasticity of demand for primary products is inelastic (i e less than one) while in the poor countries the income elasticity of demand for manufactured goods is more elastic (exceeds one) This is because of two reasons (a) Due to the operation of Engel's law as incomes rise, the proportion of expenditure on food declines Thus the demand for food increases less rapidly than the rise in income (b) The demand for raw materials is restricted by competition from synthetic or man made substitutes

2 Other Reasons Some other causes of adverse terms of trade of the less developed countries are as follows

(i) Backward Technology The less developed countries use backward technology as compared to the developed countries As a result their relative productivity is low cost ratios are high and price structure is also relatively high This leads to the adverse terms of trade for the poor country, placing it at a disadvantageous bargaining position

(ii) High Population Growth Most of the less developed countries experience overpopulation and high population growth As a result, there is high internal demand for the goods and low exportable surplus Moreover, the import demand of these countries is highly inelastic This causes their terms of trade to fall

(iii) Lack of Import Substitutes Poor countries are greatly dependant on the advanced countries for their imports and have not developed import substitutes On the other hand, the advanced countries are not so much dependant on the poor countries because they are capable of producing import substitutes Thus, the poor countries have weak bargaining position in the international trade

(iv) Lack of Adaptability Unlike the advanced countries, the less developed countries cannot quickly adapt their supply of goods which are high in demand and whose prices are rising The reasons for this are backward technology, market imperfections, immobility of factors of production, etc Thus, the terms of trade of less developed countries tend to deteriorate and these countries fail to reap gains by increasing their supplies of exports during inflation

Adverse Effects of Declining Terms of Trade

An improvement in terms of trade is considered as a favourable factor and deterioration in terms of trade is considered as an unfavourable factor in the

economic development of a country The following are the adverse effects of the tendency of declining terms of trade on the process of economic development of the less developed countries

(i) It has the effect of a continuously weakening the capacity to import of these countries

(ii) It has led to the weakening of the capacity of their existing primary producing industries to support their growing populations

(iii) It has resulted in a failure to transmit to them the benefits of technological progress from advanced countries

(iv) It has made every individual country's independent effort to raise the productivity of its primary producing industry result in deterioration of their terms of trade, unemployment and balance of payment disequilibrium

(v) It has lowered their rates of capital formation and thus their economic growth

(vi) The primary producing countries have become handicapped in their efforts to develop their economies, and have been made dependent upon loans and grants of advanced nations

Remedial Measures

To help the underdeveloped countries to overcome the adverse the adverse effects of declining terms of trade, efforts must be made at national as well as international levels.

1. At National Level At the national level, the underdeveloped countries should (a) industrialise their economies by adopting a policy of protection, and (b) reduce their dependence on developed countries by developing import substitution, *i e*, by shifting resources from traditional export sectors to the production of goods they have been importing

2. At International Level Various meetings and sessions of United Nations Conference on Trade and Development (UNCTAD) have suggested to evolve a new international economic order with the following programmes.

(i) An integrated programme to stabilise and support the prices of a group of primary products in terms of manufactures;

(ii) Increased development aid.

(iii) Expansion in the less developed countries of various manufacturing activities now located in the developed countries.

(iv) Transfer of advanced technology from the developed countries to the less developed countries

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QUESTIONS

1 What do you understand by by gains from international trade ? Illustrate gains from trade through suitable examples and diagrams

2 How can gains from trade be measured ? What factors affect the distribution of gains ?

3 How does gain from international trade arise ? How is it shared by trading countries ?

4 What is meant by terms of trade ? How are they determined ?

5 What are terms of trade ? What are the factors influencing terms of trade ?

6 Examine Mill s theory of reciprocal demand ?

7 Using Marshall's offer curves, explain the determination of equilibrium terms of trade

8 Write a note on the relation between terms of trade and economic development.

9 Discuss causes and effects of declining terms of trade in less developed countries

10 Write notes on (a) Net barter terms of trade, (b) Gross barter terms of trade, (c) Income terms of trade, (d) reciprocal demand

MODERN THEORY OF INTERNATIONAL TRADE

1. **Heckscher-Ohlin Theory**
   - General Features of Modern Theory
   - Assumptions of the Theory
   - Explanation of Heckscher-Ohlin Theory
   - Factor Abundance in Terms of Absolute Price Differences
   - Diagramatic Representation
2. **Factor-Price Equilisation Theorem**
   - Alternate Illustration
   - Limitations of the Theorem of Factor-Price Equilisation
3. **Other Related Theorems**
   - *Stopler-Samuelson Theorem*
   - Rybczynski Theorem
4. **Comparison Between Classical Theory and modern Theory**
   - Criticism of Modern Theory
5. **Empirical Evidence**
   - Leontief Paradox
   - Tests of Global Data
   - Explanation of Leontief Paradox

3

Modern Theory of International Trade

1 HECKSCHER OHLIN THEORY

Heckscher Ohlin theory is known as modern theory of international trade It was first formulated by Swedish economist Heckscher in 1919 and later on fully developed by his student Ohlin in 1935 Heckscher-Ohlin theory also called the factor endowments theory of international trade attempts to explain that international trade is simply a special case of inter local or inter regional trade and there is no need for a separate theory of inter national trade It emphsises that differences in factor endowments and not differences in factor efficiency as maintained in the classical theory are the true basis of international trade

General Features of Modern Theory

The following are the general features of the modern theory of international trade

1 **No Need for a Separate Theory** According to the classical economists international trade was basically different from internal trade Therefore there is a need for a separate theory of international trade The difference between the international trade and internal trade arises due to various types of differences between the countries such as (a) differences in efficiency in producing different goods (b) immobility of factors of production (c) barriers caused by distance and other physical factors (d) use of different currencies (e) existence of artificial barriers such as customs duties and other restrictions on trade, etc. All such differences exist between the countries and not within a country and hence a need for a separate theory of inter national trade.

Ohlin on the contrary believes that there is no basic difference between local or inter regional trade and international trade and no separate theory of international trade is needed. He remarked "International trade is but a special case of inter local or inter regional trade." The similarity between internal trade and international trade is clear from the following points: (a) Immobility of

factors is not a special feature as between countries, but can exist even in different regions of the same country, (b) similarly, labour and capital can move both within a country as well as between the countries, (c) cost of transport is always there in both internal and international trade, (d) existence of different currencies does not pose any problem for international trade because different currencies are connected with each other through a system of exchange rate

Thus, there is no basic distinction between inter regional trade and international trade, and there is no justification for a separate theory of international trade The same general theory of value which explains the inter regional trade can also be applied to international trade

2 **A General Theory of Value.** Heckscher-Ohlin theory is considered as a general equilibrium theory of value at the international level According to the theory of value, at the equilibrium level, demand is equal to supply and commodity price is equal to average cost of production Heckscher Ohlin theory emphasises the mutual interdependence of the prices of commodities, the prices of factors of production, the demand for commodities, and the demand and supply of factors of production in international trade Thus while Marshall explains the time-dimension of general theory of value, Heckscher Ohlin theory explains the space dimention (*i e*, international trade) of the general theory of value

3. **Supplement to Ricardian Theory.** Heckscher Ohlin theory supplements, and not supplants, the Ricardian comparative cost theory of international trade According to the Ricardian theory, the differences in the comparative costs provides the foundation on which the international trade is possible But, it does not tell why-do the costs differ ? Ohlin's theory not only accepts the comparative advantage as the basis of international trade, but also further develops the Ricardian theory by providing answer to the above question According to him, the difference in comparative costs are due to (a) different prevailing endowments of factors of production, and (b) the fact that the production of various commodities requires that the factors of production be used with different degrees of intensity Thus, Ohlin's theory starts where the Ricardian theory ends

4. **Factor Endowments Theory.** Heckscher Ohlin theory is known as factor endowments theory of factor proportions theory because it emphasises the interplay between the proportions in which different factors of production are available in different countries, and the proportions in which they are used in producing different goods True basis of international trade is to be found in the comparative advantage that emerges due to the difference in the factor endowments

5. Statement of the Theory. The Heckscher-Ohlin theory states that a country has a comparative advantage in the good that is relatively intensive in *the country's relatively abundant factor. The theory emphasises (a) that it is* not merely the differences in costs (as the classical theory believes) but differences in prices that becomes the basis of trade, (b) that the differences in costs are not due to differences in factor efficiency, but due to the differences in the quantities of factors of production, (c) *that comparative advantage arises* when abundant factor is utilised intensively and scarce factor sparingly; and (d) that it is partial specialisation that will lead to the full utilisation of factors of production, while complete specialisation will leave some quantities of the factors of production unutilised.

6 Pattern of Trade. The Heckscher-Ohlin theory explains the pattern of world trade on the basis of differences in factor endowments. In the labour abundant countries, wages are likely to be low relative to the cost of other *factors of production. Cheap and abundant labour utilised in the production of labour intensive goods provides sufficient justification for exporting these* goods to other countries where labour is scarce and relative wages are higher. The same is true for other factors of production.

7. Other Related Theorems. Besides the Heckscher-Ohlin theorem, the modern theory also includes three other closely related theorems.

(ii) Country A is labour abundant and country B is capital abundant.

(iii) Similarly, commodity X is labour intensive and commodity Y is capital intensive

(iv) There is perfect competition in both commodity market and the factor market

(v) There is full employment.

(vi) Factors of production are perfectly mobile within each country but perfectly immobile between the countries

(vii) There are no transport costs

(viii) Production functions are different for different commodities, but are similar for each commodity in both countries

Explanation of Heckscher-Ohlin Theory

Heckscher Ohlin theory is the factor-endowment theory which explains the pattern of comparative advantage and hence the pattern of trade in terms of factor endowments The theory states that a country has a comparative advantage in the production and export of the good that is relatively intensive in the country' relatively abundant factor In other words, the theory predicts that goods requiring greater amounts of labour should be produced in countries where labour is abundant relative to other factors of production, and where the labour costs are therefore low relative to cost of other factors These countries then export labour intensive goods to other goods where labour is relatively scarce and labour costs are relatively high

In the words of Ohlin "Generally, abundant factors are relatively cheap scanty factors are relatively dear, in each region Commodities for their production much of the former and little of the latter are exported exchange for goods that call for factors in the opposite proportions Th indirectly, factors in abundant supply are exported and the factors in scanty supply are imported "

Heckscher Ohlin theory involves the following arguments

(i) Two countries A and B involve in trade if relative prices of goods X Y are different According to Ohlin, ' the immediate cause of regional trade is always that goods can be bought cheaper from in terms of money than they can be produced at home "

(ii) Under competitive market conditions, prices are equal to average costs Thus, relative price differences are due to cost differences

(iii) Cost differences exist because of the factor price differences i countries

(iv) Factor prices are determined by factors' supply and demand Assuming a given demand, it follows that a capital-rich country has cheaper capital or lower capital price and a labour-abundant country has a relatively lower labour price.

(v) Each country has an advantage in the production and export of goods into which enter considerable amounts of factors, abundant and cheaper in that country.

Let us illustrate Heckshcr-Ohlin theory with an example of two countries India and England. Suppose in India labour is in plenty and cheap, while capital is scarce and costly. On the other hand, England is capital-rich, but labour-poor. Further suppose wheat and cloth are two goods, former being labour-intensive and latter being capital-intensive Thus, India will specialise in labour-intensive good wheat which can be relatively cheaply produced here. On the other hand, the production of capital-intensive cloth will be relatively cheaper in England Hence the trade will occur between India and England. Indian will import cloth from England and export wheat; England will import wheat from India and export cloth. Putting the same thing in another way, India's import is indirectly an import of scarce factor capital and its export is indirectly an export of abundant factor labour; England indirectly imports her scarce factor labour and exports here abundant factor capital

Thus, Heckschere-Ohline theory concludes that :

(a) The basis of international trade is the difference in commodity prices in the two countries.

(b) Deferences in commodity prices are due to cost differences which are a result of differences in factor endowments in the two countries

(c) Labour-rich country specialises in labour-intensive goods and exports them. Capital-abundant country specialises in capital intensive goods and exports them.

Factor Abundance in terms of Absolute Price Differences

The basis of international trade lies in the differences in relative commodity prices which ultimately depend upon differences in relative scarcities of factors of production in the two countries. Relative price differences lead to absolute price differences when a rate of exchange is fixed It is only when a rate of exchange between two currencies has been established that one can ascertain whether a factor is cheaper of dearer in one country than in another. This can be illustrated with the help of Table-I.

Table-1

Exchange Rate and Factor Prices

Factors of Production	*Factor Prices in*		*Factor Prices in England in terms of India's Currency (Rs) when Rate of Exchange is equal to*	
	India (Rs)	*England (Pounds)*	*£1 = Rs 20*	*£1 = Rs 30*
1	2	3	4	5
P	32	1	20	30
Q	48	2	40	60
R	56	3	60	90
S	72	4	80	120

According to Table 1 there are four factors P,Q,R and S in both the countries India and England Column (2) and (3) denotes factor prices in India and England stated in their respective currencies, *i e*, in Rupees and Pounds It is clear that in both countries, P is cheapest, while S is the dearest factor However columns (2) and (3) do not indicate which of the factors are relatively cheaper or dearer in the two countries For this, absolute price differences between the two countries must be found This can be done by the translating the factor prices of one country in terms of the other country, keeping in view the prevailing rate of exchange When the rate of exchange is £1 = Rs 20, the factor prices of England in terms of India's currency is expressed in column (4) Comparing columns (2) and (4), it is found that factors P and Q are relatively cheaper in England while factors R and S are relatively cheaper in India But, if the rate of exchange changes to £1 = Rs 30, *i e*, England's currency now commands better value in the world market, then we find from column (5) and comparing it with column (2), that only P seems to be cheaper in England, while the rest of the factors are cheaper are cheaper in India

Thus, in the first case, India will concentrate on the production of those goods which use large amount of factors R and S, while England will produce goods requiring more use of factors P and Q In the second case, however, England can produce relatively cheaply only those goods which require more employment of factor P, while India can produce all other goods containing factors, Q and R and S more cheaply Thus, absolute price differences known from the exchange rates indicate which of the factors are cheaper and which are dearer in each country, and consequently, in which commodities each country will specialise

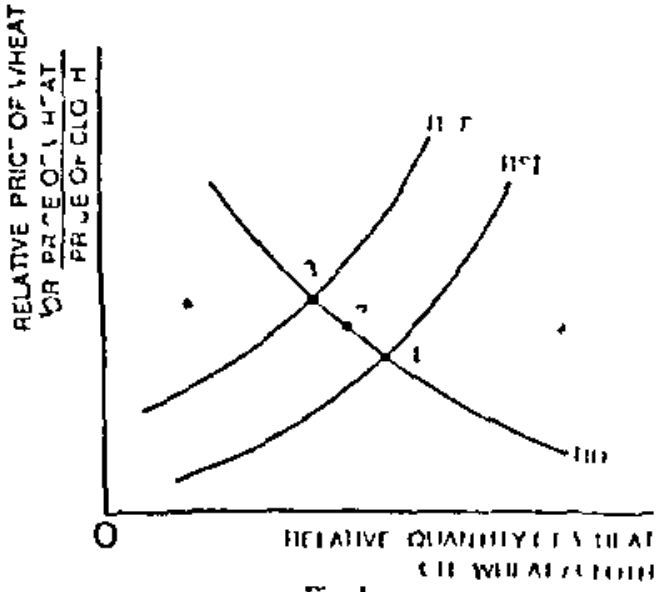


Fig 1

Figure-1 graphically illustrates the Heckscher Ohlin theory India has a higher ratio of labour to capital than England Thus, India is labour abundant and England is capital abundant The term 'abundance' is defined in relative sense (*i e* , by comparing the ratio of labour to capital in the two countries) so that no country is abundant in everything Again, wheat is the labour intensive good and cloth is capital intensive good Because, India is labour abundant it will produce a higher ratio of wheat to cloth than England at a given ratio of the price of wheat to that of cloth In other words, India will have a larger relative supply of wheat than England at a given relative price of wheat Thus, India's relative supply curve of wheat (RSI) lies to the right of England's relative supply curve of wheat (RSE) The relative demand curve for wheat (RD) has been assumed to be the same for both the countries. In the absence of trade, the equilibrium for India is at point 1 and the equilibrium for England is at point 3 This indicates that, in the absence of trade, the relative price of wheat is lower in India and higher in England

When India and England trade with each other, their relative prices converge. The relative price of wheat rises in India declines in England and a new world relative price of wheat is established somewhere between the two pre trade relative prices (*e.g* , at point 2) In India, the rise in relative price of wheat leads to a rise in the production of wheat and a decline in its consumption So India becomes an exporter of wheat and an importer of cloth. Conversely, the decline in the price of wheat leads England to become an importer of wheat and an exporter of cloth Thus India (the labour abundant country) exports wheat (the labour intensive good) England (the capital abundant country) exports cloth (the capital intensive good)

2. FACTOR-PRICE EQUALISATION THEOREM

An important implication of Heckscher-Ohlin factor endowments theory is that trade tends to equalise factor prices internationally After free trade, labour intensive commodities flow from labour abundant India while capital-

intensive commodities flow from capital abundant England. Thus, in India, as a result of trade, the abundant factor (labour) becomes more scarce and its price tends to increase, while the scarce factor (capital) becomes more abundant and its price tends to fall Similarly, in England, as a result of trade, the abundant factor (capital) becomes more scarce and its price tends to rise, while the scarce factor (labour) becomes more abundant and its price tends to fall. All this leads to equalisation of factor prices in both countries

Factor-price equalisation theorem becomes more easily clear if we imagine free trade of goods as free movement of factors of production When the two countries trade with each other, something more is happening than a simple exchange of goods In an indirect way, the two countries are in effect trading factors of production. The goods which India sells requires more labour to produce than the goods it receives in return In other words, more labour is embodied in India's exports than in its imports Thus, India exports its cheap labour, embodied in its labour-intensive exports Conversely, England's exports embody more capital than its imports and thus England is indirectly exporting its cheap capital Thus, as a result of trade, the relative price of labour will rise in labour-rich country India and relative price of capital will rise in capital-rich country England *"Trade may equalise factor prices just as* effectively as if the productive factors themselves migrated from countries in which they are in relatively abundant supply to countries in which they are relatively scarce."[1]

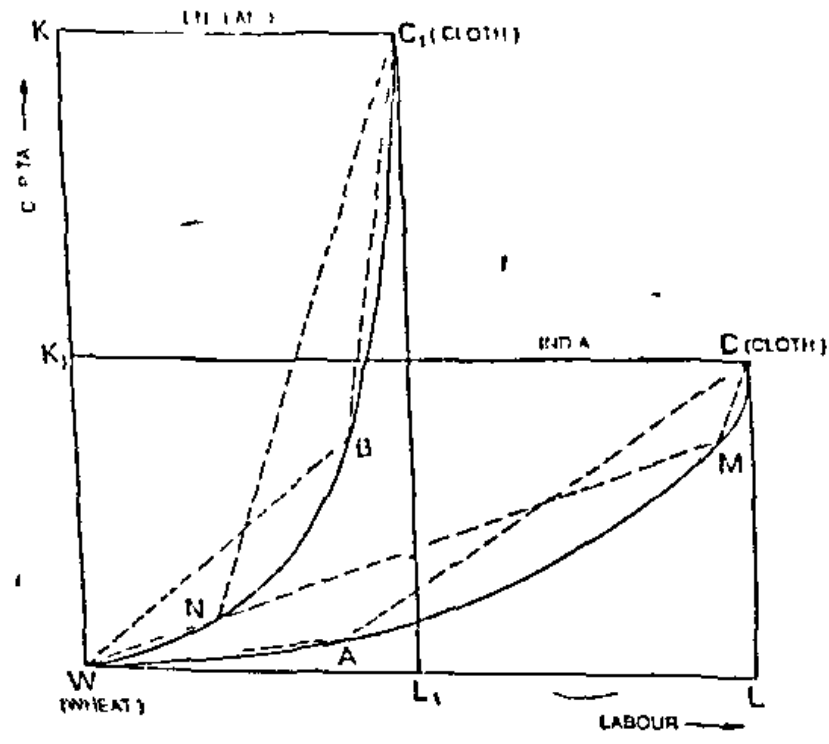


Fig 2

1 Ingo Walter' *International Economics* p 90

Factor-equalisation theorem is graphically illustrated in Figure 2 In this figure, $WLCK_1$ is the resource box of India, indicating that it is heavily endowed with labour WKC_1L_1 is the resource box of England indicating that it has abundance of capital WAMC is India's efficiency locus describing the set of output alternatives for the production of wheat and cloth depending upon different production possibility curves It is a concave curve which means that wheat is labour intensive and cloth is capital intensive Any point closer to the cloth origin shows greater production of wheat Pre trade equilibrium of India is at point A in view of its demand for wheat and cloth Similarly, $WNBC_1$ is England's efficiency locus and point B is its pre trade equilibrium position Note that point A is closer to labour axis than point B which implies that India adopts more labour intensive techniques in producing both wheat and cloth than England Conversely, England employs capital intensive techniques to produce both the goods

When international trade occurs, India, the labour rich country tends to specialise increasingly in the labour intensive wheat and move to point M on its efficiency locus Similarly, England, the capital rich country, moves to point N and increases the production of capital intensive product cloth Trade will grow between India and England until the prices of the two goods are equal in the two countries at M and N respectively With no change in technologies and other production conditions, the proportions of labour and capital used in the production of the two goods are equal for both countries, and the prevailing ratios of returns of capital to returns of labour must therefore also be equal

To sum up

Without Trade slope of

(a) *Labour-abundant country (India)* :

Proportions of labour and capital used in Wheat = WA

Proportions of labour and capital used in Cloth = CA

(b) *Capital-abundant (England)* :

Proportions of labour and capital used in wheat = WB

Proportions of labour and capital used in Cloth = C_1B

wise, in absence of trade, proportions of labour and capital used to produce expe in both countries are different this implies that ratio of labour price to capital price in both countries is different In the labour abundant country (India), 2. bour price is low relative to capital price On the contrary, in the capital-abundant country (England) capital price is low relative to labour price.

slope of

After Trade

(a) *Labour-abundant country (India)*

Proportions of labour and capital used in Wheat = WM

Proportions of labour and capital used in Cloth = CM

(b) *Capital-abundant country (England)*

Proportions of labour and capital used in Wheat = WN (=WM)

Proportions of labour and capital used in Cloth = C_1N (=CM)

Since, after trade proportions of labour and capital used to produce goods in both countries are equal, this implies that the ratio of labour price to capital price in both countries is equal

Thus, international trade leads to factor price equality

In short, international trade leads to the following effects

(i) Commodity prices are equalised between the two countries.

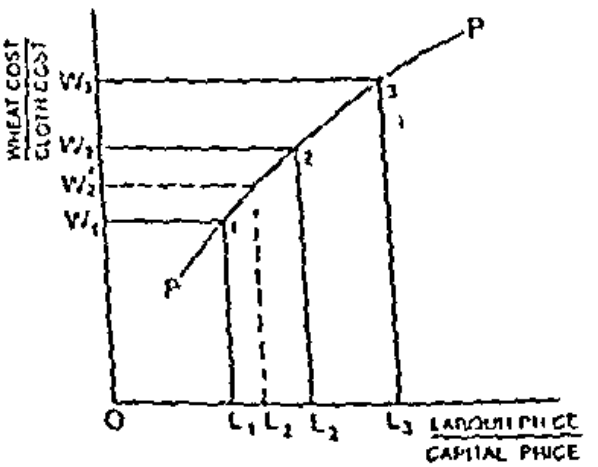
(ii) In each country, the economic structure, in the form of output combinations, shifts in the direction of increased specialisation in the production of that commodity which use relatively more of abundant factor

(iii) The relative returns to the more abundant factor have increased relatively, while relaive returns to the scarcer factor declines in both countries This leads to the equalisation of the factor prices in the two countries

(iv) The factor proportions (or factor intensities) used in the production of both commodities become identical for both countries

Alternate Illustration

The Hecksher Ohlin theory and the factor-price equalisation theorem can be illustrated alternatively through Figure-3



In Figure 3, PP curve represents the relative factor-commodity price curve It indicates basic relationship (a) between relative commodity costs and relative commodity prices and (b) between relative factor prices and relative commodity costs Assuming labour and capital prices fully determine the costs of producing wheat and cloth in both India and Eng'and there is a positive relationship between relative labour prices (*i e*, labour price/capital price) and relative cost of producing intensive commodity wheat (*i e*, wheat cost/cloth cost) A rise in the labour price relative to capital price increases the cost of the labour intensive good (wheat) relative to that of the capital intensive good (cloth)

Properties of Factor-Commodity Price Curve

(i) The slope of PP curve depends upon relative factor intensities

(ii) Since the curve shows a technological relationship and because the two countries have the same technology, the curve applies to both the countries Since factors are not internationally mobile, both the countries may be at different points on the PP cure depending upon the relative abundance of a factor (labour) in these countries

(iii) A relation exists between the costs of wheat and cloth and the prices of these goods The price of a commodity must be equal to its cost in the long run equilibrium Thus if the ratio of labour price to capital price in India is OL_1, and if wheat and cloth both are produced in India, then OW_1 must equal the relative price of wheat in terms of cloth But, if a commodity is not actually produced, cost can exceed price. Thus, if India is not actually produced cost can exceed price Thus, if India specialises in wheat its relative price of wheat in terms of cloth will be more than OW_1 and if India specialises in cloth, the relative price of wheat in terms of cloth will be less than OW_1

Heckscher-Ohlin Theorem In the absence of trade, India, the labour abundant country, is at point 1 and England the capital abundant country, is at point 3 on PP curve The relative labour abundance of India reflects lower pre trade relative labour price (OL_1), and the relative capital abundance of England reflects higher pre trade relative labour price (OL_2) In the absence of trade, each country must produce both goods for itself, so OW_1 represents India's relative price of wheat in terms of cloth, and OW_2 England s relative price of wheat in terms of cloth The relative wheat price is lower in India than England Thus, India has a comparative advantage in wheat and England in cloth

Factor-Price Equalisation Theorem If India and England enter into trade with each other, world prices must be somewhere between the pre-trade prices (say equal to OW_2) If each country produces both goods, then OW_2 also

equals relative costs in both countries and OL_2 must therefore equal the relative labour price in both India and England Since relative factor prices are equal, absolute prices must also be equal

If either country specialises factor prices need not be completely equalised because costs need not equal international prices and therefore each other If, for example, India specialises in wheat production, while England produced both goods, then England's costs are equal to relative prices OW but India's costs will be somewhat less, say OW_2' In this case, England's ratio of labour price to capital price is OL_2, while that of India is OL_2' To conclude if either country specialises factor prices are not completely equalised but they are more nearly equal than they would be in autarky, i e without trade)

Limitations of the Theorem of Factor-Price Equalisation

The theorem of factor equalisation is not realistic because in the real world factor prices are not equalised It may not sound unrealistic to assume that commodity prices are equalised as a result of international trade, but it is difficult to believe that a complete equalisation of relative factor prices will occur more or less automatically through trade Complete factor-price equalisation can occur only under the following restrictive assumptions :

(i) Two commodities are produced in the two countries both without and with trade

(ii) Identical production techniques prevail in both countries

(iii) One product is capital intensive and the other is labour intensive.

(iv) Both factors of production are qualitatively identical in all respects

(v) Both factors are used in the production of both goods

(vi) No change occurs in the available supplies of productive factors

(vii) There are no artificial restrictions to trade.

(viii) There are no transport costs

(ix) Perfect competition prevails in all the markets

(x) Productive factors cannot move internationally.

3 OTHER RELATED THEORIES

Stolper-Samuelson Theorem

Stolper Samuelson theorem deals with the effect of international trade on the domestic distribution of income The theorem states that an increase in the relative price of labour intensive good will increase the labour price relative to both commodity prices and reduce the other factor price relative to both commodity prices In other words, there is a magnified effect of goods prices on

factor price When the price of wheat (labour intensive good) rises, the wage rate rises more than proportionately This is so because the price of other factor (capital) actually falls

Suppose the price of wheat rises by 10% and that of cloth remains unchanged Then the cost of wheat rises by 10% This cost consists of the cost of labour and capital In this situation, (a) both these costs cannot rise by 10% because cost of labour rises relative to cost of capital (b) they cannot both rise by more than 10% because then the cost of wheat would have to rise more than 10%, (c) similarly they cannot both fail to rise by at least 10%, (d) thus one rises more than 10% and the other does not. As the cost of labour rises relative to that of capital, it is the wage that rises more than 10%, and thus increases relative to both commodity prices On the other hand, the price of cloth (and so its cost) has not changed But the price of labour (wage) has increased Thus, the price of capital must fall, since otherwise the cost of cloth would have to rise Therefore, the price of capital falls relative to both commodity prices

By combining this result with Heckscher Ohlin theorem we can see how trade affects domestic income distribution A country has a comparative advantage in the good intensive to its relatively abundant factor Free trade will increase the relative price of that good and so, by the Stolper Samuelson theorem, increases the real income of the relatively abundant factor and reduce that of relatively scarce factor Since the country as a whole gains from trade, the abundant factor gains more than the scarce factor loses Thus, there will be a class in the economy which will be permanently harmed by free trade, even though the country as a whole gains

Rybezynski Theorem

both goods cannot rise by more than 10%, (c) output of both goods cannot fall to rise by 10% because otherwise the increased capital could not all be utilised, (d) thus the output of one rises by more than 10% and that of the other does not. Because cloth is capital intensive, it must be cloth output that rises more than 10% The labour supply has not changed, but the cloth industry has expanded and so has increased its use of labour Therefore, the output of wheat must actually fall

By combining this result with the Heckscher-Ohlin theorem, we can see how economic growth affects a nation's trade. If a country's capital increases by 10%, national income will rise by some smaller proportion, because only part of national income comes from the earnings of capital This increased income will normally be spent on both goods, so that at constant prices, national demand for both goods will rise by less than 10% According to Rybczynski theorem, the supply of capital intensive good (cloth) rises more than 10%, while the supply of labour intensive good (wheat) falls. Thus, cloth supply rises relative to demand, and wheat demand rises relative to supply Now, if the country is capital intensive, then according to the Heckscher-Ohlin theory, it exports cloth and imports wheat, so that the growth of capital causes the country to trade more at each price Thus, its offer curve shifts outward If the country is labour abundant, its offer curve shifts inward. The general conclusion is economic growth that accentuates country's relative factor abundance shifts its offer curve out, economic growth that moderates the country's relative factor abundance shifts its offer curve in

4 COMPARISON BETWEEN CLASSICAL THEORY AND MODERN THEORY

Modern theory of international trade differs from the classical comparative cost theory in many ways and is also superior to the latter

(i) According to the classical economists, there was need for a separate theory of international trade because international trade was fundamently different from internal trade Heckscher and Ohlin, on the other hand, felt that there was no need for a separate theory of international trade because international trade was similar to internal trade The difference between the two was one of degree, and not of kind

(ii) The classical economists explained the phenomenon of international trade in terms of the old, discredited labour theory of value The modern theory explained international trade in terms of the general equilibrium theory of value

(iii) The classical theory attributes the differences in the comparative advantage of producing commodities in two countries to the differences in the productive efficiency of workers in the co

theory attributes the differences in the comparative advantage to the differences in factor endowments

(iv) The classical theory presents a one-factor (labour) model, while the modern theory presents a more realistic multi-factor (labour and capital) model

(v) The classical theory never took into account the factor price differences, while the modern theory considers factor price differences as the main cause of commodity price differences, which, in turn, provides the basis of international trade.

(vi) The classical theory does not provide the cause of differences in comparative advantage. The modern theory explains the differences in comparative advantage in terms of differences in factor endowments

(vii) The classical theory is a single market theory of value, while the modern theory emphasises the importance of space element in international trade and involves a multi-market theory of value.

(viii) The classical theory is a normative or welfare-oriented theory, whereas the modern theory is a positive theory The classical theory tries to demonstrate the gains from international trade, while the modern theory concentrates on the basis of trade.

Criticism of Modern Theory

Although the modern theory of international trade is superior to the classical theory in many respects, it has the following limitations :

1. Unrealistic Assumptions. Modern theory is unrealistic in nature because it is based on oversimplified and unrealistic assumptions of free trade, perfect competition, full employment and absence of transport costs

2. Mobility of Factors. The modern theory also assumes that factors of production are perfectly immobile between countries. This assumption has been criticised on the ground that in reality factors of production have never been immobile internationally

3. Productive Factors not Homogeneous. The modern theory assumes that the factors of production are homogeneous in quality between the countries. Labour, for example, is qualitatively identical in two countries. This is quite unrealistic assumption

4. Different Production Functions. Another unrealistic assumption of the modern theory is homogeneous production functions between the countries In reality, however, production functions for the same products may very in the two countries.

5 Differentiated Products The modern theory is based on the assumption that the two products in the two countries are identical This is an unrealistic assumption The products in different countries are usually differentiated

6 Static Theory The modern theory is static in nature because it is based on the assumption that factor endowments in the two countries are fixed and unchanging in quantity In the dynamic conditions the quantity of factor supply may vary

7 Demand Side Ignored Modern theory pays greater attention to the supply side of international trade It ignores the demand side Critics feel that if differences in consumer's demand for goods are recognised the commodity price ratios will not reflect cost ratios

8 Trade with Similar Factor Endowments According to the modern theory trade between the two countries occurs only when they have difference in factor endowments This implies that there would be no trade between the countries having identical factor endowments But, in reality international trade takes place even with identical factor endowments

9 Commodity Prices Determine Factor Prices According to the modern theory factor prices determine costs and thereby the commodity prices Wijanhold on the contrary holds the opposite view He argues that it is the commodity prices that determine factor prices Prices of the commodities are determined by their utility (or demand) while the factor prices are dependent on the demand and prices of the commodities produced by them After all the demand for factors of production is a derived demand

10 Empirically Invalid Modern theory fails to explain the Leontief Paradox According to the modern theory a capital rich and labour scarce country should export capital intensive goods and import labour intensive goods But, the results of an empirical study made by Leontief point out that capital rich country like America exports labour intensive goods and imports capital intensive goods This fact invalidates the modern theory

11 One of Many Explanations Modern factor-endowments theory is not the only explanation of international trade It is one of many explanations International trade is a complex phenomenon involving so many forces operating on both supply and demand sides of trade Important factors influencing the pattern of trade between two countries are (a) differences in the supply of factors of production (b) differences in factor efficiency (c) differences in the state of technology (e) differences in the economies of scale (f) differences in population growth (g) differences in the rate of capital formation (h) differences in the development of new products etc A satisfactory theory of international trade must pay attention to all these factors

Conclusion The classical and the modern theories of international trade should not be considered as mutually contradictory or opposing theories They are complementary to each other The Heckscher Ohlin theory is basically an extension of the classical theory, which it both builds upon and complements

5. EMPIRICAL EVIDENCE

Several empirical studies have been made to test the validity of the Heckscher Ohlin theory We here discuss the results of some important studies

Leontief Paradox

The most famous and controversial test of the Heckscher-Ohlin theory was made by leontief and was published in 1953 According to the factor endowments theory, a country should be exporting those goods which intensively use the factors in abundant supply at home and should be importing those goods which intensively use factors in scarce supply at home The U S.A , which has a very high capital labour ratio, can be considered as capital rich and labour poor country If the factor endowments theory is correct, then the U S A should export capital intensive goods and import labour intensive goods But, using data for the year 1947, Leontief found that the American exports were labour intensive and its imports were capital intensive This reverse conclusion has been confirmed over the years and is known as Leontief Paradox

Table-2

Factor Content of U S Export and Imports

	Factor	*Imports*	*Exports*
Part I :			
1	Capital	$ 2,132 000	$ 1,876 000
2	Labour (person years)	119	131
Part II :			
3	Average Year of education	9 9	10 1
4	Proportion of engineers and scientists	0189	0255

Sources R Baldwin, "Determinants of the Commodity Structure of U.S Trade," *American Economic Review* (March 1971) pp. 126-145

Table 2 shows the factor content of the U S exports and imports. The data compares the factors of production used to produce one million dollars worth of

(i) If human capital as well as physical capital were included in the analysis, the results might have shown the American exports to be capital intensive In other words, the American labour may be more efficient than foreign labour due to higher educational standards

(ii) The Americal workers may be physically more effective than his foreign counterpart because of better health, working conditions, management, entrepreneurship, etc

(iii) Capital is also embodied in other productive factors

(iv) If natural resources are included as a third distinct productive factor, it is possible that the results would show America to be both labour abundant, but natural resources scarce country Testing of this hypothesis might substantiate the factor-endowments theory

(v) Proper testing of Heckscher Ohlin theory is difficult because of its unrealistic assumptions For Example, (a) full employment conditions do not exist, (b) production functions are not everywhere the same, (c) there are many barriers to trade, (d) in reality, demand plays important role in international trade

Empirical evidence seems to be more in favour of Ricardian theory than the Heckscher-Ohlin theory Part II of Table 2 shows that America exports goods that are more skilled labour intensive and technology intensive than its imports There results are consistent with the Ricardian theory according to which trade is largely due to differences in productivity and technology rather than differences in the supply of resources For example, America exports computers and aircrafts not because its resources are specially suited to these products, but because it is more efficient in producing these goods

Conclusion : Thus experience has shown that the classical theory of comparative costs based on different productivity levels emerges as an important determinant of trade patterns As compared to this, the modern Hackscher-Ohlin theory has limited predictive value. The true position, however, is that there exists no cohesive theoretical formulation that can be applied to each and every case with good predictive results. Inter national trade is too complex a phenomenon, involving so many countries, so many commodities and so many elements operating both on demand and supply sides, to be explained accurately and satisfactorily by an oversimplified theory like the modern factor-endowments theory of the classical theory

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QUESTIONS

1 Explain the modern theory of international trade

2 Critically examine Ohlin's factor-endowment theory of international trade.

3 Factor-endowment theory supplements comparative cost theory and does not supplant it. Discuss

4 International trade is but a special case of inter-local or inter-regional trade Explain

5 Discuss the factor-price equalisation theorem

6 Compare the classical and the modern theories of international trade

7. Write notes on. (a) Stolper-Samuelson theorem; (b) Rybczynski theorem; (c) Leontif's paradox; (d) general equilibrium approach to foreign trade.

4

FREE TRADE AND PROTECTION

1 **Free Trade**

Meaning

Arguments in Favour of Free Trade

Arguments against Free Trade

2. **Protection**

Meaning

Arguments in Favour of Protection

(A) Economic Arguments

(B) Non Economic Arguments

Valid and Fallacious Arguments

Conclusion

Second-Best Nature of Protection

3. **Protection and Underdeveloped Countries**

4 **Forms or Methods of Protection**

5. **Effects of Protection**

Economic Significance of Tariffs

Overall Impact of Tariffs on World Economy

Effects of Tariffs on Imposing Country

Effects of Quotas

Tariffs Versus Quotas

4

Free Trade and Protection

Free trade versus protection refers to the age old controversy in the theory and practice of commercial policy of the government towards international trade Free trade is a policy of complete freedom in international trade Protection, on the other hand, refers to a system of restrictions on trade Although there has never been a period when international trade was entirely free, yet the world came nearest to free trade in 1960 s, largely due to the influence of Napoleon III of France In the beginning of the 20th century, there was shift from free trade to protection Both free trade and the volume of world trade reached their minimum level during the Great Depression of 1929 35 After World war II, again efforts were made through the inception of General Agreement of Tariffs and Trade (GATT) and the formation of Free Trade Area towards reducing the restrictions on international trade and encouraging free trade

1 FREE TRADE

Meaning

Free trade means free and unrestricted movement of goods between countries Free trade refers to a condition of international trade when all kinds of artificial controls on international trade, such as tariffs quotas, etc are absent. Under free trade, the distinction between domestic trade and international trade disappears. Free trade policy is also known as the laissez faire policy, *i e* , the policy of government interference in foreign trade Under such a policy, all barriers to the international movement of goods are removed and the trade between the countries is allowed to take its natural course.

According to Adam Smith, free trade is "that system of commercial policy which draws no distinction between domestic and foreign commodities and, therefore, neither imposes additional burdens on the latter nor grants any special favours to the former " Penguin Dictionary defines free trade as "the condition in which the free flow of goods and services in international exchange is neither restricted nor encouraged by direct government intervention"

According to Jagdish Bagwati, ' Free trade policy involves complete absence of tariffs, quotas, exchange restrictions, taxes and subsidies on production, factor use and consumption "

Arguments in Favour of Free Trade

The classical economists, like Adam Smith, Ricardo, etc , advocated the free trade policy as against the mercantilist system of protection Various arguments can be given in favour of the free trade policy

1. Trade According to Comparative Advantage Theory Under free trade, production and exchange take place in accordance with the theory of comparative advantage The theory of comparative advantage has the following implications

(i) Each trading country will tend to increase the output of that good in which it has comparative advantage and will tend to reduce the output of that good in which it has a comparauve disadvantage

(ii) Each country will export the good in which it has comparative advantage and import the other

(iii) World output will increase and will become more efficient.

(iv) Each country will gain from free trade relative to outarky

(v) The gains enjoyed by a country will be greater the more favourable its terms of trade, *i e* , the greater the difference between relative prices before and after trade

2 Optimum allocation of Resources Free trade results in the optimum allocation of resources It permits the reallocation of world resources in accordance with the principle of comparative advantage Under free trade, every country specialises only in the production of those goods in which it has comparative advantage This leads to proper and most efficient use of productive resources of the world The resources are not wasted in producing those goods in which a country has comparative disadvantage and which it can import cheaply from other countries

3 Maximisation of Output The theory of international trade has shown that the world output of goods and services can be maximised only under the conditions of free trade and international specialisation Inter national specialisation in accordance with the theory of comparative advantage leads to larger production and at lower costs in all the countries In the words of Ingo Walter, "*The world as a whole* is certainly materially better off under free trade than with no trade at all and so is the individual nation "[1]

1 I. Walter International Economics *Theory and Policy* p 141

4 Optimisation of Consumption. Free trade helps the trading countries to secure the optimisation of consumption In the absence of international trade, a country's domestic consumption is limited to its production possibilities But, through international trade, the consumption possibilities of the country can expand beyond its production possibilities

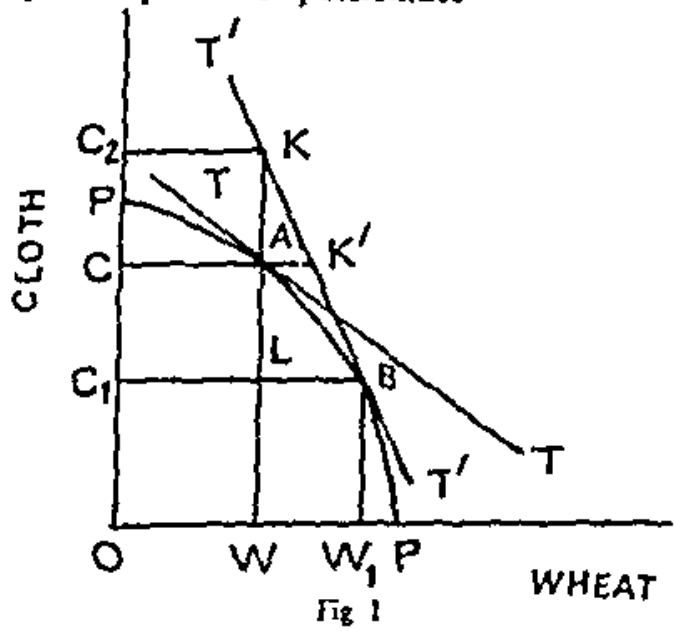

Fig 1

Figure 1 illustrates the consumption optimisation gain from free trade PP is the production possibility curve of a country It is concave to the origin indicating the increasing cost conditions , in order to produce more of one good, increasing amounts of other good are to be given up In the absence of trade, all the points on PP curve show the country's possible production and consumption alternatives Suppose, in the absence of international trade, the country is at point A and producing and consuming OW of wheat and OC of cloth The domestic price ratio is given by the slope of TT If the country has the opportunity to trade at the international price ratio as indicated by the slope of T'T' and if it adjusts its domestic production at point B, thus producing OW_1 of wheat and OC_1 of cloth consumption at all points on T'T' line is possible If the country continues to consume OW of wheat, it will be able to export WW_1 (or LB) of wheat in exchange for KL of cloth Thus, the country reaches the consumption point K which lies outside its own consumption and production possibilities as indicated by PP curve , it is able to consume more of cloth without consuming any less of wheat The country's consumption gain (measured in terms of cloth) is KA (or C_2C) Of course, the country can still improve its consumption level and can consume more of cloth and more of wheat by attaining any point between K and K' on T T' line

5 **Other Benefits to Consumers.** Free trade also benefits the consumers (a) by enabling them to enjoy the large variety of foreign goods which their own country cannot produce, and (b) by providing them the imported goods at cheaper rates

6 **Wide Market.** Free international trade widens the size of the market which in turn, results in greater specialisation and division of labour All this leads to minimisation of costs and optimisation of world's material welfare

7. **Equalisation of Prices.** Free trade tends to equalise both commodity as well as factor prices in all the regions However, perfect equalisation of prices is not possible because of imperfect factor mobility, transport costs, etc

8. **Larger Factor Incomes.** Under free trade, the incomes of various factors of production will also increase because they will now be employed more efficiently in proper uses Thus, wages, interest, rent are higher under free trade than otherwise

9. **Check on Monopolies.** Free trade promotes competition and prevents monopolistic tendencies The fear of foreign competition does not permit the producers at home to form monopolies and exploit the consumers by raising the prices of their products

10. **Efficient Entrepreneurs** Free trade and the resultant competition from abroad encourage as well as compel the domestic producers to keep up their efficiency It forces them to improve their methods of production in order to reduce the production costs and make their business more efficient.

11. **Economic Development.** Free trade also promotes economic development. It benefits the less developed countries by (a) encouraging specialisation and division of labour ; (b) widening the size of the market, (c) stimulating healthy competition which improves productive efficiency ; (d) increasing skills, technical know how and managerial efficiency ; (e) making available necessary raw materials, machinery and foreign capital, etc In the words of Haberler, "International trade had made a tremendous contribution to the development of less developed countries in the nineteenth and twentieth centuries and can be expected to make in the future if it is allowed to proceed freely "[1]

12. **International Co-operation.** Free trade promotes cooperation and mutual understanding among the nations This helps in creating an atmosphere of peace and good will in the world

1 Haberler *The Theory of International Trade* p 223

Arguments against Free Trade

Despite many advantages, free trade policy has never been completely adopted by all the countries of the world. Particularly after the World War II, the policy was abandoned even by those who had previously adopted it. The following arguments are given against free trade policy :

1. Unrealistic Policy. Free trade policy based on the assumption of laissez faire or government non intervention. Its success also requires the pre-condition of perfect competition. But, such conditions are unrealistic and do not exist in the actual world.

2. Non-Cooperation of Countries. Free trade policy works smoothly if all the countries cooperate with each other and follow this policy. If some countries decide to gain more by imposing import restrictions, the system of free trade cannot work.

3. Economic Dependence. Free trade increases the economic dependence on other countries for certain essential products such as food, raw materials, etc. Such dependence proves harmful particularly during war time.

4. Political Slavery. Free trade leads to economic dependence and economic dependence leads to political slavery. For political freedom, economic independence is necessary. This requires abandonment of free trade.

5. Unbalanced Development. Free trade and the resultant international specialisation leads to unbalanced development of national economy. Under this system, only those sectors are developed in which the country has a comparative advantage. Other sectors remain undeveloped. This results in lop-sided development.

6. Dumping. Free trade may lead to cut throat competition and dumping. Under dumping, goods are sold at very cheap rates and even below their cost of production in order to capture the foreign markets.

7. Harmful Products. Under free trade, injurious and harmful products may be produced and traded. Trade restrictions are necessary to check the import of such products.

8. International Monopolies. Free trade may lead to international monopolies. It encourages the establishment of multinational corporations. These corporations tend to acquire monopoly position and thus harm the interest of the local people.

9. Reduction in Welfare of Certain Groups. While free trade tends to maximize world production of goods and services, it may simultaneously hurt the welfare of certain groups in every country. Under free trade, the output

of those commodities in which the country has comparative advantage tend to increase to meet the export demand, and the output of goods in which the country has comparative disadvantage contracts due to pressure from import competition Thus, the real income of the groups engaged in the export industries will rise and real income of those engaged in the import competing industries will fall

10. Harmful of to Less Developed Countries. Free trade is harmful for the less developed countries for the following reasons

(i) Competition under free trade is unfair and unhealthy The less developed countries find it difficult to compete with the economically advanced countries

(ii) Under free trade, gains of trade are unequally distributed depending upon the level of development of different countries The terms of trade are favourable for the developed countries, and unfavourable for the poor countries

(iii) Less developed countries generally experience unfavourable balance of payments The problem of unfavourable balance of payments cannot be solved under free trade policy

(iv) Free trade policy adopted by the British government in India led to the destruction of Indian cottage and small scale industries

(v) The less developed countries cannot protect their infant industries under the policy of free trade

(vi) Free trade may endanger economic and political independence of the backward nations

2. PROTECTION

Meaning

Protection means protecting the home industries from foreign competition The term protection refers to the policy of encouraging the home industries by giving subsidies to the home producers and by imposing duties on the foreign goods by raising their prices relative to those of domestically produced goods In the general sense, protection may refer to the commercial policy of protecting the national interests through restrictions on the international trade

According to J L Hanson, protection means ' the imposition of duties on imports in order to protect home producers of these commodities by making foreign produced goods and exempting native goods of a similar character, with the intention of preventing the markets of the country

concerned " According to the Penquin Dictionary, "protection is the imposition of tariffs of quotes to restrict the inflow of imports "

The mercantilists were the first to state their arguments in favour of protection They advocated the theory of balance of trade, according to which a nation could only gain through foreign trade if it had excess in the value of exports over imports But, this view was strongly criticised by the classical economists The modern idea of protection as a means of stimulating economic growth was first developed by the American economist Alexander Hamilton in 1791 Later on, other Americans like Henry George, Mathew Carey, etc also supported the idea. In Germany, the policy of protection was advocated by Frederich List in 19th century After the World War I, particularly after Great Depression, almost all the countries of the world have abandoned free trade policy in favour of the policy of protection

Arguments in Favour of Protection

The theory of comparative advantage shows that total world output will be maximum when there are no restrictions on international trade But, on the contrary, in practice, the countries of the world have adopted the policy of protection in one from or the other Many arguments have been given in favour of protection These arguments may be broadly classified into (a) economic arguments and (b) non-economic arguments

(A) Economic Arguments

The main economic arguments given in favour of the policy of protection are discussed below :

1. Infant Industry Argument Infant industry argument is one of the important valid arguments given in favour of protection. The credit of advancing this argument goes to List in Germany, Hamilton in America and J S Mill in England According to this argument, infant industries (*i e* newly or late starting industries) during the initial stages of their development are not strong enough to compete with the long-established foreign industries. The operational cost of the infant industries are very high Such an industry needs to be fully protected by the government from foreign competition By imposing a tariff on imports, the government raises the domestic price and helps the home producers to cover their high costs and thus grow under protection

The essential features of infant industry argument are as follows

(i) The basic idea behind the infant industry argument is to bring a country in the same stage of development as its trading partner Free trade among unequals is neither possible nor desirable As List writes, "A child or a boy in wrestling with a strong man can scarcely be victorious or even offer steady resistance."

(ii) Protection should be given temporarily only in the initial stages It should be withdrawn once the industry becomes mature enough to compete internationally According to List, ' baby is to be nursed , child is to be protected , and the grown up young one is to be left free " Similarly, J S Mill writes that "It is essential that the protection should be confined to such cases in which there is good ground of assurance that the industry which it fosters will after a time be able to dispense with it."

(iii) The infant industry arguments is not against free trade policy It favours free trade based on potential (or long run) and not present, comparative advantage A country might have potential comparative advantage in the development of certain industry, but, at present, it is not able to realise its true comparative advantage under free trade because other countries have already well-established that industry Such a country must give protection to this industry in the early stages so as to make it fully competitive under free trade in future

(iv) The infant industry argument is based on the realistic conditions of unrealised internal and external economies of scale Protection tends to equalise competitive conditions and make available to the new firm the unrealised internal and external economies It helps the firm to grow up to its optimum level (*i e* realisation of internal economies) , it helps to reduce costs of all firms by creating a trained labour force or by spreading knowledge of production techniques (*i e* , realisation of external economies)

(v) List advocates discriminating protection Protection should be given only to those selected industries which are potentially capable of becoming economically viable units

(vi) Infant industry argument can be developed into the generalised form of 'infant country arguments' Industrialisation requires the creation of necessary infrastructure, growth of sizable labour force with the requisite attitudes and skills, and increase in the quantity and quality of scarce resources Protection helps the infant or newly developing country to industrialise itself

(vii) Infant industry argument, and particularly the more general infant country argument, is frequently used to speed up the process of industrialisation in less developed countries through protection

The infant industry argument has been criticised on the following grounds

(i) It is difficult to determine which particular industry has the potential comparative advantage and deserves protection

(ii) Once protection is given vested interests are created and it becomes impossible to withdraw it.

(iii) Protection may lead to political corruption. All types of industries, whether economically justified or not, start claiming for protecting

(iv) Under protection, an infant industry tends to remain infant. Protected industries generally become negligent and develop a tendency to depend more and more on government assistance

(v) Protection weakens the efficiency of the firm and results in higher price and poor quality of the product.

Despite these defects, infant industry argument for protections has wide scope of application, particularly in the less developed countries What is needed is to grant discriminating protection and ensure maximum efficiency in the protected industries

2 **Diversification of Industries Argument** List and other economists advocated protection with the purpose of diversifying the industries of a country The basic idea behind this argument is that a country should have a variety of sources of production and employment and excessive specialisation (or overdependence on one industry) is dangerous both politically as well as economically Politically, excessive specialisation leads to too much dependence on foreign trade which is riskly and undesirable during war time Economically, dependence on a few industries may result in serious economic dislocation in times when such industries pass through adverse circumstances Thus, in order to have (a) national self sufficiency and (b) smooth and balanced growth of the economy, it is necessary to bring about a diversification of industries through protection

Diversification argument may be criticised on the following grounds :

(i) It is not possible for a country to attain complete self sufficiency Even the most advanced countries, like U.S A , U.S S.R., do not possess all types of resources necessary for self sufficiency

(ii) This argument cuts the very root of the principle of comparative advantage as the basis of international trade

(iii) This argument may lead to abondonment of international economic relations

(iv) Complete isolation is neither desirable nor possible in the present-day world

3. **Employment Argument** Protection reduces imports, stimulates economic activity and increases employment. This argument was very

popular during 1930's (*i e*, the period of Great Depression) Expansion of employment occurs through two effects, *i e* the multiplier effect and the acceleration effect. (a) Imports form a leakage in the domestic income stream When imports are reduced through protective measures and exports are maintained, foreign trade multiplier operates which leads to an increase in income and employment by a multiple of reduced import expenditures (b) There will be expansion of employment and income in other sectors The overall increase in employment and income needs more capital Hence investment in capital goods will rise which will further stimulate investment, income and employment through acceleration effect

The employment generation argument has the following limitations

(i) The employment expansion argument is based on the assumption that there exists excess capacity in the economy

(ii) Protection can be an effective device for expanding employment only if exports can be maintained at the previous level and there is no reduction in exports through retaliation by other countries But the assumption of no retaliation is highly unrealistic in practice

(iii) Since imports pay for exports, therefore curtailment of imports through tariff will lead to an equal reduction in exports Thus, additional employment created in the protected industries will be neutralised by the reduction in employment in export industries due to fall in exports

(iv) If the demand for imports is highly inelastic, protection will not be able to reduce imports appreciably and thus will fail to have the desired employment expansion effect

(v) Less developed countries face widespread disguised unemployment which cannot be removed through protection

4. Terms of Trade Argument Protection (or imposition of tariff) improves a nation's terms of trade and secures for it larger gains from international trade By imposing tariff duty on imports, a country improves the rate at which its exports are exchanged for imports from abroad When a country imposes tariff duty, its willingness to take imports is reduced It means for any quantity of exports, it requires larger quantity of imports, or putting it another way, it is willing to offer less of exerts for a given quantity of imports from abroad The result is an improvement in the tariff imposing country's terms of trade, tariff reduces the home country's offer of exports for imports

The terms of trade argument is also known as the foreigner pays the duty argument The terms of trade will improve for the tariff imposing country if the foreigners are made to pay for the duty Imposition of tariff raises the

price in the imposing country which reduces the demand for imports from abroad. Reduced demand compels the producers in the exporting country to lower the price in order to reduce the foreign supply to match the reduced demand in the imposing country The extent to which the terms of trade improves and the extend to which the foreigners are made to pay the duty depends upon the extent to which the price rises in the importing country and falls in the exporting country If the demand for foreign good in the home country is elastic and if the supply of the foreign producers is inelastic,'then there will be a greater price rise in the importing country and a greater price fall in the exporting country to a greater extent

Main defects of the terms of trade arguments are given below ·

(i) Tariffs will improve the terms of trade only when the foreign offer curve is less elastic The terms of trade will, however, not improve in case of poor countries which generally face elastic foreign offer curves

(ii) The gains in the terms of trade through tariff duty are secured only at the cost of other countries Thus, other countries will also retaliate by imposing tariffs on their imports The process of retaliation and counter retaliation will benefit none and will turn the policy of protection self defeating

(iii) Imposition of tariff may improve the terms of trade, but such restrictions will curtail the world output in absolute terms

(iv) Tariffs higher than the optimum level will be detrimental to the national economic welfare An optimum tariff is that which maximises the gains from the improved terms of trade minus the loss from the reduced volume of trade Although the terms of trade may continue to improve at tariff levels even above the optimum tariff, the resultant reduction in the volume of trade will more than offset this improvement. This will lower the welfare level of the country

(v) Tariff increases the price of the imported goods and are against the interests of the consumers

5. Balance of Payments Argument. Achievement of favourable balance of payments or removal of disequilibrium in balance of payments is another argument put forward in favour of protection The basic idea is that country which faces deficit in balance of payment should impose tariffs to have an excess of exports over imports. This will enable the country to earn more foreign exchange The balance of payments argument which became popular since 1930's has special relevance to the less developed countries whose developmental programmes put strain on limited foreign exchange resources.

Tariffs as a method of correcting disequilibrium in the balance of payments is superior to devaluation Devaluation adversely affects the terms of trade and may lead to flight of capital But, tariff, on the other hand, avoids such unfavourable consequences

6 **Bargaining Argument.** The policy of protection is adopted to increase the bargaining power in trade negotiations International trade is based on reciprocal basis Tariff can be used as an instrument of bargaining, *i e* , force the other countries to lower their tariff duties Thus, through protection, a country can obtain favourable terms for its exports from other countries. The bargaining argument has the following drawbacks

(i) Tariff as a method of bargaining may lead to relation by other countries In this way, it is harmful to both the countries

(ii) If a country is dependent on imports for basic commodities, the tariff rise may be inflationary The resultant adverse internal developments and the depressing effects on exports may more than offset any gain in bargaining

(iii) The bargaining argument ignores the possibility that a country may use non tariff concessions to obtain tariff concessions from its trading partners

(iv) Bargaining metality should be aimed at elimination of the loss from tariffs But, in reality this mentality may be wrongly used to get as much as possible from other countries, while giving up as little as possible

(v) The bragaining argument is not a wise and desirable argument. Arguing that protective tariff should be imposed in order to use it to bargain with is just like arguing that one should contract a disease in order to enjoy it being cured

7. **Anti Dumping Argument.** Protection is used as a means to prevent the foreign producers from resorting to dumping Dumping means selling in a foreign market at a price a below that received in the home market. Discrimination between the home and foreign price is the essential feature of dumping Dumping aims at flooding the foreign markets with cheap goods with a view to capturing these markets Dumping has harmful effects in the country in which it occurs , it disturbs or even ruins the import competing firms In order to protect the home industry from dumping high tariff is imposed This would raise the price in the importing country and would avoid the threat of dumping

8 **Self Sufficiency Argument.** Another goal of protection is to attain national self sufficiency and protect the country from outside disturbances In

this sense, protection (a) makes the country economically independent , (b) promotes industrialisation through diversification of industries , (c) saves the economy from undesirable effects of fluctuating world prices ; (d) avoid shocks of world depressions , and (e) minimises economic disruptions from wars.

9 **Revenue Argument.** Protection is also advocated on fiscal basis. Tariffs are a good sources of revenue to the government. The revenue argument has two merits (a) The imposition of tariff duties not only provides protection to the domestic industries, but also brings revenue to the state. (b) Whole of part of tariff duty will be paid by foreigners. The relative shares of the tariff paid by the foreign producer and the domestic consumer depends upon the elasticity of supply of the foreign producer and the elasticity of demand of the domestic consumer If the demand is more elastic and the supply is more inelastic, the greater share of the tariff will be paid by the foreigners.

10. **Correcting Distortions Argument.** Since a tariff affects a country's internal price structure and allocation of resources, it can be used to correct distortions in the domestic economy which prevents the attainment of gains obtained in a situation of competitive free trade equilibrium Important distortions of the economy are monopolies, trade unions, external economies or diseconomies (*i.e* , social benefits or costs not reflected in private prices), government regulations, etc

11 **Capital Accumulation argument.** Protection can be used as a method to promote capital formation by increasing saving ratio in the country A tariff increases the domestic saving ratio in three ways (a) by improving terms of trade , (b) by attracting foreign investment , and (c) by increasing compulsory saving (through reduction in consumption)

12. **Basic Industry Argument.** Development of basic and key industries, such as iron and key industry, petroleum industry, etc. is a precondition for industrialisation Such industries also need protection from foreign competition.

13 *Retaliation* **Argument** Sometimes, protection is adopted as retaliatory measure If one country levies tariff against another, the latter will levy similar tariff against the former in retaliation.

14 **Conservation of *Resources Argument.*** *Protection is needed to* conserve national resources. Therefore, duties or other restrictions should be imposed on the export of minerals and raw materials

15 **Maintaining High Wage Argument.** Policy of protection is recommended to protect domestic workers from low wage foreign competition. A high wage (or high-cost) country compete with a low wage (or low-cost) country in international trade *Thus the rich countries* where higher wages are

paid will be at disadvantage when they import cheaper goods from, and export costlier goods to, the low wage poor countries By adopting the policy of protection, these rich countries are able to protect the higher living standard of their workers and to compete with the low-wage countries in the international trade. Maintaining high wage argument is defective on the following grounds :

(i) Labour is not the only factor of production and the prices of the commodities are not determined by wage rates alone Production of goods is the joint result of various factors, such as, Land, labour, capital etc

(ii) High wage does not necessarily mean high cost of production Higher wages may be paid due to higher productivity of labour and higher productivity of labour tends to lower the unit cost of production

16. Size of Home Market Argument Another argument in favour of protection is that it enlarges the size of the national market for domestic production by keeping out imports The people who would have previously purchased the imported goods would now purchase the domestic goods But, this argument is also misleading because it ignores the fact that imports pay for exports If protection enlarges the domestic market for import competing goods, it also reduces the foreign market for our exports.

17. Equalising Cost Argument The policy of protection is advocated in order to equalise costs of production at home and abroad so that no country has an unfair advantage in the production of any one commodity If a country enjoys comparative cost advantage in the production of a commodity and is able to sell it abroad at lower price, then this advantage should be eliminated by other countries through imposing tariff duties The elimination of differences in costs internationally will lead to the elimination of unfair competition from abroad The drawback of this argument is that the elimination of all international differences in costs and prices would mean elimination of all gains from trade and, in fact, the trade itself

18 Keeping Money at Home. Protection helps in keeping money or wealth at home When a country imports from abroad, its people get goods and the foreigners get money If imports are restricted and the people spend their money on domestically produced goods, they get goods and also retain money at home Thus, it is preferable to keep money or wealth at home by preventing imports through protection In this way, the country will have the cake and eat it too This argument is criticised on the following grounds

(i) It is based on the wrong mercantilist identity of money and wealth Real wealth lies in physical goods and services, and not in money , money is only worth what it can buy

(ii) The money which we send abroad by purchasing imported goods will be ultimately used by foreigners to pay for our exports In this sense, reduction of imports will lead to reduction in exports

(B) Non-Economic Arguments

Protection is also advocated on the following non economic arguments

1 Defence Argument. Tariffs are necessary in order to develop national defence industries Though economically such industries may be unjustified but their existence and development is of critical importance particularly in war times National security is even more important than economic prosperity As Adam Smith says "Defence is better than opulence " Thus, the defence industries must be developed behind the wall of protection

2. Nationalist Argument. Protection is also justified on the nationalist ground The spirit of patriotism requires that every citizen of the country should prefer home made (swadeshi) goods to imported goods Such nationalist feelings give a good boost to the development of domestic industries and necessitate restrictions on imports through protective measures as well as encouragement to import substitution

3. Preservation Argument. Protection is also advocated in some countries to preserve certain classes of population or certain occupations For example, agriculturists and farming occupation should be preserved on political and social grounds The basic argument is that the agriculturist community is the backbone of the society and, therefore, the interests of agriculturists should be preserved by imposing tariff duties on the import of cheap foodgrains In England, for instance, 'corn Laws' imposed tariff in 1819 on the import of wheat.

4. To Check Import of Harmful Goods. Tariffs may be imposed to check the import of harmful and socially undesirable goods The consumption of certain commodities such as alcoholic beverages, tobacco, etc is detrimental to the health of the people Therefore, the import of such goods should be restricted

Valid and Fallacious Arguments

Arguments in favour of protection may also be divided into (a) valid or serious arguments which give logically correct justification of protection , and (b) fallacious or spurious arguments which are based on misunderstanding of the theory of international trade. Various valid and fallacious arguments are listed below.

Valid Arguments	Fallacious Arguments
Economic Arguments	
1 *Infant industry argument*	1 Maintaining high wage argument
2 Diversification of industries argument	2 Size of home market argument
3 Employment argument	3 Equalising cost argument
4 Terms of trade argument	4 Keeping money at home argument
5 Balance of payment argument	
6 Bargaining argument	
7 Anti-dumping argument	
8 Self sufficiency argument	
9 Revenue argument	
10 Correcting distortions argument	
11 Capital accumulation argument	
12. Basic industry argument	
13 Retaliation argument	
14 Conservation of resources argument	
Non Economic arguments	
15 Defence argument	
16 Nationalist argument	
17 Preservation argument	
18 Checking import of harmful goods argument	

Arguments against Protection

Critics also point out certain dangers of protection The important arguments against protection are given below

1. Uneconomic Use of resources. Protected industries are generally those in which a country has less comparative advance Thus, protection leads to the development of economically less efficient industries and shifting of natural resources of the country from more productive occupations to less productive occupations

2. Producers Become Lethargic. Protection makes the home producers lethargic In the absence of competition from abroad, the home producers do not bother to reduce the cost of production in their units and make them more efficient

3 Check on Industrial Growth. Protection once given to an industry is taken as a matter of right and thus cannot be easily removed Protection tends to become a permanent feature and the protected industry continues to be considered as an infant industry

4 No Cure for Unemployment. Protection may not prove to be a successful method of generating employment The creation of employment because of the expansion of the protected domestic industries may be offset by the reduction in employment due to the resultant decline in exports

5. Loss to Consumer. The ultimate burden of protection falls on consumers Protection results in restriction on cheap imports and raising of domestic prices The consumers suffer from these effects

6. Unequal Distribution of Income. Protection encourages unequal distribution of income and wealth Under protection, the rich (producers) become richer because of high profits in the protected industries and the poor (consumers) become poorer because of higher prices

7. Creation of Monopolies Tariff is considered the mother of trusts In the absence of foreign competition, the domestic producers combine to reap higher profits

8. Encouragement to Corruption. Protection may lead to political corruption The producers of the protected industries, instead of paying their attention to improve the efficiency of these industries, use their money and energies to bribe the legislators for the continuation of protection to their industries

9 Loss of Revenue There may be a loss of revenue to the government due to protection Imposition of tariffs reduces imports and as a result, the revenue from custom duties fall.

10. Retaliation. Imposition of tariffs by one country often leads to the similar retaliation action by other countries Thus results in tariff war among the trading countries and spread of international hatred.

11. Other Drawbacks. Other drawbacks of the system of protection are summarised below :

(i) Protection is inefficient for the world economy because it results in reduction of world output and world consumption levels.
(ii) Protection leads to fall in international trade
(iii) Protection leads to the overvaluation of exchange rate
(iv) Protection alone is not sufficient for economic development.
(v) *Indiscriminate protection is always harmful*
(vi) Excessive restriction on import of consumer goods generate inflationary pressures in the country

Conclusion

The discussion of relative merits and demerits of free trade and protection leads to the following broad conclusions

(i) Free trade, on the basis of traditional comparative advantage theory, is *not* a realistic commercial policy in the actual world, particularly in the underdeveloped countries

(ii) Protection is indispensable (a) for influencing a country's relations with the rest of the world and (b) for developing and diversifying the domestic economy in accordance with the potential comparative advantage

(iii) Permanent and blanket protection is neither desirable nor justified It involves high and unnecessary costs Selective and skillful use of protection can avoid the drawbacks and adverse effects of protection

(iv) Protection is the second best method of achieving the domestic objectives because it imposes distortions of its own, which more direct methods will avoid

(v) Protection means interference with the optimum pattern of world trade it makes the world worse off Therefore, the cost of every departure from free trade should be carefully examined and, wherever conditions allow, unnecessary restrictions on trade should be avoided

Second Best Nature of Protection

Protection is used as method (a) to influence a country's relations with other countries and (b) to influence the domestic economy International objectives of protection include improving terms of trade and achieving favourable balance of payments Domestic objectives include industrialisation, diversification of industries, increasing employment, removing domestic distortions, increasing government revenue and other non-economic objectives It should be noted that protection is only the second best method of dealing with domestic objectives While dealing with the domestic objectives the following implications of protection are to be kept in mind

(i) Protection is not possibly the first best method to achieve the domestic objectives It is necessarily the second best policy because it not only helps correcting distortions in the domestic economy, but also introduces distortion of its own (*i e* , a consumption cost) The first-best method is that which directly deals with the domestic objectives and does not have undesirable side effects of protection Thus,

protection is inferior to a more direct method tariffs and quotas which protect the industries are inferior to subsidies which promote industries

(ii) In practice however the second best policy of protection is preferred to the direct measures due to political and administrative considerations

(iii) While imposing a protective tariff the additional distortions which this tariff introduces must be weighed against the distortions corrected by it

(iv) A small tariff is better than free trade because gains due to correcting the distortions are larger than the additional distortion in the form of consumption

(v) A moderate to-large tariff may be either better or worse than no tariff at all

3 PROTECTION AND UNDERDEVELOPED COUNTRIES

It is now generally believed that the traditional comparative advantage theory of international trade is not a realistic theory for poor and less developed countries and is not relevant under dynamic conditions Free trade is not an appropriate commercial policy when the objective is to accelerate economic development In fact the underdeveloped countries have special reasons to follow the policy of protection Important among them are as follows

1 Industrialisation Argument The main objective of the under developed countries is to have accelerated development through industrialisation and for industrialisation the adoption of protective policies is essential There are many reasons why an underdeveloped country wants to industrialise and hence calls for the adoption of protection

(i) The economies of the underdeveloped countries are heavily dependent upon production and export of primary products The cyclical fluctuations and swing in the balance of payments of the primary producing countries tend to be more marked than in manufacturing countries

(ii) As per capita world income rises its declining proportion is diverted to food and other raw materials *The underdeveloped countries which depend heavily upon the export of food and raw materials face a* long term deterioration in their terms of trade By creating demand for industrial products through protection these countries can diversify their economies and thus avoid the effects of deterioration in their terms of trade

(iii) Foreign trade has not proved an engine of growth for the underdeveloped countries Trade of these countries has grown more slowly than that of the developed countries The factors like growth of synthetics, changes in the consumer tastes, and restrictive policies against the imports from the underdeveloped countries have forced these countries to concentrate on import substitution rather than export promotion Protection may be used as a means to develop export industries

(iv) Marginal productivity of labour is higher in manufacturing industry than in agriculture a transfer of labour from agricultural sector to industrial sector will raise the marginal productivity in agriculture and average productivity in the economy as a whole as a whole

Therefore, the underdeveloped countries need to be industrialised and protective measures should be adopted to achieve this aim

2 **Infant Economy Argument** Infant industry argument in favour of protection becomes stronger and more relevant to the underdeveloped countries when this argument is considered in its broader sense, *i e* , in terms of infant country argument. In other words, instead of applying the infant industry argument to one industry or group of related industries, we should apply this argument to a whole sector (*i e* , to the industrial sector) of the underdeveloped economy By definition, and underdeveloped economy is that which is not reaping full gains from its potential (long term) comparative cost advantage Protection will not only help an underdeveloped country to develop those industries in which it has potential comparative advantage, but will lead to a better distribution of world output and resources When protection is given to many (instead of one) infant industries, the gains from internal and external economies of scale and from the training up of a skilled labour force will also be greater

3. **Capital Formation Argument.** An important argument for protection in underdeveloped countries is that the policy of protection can increase the saving ratio and capital accumulation in these countries This is done in three ways

(i) By imposing the tariffs, and underdeveloped country will improve its terms of trade and thus will make the foreigner pay the duty In other words, for the same amount of the real resources embodied in the exports the country will be able to get larger volume of imports

(ii) Tariffs may be so designed as to attract direct foreign investment. In other words, tariff duties in the underdeveloped countries should aim at prohibiting the importation of the finished products, but encouraging the imports of necessary machinery and raw materials

(iii) Saving ratio in the underdeveloped economies might be increased by *imposing selective import restriction to reduce the consumption of* certain commodities, such as imported luxuries The reduction in consumption of imports is equivalent to an increase in disposable income and this increase may be channelised in capital formation

4. Underemployment Argument. Most of the overpopulated underdeveloped countries face the problem of widespread underemployment or disguised unemployment. Underemployment exists when the marginal productivity of labour is zero or even negative In other words, a part of labour force can be removed from farms without any fall in the total agricultural output. In fact, where the marginal productivity is negative, the total agricultural output may increase by removing labour to other productive areas Protective industrialisation may improve the allocation of resources Tariffs help in transferring labour from rural areas (*i e* , agricultural sector) to urban areas (*i e* industrial sector) and thus tend to reduce the problem of underemployment.

5. Other Reasons Some other reasons for adopting protective policy in underdeveloped countries are as follows .

(i) The underdeveloped countries, during the process of economic *development, face the problem of adverse balance of payments* Protection restricts the non-essential imports, help in creating an excess of exports over imports and thereby serves as a method of correcting the adverse balance of payments

(ii) Accelerated economic development in the underdeveloped countries needs concerted planned efforts Planned economic development is not possible under the conditions of free trade Protection helps in implementing the strategies and policies of and attaining the targets of planning in the country.

(iii) For both political (defence) and economic reasons, the underdeveloped countries cannot depend upon other countries for all types of goods. They need to be self sufficient in the production of various essential goods and the goods of strategic importance Protective measures are required to achieve the objective of self sufficiency in the country

In short, it is true that free trade has little relevance to the conditions prevailing in the underdeveloped countries of today These countries cannot develop their economies without adopting the policy of protection. But, protection should not be permanent and indiscriminate Selective and judicious use of the policy of protection will enable an underdeveloped country (a) to reduce its exposure to the fluctuations of the international markets, and (b) to develop and diversify its economy on the basis of potential comparative advantage

4 FORMS OR METHODS OF PROTECTION

The following are the important forms or methods of protection which a country can adopt in its commercial policy The selection of the method depends upon the purpose in hand

1 Tariffs Tariff or import duty is a tax on imports According to I Walter A tariff is a charge levied on goods as they enter a country by crossing the nation customs frontier ' P T Ellsworth defines tariff as ' a schedule of duties levied upon the importation of commodities into a given nation from abroad " A tariff is different from a transit duty which is imposed on commodities passing through country Generally the aim of tariff is to reduce imports by raising their price

Tariffs can be of three types

(i) Special tariffs consutute a fixed monetary duty per unit of the imported commodity For example Rs 30 000 per automobile may be charged as tariff on the imported automobiles

(ii) Ad Valorem tariffs are levied as percentage of the total value of the commodity as it enters the country, including its cost and transportation charges For example, 300% of the total value of the imported color T V, may be charged as tariff

(iii) Sliding scale tariffs are imposed in relation to the price of the commodity when the price falls, tariff is reduced and when the price rises, tariff is increased Sliding scale tariff may be specific (i e , according to the number of commodities) or ad valorem (i e , according to the value of the commodity)

2. Import Quotas Import quota is a quantitative restriction on imports It constitutes an absolute limit on the physical quantity or the value of goods and services that may be imported over a given period of time, say, a year or a month Import quotas aim at controlling and regulating imports to protect the home industries from foreign competition and to remove disequilibrium in the balance of payments While tariffs indirectly reduce imports, quotas have direct and physical control on imports

Import quotas are of different types

(i) Tariff quotas . Under the tariff quota system, a fixed quantity of a commodity is allowed to be imported free or on a low duty But, when the imports exceed this limit, higher import duties are charged Thus, tariff quotas combine both the tariff and quota systems

(ii) Unilateral Quotas Unilateral quota is fixed unilaterally without taking the exporting countries in confidence , an absolute limit is autonomously fixed on commodities imported Unilateral quotas may be global or allocative (a) Under the *global or non discriminatry quota system*, the permitted quantities can

be imported from any country of the world. (b) Under the *allocative or selective or discriminatory quota system*, the permitted quantities can be imported from a particular country or group of countries.

(iii) Bilateral Quotas Under this system, quotas are fixed after entering into bilateral agreements with the exporting countries Bilateral quotas are also called agreed quotas

(iv) Mixed Quotas Under this system, the domestic producers are asked to use a minimum proportion of domestic inputs along with the imported inputs Protection is thus provided not only to the domestic producers, but also to the domestic suppliers of inputs.

(v) Licence Quotas Under this system, licences are also issued to the importers along with fixation of quotas, The authorities give licences to limit the permitted quantities to be imported by a few selected importers The licences may be issued either on the basis of 'first come first served' or on the fulfillment of some import requirements

3. Import Restrictions. Various forms of restrictions on imports are also used to reduce imports and encourage domestic production (a) Sometimes import of certain commodities is prohibited by law to protect the home industries (b) A country may refuse to permit the importation of vegetables, flowers, meats, etc , on the health grounds (c) A country may instruct the customs officials to check every item and ensure the correctness of the commodities The delays and damage to goods caused by such regulations may reduce imports

4 Exchange Control. Exchange control, *i e* , controlling and rationing foreign exchange, is also used as a protective method Under the exchange control system, the government has full control over the foreign exchange resources and foreign exchange business of the country. The importers are alloted foreign exchange at the official rates and according to set priorities to enable them to make payments for the imported goods In this way, through effective exchange control, the volume of imports can be reduced.

5. Discrimination. Discrimination refers to the system of (a) differing tariffs or quotes on imports of goods, or (b) differing exchange control practices; or (c) multiple exchange rates applied to different countries Thus, under this system, preferential treatment is given to certain countries and commodities against others by making discrimination in trade and exchange controls Such discriminatory arrangements reduce international trade, create trade blocks and lead to retaliation

6. Subsidies. Subsidy is a financial help given by the government to the domestic producers to make them more competitive in the international markets. When the cost of production of the domestic producers is very high and they

cannot face the foreign competition, the government can help them in the from of cash incentives, tax concessions, making up the loss, etc Subsidies do not restrict imports directly, but indirectly discourage them They reduce the domestic prices, increase demand for domestic goods and thus reduce imports Subsidies also have favourable effect on domestic income and employment.

7. State Trading Under the system of state trading, the government gets control over the entire foreign trade in its own hands In this way it becomes easier for the government to regulate foreign trade according to the requirements of the country The government may employ the method of state trading (a) to import only the socially necessary goods and to check the non-essential imports, (b) to secure favourable terms from the foreign exporters and to utilise the gains from international trade for public welfare, and (c) to promote the exports of the country

8. Devaluation. The policy of devaluation, *i e*, lowering the value of the home currency in terms of foreign currency, may be adopted as a method of protection Devaluation reduces imports by making them dearer and encourages exports by making them cheaper

9. Boycott of Foreign Goods. The imported goods may be boycotted within the country by arousing the spirit of nationalism among the people This provides natural protection to the domestic industries

5. EFFECTS OF PROTECTION

Tariffs and quota are two major methods of protection generally used by the trading countries in their commercial policies Tariff is a tax or duty on imports, whereas quota is a quantitative restriction on imports While quotas restrict the imports directly, tariffs do so indirectly by raising the prices of imports Various effects of tariffs and quotas are discussed below

Economic Significance of Tariffs

A tariff is a tax on imports The economic significance of a tariff is that (a) tariff causes the domestic price of the imported goods exceed its foreign price, or, in other words, the price a domestic purchaser pays for an imported good exceeds the amount the foreign exporter receives by the tariff payment, and (b) tariff causes the domestic relative price of imports in terms of exports to exceed the foreign relative price or terms of trade All other economic effects of tariff follow from these basic facts about tariffs These facts are further classified below

(i) If the tariff is a specific tariff, *i e*, a fixed duty imposed on each unit of imported good, then the domestic price of the imported good (Q_m) is equal to its foreign price (P_m) plus specific tariff (t_s)

(1)

(ii) If the tariff is a ad valorem tariff, *i e*, the tax levied as a percentage of the price of the imported good, then the domestic price of the imported good (Q_m) consists of the price to the price paid to the foreigner (p_m) plus the ad valorem tariff rate (t_v)

$$Q_m = p_m (1 + t_v) \qquad (2)$$

(iii) If we suppose (a) that P_m is the domestic price and t is a uniform ad Valorem tariff, (b) that the exports are not taxed so that the price (*i e*, p_x) that the foreigners pay for our exports equals the price (*i e*, Q_x) received by the domestic exports (*i e*, $P_x = Q_x$); and (c) that $q = Q_m/Q_x$ stands for domestic relative price of imports in terms of exports, and $p = P_m/P_x$ stands for foreign relative price or terms of trade, then Equation (2) can be improved to define the domestic relative price of imports in terms of exports ($q = Q_m/Q_x$) as

$$\frac{Q_m}{Q_x} = \frac{P_m}{P_x}(1+t)$$

or
$$q = p(1+t) \qquad (3)$$

which indicated that a tariff causes the domestic relative price of imports in terms of exports ($q = Q_m/Q_x$) to exceed the foreign relative price in terms of trade ($p = P_m/P_x$)

(iv) Equation (3) further implies that

$$t = \frac{q-p}{p}$$

i e, the tariff rate (t) equal the percentage by which q exceeds p

Overall Impact of Tariff on World Economy

The application of the theory of comparative advantage explains that tariffs are inefficient for the world as a whole They cause the production and consumption levels of the world as a whole to fall.

1 Effect on World Production Tariff causes the domestic relative price of imports in terms of exports (q) to exceed the foreign relative price (p) The fact $q>p$ means that the marginal rate of transformation of exportables for importables (MRT_{mx}) is greater at home In other words, more exports must be sacrificed to produce one more importable at home than abroad This further implies that the world can produce more of either of both goods if (a) the home country shifts its resources from producing importables; (b) the rest of the world does the opposite ; and (c) international trade increases.

2. Effect on World Consumption. Tariff causes the domestic relative price of imports in terms of exports to exceed the foreign relative price (*i e*, $q>p$) This

means that the marginal rate of substitution of exports (MRS_{em}) of each domestic consumer exceeds marginal rate substitution of exports for imports of each foreign consumer In other words, each domestic consumer is willing to sacrifice more of exports to obtain one more import than each foreign consumer would require to supply it. Thus the consumers in both the countries can be made to increase their consumption levels by trading more

The conclusion that tariffs are inefficient for the world as a whole does not mean that it is not beneficial to the imposing country The truth is that the tariff imposing country receives both favourable and unfavourable effects through the imposition of a tariff and it is also likely that the favourable effects outweigh the unfavourable effects But, the important implication of overall harmful effect of tariff on the world economy is that if a country gains from a tariff, it is at the expense of the rest of the world

Effects of Tariffs on the Imposing Country

Kindleberger has discussed eight effects of tariff on the imposing country (a) protective effect , (b) consumption effect , (c) revenue effect , (d) redistribution effect , (e) terms of trade effect (f) income effect , (g) balance of payment effect , and (h) competitive effect In words of Kindleberger, a tariff "is likely to alter trade, price, output consumption, and to reallocate resources, change factor proportions redistribute income, change employment and alter the balance of payments " All these effects of tariffs are discussed below :

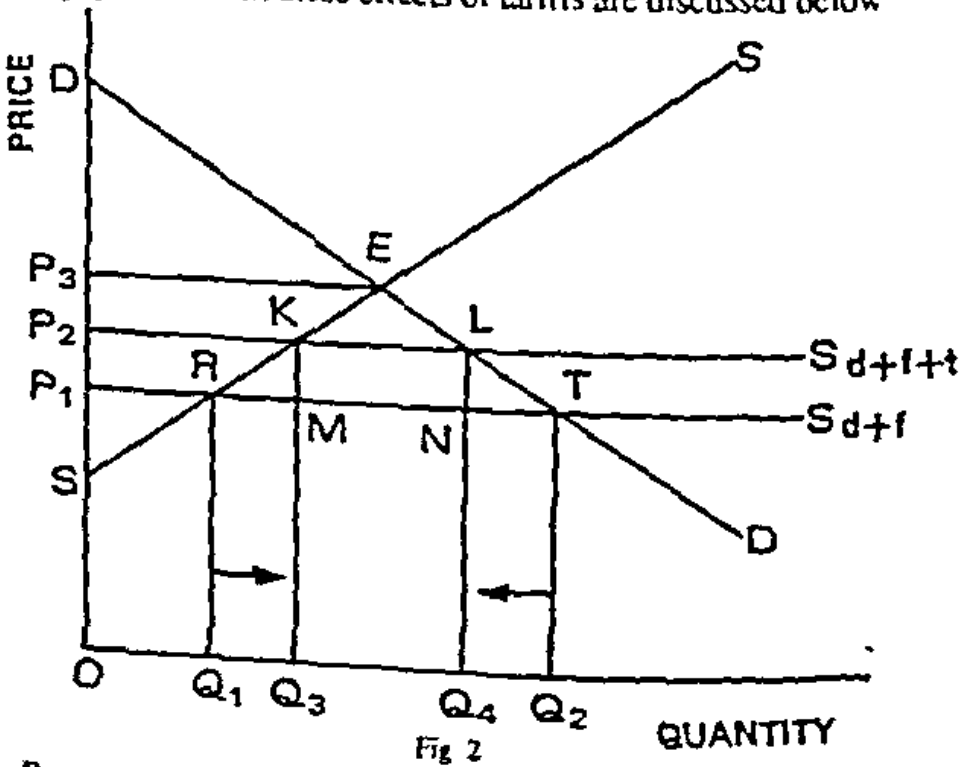

Fig 2

1. **Protective Effect.** A tariff has protective effect for the domestic industries It tends to raise the domestic price of the imported commodity, reduce

the domestic demand for that commodity and thereby stimulates its domestic production In Figure 2, DD and SS are the domestic demand and supply curves of the commodity in question In the absence of trade, the equilibrium is at point E, the price is OP_3 and country s production and consumption is P_3E. Under free trade conditions, S_{d+f} becomes the supply curve which includes both domestic and foreign supply Foreign supply is assumed to be perfectly elastic Equilibrium is at point T and the price is OP_1 At this price, quantity OQ_2 is demanded of which OQ_1 is produced at home and the rest Q_1Q_2 is imported Now the government imposes a tariff equal to the amount P_1P_2, thus shifting the supply curve to S_{d+f+t} and raising the price to OP_2 As a result, the quantity demanded falls from OQ_2 to OQ_4 the quantity produced at home increases from OQ_1 to OQ_3 and the quantity imported reduces from Q_1Q_2 to Q_3Q_4 In this case, the protective effect (which is another name for production effect) is Q_1Q_3

2 **Consumption Effect.** Imposition of tariff raises the price, and as a result, the demand for the commodity falls Total outlay on consumption of the commodity is larger or smaller depending upon whether demand is inelastic or elastic In Figure 2 before the imposition of tariff the consumers demand OQ_2 at price OP_1 With the imposition of tariff (*i e* , P_1P_2), the price rises from OP_1 to OP_2 and the quantity demanded falls from OQ_2 to OQ_4 thus, Q_4Q_2 is the consumption effect.

3 **Revenue Effect** Tariff brings revenue to the government. The revenue to the government is equal to the amount of the import duty multiplied by the quantity of imports In Figure 2, the revenue effect is $P_1P_2 \times Q_3Q_4 = KLMN$

4 **Redistribution Effect** Redistribution effect refers to the transfer of real income from the consumers to the producers as a result of tariff The tariff imposed price increase (from OP_1 to OP_2) results in the loss of consumers surplus equal to the amount P_1P_2TL Of the total loss suffered by the consumers, P_1P_2KR amount is transferred to the domestic producers This is the redistribution effect. KLMN amount is transferred to the government as tariff revenue

The loss of consumers surplus represented by the triangles KRM and LNT is transferred neither to the producers nor to the government , KRM + LNT represent the total net real loss to the economy as a result of tariff KRM is the net real loss suffered by the society due to inefficient use of the resources , increased output (*i e* , Q_1Q_3) as a result of the tariff is possible by diverting factors of production from other sectors of the economy at higher cost (as represented by the rising supply curve) LNT is the net real loss due to the reduction in consumption (*i e* , Q_4Q_2)

The above discussed effects of tariff (in Figure 2) can be summarises below

1 Tariff imposed P_1P_2

2 Effect on price from OP_1 to OP_2, *i e*, P_1P_2

3 Effect on imports from Q_1Q_2 to Q_3Q_4

4 Protective effect from OQ_1 to OQ_3, *i e*, Q_1Q_3

5 Consumption effect from OQ_2 to OQ_4, *i e*, Q_4 Q_2

6 Revenue effect KLMN

7 Redistribution effect P_1P_2KR

8 Real loss on production KRM

9 Real loss on consumption LNT

10 Total real cost of tariff KRM + LNT

5. Terms of Trade Effect. When a country imposes a tariff duty, its willingness to receive imports is reduced For a given quantity of exports, the country now demands a larger quantity of imports because a part of these imports are to be surrendered to the customs authorities in the form of tariff payment. Or, putting the same thing differently, the country is now willing to offer less of exports in exchange for a given quantity of imports Thus, the tariff reduces the country's offer of exports for imports In diagrammatic terms, the tariff shifts the country's offer curve to the left. This increases the country's terms of trade or the rate at which exports are exchanged for imports

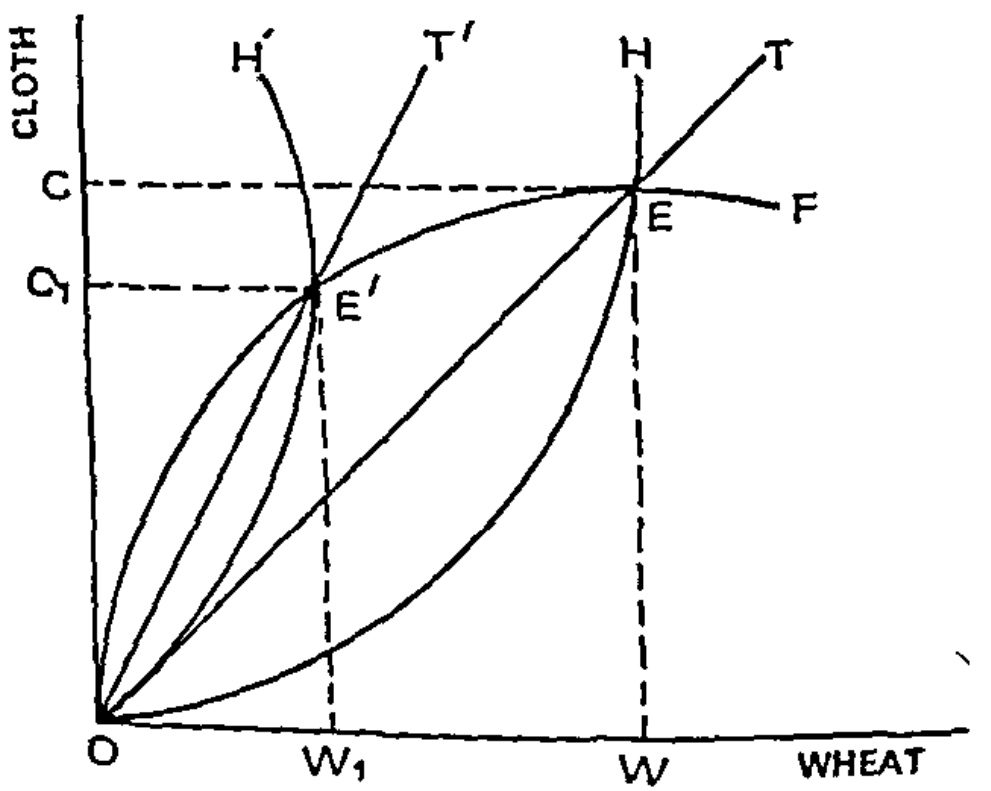

Fig 3

In Figure 3, OH and OF are the offer curves of country H (*i e*, home country) and country F (*i e*, *foreign country*) respectively Under free trade conditions, the two countries are in equilibrium at *point* E where their respective offer curves intersect. The terms of trade is given by the *slope* of line OT. Country H is exporting OW wheat and importing OC cloth from *country* F. *Now* Suppose the country H imposes a tariff on imports of cloth from *country* F. As a *result*, the offer curve of country H will shift from OH to OH'. The new equilibrium *is at point* E' and the new terms of trade is given by the slope of line OT'. Now, the *country* H exports OW' of wheat in exchange for OC' of cloth from country F. The change in the terms of trade (*i e*, from OT to OT'), as a *result* of the imposition of tariff, is in favour of country H because it now offers less of its wheat in exchange for a certain quantity of country F's cloth The fall in imports from *country* F (*i e* CC') is less than the fall in exports from country H (*i e*, WW')

The extent of improvement in the terms of trade of the tariff-*imposing*. country depends upon (a) the elasticities of foreign offer curve and (b) *relation* from other countries The effects of these two factors are discussed below :

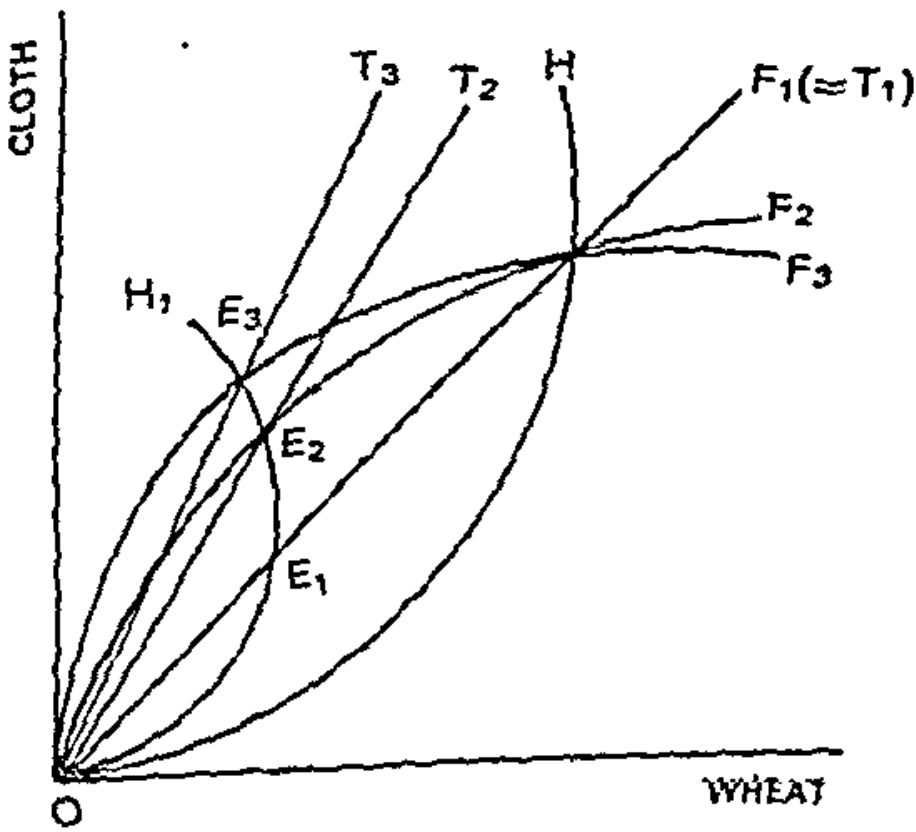

Fig 4

(i) Effect of Different Elasticities of Foreign Offer Curves The extent of improvement in the terms of trade of the tariff imposing country depends upon the shape of the other country's offer curve If the foreign offer curve is perfectly

elastic, no tariff will bring the home country improved terms of trade , the terms of trade will not be affected at all The less elastic the foreign country's offer curve, the more a given tariff will improve the home country's terms of trade

In figure 4 there are three foreign curves with different elasticities *i e* OF_1 (perfectly elastic) OF_2 (less elastic) and OF_3 (still less elastic) The tariff-induced shift in the home country's offer curve (*i e* from OH to OH_1) produces equilibrium levels (E_1, E_2 and E_3) which show increasingly favourable terms of trade (OT_1 OT_2 and OT_3) for the home country Perfectly elastic offer curve (OF_1) is identical to the free trade terms of line (OT_1) The tariff has no impact on the terms of trade , the terms of trade at E_1 (when tariff is imposed) are the same as they were at E (when there was not tariff)

(ii) Effect of Retaliation If one country imposes a tariff and there is no retaliation by the country, the terms of trade changes in favour of tariff imposing country and it gains at the expense of its trading partner But, if the other country retaliates and if this leads to counter-retaliation and there starts a tariff war between the two countries, then the final effect of tariff on terms of trade will depend upon the relative size of the tariffs But, one thing is certain As a result of retaliation and counter retaliation, the volume of trade declines and both the countries lose

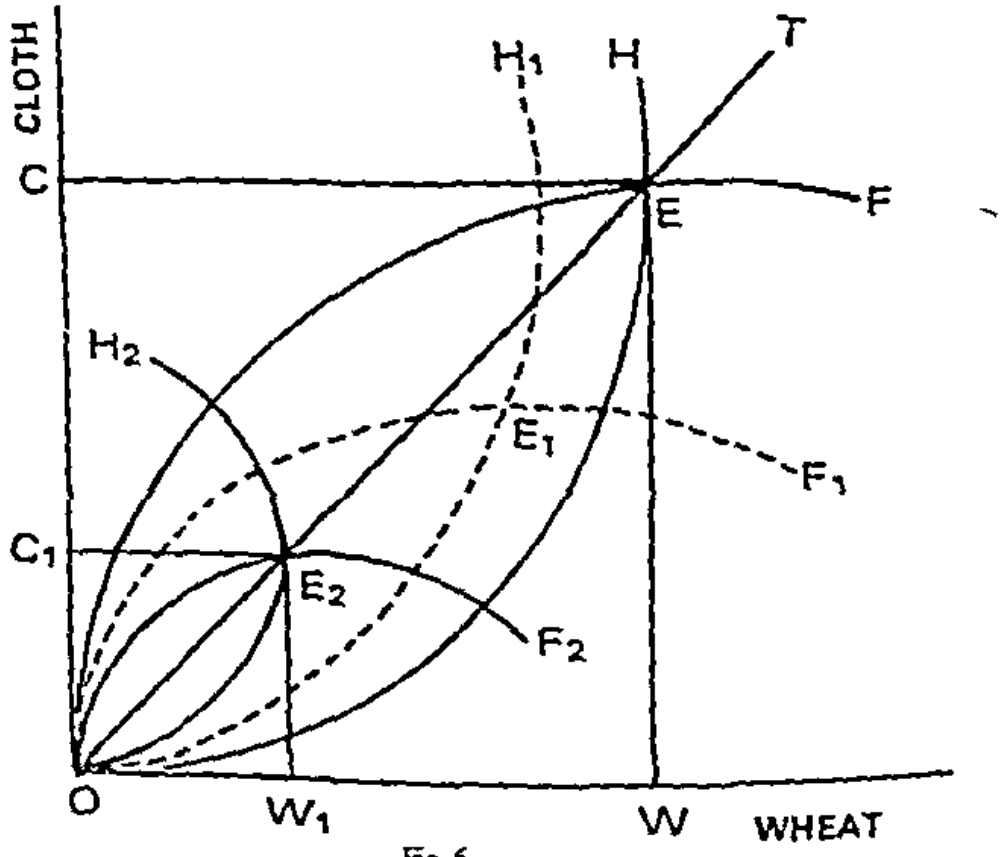

Fig 5

The initial equilibrium in Figure 5 is at E where the offer curves of home country (OH) and foreign country (OF) intersect each other. The terms of trade

is given by the slope of the line OT After the process of retaliation and counter-relation, the equilibrium level E_2 is reached where the ultimate tariff-distorted offer curves of both the countries (OH_2 and OF_2) intersect in such a way that, from the terms of trade point of view, no country is loser The terms of trade remains the same (OE_2 = OE = OT) The only effect of retaliation is the decline in the volume of trade (*i e* from OW+OC to OW_1+OC_1)

(iii) Smaller Nations and Threat of Retaliation Imposition of tariff in one country leads to retaliation by the other country But, if the country that imposes tariff on its imports is a small and economically insignificant, it can easily improve its terms of trade without facing any threat of retaliation The reason is that the small country has a very limited market for the exports of other countries and any reduction of exports to this country as a result of the latter's adoption of tariff policy will be very small. Thus, the smaller a country, the less likely it is that the other countries will retaliate against its tariff policy and more easy for it to improve its terms of trade by imposing import duty

6 Balance of Payments Effect. Tariff has favourable effect on the balance of payments position of the imposing country It reduces imports and increases the export surplus of the country Thus, through tariffs, a deficit in the balance of payment can be corrected.

7. Income Effect. As a result of tariff, the expenditure on imported goods is reduced Thus will increase the export surplus of the country and thereby the income from foreign trade The money shifted from imports can now be spent on the domestically produced goods. If the country is at less than full employment level, this will raise income and employment in the country

8. Competitive Effective. Tariff protects the domestic industry from foreign competition Under this protection an infant industry after a period of time, grows into an economically strong industry which can fully compete in the world market. But, the sluggish and lazy industry may not like to face the competition and remain inefficient even under the protection cover provided through tariffs

Effects of Quotas

Various effects of the fixation of quota of an imported commodity are explained below

1. Price Effect. When the quota of an imported commodity is fixed, its imports fall and price rises. The actual effect of quota on price will depend upon the elasticity of demand and supply In Figure 6, DD and SS are demand and supply curves Under free trade, the price of the commodity is OP_1 At this price, the domestic demand for the commodity is QQ_2 but the domestic supply is OQ_1 Thus, Q_1Q_2 amount is imported. When import quota is imposed, the imports are

reduced and fixed at Q_3Q_4 amount. As a result of reduction in imports from Q_1Q_2 to Q_3Q_4, the imports price rises from OP_1 to OP_2. Thus P_1P_2 is the price effect.

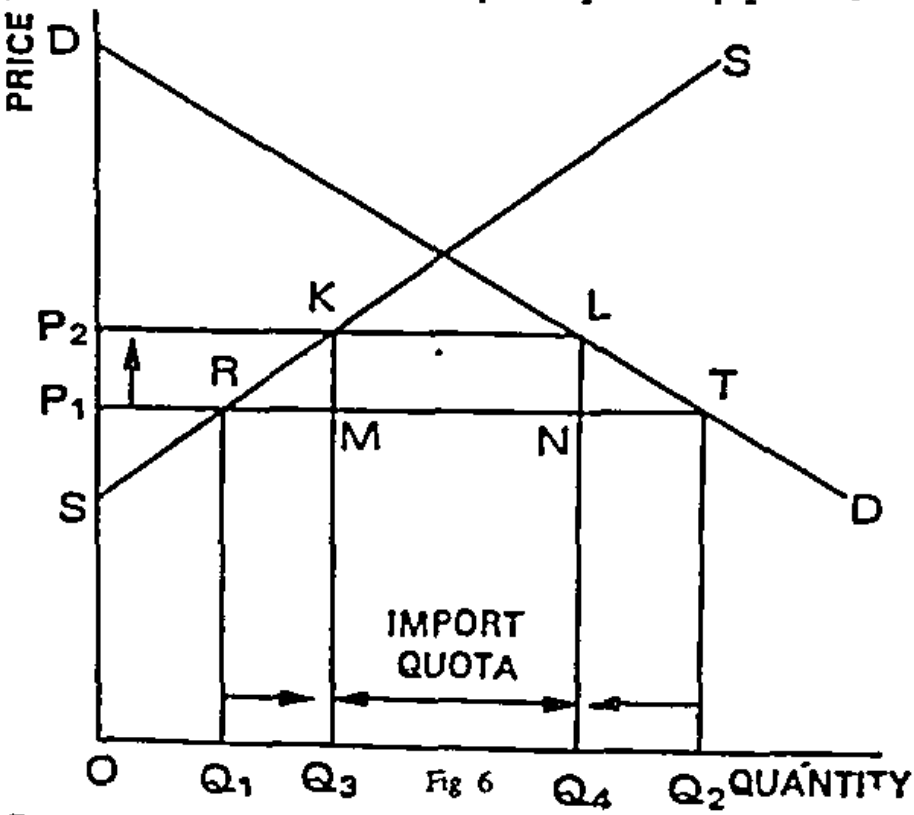

Fig 6

2. Protective Effect. Fixation of import quota leads to the reduction in imports and increase in import price. This increases the domestic production and gives the home producers protection against foreign competition. When Q_3Q_4 import quota is fixed, domestic production increases from OQ_1 to OQ_3. Thus, Q_1Q_3 is the protective effect of the import quota.

3. Consumption Effect. When import price rises on account of the import quota, domestic consumption and hence the welfare declines. An import quota of Q_3Q_4 raises the price from OP_1 to OP_2 and reduces the domestic consumption form OQ_2 to OQ_4. In this case, Q_4Q_2 decline in consumption is the consumption effect of the import quota.

4. Revenue Effect. The revenue effect of import quota is uncertain. The fixation of import quota (Q_3Q_4) raises the import price (by P_1P_2) and therefore yield revenue ($P_1P_2 \times Q_3Q_4$ = KLMN) which may go the the government or may be divided among the domestic importers and foreign exporters. The division of revenue among importers and exporters depends upon the market structures prevailing among these two groups. (a) If the government auctions the import licences, this revenue will be, like the tariff revenue, earned by the government. (b) If the foreign supply is perfectly elastic (as is assumed in Figure 6), and if the government does not sell licences, then the revenue will go to the importers, (c) If the government does not sell licence, but the exporters are able to raise delivered prices, then the revenue will be taken away by the exporters.

4. Redistributive Effect. Import quota also has distributive effect by transferring real income from the consumers to the producers. The rise of price (from OP_1 to OP_2) as a result of import quota leads to the loss of consumer surplus as represented by P_1P_2 LT Of this total consumer surplus P_1P_2 KR amount is the resdistributive effect because it is earned by the producers as profit. The loss of consumer surplus as represented by the areas KRM and LNT are considered the cost of the quota in terms of decreased productive efficiency and consumer satisfaction respectively

6. Terms of Trade Effect. Imposition of import quota generally results in a change in terms of trade in favour of the quota fixing country This is shown in Figure 7

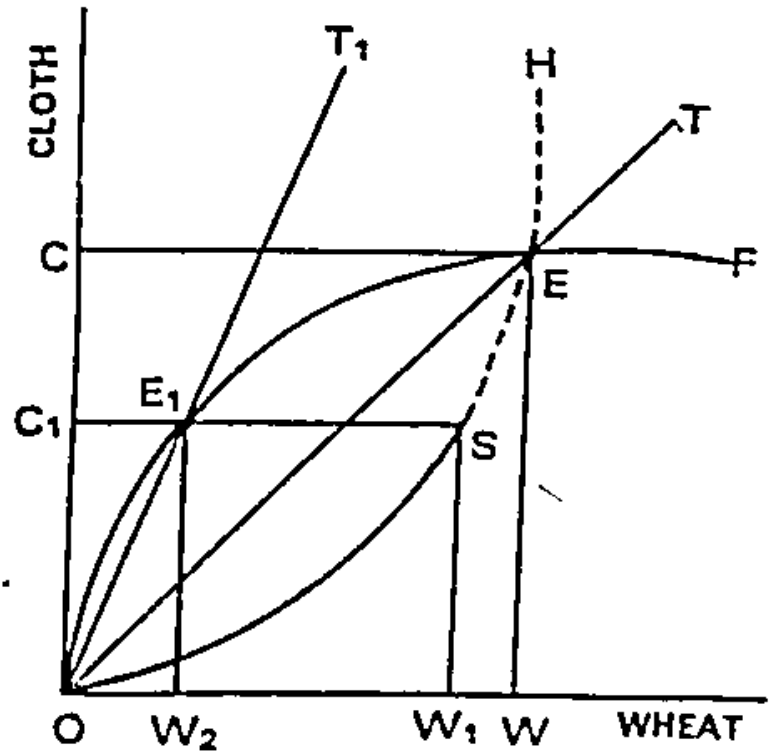

Fig 7

In Figure 7, OH and OF are the free trade offer curves for the home (H) and foreign (F) countries respectively OT is the terms of trade line The initial equilibrium is at point E which shows that the country H exports OW of wheat in return for OC of cloth from country F If country H fixes a quota of OC_1 amount on the imports of cloth from country F, the country H's offer curve becomes OSC which shows that its offer of wheat becomes zero when the import reach the amount of quota OSC_1 curve intersects the country F's offer curve OF at E_1 and OT_1 is the new terms of trade. Thus the terms of trade under the quota system (OT_1) is an improvement over the free trade terms of trade (OT) The extent of improvement in terms of trade however depends upon the shape of foreign country's offer curve and the retaliatory action

The gain from the imposition of quota can be measured (in terms of wheat) as the quantity W_1W_2. It is not certain how this gain will be distributed. (a) If there is competitive bidding for import licences, this gain will go the government. (b) If the exporters in the foreign country and the home importers compete freely among themselves this gain will go to the foreign exporters. (c) If there is collusion among the importers and exporters compete freely, the home importers will capture the gain. (d) If there is collusion among both exporters and importers, the distribution of gain will depend upon the relative bargaining strength of the two parties.

7 Balance of Payments Effect. Quotas restrict imports and thus help in correcting the adverse balance of payments. In this regard, quota is more effective than tariff because the former has direct impact on checking imports.

8 Income Effect. Quota is also superior to tariff in its impact on income and employment. Quota reduces imports without leakages. The money thus saved can be spent on domestically produced goods. This will increase income and employment in the country.

Tariffs Versus Quotas

Tariffs impose a monetary charge on imports but permit an unlimited quantity of goods to enter the country as long as the import duty is paid. Quotas, on the other hand, put quantitative restrictions on imports and permit only a strictly limited quantity of goods to enter the country. Although the effect of these two methods of protection are almost similar, but both the methods are useful in different conditions. In some cases, quotas are superior to tariffs, but in other tariffs are more effective than the quotes. Both these views are examined below.

Superiority of Quotas

(i) As compared to tariffs, quotas are more precise in nature and more certain in effect.

(ii) Quotas are more popular and less resented by the trading nations than tariffs.

(iii) Quotas are preferred in the situations where domestic demand for the imported commodity is inelastic.

(iv) Quotas also have a strong case under the conditions of highly foreign supply.

(v) Quotas are administratively more flexible instruments of commercial policy than tariffs. Quotas can be more easily imposed and more easily removed. Tariffs, on the other hand, are relatively permanent measure and are more difficult to remove.

(vi) Quotas prove more useful in those situation where the domestic consumers and foreign exporters are needed to be checked effectively *i e* (a) when the country is facing foreign exchange problem (b) when the country is passing through a period of economic distress and wants to check the outflow of domestic income by imports (c) when there is deflation abroad and the foreign exporters want to transmit this deflation to the importing country by stimulating exports

Limitations of Quotas

(i) Quotas are more arbitrary than tariffs They are granted on a selective or *discriminatory basis and distort the pattern of international trade by* interfering in the operation of the price system and market forces

(ii) Quotas tend to develop monopolies of importers and exporters The administrative allocation of quotas of importers reduces competition and leads to the development of import monopolies Similarly, quotas tend to promote concentration among foreign exporters in order to bargain effectively with the home country s importers

(iii) Quotas are too restrictive and generally lead to retaliatory action by other countries

(iv) Under the quota system the government suffers a loss of revenue which it can get under the tariff system

(v) Quota system gives too much power to the administrative officials and thus may encourage the evils of corruption and favouritism

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QUESTIONS

1 What is free market policy ? Discuss the merits and demerits of free market policy

2. What is protection ? Give arguments for and against protection

3 Examine the controversy between free trade and protection

4 Examine the infant industry argument in favour of protection ?

5 What are the economic arguments for protection ?

6 Examine a case for and against protection for developing countries

7. Explain various forms of protection

8. Discuss various effects of protection

9. What do you understand by tariff duties Examine the effects of tariff duties ?

10. By using a tariff a country can turn the terms of trade in its favour. Examine

11. Distinguish between tariffs and quotas. Which of the two is superior and why ?

5

BALANCE OF PAYMENTS

1. **Introduction**
   - Meaning
   - Features of Balance of Payments
   - Balance of Payments and Balance of Trade
2. **Structure of Balance of Payments**
   - Current Account
   - Items of Current Accounts
   - Capital Account
   - Items of Capital Accound
   - Balance of Payments always Balance
3. **Disequilibrium in Balance of Payments**
   - Types of Disequilibrium
   - Causes of Disequilibrium
4. **Methods of Correcting Disequilibrium**

5

Balance of Payments

1 INTRODUCTION

Meaning

Balance of payments is a systematic record of all economic transactions Visible as well as invisible in a period, between one country and the rest of the world It shows the relationship between one country s total payments to all other countries and its total receipts from them Balance of payments thus is statement of payments and receipts on international transactions Payments and receipts on international account are of three kinds (a) the visible balance of trade (b) the invisible items and (c) capital transfers

Kindleberger defines balance of payments as "a systematic record of all economic transactions between the resisdents of the reporting cuntry and the residents of foreign countries during a given period of time " In the words of Benham "Balance of payments of a country is a record of the monetary transactions over a period with the rest of the world."

Features of Balance of Payments

Balance of Payments has the following features

(i) It is a systematic record of all economic transactions between one country and the rest of the world.

(ii) It includes all transactions, visible as well as invisible.

(iii) It relates to a period of time. Generally it is an annual statement.

(iv) It adopts a double entry book keeping system It has two sides credit side and debit side. Receipts are recorded on the credit side and payments on the debit side

(v) When receipts are equal to payments, the balance of payments is in equilibrium , when receipts are greater than payments, there is surplus in the balance of payments when payments greater than receipts, there is deficit in the balance of payments.

(vi) In the accounting sense total credits and debits in the balance of payments statement always balance each other

Balance of Payments and Balance of Trade

Balance of payments should be distinguished from balance of trade Balance of trade refers to the export and import of visible items *i e* material goods It is the difference between the value of visible exports and imports Visible items are those items which are recorded in the customs returns for example material goods exported and imported If the value of visible exports is greater than that of visible imports the balance of trade is favourable if the value of visible imports is greater than that of visible exports the balance of trade is unfavourable if the value of visible exports is equal to that of visible imports the balance of trade is in equilibrium Balance of trade is also known as merchandise account of exports and imports

Balance of payments on the other hand is a more coprehensive concept because it covers (a) visible items (*i e* balance of trade or merchandise account) and (b) invisible items Invisible items are those items which are not recorded in the customs returns for exampl services (such as trasporation banking insurance etc) capital flows purchase and sale of gold etc Thus balance of payments is a broader term than balance of trade balance of payments includes both visible as well as invisible items whereas balance of trade includes only visible items

2 STRUCTURE OF BALANCE OF PAYMENTS

Balance of payments is a summary statement of a country s total economic transactions with other countries It has two sides credit side and debit side The credit side shows all payments to be received from abroad and debit side shows all payments to be made to the foreigners. A balance of payments statement consists of two parts (a) current account and (b) capital account.

Current Account

The current account of the balance of payments statement relates to real and short term transactions It contains receipts and payments on account of exports of visible and invisible items Exports and imports of material goods are visible items and exports and imports of services are invisible items Transactions in the current account are called real transactions because they are concerned with actual transfer of goods and services which affect income output and expenditure of the country These are income generating transfers and are not merely financial transactions

Items of Current Account

According to the International Monetary Fund (IMF), the current account of the balance of payments includes the following items :

1. Merchandise. Exports and imports of goods form the visible account and have a dominant position in the current account of balance of payments Exports constitutes the credit side and imports the debit side

2. Travel. Travel is an invisible item in the balance of payments Travel may be for reasons of business, education, health, international coventions or pleasures Expenditure by the foreign tourists in our country forms the credit item and the expenditure by our tourists abroad consistutes the debit item inout balance of payments

3. Transporation International transporation of goods is another invisible transaction It includes warehousing (while in transit) and other transit expenses Use of domestic transport services by the foreigners is the credit item and the use of foreign transport services by domestic tranders is the debit item

4. Insurance. Insurance premium and payments of claims is also an *invisible transaction in a country's balance of payments account* Insurance policies sold to foreigners are a credit item and the insurance policies purchased by domestic users from the foreigners are a debit item

5. Investment Income. Another invisible item in the current account of the balance of payment is the investment income which includes interest, rents, dividends and profits. Income received on capital invested abroad is the credit item and income paid on capital borrowed from abroad is the debit item

6 Government Transactions. Government transactions refer to the expenditure incurred by a government for the upkeep of its organisations abroad (*e g* , payment of salaries to the ambassadors, high commissioners, etc) Such amounts received by a government from abroad constitute the credit item and made to the foreign governments form the debit item

7. Miscellaneous. Miscellaneous invisible items include expenditure incurred on services like advertisement, commissions, film rental, patent fees, royalties, sybscriptions to the periodicals, membership fees, etc Such payments received by a country from abroad are a credit item and made by a country to foreign countries are a debit item

8. Donations and gifts Donations, gifts, etc, received by a country *from abroad are the credit item and sent to the foreign countries are the* debit item in the balance of payments account Donations and gifts are 'unilateral transfers' or 'unrequited payments' because nothing is given in return for them

Capital Account

The capital account of the balance of payments of a country deals with the financial transactions It includes all types of short-term and long term international movements of capital Gold transactions also form part of capital account. If a country invests or lends abroad, it is a payment and will be recorded on the debit side. On the other hand, capital inflows in the form of borrowings from abroad or the foreign investments in the home country are entered on the credit side of the balance of payments account. These are all financial transactions relating only to the transfer of money and therefore have no direct impact on the level of income and output of the economy.

Items of Capital Account

The main items of capital account in India are ·

1. Private Loans. Foreign loans received by the private sector (credit item) and foreign loans repaid by the private sector (debit items).

2. Movements in Banking Capital. Inflow of banking capital excluding the central bank (credit item) ; and outflow of banking capital excluding the central Bank (debit items)

3. Official Capital Transactions

(i) Loans. Foreign loans and credits received by the official sector including the drawings from the IMF (credit item) ; and loans extended to the other countries as well as repurchase of the drawings from the IMF (debit item)

(ii) Amortisation. Repayment of official loans by other countries (credit items), and repayment of official loans by home country (debit item).

(iii) Miscellaneous. All other official receipts including those of central bank (credit item) ; and all other official capital payments including those of central bank (debit item)

(iv) Reserve and Monetary Gold. Changes in the official foreign exchange holdings, gold reserves of the central bank and SDR holdings of the government, purcahses from the IMF and similar other capital transactions ; all such receipts represent credt item and payments represent debit item

A hypothetical balance of payments statement has been prepared in Table 1 which represents both current as well as capital accounts.

Table 1

Balance of Payments Statement

(Rs Crores)

Item	*Credit (Receipts)*	*Debit (Payments)*	*Net*
	I Current Account		
Visibles			
1. Merchandise Trade	400	600	-200
Invisibles			
2 Services	200	400	-200
3 Investment Earnings	300	200	100
4 Unilateral Receipts	400	300	100
(a) Sub-Total	1300	1500	-200
	II Capital Account		
5 Long-term Loans	400	350	50
6 Short-term Loans	200	150	50
7 Gold Movement	200	100	100
(b) Sub-Total	800	600	200
Grand Total (a+b)	2100	2100	0

Balance of Payments always Balance

In the accounting sense, the balance of payments of a country is always in equilibrium The statement of balance of payments is prepared in terms of credits and debits based on the system of double-entry book-keeping In the double-entry system, each transaction gives rise to two equal entries - a credit entry (*i e* , a receipt) and a debit entry (*i e* , payment) Thus the sum of all credits equals the sum of all debits Similarly, an international transaction generates two equal entries : a credit (+) for an export of a good or service, or for a foreign borrowing, or for the receipt of a unilateral transfer (gifts, donations, grants, etc) ; and a debit (-) for an import of a good or service, or for a foreign lending, or for the making of a unilateral transfer In other words, a country must pay for its imports of goods and services, or foreign borrowings or receipts of unilateral transfers by the equal valued export of goods and services or foreign lending, or making unilateral transfers. Thus,

the sum of all international receipts (credit items) always equals the sum of all international payments (debit items)

While receipts and payments in the international transactions always must be equal or must balance in the accounting sense, they may not be equal or in equilibrium in the operational sense The accounting balance of a balance of payments account, which is merely a truism, should not be confused with the 'economic balance' which recognises the possibility of a deficit or surplus in the balance of payments When the current account of the balance of payments shows a deficit or a surplus, the balance is restored through changes in the capital account In fact, the capital account is specially prepared to neutralise the imbalance in the current account The deficit in the current account is neutralised by the equal amount of surplus in the capital account and the surplus in the current account is neutralised by the equal amount of deficit in the capital account Thus the current and capital accounts together balance each other and restore equilibrium in the balance of payments

Suppose, a country experiences a deficit in the current account of its balance of payments statement due to excess of imports over exorts Such a deficit can be met by resorting to the following changes in the capital account

(i) by raising loans and getting grants from other countries ,

(ii) by drawing on past accumulated balances of the country which it may be keeping in the foreign countries ,

(iii) by exporting gold ,

(iv) by drawings from International Monetary Fund

Table-1, which represents a hypothetical balance of payments statement, shows that the current and capital accounts together must necessarily balance The deficit in the current account (excess of payments over receipts, (*i e* Rs 1500—1300 = 200 crores) is equal to the surplus in the capital account (excess of receipts over payments, (*i e* , Rs 800—600 = 200 crores) Thus, the sum of all receipts are equal to the sum of all payments and the balance of payments account is balanced Balancing of international transactions is symbolically summarised below

$$\underbrace{\overbrace{(X-M)}^{\text{Trade balance}} + S + I + U}_{\text{Current balance}} + \underbrace{C + G}_{\text{Capital balance}} = 0$$

Types of Disequilibrium

The main types of disequilibrium in the balance of payments are as given below

1 Cyclical Disequilibrium Cyclical disequilibrium in the balance of payments arises due to business cycles It is caused (a) by cyclical patterns of income or (b) by different income elasticities or (c) by different price elasticities These factors bring changes in the terms of trade as well as growth of trade which in turn lead to a deficit or surplus in the balance of payments When prices rise in prosperity a country with more elastic demand for imports will experience a decline in the value of imports, thus leading to a surplus in the balance of payments Conversely as prices decline in depression more elastic demand will increase imports and cause a deficit in the balance of payments These tendencies may however be offset by the effects of income changes High incomes during prosperity increase imports and low incomes during depression reduce imports

2 Secular Disequilibrium Secular or long term disequilibrium in balance of payments occurs because of long seated and deep rooted changes in the economy as it moves from one stage of growth to another (a) In the initial stages of economic development, domstic investment exceeds savings and imports exceed imports Disequilibrium occurs due to lack of funds to finance the import surplus (b) Then comes a stage when domestic savings tend to exceed domestic investment and exports exceed imports Disequilibrium arises because the surplus savings exceed investment opportunities abroad (c) At a still later stage domestic savings tend to equal domestic investment and long term capital movements on balance become zero

3 *Structural* Disequilibrium Structural disequilibrium in the balance of payments occurs when structural changes in some sectors of the economy alter the demand and supply forces influencing exports and imports According to Kindleberger structural disequilibrium may be of two types

(i) Structural disequilibrium at the goods level occurs when a change in demand or supply or imports alter a previously existing equilibrium or when a change occurs in the basic circumstances under which income is earned or spend abroad in both cases without the requisite parallel changes elsewhere in the economy "

(ii) Structural disequilibrium at the factor level results from factors which fail to reflect accurately factor endowments *i e* when factor prices out of line with factor endowments distort the structure of production from the allocation of resources which appropriate factor prices would have indicated "

Structural disequilibrium is caused by changes in technology, tastes and attitude towards foreign investment. Political disturbances, strikes lockouts, etc which affect the supply of exports also cause structural disequilibrium

4 **Fundamental Disequilibrium** The term fundamental disequilibrium has been originally used by the I M F, to indicate a persistent and long term disequilibrium in a country's balance of payments Fundamental disequilibrium is generally caused by dynamic factors and particularly lead to chronic deficit in the balance The main causes of fundamental disequilibrium are (a) excessive or inadequate internal demand for foreign goods, (b) excessive or inadequate competitive strength in the world market, (c) excessive capital movements.

Causes of Disequilibrium

Various causes of disequilibrium in the balance of payments or adverse balance of payments are as follows

1 **Development Schemes.** The main reason for adverse balance of payments in the developing countries is the huge investment in developing countries in development schemes in these countries The propensity to import of the developing countries increases for want of capital for industrialisation. The exports, on the other hand may not increase because these countries are traditionally primary producing countries Moreover the volume of exports may fall because newly created domestic industries may need them All this leads to structural changes in the balance of payment resulting in structural disequilibrium

markets. However, the deficit in the balance of payment due to the fall in export demand is more presistent in the underdeveloped countries than in the advanced countries.

5. Demonstration Effect. According to Nurkse, the people in the less developed countries tend to follow the consumption patterns of the developing countries. As a result of this demonstration effect, the imports of the less developed countries will increase and create disequilibrium in the balance of payments.

6. International Borrowing and Lending. International borrowing and lending is another reason for the disequilibrium in the balance of payments, while the lending country tend to have favourable balance of payments.

7. Cyclical Fluctuations. Cyclical fluctuations cause cyclical disequilibrium in the balance of payments. During depression, the incomes of the people in foreign countries fall. As a result, the exports of these countries tend to decline which, in turn, produces disequilibrium in the home country's balance of payments.

8. Newly Independent Countries. The newly independent countries, in order to develop international relations, incur huge amounts of expenditure on the establishment of ambassies, missions, etc. in other countries. This adversely affects their balance of payments position.

9. Population Explosion. Another important reason for adverse balance of payments in the poor countries is population explosion. Rapid growth of population in countries like India increases imports and decreases the capacity to exports.

10. Natural Factors. Natural calamities, such as droughts, floods, etc., adversely affect the production in the country. As a result, the exports fall, the imports increase and the country experiences deficit in its balance of payments.

4. METHODS OF CORRECTING DISEQUILIBRIUM

Persistant disequilibrium in the Balance of payments, particualrly the deficit balance, is undesirable because it (a) weakens the country's economic position at the international level, and (b) affects the progress of the economy adversely. It must be cured by taking appropriate measures. There are many methods to correct disequilibrium in the balance of payments. Important among them are discussed below :

1. Deflation. Deflation is the classical medicine for correcting the deficit in the balance of payments. Deflation refers to the pólicy of reducing the quantity of money in order to reduce the prices and the money income of

the people The central bank, by raising the bank rate, by selling the securities in the open market and by other methods can reduce the volume of credit in the economy which will lead to a fall in prices and money income of the people Fall in prices will stimulate exports and reduction in income checks imports Thus, deflationary policy restores equilibrium to the balance of payments (a) by encouraging exports through reduction in their prices and (b) by discouraging imports through the reduction in incomes at home. Moreover, a higher interest rate in the domestic market will attract foreign funds which can be used for correcting disequilibrium.

However, deflation is not considered a suitable method to correct adverse balance of payments because of the following reasons · (a) Deflation means reduction in income or wages which is strongly opposed by the trade unions (b) Deflation causes unemployment and suffering to the working class (c) In a developing economy, expansionary monetary policy rather than contractionary (deflationary) monetary policy is required to meet the developmental needs

2 Depreciation. Another method of correcting disequilibrium in the balance of payments is depreciation Depreciation means a fall in the rate of exchage of one currency (home currency) in terms of another (foreign currency) A currency will depreciate when its supply in the foreign exchange market is large in relation to its demand In other words, a currency is said to depreciate if its value falls in terms of foreign currencies, *i.e.*, if more domestic currency is required to buy a unit of foreign currency The effect of depreciation of a currency is to make imports dearer and exports cheaper. Thus, depreciation helps a country to achieve a favourable balance of payments by checking imports and stimulating exports

Exchange depreciation is automatic. It works in a flexible exchange rate system and can correct a mild adverse balance of payments if the country's demand for imports and the foreign demand for its exports are fairly elastic. But the method of exchange depreciation has the following defects :

(i) It is not suitable for a country which follows a fixed exchange rate system

(ii) It makes international trade risky and thus reduces the volume of trade.

(iii) The terms of trade go against the country whose currency depreciates because the foreign goods have become costlier than the local goods and the country has to export more to pay for the same volume of imports.

(iv) Experience of certain countries has indicated that exchange depreciation may generate inflationary pressure by increasing the domestic price level and money income

(v) The success of the method of exchange depreciation depends upon the cooperation of other countries If other countries also start depreciating their exchange rates then this methods will not benefit any country

3 Devaluation Devaluation refers to the official reduction of the external values of a currency The difference between devaluation and depreciation is that while devaulation means the lowering of external value of a currency by the government depreciation means an automatic fall in the external value of the currency by the market forces the former is arbitrary and the latter is the result of market mechanism Thus devaluation serves only at an alternative method to depreciation Both the methods imply the same thing *i e* decrease in the value of a currency in terms of foreign currencies Both the methods can be used to produce the samo effects , they discourage imports encourage exports and thus lead to a reduction in the balance of payments deficit

The success of the method of devaluation depends upon the following conditions

(i) The elasticity of demand for the country s exports should be greater than unity

(ii) The elasticity of demand for the country's imports should be greater than unity

(iii) The exports of the country should be non traditional and the increa singly demanded from other countries

(iv) The domestic price should not rise and should remain stable after devaluation

(v) Other countries should not retaliate by resorting to corresponding devaluation Such a retaliatory measure will offset each other s gain

Devaluation also suffers from certain defects

(i) Devaluation is a clear reflation on the country s economic weakness

(ii) It reduces the confidence of the people in country s currency and this may lead to speculative outflow of capital

(iii) It encourages inflationary tendencies in the home country

(iv) It increases the burden of foreign debt

(v) It involves large timelag to produce effects

(vi) It is a temporary device and does not provide a permanent remedy to correct adverse balance of payments

4 *Exchange Control* Exchange control is the most widely used method for correcting disequilibrium in the balance of payments Exchange control refers to the control over the use of foreign exchange by the central bank Under this method all the exporters are directed by the central bank to surrender their foreign exchange earnings Foreign exchange is rationed among the licenced importers Only essential imports are permitted.

Exchange control is the most direct method of restricting a country s imports The major drawback of this method is that it deals with the deficit only and not its causes Rather it may aggragate these causes and thus may create a more basic disequilibrium In short exchange control does not provide a permanent solution for a chronic disequilibrium

5 *Capital Movement* Inflow of capital or capital imports can be used to correct a deficit in the balance of payment If the capital is perfectly mobile between the countries an increase in the domestic rate of interest above the world rate will result in the inflow of capital This will reduce the deficit in the balance of payments

6 Encouraging Exports. In order to correct an adverse balance of payments all efforts should be made to encourage exports The government should adopt various export promotion programmes such as, the reduction of export duties provision of export subsidies quality controls incentives for exports etc

7 Discouraging Import. Attempts should also be made to reduce imports by adopting various measures. Important measures to discourage imports are

(i) Import Duties Import duty or tariff is a tax on imports. The government imposes tax on some or all imports. This raises the price of imports which in turn discourages imports and thus helps correcting adverse balance of payments.

(ii) Import quotas. Fixing Import quotas is another method for correcting adverse balance of payments by reducing imports. Under this system of import quota the government fixes the maximum quantity or value of a commodity to be imported. Thus by restricting imports through import quotas the balance of payments deficit is reduced. Import quotas is a direct method of correcting disequilibrium in the balance of payments and is considered better than import duty Instead of taxing imports the import quota directly limits the quantity that can be brought into the country

(iii) Import Substitution Yet another method of correcting disequilibrium in the balance of payments through reducing imports is to encourage industries producing import substitutes. Import substitution helps the national economy to become more self sufficient and reduce its dependence on imports.

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QUESTIONS

1. Distinguish between balance of trade and balance of payments Indicate various items in the balance of payment of a country
2. Distinguish between current and capital accounts of balance of payments and explain their various items
3. Balance of payments is always in balance Comment
4. What do you understand by disequilibrium in the balance of payments ? what are the causes of such disequilibrium ?
5. What do you mean by disequilibrium in the balance of payments ? Analyse various methods that a country can adopt to correct an adverse balance of payments.
6. Write notes on : (a) Deflation, (b) Depreciation, (c) Devaluation, (d) Adverse balance of payments, (e) Current and capital accounts of balance of payments.

6

FOREIGN EXCHANGE

1. **Introduction**
   - Meaning of Foreign Exchange
   - Instruments of Foreign Payments
2. **Foreign Exchange Market**
   - Meaning
   - Types of Foreign Exchange Market
   - Dealers in Foreign Exchange Market
   - Functions of Foreign Exchange Market
3. **Rate of Exchange**
   - Meaning
   - Types of Exchange Rates
   - Determination of Exchange Rate
   - Theories of Rate of Exchange
4. **Mint Parity Theory**
   - Determination of Exchange Rate
   - Fluctuations in Exchange Rate
   - Criticism
5. ***Purchasing Power Parity Theory***
   - Absolute Version
   - *Relative Version*
   - Criticism
6. ***Balance of Payments or Modern Theory***
   - Superiority of Balance of Payments Theory
   - Criticism
7. **Factors Influencing Rate of Exchange**
8. **Fixed and Flexible Exchange Rates**
   - Arguments for Fixed Exchange Rates
   - Arguments against Fixed Exchange Rates
   - Arguments for Flexible Exchange Rates
   - Arguments against Flexible Exchange Rates
   - Conclusion

6

Foreign Exchange

1. INTRODUCTION

Meaning of Foreign Exchange

The term 'foreign exchange' is used in its narrow as well as broad senses

1. **Narrow Meaning.** In the narrow sense foreign exchange simply means the money of a foreign county Thus, American dollars are foreign exchange to an Indian and Indian rupees are foreign exchange to an American In practice, foreign exchange is often used to refer to a country's actual stock of foreign currency, *i e*, foreign currency notes or the means of obtaining such money through travellers' cheques or letters of credit.

2. **Broader Meaning** In the broader sense, the foreign exchange is related to the mechanism of foreign payments It refers to the system where by one currency is exchanged for or converted into another Foreign exchange market is a market where foreign currencies are bought and sold by the traders to meet their obligations abroad According to Encyclopaedia Britanica. "Foreign exchange is the system by which commercial nations dicharge their debts to each other " In the words of Hartly Wether ' Foreign exchange is the art and science of international monetary exchange "

Instruments of Foreign Payments

A number of methods or instruments are used to facilitate foreign payments. Important among them are discussed below '

1. **Bill of Exchange.** The bill of exchange is a commonly used instrument in international payments. It is an order from the drawer (creditor) to the drawee (debtor) to pay the specified sum of money on Demand or on some specified future date. The following example makes the mechanism of foreign payment through bill of exchange clear ' Suppose trader A in Bombay imports machinery from trader B in London. Similary, another

trader C in London imports tea from trader D in Bombay Also assume that the value of the traded machinery is equal to the value of the traded tea. In this case, the British creditor (exporter of machinery) B will draw a bill for the amount equal to the value of machinery and get it accepted by his Indian debtor (importer of machinery) A B then sells this bill to C, the British debtor (importer of tea) who has to pay money to India. C will send this bill to his creditor D (exporter of Tea) in India who collects the money from A, the Indian debtor (importer of machinery) who had originally accepted the bill This mechanism of foreign bills of exchange, however, assumes that each international payment in one direction is matched by the equal payment in the opposite direction

2. Bank Draft. Bank draft is an order of a bank to its branch or some other bank to pay be bearer the specified amount. The debtor (importer) in foreign transaction gets a bank draft from the bank and sends it to his creditor (exporter) who in turn, collects the specified amount from the bank in his own country

3 Letter of Credit. A letter of credit is an asurance from the writer of the letter (a commercial bank) to the creditor or on behalf of the debtor that the former will receive payment. In the international transaction, for example an importer may arrange a letter of credit from his commercial bank according to which the exporter may draw bill on the bank rather than on the importer The letter of credit provides an assurance to the exporter that the bill will be paid by the bank. Thus, the issuance of letter of credit gives double assurance of payment because the exporter can now rely on the standing and integrity of the bank rather than on the standing and integrity of the importer alone

4 Cable Transfers A cable transfer is a telegraphic order sent by a bank to its correspondent bank abroad to pay the specified amount to certain person from its deposit account. For example, an American importer who wants to make payment abroad can arrange for a cable transfer from his American bank. The American bank will direct its correspondent bank abroad to transfer the specified sum from its account of the exporter

5. Other Instruments. Other means of foreign payments are traveller's cheques, personal cheques, international money orders, home currency, gold, etc

2. FOREIGN EXCHANGE MARKET

Meaning

Foreign exchange market is a market in which foreign exchange transactions take place. It is a vehicle that makes possible the exchange of

different national currencies The basic purpose of foreign exchange market is to facilitate international trade and investment

According to Kindleberger, "Foreign exchange market is a place where foreign moneys are bought and sold" Foreign exchange market is an institutional arrangement for the sale and purchase of foreign currencies , exporters sell and importers buy foreign currencies Foreign exchange market is merely a part of the money market in the financial centres It is the market for national currency (*i e* , foreign money) anywhere in the world as the financial centres of the world are united in a single market.

In the countries like India which have adopted strict exchange control system, there is no foreign exchange market as such All the exporters must surrender the foreign currency to the central bank in exchange for the home currency at a fixed rate Similarly, all the importers can secure the necessary foreign exchange from the central bank.

Types of Foreign Exchange Market

There are two foreign exchange markets (a) the retail market and (b) the interbank market.

1. Retail Market. In the retail foreign exchange market, the individual and firms who require foreign currency can buy it and those who have acquired foreign currency can sell it. The commerical banks dealing in foreign exchange serve their customers by purchasing foreign exchange from some and selling foreign exchange to others Thus, each bank acts as a clearing house where purchases of exchange can be offset by sales of foreign exchange

2 Interbank Market Interbank foreign exchange market serves to smoothen the excessive purchases or sales made by individual banks At times, the quantity of foreign exchange supplied exceeds the quantity demanded, or *vice versa* When such an imbalance occurs, the exchange rate changes. If the foreign exchange is in excess supply, the exchange rate falls , if the foreign exchange is in excess demand, the exchange rate rises The movement in the exchange rate helps to correct the situation by encouraging or discouraging additional buyers and sellers into or from the market.

Dealers in Foreign Exchange Market

Important dealers in the foreign exchange market are banks, brokers acceptance houses, central bank and treasuty authorities

1. Banks The banks dealing in foreign exchange have branches (called exchange banks) in different countries and maintain substantial

foreign currency balances in these branches to serve the needs of their customers These branches discount and sell foreign bills of exchange, issue bank drafts, make telegraphic transfers etc If a bank has excess foreign currency balances, it can sell these balances to other banks, foreign currency brokers, and sometimes to foreign monetary institutions Similarly, if an exchange bank has deficit foreign currency balances, the other banks, the brokers and the foreign monetary institutions become the sources of foreign currency supply

2 **Brokers.** Banks do not deal directly with one another They use the services of foreign exchange brokers The brokers bring togethers the buyers and sellers of foreign exchange among banks By using the brokers, the banks save time and effort. If a bank wants to buy or sell foreign exchange, it informs the broker the amount and the rate of exchange in which it is interested If the broker succeeds in carrying out the transaction, he receives a commission from the selling bank

3 **Acceptance Houses.** Acceptance houses also deal in foreign exchange They accept bills on behalf of their customers and thus help in foreign remittances

4 **Central Bank and Treasury** The central bank and the Treasury of a country are also the dealers in foreign exchange These institutions may intervene in the exchange market occasionally They enter the market both as buyers and sellers to prevent excessive fluctuations in the exchange rates

Functions of Foreign Exchange Market

The foreign exchange market performs the following important functions

1 **Transfer Function** The basic function of the foreign exchange market is to transfer purchasing power between countries, *i e* to facilitate the conversion of one currency into another The transfer function is performed through the credit instruments like, foreign bills of exchange, bank draft and telephonic transfers

2 **Credit Function** Another function of foreign exchange market is to provide credit, both national and international, to promote foreign trade Bills of exchange used in the international payments normally have a maturity period of three months Thus, credit is required for that period of three months Thus credit is required for that period to enable the importer to take possession of goods sell them and obtain money to pay off the bill

3 **Hedging Function** In a situation of exchange risks, the foreign exchange market performs the hedging function Hedging is the act of equating one s assets and liabilities in a foreign currency to avoid the risk

resulting from future changes in the value of foreign currency In a free exchange market, when the value of foreign currency varies, there may be a gain or loss to the traders concerned To avoid or reduce this exchange risk, the exchange market provides facilities for hedging anticipated or actual claims or liabilities through forward contracts in exchange Forward contract is a contract of buying or selling foreign currency at some fixed date in future at a price agreed upon now Thus, without transferring any currency, the forward contract makes it possible to ignore the likely change in the exchange rate and avoid the possible losses from such change

3. RATE OF EXCHANGE

Meaning

The rate at which one currency is exchanged for another is called the rate of exchange The rate of exchange is the price of one currency stated in terms of another currency For example,if one U S dollar exchanges for 15 Indian rupees, then the rate of exchange is $ 1 = Rs 15 or Rs 1 = 1/15 = 66 dollars It means that what $ 1 can purchase in America, Rs 15 can purchase in India In other words, the rate of exchange expresses the external purchasing power of a home currency

According to Crowther, the rate of exchange "measures the number of units of one currency which will exchange in the foreign exchange market for another" In the words of Anatol Murad,"The ratio at which one country's currency can be exchanged for another is the rate of exchange between these two currencies" According to Sayers, "the prices of currencies in terms of each other are called foreign exchange rate"

Types of Exchange Rates

In the foreign exchange market, at a particular time, there exists, not one unique exchange rate, but a variety of rates, depending upon the credit instruments used in the transfer function Major types of exchange rates are as folows

1. Spot Rate Spot rate of exchange is the rate at which foreign exchange is made available on the spot. It is also known as cable rate or telegraphic transfer rate because at this rate cable or telegraphic sale and purchase of foreign exchange can be arranged immediately Spot rate is the day-to-day rate of exchange The spot rate is quoted differenly for buyers and sellers. For example, $ 1 = Rs 15 50 for buyers and $ 1 = Rs 15 30 for the seller. This difference is due to the transport charges, insurance charges, dealer's commission, etc These costs are to be born by the buyers

2. **Forward Rate.** Forward rate of exchange is the rate at which the future contract for foreign currency is made The forward exchange rate is settled now but the actual sale and purchase of foreign exchange occurs in future The forward rate is quoted at a premium or discount over the spot rate

3 **Long Rate.** Long rate of exchange is the rate at which a bank purchases or sells foreign currency bills which are payable at a fixed future date The basis of the long rate of exchange is the interest on the delayed payment. The long rate of exchange is calculated by adding premium to the spot rate of exchange in the case of credit purchase of foreign exchange and deducting premium from the spot rate in the case of credit sale If the spot rate is £ 1 = $ 2.80 and the rate of interest is 6%, then on 30 days bill, $ 0 014 will be added per pound in case of credit purchase and deducted in case of credit sale of dollars

4 **Fixed Rate** Fixed or pegged exchange rate refers to the system in which the rate of exchange of a currency is fixed or pegged in terms of gold or another currency

5. **Flexible Rate.** Flexible or floating exchange rate refers to the system in which the rate of exchange is determined by the forces of demand and supply in the foreign exchange market. It is free to fluctuate according to the changes in the demand and supply of foreign currency

6 **Multiple Rate.** Multiple rates refer to a system in which a country adopts more than one rate of exchange for its currency Different exchange rates are fixed for importers, exporters, and for different countries

7. **Two-Tier Rate System.** Two-tier exchange rate system is a form of multiple exchange rate system in which a country maintains two rates, a higher rate for commerical transactions and a lower rate for capital transactions

Determination of Exchange Rate

Rate of exchange is the price of one currency in terms of another currency Therefore, like other prices, the rate of exchange is also determined in accordance with the general theory of value, *i e*, by the interaction of the forces of demand and supply. In other words, the exchange rate in a free exchange market is determined at a level where demand for foreign exchange is equal to the supply of foreign exchange

1. **Supply of Foreign Exchange.** The supply of foreign exchange comes from (a) the domestic exporters who receive payments of foreign currency , (b) the foreigners who invest and lend in the home country , (c) domestic residents who repatriate capital funds previously sent abroad , (d) the domestic residents who receive gifts from abroad

The supply schedule for foreign exchange represents a functional relationship between different rates of exchange and the corresponding amounts of foreign exchange supplied The supply schedule slopes upward to the right, indicating that at higher exchange rates larger amounts of foreign exchange are offered for sale In Figure 1, S£ (=D$) is the supply scheduled for pound Its positive slope shows that when the exchange rate of pound in terms of dollars rises (which also means that the exchange rate of dollar in terms of pounds falls) the America exporters will increase the supply of pounds Because sellers of pounds are buyers of dollars, the supply schedule for pounds is also the demand schedule for dollars

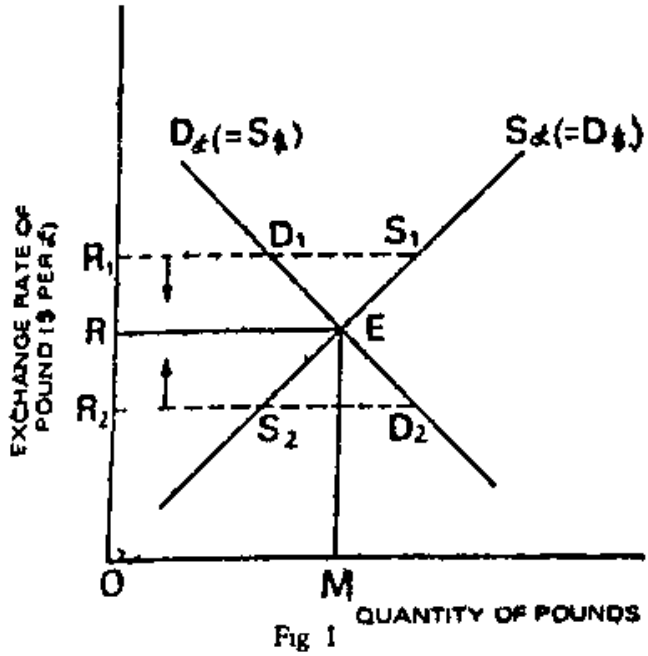

Fig 1

2 Demand for Foreign Exchange. Foreign exchange is demanded (a) by the domestic residents to import goods and services from abroad , (b) by the domestic residents investing and lending abroads , (c) by the foreign residents to repatriate funds previously invested in the home country , (d) for sending gifts to foreign countries

The demand schedule for foreign exchange shows a functional relationship between different rates of exchange and the corresponding amounts of foreign exchange demanded The demand schedule slopes downward to the right, indicating that greater amounts of foreign currency are demanded at lower rates of exchange In Figure 1 D£ (=S$) is the demand schedule for pound Its negative slope shows that when the pound is cheap in terms of dollar (which also meand that dollar is dearer in terms of pound) Americans want larger amounts of pounds because they spend more on British goods Since the buyers of pounds are the sellers of dollars, the demand schedule for pounds is also the supply schedule for dollars

Equilibrium Rate of Exchange. Equilibrium rate of exchange is determined at the point where demand for foreign exchange becomes equal to the supply of foreign exchange In Figure 1, demand schedule for pounds, *i.e.*, D£ (= S$), intersects the supply schedule for pounds, *i.e.*, S£ (= D$), at point E. The equilibrium rate of exchange is OR and at this rate OM amounts of pounds are demanded as well as supplied Any rate of exchange above or below OR will represent disequilibrium position and will be unstable For example, at OP_1 rate, there exists excess supply for foreign exchange, *i.e.*, the supply of pounds exceeds the demand for pounds ($P_1S_1 > R_1D_1$) This will lead to a fall in the pound rate of exchange and bring it down to the equilibrium level OR Similarly, OR_2 rate represents a situation of excess demand, *i.e.*, the demand for pounds exceeds the supply of pounds ($R_2D_2 > P_2S_2$) This will push the pound exchange rate to the equilibrium level OR

Theories of Rate of Exchange

Different theories have been developed to explain the determination of rate of exchange They are

(i) Mint Parity theory

(ii) Purchasing power parity theory

(iii) Balance of payments theory

MINT PARITY THEORY

Mint parity theory explains the determination of exchange rate between the two gold standard countries In a country on gold standard, the currency is either made of gold or its value is expressed in terms of gold According to the mint parit theory, the exchange rate under gold standard is equivalent to the gold content of one currency relative to that of another This exchange rate is also known as mint rate

A country is said to be on the gold standard if the gollowing conditions are satisfied (a) The standard monetary unit is defined in terms of gold, *i.e.*, either it is made of gold of given purity and weight, or it is convertible into gold at *fixed rate* (b) The government buys and sells gold in unlimited quantity at officialy fixed price (c) There are no restrictions on the export and import of gold

Determination of Exchange Rate

The mint parity theory states that under gold standard, the exchange rate tends to stay close to the ratio of gold values or the mint parity or par value. In other words the rate of exchange between the gold standard countries is determined by the gold equivalents of the concerned currencies According to
(c) do
(d) the

to S E Thomas, "The mint par is an expression of the ratio between the statutory bullion equivalents of the standard monetary units of two countries on the same metalic standard" Thus, when the currencies of different countries are defined in gold, the exchange rate between such countries is automatically determined on a weight to weight basis of the gold content of their currencies, after making allowance for the purity of such gold content of these currencies

For example, before World War I, both England and America were on gold standard The British pound contained 113 0016 grains of gold and the American dollar contained 23 2200 grains of gold. The exchange rate between the British pound and the American dollar was determined on the basis of the mint parity and was equal to the ratio of the gold content of the two currencies Thus,

$$1 \text{ Pound} = \frac{113\ 0016}{23\ 2200} = 4\ 866 \text{ dollars}$$

Flucuations in Exchange Rate

Gold Points Mint rate is a long run phenomenon In the long run, the forces of demand and supply of foreign exchange tend to be in equilibrium and the exchange rate has the tendency to become equal to the ratio of gold values, or the mint parity In reality, the demand and supply forces experience changes, and as a result, the market rate of exchange may differ from the long run mint parity equilibrium This variation in the exchange rate is within the well defined limits, called gold points Thus, gold points refer to the limits within which the market rate of exchange between two countries on gold standard fluctuate from the mint parity equilibrium level The upper gold point indicates the upper limit and the lower gold point indicates the lower limit

The gold points are determined by the costs of shipping gold (such as, transporation, packing, insurance charges) from one country to another. For example, an American importer willing to buy pounds with dollars to pay for his imports from England will pay a price above the mint parity (*i e* , more than 4 866 dollars per pound) if necessary. But that price must not be greater than the cost of buying gold in America and shipping it to England to acquire pounds similarly, an American exporter willing to sell pounds for dollars will be ready to accept a price below the cost to using his pounds to import gold from England and then sell this gold in America to acquire dollars Thus, the upper gold point is determined by adding the cost of shipping gold to the mint parity rate of exchange and the lower gold point is obtained by deducting the cost of shipping gold from the mint parity rate of exchange If, for example, the mint

parity rate of exchange is 1 pound = 4 866 dollars and the shipping cost of gold is 2 cent per pound then

the upper gold point 1 pound = 4 866 + 02 = 4 886 dollars,

the lower gold point 1 pound = 4 866 - 02 = 4 846 dollars,

The upper gold point is also called gold export point because it refers to the critical rate of exchange above which gold will be exported. Similarly, the lower gold point is called gold import point because it indicates the critical rate of exchange below which gold will be imported. Under the gold standard, the exchange rate between two currencies cannot vary above the upper gold point and below the lower gold point It wil remain within there two limits Thus, under gold standard, since the limits to exchange rate variation are very narrow, we can talk in terms of a fixed exchange rate

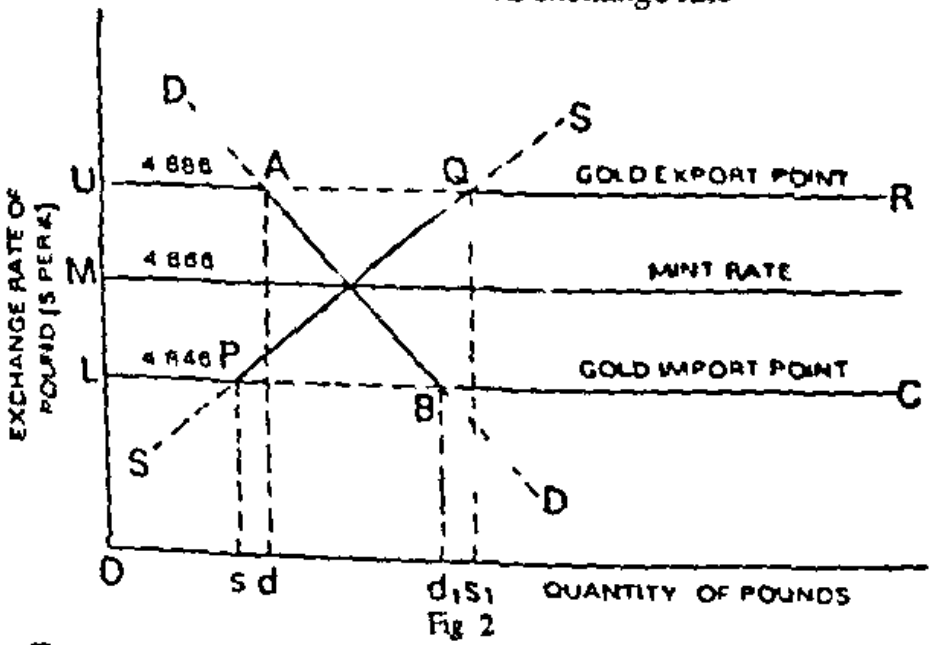

Fig 2

In Figure 2 curve DD represents demand for pounds (or supply of dollars) and curve SS represents supply of pounds (or demand for dollars) OM (*i e* £1 = $4 866) is the mint rate and it costs $0 02 to ship $1 worth of gold between America and England Thus, £1 = $4 886 (OU) is the gold export point and £1 = $4 846 (OL) is the gold import point Since the market exchange rate cannot rise above gold export point (OU) or fall below the gold import point (OL), the demand and supply curves become infinitely elastic at the gold points Hence, the demand curve for pound becomes UABC, and the supply curve for pound becomes LPQR, instead of DD and SS respectively Thus, cost of shipping gold determines the upper and lower limits (OU and OL respectively) beyond which the exchange rate cannot move

Variations in Exchange Rate As long as the shifts in demand and supply schedules remain within the limits of gold points (*i e*, the demand

for pounds changes within dd_1 range and supply of pounds changes within ss_1 range), the market rate of exchange will diverge from the mint rate (OM) and the variation will remain within the limits of upper gold point (OU) and lower gold point (OL) If the shifts in demand and supply curves are substantial and go beyond the limits of gold points (i e , the changes in demand and supply of pound exceed the dd_1 and ss_1 ranges respectively), there will be gold flow which, in turn, will restore equilibrium in the exchange market and keep the exchange rate within the limits of gold points

For example, if in America as a result of deficit balance of payments with England, the demand for pounds increases beyond point d_1, the American buyers of pounds instead of purchasing pounds at a rate higher than £1 = $ 4 886, will find it profitable to meet this excess demand by exporting gold to England Thus, the exchange rate will not rise beyond the gold export point OU Similarly, if, in America as a result of surplus balance of payments with England, the supply of pounds increases beyond point s_1, the American sellers of pounds, instead of selling the pounds at a rate lower than £1 = $4 846, will prefer to use the pounds to import gold from England Thus, the exchange, rate will not fall below the gold import point OL. Hence, under the gold standard, the market rate of exchange fluctuates within the limits set by the gold points and never crosses them

Criticism

In modern times, the method of determining exchange rates in terms of gold contents or mint parity has become absolete for the following reasons

(i) None of the countries in the world is on gold standard.

(ii) Free buying and selling of gold at international level is not allowed by the governments

(iii) Most of the countries are on paper standared or fiat currency standard.

(iv) The operation of gold standard depends on flexible internal prices But, the modern governments pursue independent domestic price and employment policies without considering exchange rate

Under such conditions, it is not possible to fix the values of various currencies in terms of gold content or mint parity and determine the gold points to which fluctuations in the rate of exchange are confined.

5. PURCHASING POWER PARITY THEORY

Purchasing power parity theory explains the determination of exchange rate and its fluctuations when the countries are on inconvertible paper standard The theory was first propounded by wheatlay in 1802, but the credit for properly developing the theory in the present form goes to Gustav Cassel who

gave its systematic statement in 1918 The theory is based on the fundamental principle that the different currencies have purchasing powers in their respective countries When the domestic currency is exchanged for the foreign currency it is, in fact, the domestic purchasing power which is exchanged for the foreign purchasing power Thus the most important factor determining the exchange rate is the relative purchasing power of the two currencies

According to the purchasing power parity theory, under the system of inconvertible paper currency, the rate of exchange is determined by the relative purchasing powers of the two currencies in their respective countries A country is said to be on inconvertible paper standard when (a) money is made of paper or some cheap metals and its face value is greater than its intrinsic value , (b) the money is not convertible into gold , (c) the purchasing power of money is not maintained at par with that of gold or any other commodity , (d) the currency may not be fully backed by gold or any other metallic reserves , (e) the currency system is nationalistic in the sense that there is no link between the different paper currency systems adopted by different countries Under such conditions, the rate of exchange between the two currencies must equalise the purchasing power of both the countries

The purchasing power parity theory has been defined by different economists in the following manner According to Cassel "The rate of exchange between two currencies must stand essentially on the quotient of the internal purchasing power of the currencies " In the words of G D H Cole, "The relative values of national currencies especially when they are not on gold standard, in the long run, are determined by their relative purchasing powers in terms of goods and services." According to Thomas, "The rate of exchange tends to rest at that point which expresses equality between the respective purchasing powers of the two countries This point is called the purchasing parity " According the Kurihara, "The theory seeks to explain that under system of autonomous paper standard, the external value of a currency depends ultimately and essentially on the domestic purchasing power of that currency relative to that of another currency "

Absolute Version

The absolute version of the purchasing power parity theory explains the determination of rate of exchange between the two countries on inconvertible paper standard. According to the absolute version, the exchange rate should normally reflect the relationship between the internal purchasing power of various national currency units In other words, the rate of exchange should be equal to the ratio of the outlay required to purchase a particular set of goods at home as compared with what it would

be abroad For example suppose a set of goods costs Rs 5000 in India and $ 1000 in the U S.A

Then

the purchasing power of Rs 5000 = the purchasing power of $ 1000

or the purchasing power of Rs 5 = the purchasing power of $ 1

Thus the exchange rate between Indian rupee and American dollar will be

$$\$ 1 = Rs\ 5$$

or $$Re\ 1 = \$ 1/5 = \$\ 2$$

Symbollically the rate of exchange is expressed as

$$R = \frac{P_a Q_o}{P_b Q_o}$$

Where R stands for the exchange rate or the price of country A s currency in terms of country B s currency

P_a stands for the price in country A

P_b stands for the price in country B

Q_o stands for quantity of goods

In other words

$$\$1 = \frac{\text{Cost of goods in India}}{\text{Cost of the same goods in the U S A}}$$

or $$\$1 = \frac{5000}{1000} = Rs\ 5$$

Similarly

$$Re\ 1 = \frac{\text{Cost of goods in the U S A}}{\text{Cost of the same goods in India}}$$

or $$Re\ 1 = \frac{1000}{5000} = \$\ 2$$

Thus according to the absolute version of the purchasing power theory the rate of exchange is determined by the ratio of internal purchasing power of the foreign currency and the internal purchasing power of the domestic currency The ratio of internal purchasing powers of the two currencies is called the purchasing power parity The rate of exchange will be in equilibrium when the purchasing power of money is equal in all the trading countries

Relative Version

The relauve version of the purchasing power parity theory explains the measurement of the changes or fluctuations in the rate of exchange It deals with the relationship between changes in internal purchasing power and the changes in exchange rate According to the relative version the change in the equilibrium rate of exchange depends upon the change in the ratio of the internal purchasing powers of the concerned currencies The new and changed rate of exchange is determined by multiplying the old purchasing power parity by the ratio of the changes in the internal purchasing powers of the currencies According to Cassel "When two currencies have been inflated the new normal rate of exchange will be equal to the old rate multiplied by the quotient between the degree of inflation of both the countries"

Symbolically the relative version of the purchasing power parity theory can be expressed as

$$R_1 = R_0 \times \frac{P_{a1}/P_{a0}}{P_{b1}/P_{b0}}$$

where R_0 means equilibrium rate of exchange in the base year,

R_1 means equilibrium rate of exchange in the current year,

P_{a0} means price index of country A in the base year,

P_{a1} means price index of country A in the current year,

P_{b0} means price index of country B in the base year,

P_{b1} means price index of country B in the current year

Suppose, in the base year, the exchange rate was $1 = Rs 5 The price index in India has doubled from 100 to 200, while there is no inflation in America and its price index remains at 100 The new dollar exchange rate in terms of Indian rupee will be

$$\$1 = 5 \times \frac{200/100}{100/100} = Rs\ 10$$

The equilibrium rate of exchange (i e R_1) calculated in this way, represents new parity between the currencies This parity is again the purchasing power parity because it is determined by the quotients of the purchasing powers of the different currencies Thus, the relative version of the purchasing power parity theory leads to the following conclusions

(i) A currency maintains its purchasing power parity if it depreciates by an amount equal to the excess of domestic inflation over foreign inflation

(Currency depreciation) = (Domestic inflation) — (foreign inflation)

(ii) The price level in country and its rate of exchange move in the opposite direction. For example, if the price level in India rises, the rupee exchange rate in terms of foreign currency wil fall and vice *versa*.

(iii) If the price level in country A rises and the price level in country B remains unchanged, the exchange rate will move in favour of country B and against country A and *vice versa*.

(iv) If the price level in country A rises and the prive level in country B falls, the exchange rate will move in favour of country B and against country A *vice versa*

(v) If the prive levels in both the countries rise (or all) at the same rate, there will be no change in the rate of exchange

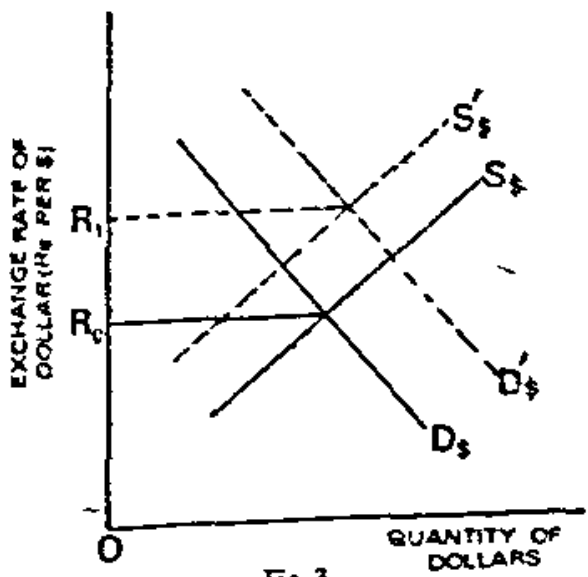

Fig 3

The relative version of the purchasing power parity theory is graphically represented in Figure 3 D $ and S $ are the initial demand and supply curves of dollars respectively The equilibrium rate of exchange is rupees OR_0 per dollar in the base year Suppose, in the current year, the price level in India rises and the price level in the U.S.A. remains constant. The rise in the Indian price level makes the India exports less attrative to the foreigners, and, at the same exchange rate, OR_0, imports from abroad become more attractive in India because the import prices in Indian rupees will remain constant while the prices of the domestic products are rising As a result,

the demand for dollars increases and the supply of dollars decreases The dollar demand curve shifts forward from D S to D' S and the dollar supply curve shifts backward from S S to S' S With no intervention in the foreign exchange market, the new equilibrium rate of exchange in the current year will be OR_1 rupees per dollar which will be higher than that in the base year (*i e*, OR_0) and will represent the new purchasing power parity The dollar exchange rate will rise by the same percentage amount as the rise in the Indian price level This higher dollar exchange rate will keep the quantities of Indian exports and imports unchanged at their original levels

Criticism

The purchasing power parity theory has been criticised by number of economists like, Aftalion, Hawtrey, Taussig,Pigou, Harris, Keynes, *etc* Important defects of the theory are given below

1. Defects of Index Numbers. According to the purchasing power parity theory, the rate of exchange is based on the purchasing power of the currency units of the two countries and the purchasing power of the currencies is measured by the price index numbers The critics point out that the price index numbers have many defects (a) The price index numbers use past prices and do not deal with present prices (b) The price index numbers in different countries include different sets of commodities (c) Price index numbers also inculde those commodities which are not traded internationally (d) The price index number may be based on different weights assigned to different commodities (e) Price index numbers in different countries have different base year and are not fully comparable Because of these defects, the price index numbers are not reliable and do not provide true picture of the relative purchasing power of different countries

2. No Direct Relation between Price Level and Exchange Rate. The purchasing power parity theory assumes a direct relationship between the purchasing powers of currencies of two countries and the rate of exchange between them But, in reality, there exists no such direct and exact relation between the two Apart from the purchasing power, there are many other factors, such as, tariff speculation, capital flows, etc , which influence the rate of exchange

3 Difficulty Regarding Equilibrium Rate. According to this theory, the knowledge of base rate (*i e*, the old equilibrium rate) is necessary to calculate the new equilibrium rate of exchange But, it is difficult to ascertain the particular rate which actually prevailed between the currencies as the equilibrium rate

4 Price Level not Reflected by Exchange Rate According to this theory the exchange rate should reflect the prices of all goods and services in an economy But only some of the goods and services enter international trade All other goods traded internally have no direct bearing on the exchange rate As Keynes puts it Confined to international traded commodities the purchasing power parity theory becomes an empty truism "

5 Wrong Causal Relation The purchasing power parity theory assumes that changes in price level cause changes in the exchange rates and not the other way round In other words according to this theory changes in the exchange rates do not have any influence on the price level But, this is not correct Empirical evidence shows that the exchange rates govern the prices rather than the prices gover the exchange rates According to Halm the price levels follow rather than precede the changes in exchanges rates As he says A process of equilisation through abitrage takes place so automatically that the national prices of commodities seem to follow rather than determine the movements of exchange rates "

6 Unrealistic Assumption of Free Trade This theory is based on the unrealistic assumption of free trade and absence of exchange control In the *real world* state restrictions on the international trade such as import and export duties import quotas exchange control measures etc variously separate the price structure of one country from those of others Thus the purchasing power parity theory is further limited as a guide to equilibrium exchange rates

7 Elasticity of Reciprocal Demand Ignored According to Keynes the purchasing power parity theory fails to take into consideration the impact of elasticities of reciprocal demand on the rate of exchange Changes in the reciprocal demand as a result of changes in fashion tastes level of income etc also influence the rate of exchange without changing the price level

8 Capital Movements Ignored Keynes also points out that the purchasing power parity theory ignores the influence of capital movements Capital flows between countries also disturb their rate of exchange

9 Transport Costs Ignored The theory does not take into account the transport costs of trading commodities between countries Just as the

1 J.M Keynes *A Tract on Monetary Reform* p 101

2 G H *Monetary Theory* p 224

shipping costs of gold do not allow the market rate of exchange to become equal to the mint parity rate in gold standard, similarly, the transport costs of goods do not allow the market rate to become equal to the purchasing power parity rate in paper standard

10. Quality of Goods Ignored. While considering the prices of the same set of goods to estimate the purchasing power of the two countries, the quality of these goods is generally ignored If the goods of the two countries are not of the same quality, the purchasing power will not be truely comparable

11. Invisible Goods Ignored. The purchasing power parity theory considers only the merchandise trade and ignores the invisible items of the balance of payments In other words the theory applies only to current account transactions and neglects the capital account completely

12 Effects of Trade Ignored This theory ignores the impact of trade cycle on the exchange rate As Nurkse writes "The theory treats demand simply as a function of price, leaving out of account the wide shifts in the aggregate income and expenditure which occur in the business cycle , and which lead to wide fluctuations in the volume and hence the value of foreign trade even if prices or price relationship remain the same"[1]

13 Static Theory. The theory is static in the sense that it ignores other determinants of exchange rate such as economic relations between nations, incomes and tastes of the people, etc Even if purchasing power of one currency deteriorates, the balance of trade of that country may actually improve and exchange rate shift in its favour as a result of factors other than price changes

14 Long Period Theory. The purchasing power parity theory is applicable only in the long period It does not provide solution to the short run problems of exchange rate and as such is not practical

6 BALANCE OF PAYMENTS OR MODERN THEORY

The balance of payments theory is the modern and most satisfactory theory of the determination of the exchange rate It is also called the demand and supply theory of exchange rate According to this theory, the rate of exchange in the foreign exchange market is determined by the balance of payments in the sense of demand and supply of foreign exchange in the market. Here the term 'balance of payments' is used in the sense of a

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1 R. Nurkse *International Currency Experience* p 126

market balance If the demand for a country's currency falls at a given rate of exchange, we can speak of a deficit in its balance of payments Similarly, if the demand for a country's currency rises at a given rate of exchange, we can speak of surplus in its balance of payments A deficit balance of payments leads to a fall or depreciation in the external value of the country's currency A surplus balance of payments leads to an increase or appreciation in the external value of the country's currency

According to Ellsworth, "If market forces are allowed to work unimpeded, the demand and supply of foreign exchange establish a rate of exchange that automatically clears the market so that no actual or expost payments deficit or surplus can appear "[1] In the words of Walter, "If the exchange rate is permitted to respond fully to changing supply and demand conditions, the status of the balance of payments of a country tends to determine the value of its currency relative to the currencies of other nations "[2]

There is a close relation between the balance of payments and the demand and supply of foreign exchange Balance of payments is a record of international payments made due to various international transactions, such as, imports, exports, investments and other commercial, financial and speculative transactions The balance of payments includes all payments made by the foreigners to the nationals as well as all payments made by the nationals to the foreigners The incoming payments are credits and outgoing payments are debits The credits in balance of payments or the export items constitute the supply of foreign exchange ; the supply of foreign exchange is made by the exporting countries On the other hand, the debits in the balance of payments or the import items constitute the demand for foreign exchange ; the demand for foreign exchange arises from the importing countries

Any deficit or surplus in the balance of payments causes changes in the demand and supply of foreign exchange and thus leads to fluctuations in the exchange rate When there is deficit in the balance of payments the debits (or the demand for foreign exchange) will exceed the credits (or the demand for foreign exchange) As a result, the rate of exchange will rise (or the exchange value of domestic currency in terms of foreign currency will fall) On the other hand, a surplus in the balance of payments means credits (or the supply of foreign exchange) exceeding debits (or the demand for foreign exchange), which in turn, will lead to a fall in the rate of exchange (or a rise in the external value of domestic currency)

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1 P T Ellsworth : *The International Economy* p. 336

2 I Walter *International Economy* (1968), p 232.

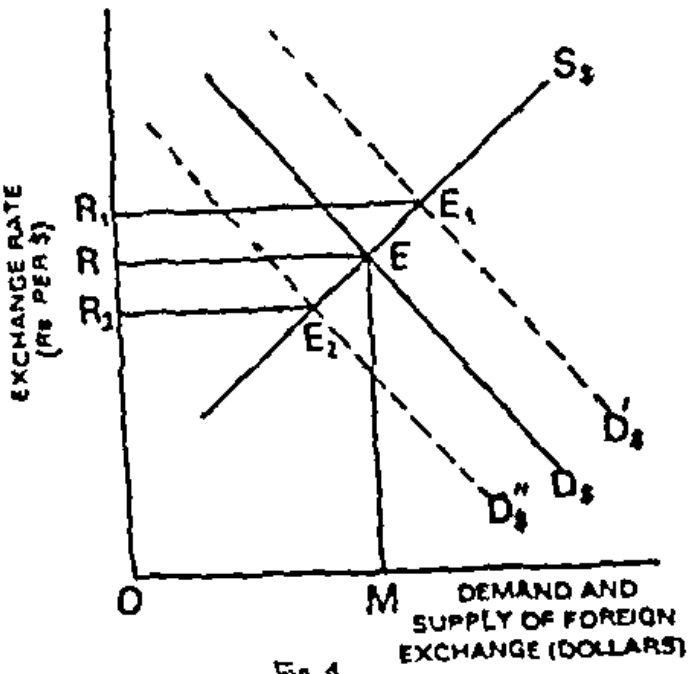

Fig 4

The balance of payments theory of exchange rate is graphically represented in Figure 4 DS and SS are the demand and supply curves of foreign exchange (*i e*, dollars) in India. The demand for foreign exchange curve slopes downwards from left to right indicating that when the exchange rate (*i e* dollar rate of exchange or rupees per dollar) falls, the demand for foreign exchange increases and vice versa. The supply of foreign exchange curve, on the other hand slopes upwards from left to right indicating that lower the exchange rate (*i e*, rupees per dollar), lower the supply of foreign exchange (dollars) and vice versa. Initially, the exchange market is in equilibrium at point E where demand and supply curves (DS and SS) intersect each other OR rupees per dollar is the equilibrium rate of exchange and OM is the demand and supply of dollars If India has deficit balance of payments with America *i e* India's imports from America increase, its demand for foreign exchange (dollars) will increase, shifting the demand curve from D$ to D$ The new equilibrium is at point E_1, which shows a rise in the exchange rate from OR to OR_1 rupees per dollar Similarly, when India has a surplus balance, its demand for foreign exchange (dollars) decreases from D$ to D"$ The new equilibrium is at point E_2 indicating a fall in the exchange rate from OR to OR_2 rupees per dollar In the similar way, it can be shown that changes in supply or in both demand and supply will influence the equilibrium rate of exchange

Superiority of Balance of Payments Theory

The balance of payments theory is superior to other theories on the following grounds

(i) According to the balance of payments theory, the rate of exchange is determined by the demand and supply of foreign exchange in the market. Thus, the theory is compatible with the general theory of value and regards the problem of the determination of rate of exchange as an integral part of general equilibrium theory

(ii) The theory recognises the fact that imports and exports of goods alone do not determine the rate of exchange. There are a number of important forces other than the merchandise items which influence the supply of and demand for foreign exchange and, thereby, the rate of exchange.

(iii) The important implication of the theory is that any disequilibrium in the balance of payments of a country can be corrected by making appropriate adjustments in the rate of exchange, *i e*, through devaluation of home currency when there is deficit balance and revaluation of home currency when there is surplus balance.

Criticism

However the balance of payments theory has been criticised because of the following drawbacks

(i) The theory is based on unrealistic assumptions of perfect competition and non interference of the government in the foreign exchange market. In the present-day world, almost every country has adopted the policy of exchange control

(ii) The theory assumes that there exists no causal relation between the rate of exchange and the internal price level But, in reality, there exists a definite relation between the two because the balance of payments position of a country is influenced by the internal cost price structure of that country

(iii) The theory is indeterminate in the sense that it does not tell clearly what determines what. According to this theory, the balance of payments determines the rate of exchange But, it is also equally true that balance of payments itself is a function of the rate of exchange. Thus, it is not clear whether the balance of payments determines the exchange rate of the exchange rate determines the balance of payments.

(iv) The theory unrealistically assumes the balance of payments to be a fixed quantity

(v) The theory also assumes that the demand for raw materials imported from other countries is perfectly inelastic and is therefore independent of the variations in the price and the exchange rate But, this is not true Even

the demand for most essential commodities has some degree of elasticity In fact all the commodities have their substitutes and thus are influenced by the price variations caused by changes in the rate of exchange

7 FACTORS INFLUENCING RATE OF EXCHANGE

Different theories of exchange rate determination attempt to explain only the equilibrium or normal or long period rates of exchange The market or the day to-day rates of exchange however, are subject to fluctuations in response to the changes to the supply and demand for international money transfers There are a host of factors which influence the supply of and demand for foreign exchange and thus are responsible for the fluctuations in the rate of exchange Important amount them are given below

1 **Trade Movements** Changes in the imports and exports cause changes in the demand for and supply of foreign exchange which in turn lead to fluctuations in the rate of exchange If the imports exceed exports the demand for foreign exchange increases and, as a result, the rate of exchange of native currency will fall and move against the native country On the other hand if exports exceed imports the demand for foreign exchange decreases and the rate of exchange rises and moves in favour of the native country

2 **Capital Flow** Capital flow from one country to another brings changes in the rate of exchange If for example capital is exported from America for investment in India, the demand for Indian rupee will increase in the foreign exchange market. As a consequence the rate of exchange of Indian rupee in terms of American dollar will rise

3 **Granting of Loans.** If a country gets loans from some foreign country, the supply of the foreign currency will increase As a result, the rate of exchange will move in favour of the home currency and against the foreign currency But, at the time of repayment of loan or granting loan to the foreign country, the supply of foreign currency will fall and the rate of exchange will move against the home currency and in favour of the foreign currency

4 **Sale and Purchase of Securities.** Sale and purchase of foreign securities influence the demand for foreign exchange, and thereby, the exchange rate When the residents of a country purchase foreign securities, the demand for foreign currency increases As a result, the value of home currency falls, i e the rate of exchange moves against the home currency and in favour of foreign currency

5 **Banking Operations** Banks are the dealers in foreign exchange They sell drafts, transfer funds issue letters of credit, and accept foreign bills of exchange When a bank issues drafts or other credit instruments on its

foreign branches it increases the supply of home currency in the foreign exchange market. As a result the rate of exchange moves in favour of the home currency and against the foreign currency

6 *Speculation* Speculation (or anticipation about the future changes) in the foreign exchange market also causes variations in the rate of exchange If the speculators expect the value of foreign currency to rise they begin to buy foreign currency in order to sell it in future to earn profit By doing so they tend to increase the demand for foreign currency and raise its value On the other hand if the speculators anticipate a fall in the future value of foreign currency they will sell their foreign exchange holdings As a result of this increase in the supply of foreign exchange the rate of exchange will move against foreign currency and in favour of home currency

7 Protection When the government of a country gives protection to the domestic industries it tends to discourage imports from other countries As a consequence the demand for foreign currency will decrease and the rate of exchange will move in favour of the home currency and against the foreign currency

8 Exchange Control The policy of exchange control also brings about changes in the rate of exchange Generally various measures of exchange control involve restrictions on imports which leads to a fall in the demand for foreign currency As a result, the rate of exchange moves in favour of the home currency and against the foreign currency

9 Inflation and Deflation Changes in the internal value of money also reflect themselves in the s milar changes in the external values During inflation the internal value (or the purchasing power) of home currency falls and there will be outflow of foreign capital from the country to avoid financial losses As a result the demand for foreign currency will increase and the external value of home currency will fall On the contrary during deflation the internal value (or the purchasing power) of the home currency rises and there will be inflow of foreign capital to realise financial gains from the relative appreciation of the value of foreign currency and a change in the exchange rate in favour of home currency and against foreign currency

10 Financial Policy Policy of deficit financing leads to inflationary conditions in the country As a result, the foreign capital will start leaving the country the supply of foreign exchange will fall and the rate of exchange will turn in favour of foreign currency and against home currency

11 Bank Rate Changes in the bank rate cause fluctuations in the exchange rate When the central bank of a country raises the bank rate there will

be inflow of foreign capital with a view to earn higher interest income. As a result, the supply of foreign currency increases and the rate of exchange moves against the foreign currency and in favour of home currency. On the other hand, when the bank rate is reduced, there will be an outflow of foreign capital This reduces the supply of foreign currency and the exchange rate moves in favour of the foreign currency and against the home currency

12. Monetary Standard. If the country is on the gold standard, then the exchange rate will move within the limits set by upper and lower gold points. On the contrary, in a country with inconvertible paper money system, there is no limit to the fluctuations in the rate exchange

13. Peace and Security. The conditions of peace and security in the country attracts foreign capital This increases the supply of foreign currencies in the country and the rate of exchange moves against the foreign currencies and in favour of the home currency

14. Political Conditions. Political stability also encourages inflow of foreign capital in the country As a result, the supply of foreign currencies increase and their value in terms of home currency falls

All these factors cause fluctuations in the exchange rate only in the system of flexible exchange rates However, if the country adopts the policy of complete exchange control, and the exchange rate is pegged at a certain level, there will be no variations in the rate of exchange

8. FIXED AND FLEXIBLE EXCHANGE RATES

Broadly speaking, there can be two types of exchange rate systems; (a) fixed exchange rate system ; and (b) flexible exchange rate system.

1. Fixed Exchange rate system. Fixed exchange rate system is a system where the rate of exchange between two or more countries does not vary or varies only within narrow limits Under the fixed or stable exchange rate system, the government of a country adjusts its economic policies in such a manner that a stable exchange rate is maintained ; it is a system of changing lock to the key In the strict sense, fixed exchange rate system refers to the international gold standard (as existed before 1914) under which the countries define their currencies in gold at a ratio assumed to be fixed indefinitely But, in modern times, the fixed exchange rate system is identified with adjustable peg system of the International Monetary Fund (IMF) under which the exchange rate is determined by the government and enforced through pegging operations or through some exchange controls

2. Flexible Exchange Rate System. Flexible or free exchange rate system, on the other hand, is a system where the value of one currency in terms of

another is free to fluctuate and establish its equilibrium level in the exchange market through the forces of demand and supply Under the flexible exchange rate system, the rate of exchange is allowed to vary to suit the economic policies of the government It is a system of changing key to the lock The flexible exchange rates are determined by the forces of demand and supply in the exchange market There are no restrictions on the buying and selling of the foreign currencies by the monetary authority and the exchange rates are free to change according to the changes in the demand and supply of foreign exchange

Arguments for Fixed Exchange Rates

The main arguments advanced in favour of the system of fixed or stable exchange rates are as follows

1 **Promotes International Trade** Fixed or stable exchange rates ensure certainty about the foreign payments and inspire confidence among the importers and exporters This helps to promote international trade

2 **Necessary for Small Nations** Fixed exchange rates are all the more essential for the smaller nations like the U K , Denmark, Belgium, in whose economies foreign trade plays a dominant role Fluctuating exchange rates will seriously affect the process of economic growth in these economies

3 **Promotes International Investment** Fixed exchange rates promote international investments If the exchange rates are fluctuating, the lenders and investors will not be prepared to lend for long term investments

4 **Removes Speculation** Fixed exchange rates eliminate, the speculative activities in the international transactions There is no possibility of panic flight of capital form one country to another in the system of fixed exchange rates

5 **Necessary for Small Nations** Fixed exchange rates are all the more essential for the smaller nations like the U K , Denmark, Belgium, in whose economies foreign trade plays a dominant role Fluctuating exchange rates will seriously disturb the process of economic growth of these economies

6 **Necessary for Developing Countries** Fixed exchanges rates are necessary and desirable for the developing countries for carrying out planned development efforts Fluctuating rates disturb the smooth process of economic development and restrict the inflow of foreign capital

7. **Suitable for Currency Area** A fixed or stable exchange rate system is most suitable to a world of currency areas, such as the sterling area. If the exchange rates of the countries in the common currency area are flexible,

the fluctuations in the leading country, like England (whose currency dominates), will also disturb the exchange rates of the whole area.

8 Economic Stabilisation. Fixed foreign exchange rate ensures internal economic stabilisation and checks unwarranted changes in the prices within the economy In a system of flexible exchange rates, the liquidity preference is high because the businessmen will like to enjoy wind fall gains from the fluctuating exchange rates This tend to increase price and hoarding activities in country

9. Not Permanently Fixed Under the fixed exchange rate system, the exchange rates does not remain fixed or is permanently frozen Rather the rate is changed at the appropriate time to correct the fundamental disequilibrium in the balance of payments

10. Other Arguments. Besides, the fixed exchange rate system is also beneficial on account of the following reasons

(i) It ensures orderly growth of world's money and capital markets and regularises the international capital movements

(ii) It ensures smooth functioning of the international monetary system That is why, IMF has adopted pegged or fixed exchange rate system

(iii) It encourages multilateral trade through regional cooperation of different countries

(iv) In modern times when economic transactions and relations among nations have become too vast and complex, it is more useful to follow a fixed exchange rate system

Arguments against Fixed Exchange Rates

The system of fixed exchange rates has been criticised on the following grounds

1. *Outmoded* System. Fixed exchange rate system worked successfully under the favourable conditions of gold standard during 19th century when (a) the countries permitted the balance of payments to influence the domestic economic policy ; (b) there was coordination of monetary policies of the trading countries ; (c) the central banks primarily aimed at maintaining the external value of the currency in their respective countries , and (d) the prices were more flexible Since all these conditions are absent today, the smooth functioning of the fixed exchange rate system is not possible

2 Discourage *Foreign* Investment Fixed exchange rates are not permanently fixed or rigid. Therefore, such a system discourages long-term

foreign investment which is considered available under the really fixed exchange rate system

3 **Monetary Dependence** Under the fixed exchange rate system, a country is deprived of its monetary independence It requires a country to pursue a policy of monetary expansion or contraction in order to maintain stability in its rate of exchange

4 **Cost-Price Relationship not Reflected.** The fixed exchange rate system does not reflect the true cost price relationship between the currencies of the countries No two countries follow the same economic policies Therefore the cost price relationship between them go on changing If the exchange rate is to reflect the changing cost price relationship between the countries, it must be flexible

5 **Not a Genuinly Fixed System.** The system of fixed exchange rates provides neither the expectation of permanently stable rates as found in the gold standard system, nor the continuous and sensitive adjustment of a freely fluctuating exchange ra

6 **Difficulties of IMF System.** The system of fixed or pegged exchange rates, as followed by the International Monetary Fund (IMF), is in reality a system of managed flexibility It involves certain difficulties, such as deciding as to (a) when to change the external value of the currency ; (b) what should be acceptable criteria for devaluation ; and (c) how much devaluation is needed to reestablish equilibrium in the balance of payments of the devaluing country

Arguments for Flexible Exchange Rates

Flexible exchange rate system is claimed to have the following advantages :

1. **Independent Monetary Policy.** Under flexible exchange rate system, a country is free to adopt an independent policy to conduct properly the domestic economic affairs The monetary policy of a country is not limited or affected by the economic conditions of other countries.

2. **Shock Absorber.** A fluctuating exchange rate system protects the domestic economy from the shocks produced by the disturbances generated in other countries Thus, it acts as a shock absorber and saves the internal economy from the disturbing effects from abroad

3. **Promotes Economic Development.** The flexible exchange rate system promotes economic development and helps to achieve full employment in the country The exchange rates can be changed in accordance with the requirements of the monetary policy of the country to achieve the planned national objectives

4. Solutions to Balance of Payments Problems. The system of flexible exchange rates automatically removes the disequilibrium in the balance of payments When, there is deficit in the balance of payments, the external value of a country's currency falls As a result, exports are encouraged, and imports are discouraged thereby, establishing equilibrium in the balance of payments

5. Promotes International Trade. The system of flexible exchange rates does not permit exchange control and promotes free trade. Restrictions on international trade are removed and there is free movement of capital and money between countries

6. Increase in International Liquidity. The system of flexible exchange rates eliminates the need for official foreign exchange reserves, if the individual governments do not employ stabilisation funds to influence the rate Thus, the problem of international liquidity is automatically solved. In fact the present shortage of international liquidity is due to pegging the exchange rates and the intervention of the IMF authorities to prevent fluctuations in the rates beyond a narrow limit

7. Market Forces at Work. Under the flexible exchange rate system, the foreign exchange rates are determined by the market forces of demand and supply Market is cleared off automatically through changes in exchange rates and the possibility of scarcity or surplus of any currency does not exist.

8. International Trade not Promoted by Fixed Rates. The argument that fixed exchange rates promotes international trade is not supported by historical facts of inter-war or post war period On the other hand under the flexible exchange rate system, the trend of the rate of exchange is generally assessed through the forword market, and the traders are protected from financial losses arising from fluctuating exchange rates This helps in promoting international trade

9. International Investment not Promoted by Fixed Rates. The argument that long term international investments are encouraged under fixed exchange rate system is not valid. Both the lenders and borrowers cannot expect the exchange rate to remain stable over a very long period

10. Fixed Rates not Necessary for currency Area This stable exchange rates are not necessary for any system of currency areas The sterling block functioned smoothly during the thirties in spite of the fluctuating rates of the member countries

11. Speculation not Prevented by Fixed Rates. The main weakness of the stable exchange rate system is that in spite of the strict exchange control,

currency speculation is encouraged This destroys the stability in the exchange value of the home currency and makes devaluation of the currency inevitable. For instance the pound had to be devalued in 1949 mainly because of such speculation

Arguments against Flexible Exchange Rates

The following are the main drawbacks of the system of flexible exchange rates

1 **Low Elasticities** The elasticities in the international markets are too low for exchange rate variations to operate successfully in bringing about automatic equilibrating adjustments When import and export elasticities are very low the exchange market becomes unstable Hence the depreciation of the weak currency would simply tend to worsen the balance of payments deficit further

2 **Unstable Conditions.** Flexible exchange rates create conditions of instability and uncertainty which in turn tend to reduce the volume of international trade and foreign investment. Long term foreign investments are greatly reduced because of higher risks involved

3 **Adverse Effect on Economic Structure** The system of flexible exchange rates has serious repercussion on the economic structure of the economy Fluctuating exchange rates cause changes in the price of imported and exported goods which in turn destabilise the economy of the country

4 **Unnecessary Capital Movements** The system of fluctuating exchange rates leads to unnecessary international capital movements By encouraging speculative activities such a system causes large scale capital outflows and inflows thus seriously disturbing the economy of the country

5 **Depression Effects of Capital Movements.** Speculative capital movements caused by fluctuating exchange rates may lead to the problem of extremely high liquidity preference In a situation of high liquidity preference, people tend to hoard currency, interest rates rise, investment falls and there is large scale unemployment in the economy

6 **Inflationary Effect** Flexible exchange rate system involves greater possibility of inflationary effect of exchange depreciation on domestic price level of a country Inflationary rise in prices leads to further depreciation of the external value of the currency

7 **Factor Immobility** The immobility of various factors of production deprives the flexible exchange rate system of its advantages arising from the adoption of monetary and other policies for maintaining internal

stability Such policies produce desirable effects on production and employment only when supply of factors of production is elastic

8 Failure of Flexible Rate System Experience of the flexible exchange rate system adopted between the two world wars has shown that it was a flop

Conclusion

It is a debatable question whether a country should adopt a fixed or flexible exchange rate system Both the types of exchange rate systems have their relative merits and demerits Actual experience however indicates that the success or appropriateness of an exchange rate system depends upon the macro-economic conditions of the country and the external shocks (a) If the world economy itself is stable and there are no fluctuations in the trend rate of exchange the fixed exchange rate system is likely to be quite successful (b) If the world conditions are chaotic and the internal economy of the country relatively stable the flexible exchange rate system will work smoothly and have little disturbing effects (c) If on the other hand the economy is relatively unstable and is more open to external fluctuations due to greater dependence on foreign trade flexible exchange rate system will have destabilising effects

9 DEBATE OVER FIXED AND FLEXIBLE EXCHANGE RATES

Theoretical Debate

Though the debate still continues over the relative merits of (a) fixed or stable exchange rates (b) flexible or floating exchange rates and (c) a compromise between the two systems it is not completely unresolved Both theory and experience however have combined to resolve partly some of the key issues in the debate These key issues are (a) the argument of price discipline (b) the risk argument and (c) the argument of destablising speculation

1 Argument of Price Discipline One major argument advanced in favour of fixed rates and against flexible exchange rates is that the flexible exchange rates weaken internal price discipline and allow more inflation The argument runs as follows The fixed exchange rate system puts more pressure on the deficit countries to deflate more than on the surplus countries to inflate Thus allowing the governments to switch over to flexible exchange rates system will on the average release more inflationary policies This argument is correct and is supported by the fact that world inflation increased after the generalised float of August 1971

But, whether one considers this argument for fixed or flexible exchange rates involve value judgment. It depends upon one's view of unemployment inflation

dilemma. Those who care much about full employment and are not much bothered about price inflation might prefer flexible rates because the flexible rates enhance the ability of deficit countries to create jobs through expansionary policies. On the contrary, those who fear inflation above all are more likely to favour fixed exchange rates.

2. **Risk Argument.** The argument that flexible exchange rates expose traders and investors to greater risks is questionable. The arguments needed to defend fixed exchange rates against the shocks that are experienced in any other system of exchange rates are likely to be less costly. Under the flexible exchange rate system one can easily insure against exchange rate risk through hedging in the forward market. On the other hand, it is much harder to insure against a sudden loss of job or sudden inflation resulting from the attempts to defend fixed exchange rate system.

3. **Argument of Destabilising Speculation.** The argument that flexible exchange rates breed destabilising speculation is not fully supported by theory or by experience. Speculation under flexible exchange rates may be stabilising or destabilising. If the speculators expect a fall in the price of foreign exchange (*e.g.*, fall in dollar per pound) when it is above the trend level and expect a rise in the price of foreign exchange when it is below the trend level, they tend to sell the foreign currency (pound) when its price is above the trend and buy it when its price is below trend. This is called *stabilising speculation*. On the other hand, if the speculators expect a further rise in the foreign currency (*e.g.*, pound) when it is above the trend level and expect a further fall in the price of foreign currency (pound) when it is above the trend level, they tend to buy the foreign currency (pound) when its price is above trend and sell it when its price is below trend. This is a case of *destabilising speculation*.

According to Friedman, the destabilising speculation is self-eliminating because destabilising speculators will be losing money by buying and selling low over each cycle of exchange rate movement and will go bankrupt if they continue behaving in this manner. But the question, whether, under a flexible exchange rate system, speculation will in reality be stabilising, or destabilising is not merely a theoretical question, but also an empirical question and has to be answered by the study of actual facts. Such a study will bring to light many cases in which the destabilising speculators did not bother about losing money and actually lost money, but produced destabilising effects.

Exchange Rate Systems and Historical Experience

Historically, the success or failure of different exchange rate systems has depended upon the severity of shocks with which these systems had to deal.

1 **Gold Standard Era (1870-1914)** The fixed exchange rate system under gold standard operated successfully before 1914 because the world economy itself was more stable. During this stable pre war period, even fluctuating exchange rate regimes showed stability

2. **Inter-War Period of Instability** In the inter war period, the economic conditions throughout the whole world were chaotic Fixed rates broke down and the governments were forced to shift to fluctuating exchange rate system Empirical studies have shown that, in the inter war period, the flexible rate system showed signs of stabilising speculation in the countries with conditions of relative macroeconomic stability and of destabilising speculation in the countries with relatively disturbed conditions

3 **Adjustable Peg System (1944-1971)** In the more stable and faster growing post war world economy, international monetary institutions proved more successful The international financial order, called the Bretton Woods system, provided a modified gold exchange standard. Under this system, the countries maintained adjustable pegs vis a vis the U.S dollar The U S took the responsibility of exchanging gold for dollars with foreign central banks at a fixed price A new institution, *i e*, International Monetary Fund (IMF) was founded as a part of the Bretton Wood system The adjustable peg system provided compromise between fixed and flexible exchange rate systems and was aimed at achieving the twin objectives (a) to establish international harmony and stable exchange rates associated with the gold standard and (b) to allow individual countries the freedom to pursue their own macroeconomic policies

4 **Collapse of Adjustable Peg System** The post war experience with adjustable pegged exchange showed that there were rare changes in exchange rates among major currencies But, the system ceased to be feasible due to the basic flaws inherent in the system itself It carried within itself the seeds of its own destruction The contradictory features of the adjustable peg system were (a) stable exchange rates , (b) autonomous national macroeconomic policies , and (c) extensive international capital movements as a result of steady growth of international trade and liberalisation of international transactions The nations were unwilling to dispense with the second feature a. t did not like to impose controls necessary to nullify the effects of the third feature Thus, the first feature must go Ultimately, the adjustable peg system collapsed in 1971 and was replaced by the system of managed floating rates

5 **Managed Floating Rates (after 1971)** Since 1971, the system of managed floating rates has been adopted by most of the countries of the world Under this system the currency of a country is allowed to float on

foreign exchange market and determine its exchange rate according to market forces. Floating rate does not imply complete absence of official intervention. The monetary authorities may intervene to restrict the fluctuations in the exchange rate within certain limits.

6. Rules for Managed Floating. In order to avoid disorderly fluctuations in the exchange rates and allow the national intervention in accordance with some international guidelines, various formal rules have been suggested. The IMF, on the occasions, has made general statements on the subject. The Fund issued in 1974 the *Guidelines for the Management of floating Exchange Rates*, and in 1977 *the Text of Executive Directors' Discussions of Exchange Rate Policy Surreillance*. But the debate regarding the formal rules continues. At present, the discussion centres round four types of norms for behaviour.

(i) Leaning Against the Wind. The basic idea here is that the central banks should intervene to resist but not neutralise market forces. In other words, short-term exchange rate fluctuations should be reduced, but long-term trends should be dictated by the market.

(ii) Targets. Target values should be set for various exchange rates and the authorities should then intervene so as to move exchange rates towards these targets.

(iii) Objective Indicators. Objective indicators should be used and the countries should alter their intervention policies when these indicators signal the existence of substantial disequilibrium.

(iv) Reference Rates. Reference rates should be set and revised periodically at levels consistent with the international economic policies of the countries involved. The aim is not to directly reduce exchange rate fluctuations but to help prevent aggressively nationalistic intervention policies.

7. Present Position. The present position regarding the existing exchange rate system in the world economy is that the IMF articles have been so amended as to allow the countries wide discretion in exchange practices. The major industrial countries have managed floats relative to each other, except for the adjustable pegs of the European Monetary System. Majority of the less developed countries, on the other hand, peg to a currency or to a basket of currencies.

Conclusion. Thus, the current controversy does not centre over whether a general system of adjustable pegs should be reintroduced, or over the merits of fixed versus floating rates. On the other hand, the controversy is regarding whether and how intervention ought to be internationally regulated under the managed floating exchange rate system.

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10. FORWARD EXCHANGE MARKET

In the foreign exchange market, forward exchange market functions side by side with the spot exchange market. The transactions of spot exchange market are known as spot exchange and those of the forward exchange market are known as forward exchange. The rates at which the foreign exchange is bought and sold in the spot market are called spot rates and the rates at which the foreign exchange is bought and sold in the forward market are called forward rates

The spot exchange refers to the foreign exchange transactions which require immediate delivery or exchange of currencies on the spot. Normally, the settlement takes place within two days A forward exchange involves a purchase or sale of foreign currency to be delivered at some future date. The rate at which the transaction is to take place is determined at the time of sale, but the payment is not made until the exchange is not delivered by the seller

The spot rate refers to the rate prevailing at a particular time for spot delivery of a specified type of foreign exchange The forward exchange rate is the rate at which the future contract for foreign currency is made. With reference to its relationship with the spot rate, the forward rate may be at par, at a premium or at a discount.

(i) When the exchange rate is quoted exactly equivalent to the spot rate at the time of making the contract, the forward exchange rate is said to be at par

(ii) The forward rate is said to be at a premium over the spot rate when it is quoted higher than the spot rate Premium implies that the foreign currency is expensive One dollar buys more units of other currency in the forward than in the spot market. The premium is usually expressed as a percentage deviation from the spot rate on a per annum basis.

(iii) The forward rate is said to be at a discount with respect to the spot rate when it is quoted lower than the spot rate. Discount implies that the foreign currency is cheaper One dollar buys less units of other currency in the forward than in the spot market. The discount is also expressed as a percentage deviation from the spot rate on a per annum basis

The forward exchange rate is mostly determined by the demand for and supply of forward exchange When the demand for forward exchange exceeds its supply, the forward rate will be quoted at a premium When the supply of forward exchange exceeds the demand for it, the forward rate will be

quoted at a discount. When the supply and demand for forward exchange are equal the forward rate will tend to be at par

Determination of Forward Rate

The determination of forward rate or the relation between spot and forward rates depends upon (a) the interest rates between the money markets of the two countries and (b) the interest arbitrage In the absence of anticipated movements of foreign exchange rate, the forward (or future) rate will be the same as the spot rate if rates of interest are the same in the two money markets. On the other hand, if the interest rates are different in the two money markets, the difference will be reflected by the difference between the forward and the spot rates

For example, if the three month's interest rate in London money market is 3% and in New York money market is 1%, there is a difference of 2% in the interest rates of two money markets The three month' pound should be sold in New York at a discount of 2% per annum (and London at a premium of 2% per annum) The forward rate will be calculated in the following way

Spot rate £1 = $2 40

Three months' discount $= \$\ 2\,40 \times \frac{2}{100} \times \frac{3}{12}$

$= \$\ 0\,012$

Three months' forward rate $= \$\ 2\,40 - \$\ 0\,012$

$= \$\ 2\,388$

If the forward rate is different from this calculated rate, then there will be arbitrage operations Arbitrage means buying and selling of two currencies with a view to earn a profit because of the differences in the exchange rates If, for example, the forward pound is sold at a rate higher than $2 388, it would be profitable for banks in New York to put more spot funds in London and sell them forward because they can earn more than 1% Similarly, London banks would find it profitable to put their money in New York where they can earn 1% per annum plus a premium on forward dollars of more than 2% This would be better than 3% interest yield which they would be earning in London itself As a result of these interest arbitrage operations, the forward rate will fall and become equal to the spot rate plus or minus the difference in the interest rates of the two money markets

Advantages of Forward Exchange Market

Need for the forward exchange market arises because of its following advantages

(i) The forward exchange market provides a method for hedging exchange risk. Hedging means forward buying and selling of foreign exchange to eliminate the risk of fluctuations in exchange rate. Suppose an American expects to get a payment of £1000 in three months' time for exports, as income on loans or investment, or for any other reason. He is not certain about the number of dollars he will receive because it depends upon the dollar pound spot rate during this period. He can avoid the risk of uncertainty by making a contract with a foreign exchange dealer to exchange 1000 pounds for dollars in three months time at a specified rate, called forward rate. In this way, by selling pound forward (or, what is the same thing as, buying forward dollars) he has hedged his exchange risk or has secured forward cover for his transaction. Similarly an importer who has to make payment in foreign currency can eliminate exchange risk by purchasing forward an equal amount of foreign exchange.

(ii) The forward market helps the investors to avoid the uncertainty that exchange rate fluctuations may wipe out their gains. An American investor who wants to purchase foreign securities can protect himself against the risk of changes in the exchange rate by selling foreign currency forward. If the effective yield (after deducting the cost of hedging) is still higher on foreign securities he can go ahead without fear of loss due to exchange rate variation.

(iii) Forward exchange market also provides an opportunity for speculators to make profits from dealings in foreign currencies.

11 ARBITRAGE

Arbitrage refers to an act of simultaneously buying a currency in one market and selling it in another with a view to make profits from the differences between the exchange rates in the two markets. The effect of arbitrage is to iron out differences in the exchange rates of currencies in different centres, and there by creating a single world market in foreign exchange. As an example, suppose that the rate of exchange in London is £ 1 = $2, while in New York £1 = $2 10. This is a situation when one can purchase one pound in London for two dollars and earn a profit of $0 10 by selling it in New York for $ 2 10. Thus, there will be an increase in demand for pound in London and consequently an increase in the supply of pound in New York. The increase in demand for pound will push up its rate in London, while the

increased supply of pound will bring down the rate in New York This operation of arbitrage will ultimatly lead to the equalisation of exchange rates in the two markets

Interest Arbitrage

Interest arbitrage is a form of arbitrage which determines the relationship between forward and spot exchange rates Interest arbitrage refers to the process in which an investor buys a short term security in one market at a yield greater than that can be had in the country of the currency used At the same time, he covers the possible exchange risks by immediately selling forward the proceeds of the short term secutity

In order to understand the process of interest arbitrage let us take an example Suppose the U S Treasury bill rate is 4 5% and the rate on U K Treasury bill is 6% Given the choice between the two bills the investor in U S bills would like to sell them buy the U K bills, and thereby earn the 1.5% higher yield, But the things are not so simple

In order to buy U K. bills, the investor must first buy British pounds on the spot market. Moreover, in order to cover himself against the risk of exchange rate variations, he should sell pounds forward, so that he is certain of the number of dollars he will receive when the U K bills mature Thus, the effective or fully hedged yield difference is the apparent interest differential (*i e*, 1 5% in this case) minus the cost of hedging or the hedging differential Symbolically

$$I = N - F$$

or $$I = (i_f - i_d) - \left(\frac{R_s - R_f}{R_s}\right)$$

where,

I = Effective, fully hedged yield differential

N = Interest differential $(i_f - i_d)$

F = Hedging differential or the cost of hedging $\{(R_s\ R_f)/R_s\}$

i_f = Interest yield on foreign bill

i_d = Interest yield on domestic bill

R_s = Spot rate of exchange

R_f = Forward rate of exchange

The effective yield differential (I) represents the yield incentive to

invest abroad It depends upon the difference of the interest yields on the foreign and domestic bills (N) and the cost of hedging (F) The higher the cost of hedging, the lower the effective yield difference and the smaller the incentive for the investor to switch from U.S to U K bills

In our example, the interest yield differential is 1 5% (i e , N = i_1 i_2 = 6% 4 5 % = 1 5 % Further suppose that initially the prevailing spot and forward rates are identical at £1 = $2 40 This means that F is zero The effective, fully hedged yield differential is thus 1.5 %

$$I = N - F = 015 \quad 0 = 015$$

In this situation, the investors will immediately sell their U.S bills buy spot pound, sell pound forward, and buy U K bills. The large scale selling of U S bills will tend to raise their interest rate (i_2) and large scale purchase of U K. bills will tend to reduce their interest rate (i_1) Similarly, the increased demand for spot pounds and increased supply of forward pounds will cause the spot rate (R_s) to rise and forward rate (R_f) to fall In short, the difference between the two interest rates (i e N) widens and the cost of hedging (F) rises. This will equalise the interest differential (N) and hedging differential (F) and cause the effective, fully hedged yield differential (I) to become zero

In our case, i_1 falls from 6% to 5.5%, i_2 rises from 4 5% to 5%, R_s rises from $2 40 to $ 2 4096, and R_f falls from $2 40 to $2 3975 These changes cause I to change from 1 5% to zero and there exists no further incentive to invest in foreign bills

$$\begin{aligned} I &= (i_1 - i_2) - \{(R_s - R_f) / R_s\} \\ &= (055 \quad 05) - \{(2\,4096 - 2.3975) / 2\,4096\} \\ &= 005 - 005 = 0 \end{aligned}$$

The broad conclusions of the theory of interest arbitrage are as follows

(i) Interest arbitrage provides the link between the forward and spot exchange rates

(ii) The wider the short term interest yield differential on comparable securities between two countries, the wider will be the spread between the forward and spot rates of exchange

(iii) If interest yields on domestic short term securities exceed those available abroad, the domestic currency will sell forward at a discount relative to spot rate

(iv) Conversely, short term interest yields abroad in excess of prevailing domestic yields will cause the home currency to sell at a premium on the-

forward market

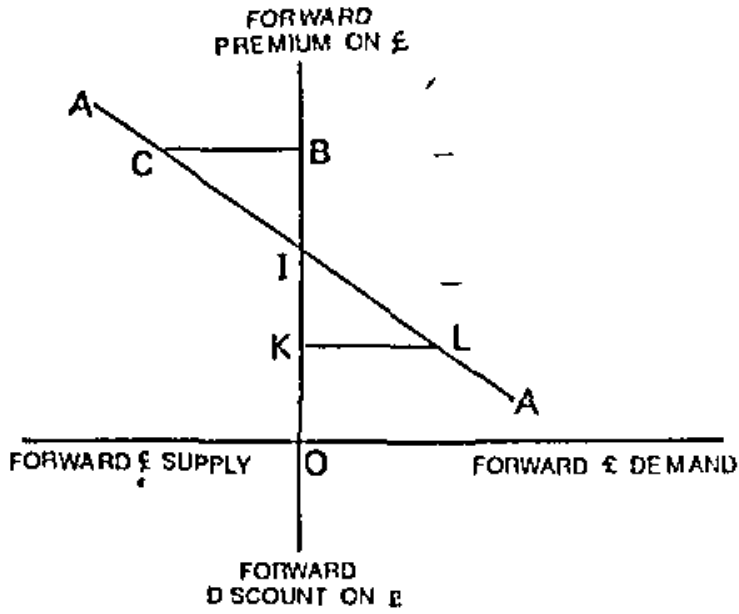

Fig 5

Figure 5 illustrates the process of interest arbitrage graphically Line AA is the arbitrage schedule It shows how many pounds will be demanded by interest arbitrageurs at each value of the forward premium on the pound The more nearly perfect the international capital mobility, the more elastic will be the arbitrage schedule It is because a given deviation from interest parity causes a greater amount of interest arbitrage The distance OI measures the interest rate differential The arbitrage schedule passes through I because there is no incentive to perform arbitrage when the forward premium just equals the interest differential

When the forward premium is less than the interest differential, such as point B, arbitrageurs switch from U S bills to U K bills and the American traders therefore sell forward pounds in order to cover their investment BC indicates this sale and it is equal to the total amount the American dealers commit to U K bills, plus interest Thus the forward premium OB causes the arbitrageurs to sell forward BC quantity of pounds

When the forward premium is less than the interst differential, such as at point K, the British traders will switch from U.K. bills to U S bills They will therefore demand forward pounds in order to cover their purchases of *U S bills. KL indicates this demand. Thus,* forward premium OK on pound causes the arbitrageurs to buy forward KL quantity of pounds

Covered Interest Parity

The purpose of interest arbitrage is to establish covered interest parity The

covered interest parity condition is given below

$$I = N - F = 0$$

or $$N = F$$

or $$i_f - i_d = (R_s - R_f) / R_s$$

or $$i_f = i_d + (R_s - R_f) / R_s$$

The covered interest parity condition has the following implications

(i) Under normal circumstances, the forward premium or forward discount on currency in terms of another is directly related to the difference in the interest rates prevailing in the two countries

(ii) The forward exchange rate is said to be at interest parity whenever the interest differential (N) and the forward discount or premium (F) are equal

(iii) The interest rate of foreign bills (i_f) equals the interest rate on domestic bills (i_d) plus the cost of hedging (F)

(iv) When the interest differential and the forward discount or premium are equal, there exists no further inventive to invest abroad.

(v) When there is perfect international capital mobility, the investors are completely unwilling to hold a lesser paying bill

(vi) Any departure from covered interest parity would immediately induce enough interest arbitrage to force the interest rates and the exchange rates back into line and thus re-establish the covered interest parity condition

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QUESTIONS

1 What do you mean by foreign exchange ? How foreign payments are made ? What are the instruments of foreign payments ?

2 What is foreign exchange market ? Explain the functions of foreign exchange market.

3 What is rate of exchange ? How equilibrium rate of exchange is determined ?

4 How rate of exchange is determined under gold standard ?

5 Discuss the mint parity theory of exchange rate

6 Explain the purchasing power parity of exchange rate Discuss its limitations.

7 How rate of exchange is determined between two countries on convertible paper currency standard ?

8 The purchasing power parity theory does not provide a readymade measure of the true value of the exchange Discuss

9 The rate of exchange between the two currencies must stand essentially as the quotient of the mutual purchasing power of these currencies Discuss

10 Explain the balance of payments theory of exchange rate. What are its limitations ?

11 Do you agree with the view that fluctuations in the exchange rate are the result and not the cause of fluctuations in the balance of payments ?

12 Discuss the causes of fluctuations in the rate of exchange

13 Discuss relative merits and demerits of fixed and fluctuating exchange rates

14 Examine the controversy about fixed and flexible exchange rates

15 What do you mean by forward exchange market ? How is the forward rate determined ?

16. Write a note on arbitrage

17 Explain interest arbitrage What are the implications of covered interest parity condition ?