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M.A. ECONOMICS

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INTERNATIONAL ECONOMICS

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Textbooks
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UNIT - I

THEORIES OF TRADE – I

1.1. Introduction

Since times immemorial, goods have moved across nations and people have made profit by selling the products to other countries, which were not available there. As per the principals of classical economics, there are four basic factors (resources) of production Land, such as land, trees and minerals; Labor the mental and physical skills of individuals; Capital such as tools, machines and factories used in production or to facilitate production; and Entrepreneurship -The availability of natural resources, labour and capital is not sufficient to ensure economic success. These factors of production have to be combined and organised by the enterprising people who see opportunities for making a profit and who are willing to take risks by producing goods and services in the expectation that they will be sold. However, for success in business, it is not just a matter of what resources we have but also of how well we use them. Since the times of Adam Smith, people have been pondering on what underlies the movement of goods and services across nations, giving rise to the theories of international trade. As the times changed, the nature of economic activities also underwent a change and accordingly the ways to look at the underlying factors also underwent a change. Several economists proposed different theories of international trade. In this module, we shall study various theories of international trade.

1.2. Mercantilism

In the earlier days, dating back to the 16-18th century, Mercantilism was the economic philosophy that maintained that a country's wealth is measured by its holdings of gold and silver. Probably, it is this philosophy that India earned lot of gold and she was called as 'golden bird' in the ancient times. According to the principles of mercantilist theory, a country's goal should be to enlarge those holdings, i.e. the assets in the form of gold and silver. In order to increase the gold in the country, it was believed that money should come into the country and not go out of it. Therefore, mercantilism suggests that the ruling government should advance these goals by playing a protectionist role in the economy by encouraging exports and discouraging

imports, notably through the use of subsidies and tariffs respectively. The theory dominated Western European economic policies from the 16th to the late18th century. That was the time of colonialism and the nations concentrated on capturing the colonies, exploiting them to purchase the raw material and sell the finished goods. There was no move to sell the goods between the nations. Considering the prevailing socio-economic conditions of those times, mercantilism might have been a useful line of thought, but it has several shortcomings. Its major limitation is that it confuses the acquisition of treasure with the acquisition of wealth. Assets in the modern times do not exist only in the form of gold and silver. In the present times, there are newer forms of assets. Moreover, protectionist policy weakens the country because it robs individuals of the ability to trade freely, and to benefit from voluntary exchanges. Moreover, it forces countries to produce products it would otherwise not in order to minimize imports. The theory of mercantilism was questioned by the economists like Adam Smith and later by Ricardo by giving due importance to the individuals, and stressing that their welfare was the welfare of the nation. They believed in free trade, supported liberalism and enlightenment, and treated the wealth of the nation in terms of the "the sum of enjoyments" of the individuals in society, and not merely in terms of the gold and silver. Therefore, any activity, which would increase the consumption of the people, was to be considered with favour. Accordingly, their trade theories proposed by them were based upon the principles of free trade and the specialisation in the production of those goods where resources were most suitable.

Features of Mercantilism

- Maintaining a surplus in the balance of trade and accumulating gold were the keys to prosperity.
- Bullion and treasure were the essence of wealth.
- To regulate foreign trade in order to maximize social welfare.
- To promote industry and import cheap raw materials but not food materials.
- Promoting colonialism where the rulers with more gold could maintain larger and better armies.

- ❖ Place heavy tariffs on imported manufactured goods.
- ❖ Encourage exports of manufactured goods.
- ❖ State intervention is essential to solve problems of society and regulate all economic activity. It preached economic nationalism as it believed that nation could gain only at the expense of others.

Criticisms of Mercantilism

- ✶ Too much importance was given to gold and silver.
- ✶ The mercantilists overemphasized commerce, trade but undermined agriculture.
- ✶ It wrongly believed in the concept that favorable trade only leads to prosperity of a country.
- ✶ Lacked universal applications due to lack of scientific system of thought.
- ✶ Moreover, it assumed wrongly that in a foreign trade when one country gains, the other loses thereby a mutually advantageous trade is possible between countries.
- ✶ The adverse effects of continuous favorable trade were ignored by many mercantilists except Thomas Mun.
- ✶ It was a temporary and short-term policy which cannot be undermined as it provided strong basis for capitalism.

The mercantilist's static view of the world economy where trade was regarded as Zero-Sum Game was challenged by Adam Smith with his publication in 1776 Wealth of Nations. According to Smith (1723-1790), International trade is actually a positive sum game where the nations take advantage of specialization and the division of labor which increases the general level of productivity within a country and thus increases world output. According to the dynamic view of Smith regarding trade both the trading partners could simultaneously enjoy higher levels of production and consumption. Smith's trade theory is explained further in the next section.

1.3. Theory of Absolute Advantage:

The theory of Absolute Advantage was proposed by Adam Smith, who argued that mercantilism robs individuals of the ability to trade freely and to benefit from voluntary exchanges. According to this theory of absolute advantage, a

country should export those goods and services for which it is more productive than other countries and import those goods and services for which other countries are more productive than it is. A country is said to possess an absolute advantage over its trading partner when it can produce more of an output with a given number of inputs. This can be understood with the help of an example. Suppose that we are studying two countries England and Portugal, who are producing wine and cloth. We further assume that there is no trade between the two countries and the output of the two countries per unit of the output is shown in the following table:

Table - 1

Output / Unit of Inputs of Two Countries

Country	**Output of Wine/Unit of Input**	**Output of Cloth/Unit of Input**
England	1	12
Portugal	6	10

When there is not trade between the two countries, both produce the goods as per their needs. We further assume that each country has 1000 units of inputs and uses the resources equally to produce the two products. When they are consuming their output alone, we can find their optimal production / consumption point by multiplying our 2X2 matrix of outputs by 500 (1/2 of the 1000 units of inputs for each country in the production of each product). We find that the output per one unit of Input Production Wine Cloth Inputs Wine Cloth England 1 12 500/500 500 6,000 Portugal 6 10 500/500 3,000 5,000 Total Production / Consumption in the two countries: 3,500 11,000. This can be shown with the help of the following table:

Table - 2

Outputs/ Unit of Inputs of Two Countries

Output Per Unit of Input				**Production**	
Country	Wine	Cloth	Inputs	Wine	Cloth
England	1	12	500/500	500	6000
Portugal	6	10	500/500	3000	5000

In this scenario, the total production of wine is 3500 units and cloth is 11000 units. Both the countries consume what they produce. In the next scenario, we assume that each country specializes in the production of that product for which it has an absolute advantage. In this example, England has an absolute advantage in cloth and Portugal has an absolute advantage in Wine. The two countries produce only one product, i.e. England produces only cloth and Portugal produces only wine. Both allocate their full resources to only one product. Assuming that they allocate 1000 units, England will produce 12000 units of cloth and Portugal will produce 6000 units of wine. The total output of the two countries increases by 2500 additional units of wine and 1000 additional units of cloth. Hence, with the same output, foreign trade between the two countries increased the output. After trade, the international exchange ratio would lie somewhere between the pre-trade exchange ratio of the two countries. In other words, the additional output produced because of the trade will be distributed according to the terms of the trade between the two countries. For this purpose, the domestic scenario of the two countries has to be studied. In England, 1 unit of Wine is equivalent to 12 units of cloth and 1 unit of Cloth is equivalent to 1/12 barrel of Wine. Similarly, in case of Portugal, 1 unit of wine is equal to 1 2/3 units of cloth and 1 unit of Cloth is equivalent to 3/5 unit of Wine. Hence, the additional output will be taken by the two countries and both would benefit from trade, as compared to production in isolation.

1.4. Pure Theory of International Trade

International economics studies how independent economies of world interact with one another in the process of allocating the scarce resources to satisfy human wants. It deals with the economic and financial interdependence among nations. It analyses the flow of goods, services, payment, monies and people between a nation and the rest of world, the policies directed at regulating these flows and their effect on the nation's welfare. This economic and financial interdependence influences the political, social, cultural and military relations among nations. The field of international economics has emerged as a 'specialistic' field of economics over the past two

centuries, with contributions from some of the world's most distinguished economists from Adam Smith to David Ricardo, John Stuart Mill, Alfred Marshall, John Maynard Keynes and Paul Samuelson who have developed in depth and width over time by a lot of theoretical, empirical and descriptive contributions. International economists view the world as a community of separate states, each with its own constellation of natural resources, capital, labor and knowledge, its own social and economic institutions and its own economic policies. Like many other disciplines, International Economics also has two distinct parts Theoretical and Descriptive.

Theoretical International Economics - The theoretical part tries to go beyond the phenomena to seek general principles and logical framework which can serve as a guide to understanding of actual events. Like any other economic theory it uses for this purpose abstractions and models often expressed in mathematical form. It can be further divided into pure and monetary theory, each containing aspects of both positive and normative economics although these aspects are strictly intertwined.

The pure theory of international trade which has a micro economic sense covers mainly the effects of trade on production, consumption and distribution of income, effects of trade on relative factor prices and product prices, gains from trade and distribution of the gains etc. The international monetary theory which is of a macroeconomic nature deal with matters pertaining to balance of payments and international monetary system. It covers areas such as causes and methods correcting balance of payments disequilibria, exchange rate determination, international liquidity etc.

Descriptive International Economics - The descriptive part is concerned with the description of international economic transactions in the way they happen and of the institutional environmental in which they take place. This covers international flow of goods and services, flow of international financial and other resources, international organizations like IMF, World Bank, Regional Development Banks, and World Trade Organisation and so on.

1.5. Comparative Cost Theory

Theory of absolute advantage provided a useful framework for international trade for centuries, but it was looked upon with a different perspective. David

Ricardo, a British economist argued that cost advantage is not the necessary and sufficient condition for trade between the nations. He argued that nations would benefit from trade even if they had absolute cost advantage. According to Ricardo, so long as the other country is not equally less productive in all lines of production, measurable in terms of opportunity cost of each commodity in the two countries, it will still be mutually gainful for them if they enter into trade. This theory states that a country should produce and export those goods and services for which it is relatively more productive than are other countries and import those goods and services for which other countries are relatively more productive than it is. A country is said to have a comparative advantage in the production of a good if it can produce it at a lower opportunity cost than another country. In the example given earlier, (wine-cloth) the opportunity cost of cloth production is defined as the amount of wine that must be given up in order to produce one more unit of cloth. The Ricardian model assumes two countries producing two goods using labor as the only factor of production. Goods are assumed to be homogeneous (identical) across firms and countries. Labor is homogeneous within a country and heterogeneous (non identical) across countries. Goods can be transported costless between countries. Labor can be allocated costless between industries within a country but cannot move between countries. Labor is always fully employed. Production technology differences exist across industries and across countries and reflected in labor productivity parameters. Firms are assumed to maximize profit, while consumers are assumed to maximize utility. The concept of opportunity cost can be explained with the help of the following table:

Table-3

Opportunity Cost

Output Per Unit of Output	**Paper**	**Fish**
Finland	3	4
Germany	1	2

In this example, we assume that two countries – Finland and Germany produce paper and fish. If both the countries were to produce only one

product, they would have to forego the production of the other product. For example, if Finland decided to produce only fish, then it would forego the production of paper, similarly, if Germany decides to produce paper, it has to forego the production of fish. In these cases, the foregone alternative is lost when one option is selected. Each country has a comparative advantage over its trading partner in the production of that good for which its opportunity cost is lower than that of its trading partner. In the above example, the Output/unit of the Input in case of paper produced by Finland is 3/4 of that of fish, and in case of Germany, it is ½. In other words, if Finland were to produce paper by foregoing fish, it would be able to produce 3/4th of the output per unit labour cost it would have used to produce fish. Opportunity cost (what must be given up to produce more) Output/Input for Paper for Fish in case of Finland is 1: 1/3 fish, and ¾ paper. In case of Germany, it is 2 fish, and ½ paper. With this background, if we assume that the input is 1000 units of labour in each country, the output for each country would be as shown in the following table:

Table – 4

Output for 1000 Units of Labour Inputs in Isolation

Country	Paper	Fish	Inputs	Paper	Fish
Finland	3	4	500/500	1500	2000
Germany	1	2	500/500	500	1000

In the situation when there is no trade between the two countries, 1000 units of labour input is equally divided between the two products and the output paper produced by Finland and Germany would be 1500 and 500 units respectively. Similarly, the output of fish would be 2000 and 1000 units respectively. Therefore, the total production/consumption of the two countries would be 2000 units of paper and 3000 units of fish. Further, let us assume that the two countries engage themselves into trade and produce the product in which they have a comparative cost advantage, i.e. produce the product which they can do at a price lower than the other country. In this example, Finland has a comparative advantage because she is able to produce

3 units of paper with one unit of input, as against Germany, who can produce 1 unit of paper. Similarly, Germany has a cost advantage of producing fish. Assuming that Finland allocates 70% of its inputs to producing paper and rest 30% to producing fish, and Germany allocates 100% of the inputs to producing fish, the output would be as shown in the following table:

Table - 5

Output per 1000 unit of incase of trade

Country	**Paper**	**Fish**
Finland	2100	1200
Germany	0	2200
output	2100	3300

We see that in situation of trade, the total output of the two countries increases. Now, who would take the increased output would depend upon the terms of trade and bargaining power of the two countries. Ricardian theory concludes that when countries specialize and trade the relative price of the produced good rises, income for workers rises and imported goods are less expensive for consumers. Trade has the potential to benefit both high productivity and low productivity countries, although trade may change the distribution of income within countries. The high productivity or low wages give countries a cost advantage that allows them to produce efficiently. However, the limitation of the theory is that in actual practice the assumptions cannot be overlooked. There are transportation costs and several other factors that can influence with the flow of goods across nations. Still, this theory provides a basis to encourage free trade between the nations, as against the protectionist theory of the earlier times. Both the absolute advantage and comparative advantage theories failed to realize that the welfare of society does not depend only on the gains from the international trade but depends upon the way the gains are distributed. The individual gains under the theories are not guaranteed unless the government adopts an appropriate redistribution policy. There have to be certain incentives for the producers also in order to keep them engaged in the exportable production. These theories have also been criticized on the ground that labor is not the only input determining the cost of production.

1.6. Refinements of Comparative Cost Theory

Taussig's Approach to the Comparative Cost Theory Expressed in Money Terms:

In the Ricardian comparative cost's principle, an assumption is taken that money does not exist and production is measured through inputs of labour. In the modern money exchange system, all exchange of goods occurs through the medium of money. So, it is not the comparative differences in labour costs alone, but also the absolute differences in prices that influence the international trade.

We suppose that 10 days' labour can help produce 250 units of commodity X in country A. 10 days' labour in the same country can procure also 250 units of commodity Y. In the other country B, 10 days' labour produces 100 units of X- and 10-days' labour can yield 240 units of Y commodity.

This illustration shows that country A has an absolute advantage in producing both the commodities. But she has a comparative advantage over B in the production of X while B has a lesser comparative disadvantage in the production of Y. Consequently, A will specialize in the production and export of X and B will specialize in Y commodity. Assuming that the daily money wage in countries A and B are respectively Rs. 10 and Rs. 80, this illustration can be converted into money terms.

Table 6 shows that per unit money cost of producing X is lower in A than in B. On the opposite, country B can produce commodity Y at a relatively lower per unit money cost. Therefore, country A will specialise in the production of X, while country B will specialise in producing Y commodity. The conclusion is in complete harmony with the Ricardian comparative cost's theory.

It may, however, be criticised on the ground that the wage rates in the two countries have been arbitrarily chosen. In fact, this criticism is not valid. There are specific upper and lower limits within which the ratio of money wages between two countries must lie. There is nothing arbitrary about these limits as these are fixed by the comparative efficiency of labour in each country.

Table - 6

Comparative cost expressed in money terms

Country	Labour input (in man-days)	Daily wage (in Rs.)	Total wage (in Rs.)	Total product	Money cost or Supply price per unit (in Rs.)
A	10	100	1000	250 units of X	4·00
	10	100	1000	250 units of Y	4·00
B	10	80	800	100 units of X	8·00
	10	80	800	240 units of Y	3·33

In terms of output, country A has an advantage over B in the production of commodity X as measured by (250 units of X in A/100 units of X in A) = 2.5. If now daily wage in country B is assumed as Rs. 80, the daily wage in country A at the maximum can be 2.5 times the daily wage in country B, i.e., Rs. 200. The lower limit is determined by the minimum advantage that country B has over country A in the production of commodity Y. It is measured as (250 units of Y in A /240 units of Y in A) = 25/24.

Given a daily wage of Rs. 80 in country B, the minimum limit of daily wage in country A will be 80 × (25/24) = 250/3 = Rs. 83.33. So, if the daily wage in country B is Rs. 80, the daily wage in country A will have to lie between Rs. 83.33 and Rs. 200. There is no possibility of money wage differences going beyond these specific limits.

Suppose the daily wage rises to Rs. 200 in country A, per unit cost of producing both X and Y commodities rises to Rs. 8.00. In this situation, there can be no export of X from A to B because the per unit cost in country B is Rs. 8.00. The import of commodity Y from country B will, however, continue because per unit cost of producing Y in country B remains much lower than the cost in country A.

Such a situation will cause adverse balance of payments, depletion of foreign exchange reserves and gold in case of country A. This will lead to a fall in wages and prices in country A. On the opposite, the wage rate lower than Rs. 83.33, the lower limit of daily wage for country A, will cause adverse balance of payments, depletion of gold and foreign exchange reserves in case of country B.

Suppose daily wage in country A is Rs. 80, per unit cost of producing X and Y both will fall to Rs. 3.20. This will lead to a stopping of exports of Y from country B and country A will continue to export commodity X. The resultant inflow of gold and foreign exchange will increase the supply of money. This will raise the level of daily wages and prices in country A. In this way, it becomes clear that the wage rate will lie between the specific upper and lower limits.

The cost data alone, however, cannot determine where exactly between these limits the actual money wage ratio of two countries and international terms of trade for the two commodities will settle. The Ricardian theory provides no answer to this question. The problem was later dealt by J.S. Mill in terms of the reciprocal demand for the product of each other.

1.7. Modern Theory of Factor Endowments

Introduction to the Heckscher Ohlin theory

Classical always laid emphasis on comparative advantage theory as they explain quite well how two nations can gain based on their comparative costs. The country with the lower comparative (or opportunity) cost has advantage in production of that commodity and hence completely specializes in the production of that commodity and export it to another nation. Similarly, it imports the commodity with the higher comparative cost produced by the other nation cheaply than others. According to Ricardian model, labor is the only factor of production and comparative advantage arises only because of international differences in labor productivity which then leads to changes in opportunity costs and hence prices. But it does not explain why such differences arise in the first place. Heckscher and Ohlin have attempted to explain the factors which cause differences in the comparative costs of different countries. The Heckscher-Ohlin (H-O) model was first conceived by two Swedish economists, Eli Heckscher (1919) and Bertil Ohlin (1933). According to Heckscher and Ohlin, trade is only partly explained by differences in labor productivity. It also reflects differences in countries' resources endowments i.e. how much capital and labor does a country have and how do these factor endowments shape the content of trade. So according

to Heckscher-Ohlin, trade is not solely dependent on labor productivity but also due to differences in a country's resource and factor endowments. Hence Heckscher-Ohlin model does not invalidate the classical theory of comparative costs, rather it powerfully supplements it because it also accepts comparative advantage as the basic cause of international trade. Before proceeding to the detailed analysis of Heckscher-Ohlin (H-O) theorem, we need to first understand a number of assumptions on which it is based.

Assumption:

The following set of assumptions is important for the purpose of understanding the theory in its most basic and simple form:

1) Two countries, two commodities and two factors: In continuation with the Ricardian model assumption of two countries and two commodities, H-O model further assumes that there are two factors of production (labor and capital) instead of a single factor of production assumed earlier and that both factors are employed in the production of both commodities. In short, it is a 2X2X2 model.

2) Each commodity is produced under constant returns to scale: The two commodities are produced under constant returns to scale, that is, if both inputs are doubled, the output will also double.

3) Perfect competition in all markets: This assumption rules out monopolistic and oligopolistic market structures. It also rules out price and wage rigidities. Every firm is a price-taker. Each country is too small to exert market power and influence market price. Also, perfect competition means that in the long run, there are no economic profits, each factor is paid according to their marginal product and everyone in the economy has perfect knowledge.

4) Technology is given and identical: The two commodities are produced with the same technology in both nations. The available means of production are same no matter where we are. This is an unrealistic assumption but it is assumed to focus one's attention on differences in factor endowments alone in explaining trade.

5) Consumer tastes are identical across countries: Consumer demands are assumed to be approximately similar in both countries. And since consumer

preferences are represented by Indifference Curves, this assumption implies that ICs for the two countries will be identical. This is again assumed to make factor endowment the key operating force at the margin.

6) Factors are mobile within each country but immobile between countries: Factors (labor and capital) can move across industries within each country but they cannot move across countries. This means that factors can move from high paying industry to low paying industry until earnings are equalized in all industries. But there is zero international factor mobility so that international differences in factor earnings would persist in the absence of trade.

7) No transportation costs: Transportation costs are assumed to be zero. It is true that transportation costs inhibit and reduce trade volume but it does not reverse the trade pattern between the countries. The purpose is not to ignore reality but to illuminate the pure effects of trade.

8) Free Trade: H-O Model is based on the assumption that final outputs are traded freely.

9) Commodities are ranked in terms of their factor intensity: If a nation has two commodities and two factors then one commodity will require relatively more of one factor than the other commodity and thus can be ranked in terms of capital-labor ratio. This is being done to make the theorem simpler to analyse.

10) Complete specialization not possible: The introduction of international trade does not cause complete specialization in the production of goods in either country. This means that both nations will be producing both commodities after trade.

Deriving the shape of the Production Frontier

In the last assumption we stated that commodities are ranked in terms of their factor intensity, and then one commodity will be labor intensive having a lower capital-labor ratio and other commodity will necessarily be capital intensive. To understand it more clearly, it is necessary to understand the terms - factor intensity and factor abundance. Only then we can derive the shape of the production frontier. To understand it better, let's take an example with which we can understand the whole theorem and its components. Let's

assume there are two countries – Nation 1 and Nation 2. The two commodities are commodity X (capital commodity) and commodity Y (agriculture commodity). Take Commodity X be capital-intensive, that is, they can be produced with less labor relative to capital and it has a higher capital-labor ratio and Commodity Y be labor-intensive commodity, that is, it requires a substantial amount of labor relative to capital.

Further assume that Nation 1 specializes in producing the capital commodity and Nation 2 is considered to be an agricultural country and thus specializes in commodity 2 the following numerical example will help understand it better

Input Requirements in Production Of

COUNTRY	1 Unit of Commodity X	1 Unit of Commodity Y
NATION 1	5 units of capital 5 units of Labor	5 units of capital 10 units of Labor
NATION 2	10 units of capital 5 units of Labor	5 units of capital 5 units of Labor

Factor Intensity

The term "factor intensity" refers to the relative proportion of the various factors of production used to make a given product. In other words, factor intensity looks at how much an industry uses capital, for instance, as opposed to labor. So, when we say that commodity Y is labor-intensive, it means that labor is used relatively more in the production of commodity Y than in the production of Commodity X. This is equivalent to saying that labor-capital ratio (L/K) used in production of commodity Y is greater than L/K used in production of Commodity X i.e. (L/K) commodity Y > (L/K) commodity X , or, (K/L) Commodity X > (K/L) commodity Y when defined in terms of capital-labor ratio. Similarly for capital-intensive commodity commodity X, (K/L) commodity X> (K/L) commodity Y or (L/K) commodity X < (L/K) commodity Y. In our example above in table 1:

Case of Nation

1- 5 units of capital and 5 units of capital produce 1 unit of commodity X and 5 units of capital and 10 units of labor produce 1 unit of commodity Y. K/L ratio in production of commodity X is 5/5=1 while in production of commodity

Y it is 1/2. Since (K/L) commodity X> (K/L) commodity Y, this implies commodity X is capital-intensive and commodity Y is labor intensive.

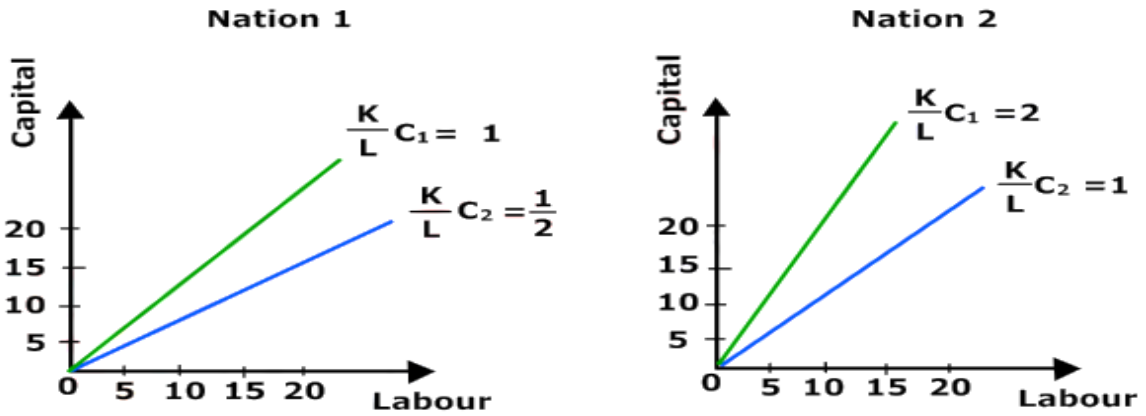

Fig.1.1

while talking about factor intensity, we always talk in terms of capital per unit of labor and not in absolute terms. Even though in above example absolute amount of capital used is also higher in production of commodity Y than commodity X but the factor intensity should always be looked in relative terms. For e.g.: if in the above example Nation 1's production pattern changes such that now 15 units of capital and 30 units of labor produce 1unit of commodity Y then absolute amount of capital used in production of commodity Y is higher than used in production of machine but (K/L) commodity Y = 1/2 < (K/L) commodity X = 1 implying that machine is capital-intensive. Similarly, it can be shown that in case of Nation 2, machine production requires more capital relative to labor, its capital-labor ratio is higher and for commodity Y production, the capital labor ratio is lower. Plotting capital and labor values on a diagram shows us that steeper the line, greater the slope and hence the product with steeper slope is more capital-intensive.

Factor Abundance

Factor abundance is the resource richness of nations. There are two definitions of factor abundance: one in terms of physical quantities and other in terms of factor prices. According to the definition in terms of physical units, the factor abundance of one nation is defined by the relative endowment of capital to labor in one nation relative to another nation. Nation1 is capital

abundant if the ratio of the total amount of capital to the total amount of labor (TK/TL) available in Nation 1 is greater than that in Nation 2 i.e. (TK/TL) NATION 1> (TK/TL) NATION 2. We will assume that Nation 1 is capital-abundant nation and Nation 2 is labor-abundant.

According to the definition in terms of factor prices, Nation 1 is capital abundant if the ratio of the rental price of capital to the price of labor time (PK/PL) is lower in Nation 1 than in Nation 2. Since rental price of capital is usually taken to be the interest rate (r) while the price of labor time is the wage rate (w), PK/PL = r/w. Then (PK/PL) NATION 1 < (PK/PL) NATION 2 or (r/w) NATION 1 < (r/w) NATION 2. This is because capital abundance in Nation 1 leads to a lower price of it in the said nation and similarly higher price of the relatively scarce factor. We all know that demand and supply together determine the price of a commodity. But here we assume that demand conditions are same everywhere, and it is only the supply of various factors of production that differ. Hence it becomes the sole determinant of the factor prices. So, factor prices will be different among different nations due to different factor endowments. As studied above, nation 1 is the capital abundant nation and each factor is paid according to their marginal product so the price of capital will be lower in Nation 1 relative to Nation 2 where labor will be cheaply available as it is a labor abundant country. So now capital is cheap and labor is expensive in Nation 1 and labor is cheap and capital is expensive in Nation 2.

Stated in equation terms, this means,

(r/w) NATION 1 < (r/w) NATION 2 or (w/r) NATION 1 > (w/r) NATION 2.

1.8. Leontief Paradox

Since Heckscher-Ohlin model is one of the most celebrated theorems in international economics, it has been subject to extensive empirical testing. The first and the most important piece of evidence has been provided by Wassily Leontief in 1951 using U.S. data for the year 1947.

Empirical Results of the Paradox

Leontief supposed correctly that in 1947 the United States was abundant in capital relative to its trading partners. Thus, from the Heckscher-Ohlin theorem, Leontief expected that the United States would export capital-

intensive goods and import labor intensive goods. To test the hypothesis, he calculated the amount of labor and capital in a 'representative bundle' of $1 million worth of U.S. exports and import substitutes for the year 1947. Leontief used the numbers in this table to test the Heckscher-Ohlin theorem. Each column shows the amount of capital or labor needed to produce $1 million worth of exports from, or imports into, the United States in 1947.

Leontief Test

	Exports	Import substitutes
Capital ($ millions)	$2.55	$3.1
Labor (person-years)	182	170
Capital/Labor ($/person)	$14000	$18200

What Leontief actually found, however, was just the opposite - U.S. import substitutes were more K-intensive than U.S. exports i.e. the capital - labor ratio for U.S. imports was higher than the capital–labor ratio found for U.S. exports (as shown in the last row of the table). This finding contradicted the Heckscher-Ohlin theorem. In the same study, Leontief tried to defend the H-O theorem rather than rejecting it. He argued that U.S. labor is three times as productive as foreign labor and U.S. will become a labor abundant nation if we multiply labor force by three and H-O theorem will hold correctly. However, later he himself withdrew the explanation citing that U.S. capital is also three times as productive as foreign capital which then multiplied by three would result in the same ratio. Hence the contradiction remained and this came to be called Leontief's paradox. Another possible explanation was also provided by Leontief which states that U.S. citizens strongly preferred capital-intensive goods leading to a higher relative price for such goods. However, this reason cannot be accepted because H-O theorem assumes tastes to be equal in all nations.

Explanation of the Paradox:

There are many possible explanations given for the Leontief Paradox which puts up the question that is the paradox real? The possible source of Leontief paradox bias could be due to:

- U.S. and foreign technologies are not the same, in contrast to what the HO theorem and Leontief assumed.
- Use of a two-factor model: By focusing only on labor and capital, Leontief ignored land abundance in the United States.
- Leontief should have distinguished between skilled and unskilled labor (because it would not be surprising to find that U.S. exports are intensive in skilled labor).
- 1947 being a non-representative year: The data for 1947 may be unusual because World War II had ended just two years earlier. The countries were engaged mainly in postwar reconstruction. When Leontief repeated his study taking 1951-year data, he found that the US exports were only 6% more labor intensive than 30% earlier. Though the paradox didn't eliminate but the intensity was significantly reduced.
- The United States was not engaged in completely free trade, as the Heckscher Ohlin theorem assumes - most heavily protected industries in U.S. were L intensive, reduced imports and increased domestic production of L - intensive goods.
- The most important source of bias was ignorance of human capital (education, job training, and skills) and only physical capital included as capital. Kenen in a 1956 study estimated the human capital embodied in U.S. exports and import substitutes and then recomputed K/L for U.S. exports and U.S. import substitutes of 1947 data and he succeeded in eliminating Leontief Paradox.

1.9. Factor Price Equalization Theorem

The H-O theory is based on resources and trade will affect the demand and hence price for those resources. In this module, we will try to analyse the effect of international trade on the earnings of factors of production and income distribution in the two nations. Paul Samuelson developed a natural consequence of H-O theorem known as factor-price equalization which

examines the effect of trade on relative and factor prices holding all the assumptions of H-O theorem.

In the last module from the general equilibrium framework of H-O model, we learnt that price of factors and technology together determine the final commodity prices and factor prices in turn is determined by their relative supply in that country(assuming demand conditions are same in both nations). This means that in the absence of trade, Nation 1(labor abundant country) will have a lower relative price of good Athan Nation 2 because the relative price of labor, or the wage rate is lower in Nation 1. Similarly capital owners in Nation 2 (the capital-abundant nation) earns less than capital owners in Nation 1. Now as two nations decide to trade, they specialize in the production of goods of their comparative advantage and this causes a convergence in their factor prices and hence relative prices. As Nation 1 specializes in production of good A (the labor-intensive commodity), it will require more resources i.e. labor and capital. The resources will come from the capital-intensive product, whose production will decrease with specialization in good A. The capital-intensive product will release relatively more capital and less labor than is being demanded by the expanding production of the labor-intensive product. The result is an excess demand for labor and an excess supply of capital. The excess demand for labor will cause the wage rate to rise and the excess supply of capital will cause the price of capital decreases. The implies that in a labor-abundant country, trade will cause the price of labor to increase and the price of capital reduces. In a capital-abundant country the reverse reallocation occurs- demand for capital will increase and that of labor will decrease creating excess demand conditions for capital and excess supply conditions for labor in Nation 2, so trade will cause the price of capital to increase in a capital abundant country and cause the price of labor to decrease.

To summarize, international trade will cause wages to rise in Nation 1(the relatively low-wage nation) and to fall in Nation 2 (the relatively high-wage nation) thus reducing the pre-trade difference in wages between the two nations. Similarly, return(price) to capital i.e. r(interest rate) will rise in Nation 2 and fall in Nation 1 thus reducing the pre-trade difference in r between the

two nations. However, trade not only reduces the difference in the return to factors of production but would bring about a complete specialization in relative factor prices. The international trade will keep expanding until the relative commodity prices and hence relative factor prices are completely equalized. Thus, the theorem can be stated as: "International trade will bring about equalization in the relative (and absolute) returns to homogenous factors across nations" i.e. homogeneous labor will earn the same wages in all trading nations and homogeneous capital will earn the same interest rate in all trading nations. Since this theorem follows directly from H-O theorem and is developed by Paul Samuelson, this theorem is also referred to as Heckscher-Ohlin-Samuelson (H-O-S) theorem.

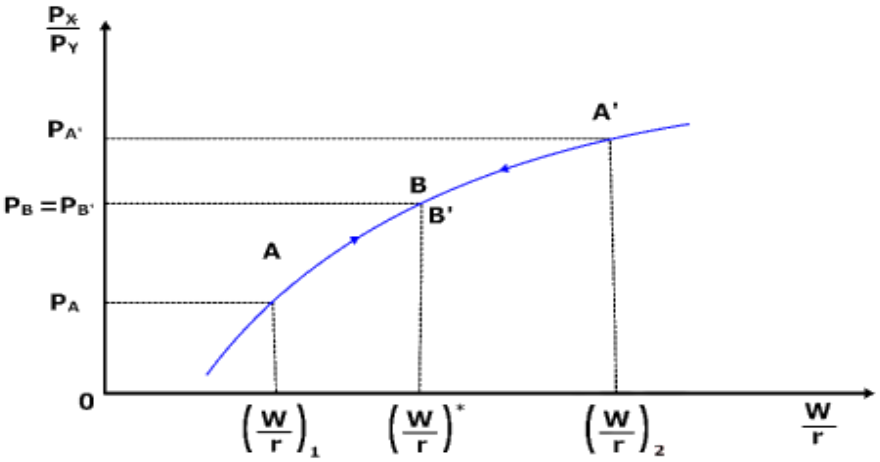

Fig.1.2.

The relative price of labor (w/r) is plotted on the horizontal axis and the relative price of commodity 1 (P_{goodA}/P_{goodB}) is plotted on the vertical axis. Here we assume that since both trading nations operate uses same technology, the commodity prices are determined completely by factor prices and hence we can say that there is a one-to-one relation between relative commodity prices and relative factor prices i.e. at each price P_{goodA}/P_{goodB} there is a specific (w/r) ratio associated with it which is exactly equal to that price. Prior to trade, Nation 1 is at point A with (w/r)1 and (P_{goodA}/P_{goodB})= PA . Nation 2 is at point PB with (w/r)2 and (P_{goodA}/P_{goodB})=PB. Since we are measuring in terms of labor capital ratio, Nation 1 (w/r) is lower than Nation 2 and hence PA is lower than PB. As Nation 1 specializes in production of good A, it causes w to rise and r to fall causing (w/r) to rise. On the other hand, simultaneously in Nation

2, the specialization in good B will cause r to rise and w to fall causing (r/w) to rise or (w/r) to fall. The movement of (w/r) in both nations is shown through arrows. This movement continues till they reach point A'=B' at which PA'=PB' and (w/r) = (w/r)* in both nations. At this point, w/r is identical in both nations and resources will have no incentive to move from one country to another. Hence trade causes a convergence of relative prices. However not only relative but absolute prices also get equalized. Given that trade equalizes relative factor prices, and perfect competition exists in both commodity and factor markets, and that both nations use same technology and face constant returns to scale, trade will also lead to equalization of the absolute returns to homogeneous factors. Hence not only $(w/r)_1=(w/r)_2$ but also $w_1=w_2$ and $r_1=r_2$.

1.10. Stolper-Samuelson Theorem

Stolper–Samuelson explained that under certain restrictive assumptions, a tariff can raise both relative and absolute income of the relatively scarce factor of production and lower that of abundant factor.

Assumptions:

This theorem is based on several assumptions. These are:

1. This theorem is based on 2×2×2 model. There are two countries home and foreign, two commodities, X and Y, with two factors of production, labor and capital.
2. Production functions of both commodities are linear and homogenous of degree one.
3. Good X is labor intensive and good Y is capital intensive.
4. Supply of the factors is fixed.
5. There is perfect competition in the goods and factor market. 6. Terms of trade between the countries remains constant.

Explanation:

Based on these assumptions, the effect of imposition of the tariff by the home country on income distribution is illustrated in the Edgeworth Box diagram in figure 1, where labor is measured along horizontal axis and capital along vertical axis. Dimensions of the Edgeworth box measure the total available

supply of factors in the home country. It is assumed that the home country exports the labor-intensive good X and imports the capital-intensive good Y.

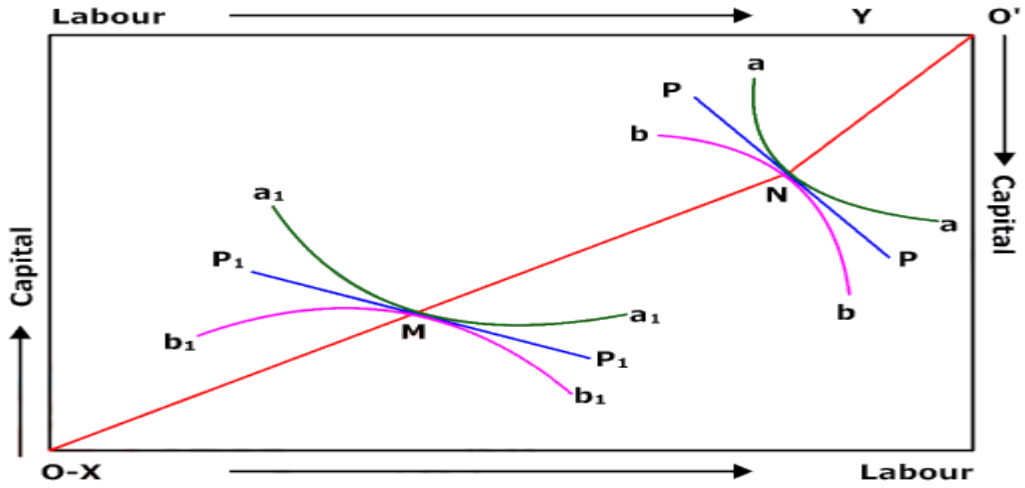

Fig.1.3.

The origin for X commodity is shown as O and that of Y is O^1 . OO^1 is the contract curve. The isoquant for the good X is aa, while bb is the isoquant of Y. They are tangent to each other at the point N on the factor price line pp under free trade. When a tariff is imposed on the capital-intensive good Y, their domestic price of Y rises and their imports declines. The increase in price of Y induces the home producers to increase the production of Y. Now the home country produces more Y and less of X. this leads to the diversion of capital and labor from the production of X to the production of Y. This is shown by the shifting of the isoquant aa of the good X downward to a1a1and the isoquant of good Y bb to upward to b_1b_1. The new production point is M where the two isoquants a_1 a_1 and b_1b_1 is tangent at the factor price line P1P1. Since good Y is capital intensive, relative demand for capital rises. Since there is perfect mobility of factors in the country, both labor and capital will move from industry of good X to industry of good Y. But the relative demand for capital is greater than that of labor, since Y is more capital intensive than X, this tends to bid up the relative price of capital. This leads to substitution in both industries of labor for capital. It means that capital- labor ratio falls in production of both commodities. This is shown by the less steep slope of the factor price line P_1P_1 as against the pp line before the tariff is imposed. As more labor is used with each unit of capital, the marginal productivity of labor and its real wages fall. Conversely, the fall in the capital – labor ratio means

that the marginal productivity of capital and the real returns to capital have risen in production of both commodities. To conclude we can say that as the country moves from N to M with the imposition of tariff, its national income is lowered. The returns to scarce factor capital increases and the wages of the abundant factor labor falls in both relative and absolute terms with the reallocation of resources.

1.11. Rybezynski Theorem.

T.M. Rybczynski, published a paper in 1955 to investigate the effect of an increase in the quantity of a factor of production upon production, consumption and the terms of trade. This theorem states that the increase in the supply of one of the factors of production, other factors remaining the same, causes the output of the good using the accumulating factor intensively to increase and the output of the other good to decrease in absolute amount, provided that commodity and factor prices remain unchanged. Suppose in a labour- surplus country, the supply of labour gets increased. It will lead to an increased output of the labour- intensive commodity, say cloth, and reduced output of the capital- intensive commodity, say steel.

Assumptions of the Rybczynski Theorem:

The Rybczynski theorem is based upon the following main assumptions:

(i) The trade takes place between two countries. The case of only one of the two countries will be discussed here.

(ii) The given country is labour-abundant and capital-scarce.

(ii) This country produces two commodities cloth and steel.

(iv) The production of these commodities requires two factors labour and capital.

(v) Capital and labour are perfectly mobile, perfectly divisible and substitutable in some degree.

(vi) Cloth is labour-intensive good and steel is a capital-intensive good.

(vii) There are the conditions of perfect competition in the product and factor markets.

(viii) The production functions related to both the commodities are homogenous of the first degree. That implies constant returns to scale in production.

(ix) The factor and commodity prices are constant.

(x) The supply of the factor labour expands while that of capital remains the same.

It is now clear that Rybczynki makes departure from H-O theorem and factor-price equalisation theorem in respect of his abandoning the assumption of fixed factor supplies. He discusses the effect of an increased supply of the factor in which the country is abundant upon production, factor and commodity prices and the terms of trade. His theorem is explained through Fig.

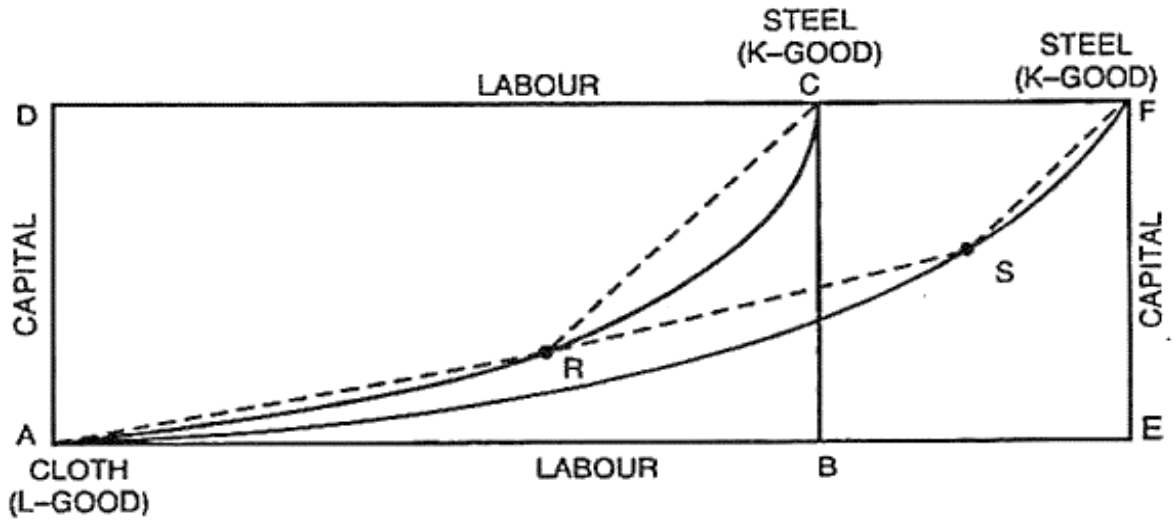

Fig.1.4.

ABCD is the Edgeworth box concerning the given country. It shows that this country is labour- abundant and capital-scarce. The origin of A is the commodity cloth which is labour- intensive (L-good). C is the origin for the good steel which is capital- intensive (K-good). AC is the non-linear contract curve sagging downwards. The production takes place at R. The K-L ratio in cloth is measured by the slope of the line AR and K-L ratio in steel is measured by the slope of the line RC.

It is now supposed that the supply of labour is increased by BE, capital stock remaining the same, so that the new box diagram is AEFD. Now A and F are the points of origin for the goods cloth and steel respectively. AF is the non-linear contract curve. A is the origin for the L-good cloth and F is the origin for K-good steel. Production, in this case, takes place at S. The K-L ratio in cloth is measured by the slope of the line AS and the K-L ratio in steel is measured by the slope of the line SF.

The factor intensity in the two commodities remains unchanged at the points R and S. Since R and S lie on the same straight line AS, the K-L ratio in cloth remains unchanged. On the other hand, the line RC is parallel to SF. Since the slope of RC and SF are equal, there is no change also in the K-L ratio in the capital-intensive commodity steel.

When the factor- intensity in both the commodities remains the same, there will be no change in the prices of the two factors. It shows that the Rybczynaski theorem refutes the possibility of factor price equalisation. As the increase in the supply of labour in the labour-abundant country and increase in capital stock in the capital-abundant country leaves the prices of two factors unchanged, there can be no equalisation in the factor prices. When there is no change in the prices of the factors of production, the prices of two commodities will also remain the same as before.

The most significant effect of an increase in the supply of factor will be upon the volume of production. The distance of the point of production equilibrium from origin measures the quantity produced of a commodity. In case of cloth, the original production is measured by the distance AR. Subsequently, it is measured by the distance AS. Since AS is greater than AR, it signifies an increase in the production of cloth after there is an increase in the supply of labour.

In case of steel, the production at R was originally indicated by the distance RC and subsequently it is measured by the distance SF. Since SF is shorter than RC, it follows that the production of K-good steel decreases after there is an expansion in the supply of labour in this country. Thus, the conclusion can be drawn that the increased supply of one factor, keeping the other unchanged, will raise in absolute amount the production of good intensive in the increasing factor, while the production of the other good will get reduced in absolute amount.

The above analysis suggests that the commodity prices of the two commodities remain constant. This can happen only if the prices of two factors remain constant. It implies that the capital labour ratio in the two industries remains constant. But how can all this be possible when the quantity of one of the two factors goes on increasing.

In this connection, it may be stated that increase in the supply of labour will result in the entire additional labour going into the labour-intensive industry. There will also be diversion of labour from the capital- intensive industry (steel). Along with the diversion of labour, some amount of capital will also be diverted from the steel industry to the labour-intensive cloth industry.

Consequently, the production of cloth expands and that of steel contracts but the K-L ratios in two industries, factor prices and commodity prices still remain unchanged. If the labour force continues to expand indefinitely, the country will soon become completely specialised in the production of cloth.

The constancy of the commodity prices implies that the terms of trade will remain unaffected. However, the equilibrium with constant prices, when supply of one factor has been increasing, is not compatible with general equilibrium. It may be possible if one of the two commodities, particularly the commodity intensive in the other factor (capital) is inferior. But neither of the two commodities cloth and steel, can be considered inferior. The general equilibrium in such a situation can be possible only if the price of the commodity intensive in the expanding factor decreases. It means the terms of trade are likely to become worse for the country in which one factor has been expanding. This is explained through Fig. 1.5.

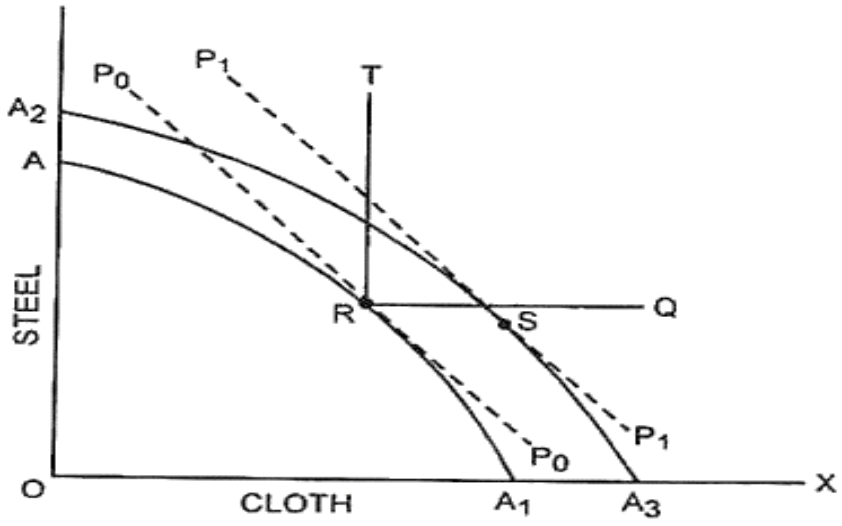

Fig. 1.5.

In Fig.1.5, the labour-intensive commodity cloth is measured along the horizontal scale and the capital-intensive commodity steel is measured along the vertical scale. The production possibility curve AA_1 is derived from the box

ABCD shown in Figure. The international terms of trade are denoted by the slope of P_0P_0. The production equilibrium is determined at R.

The expanded supply of labour along with diversion of labour and capital from steel industry to cloth industry gives the new production possibility curve A_2A_3 derived from Box AEFD in Figure. If the prices of two commodities remain the same, the terms of trade line P_1P_1 is parallel to P_0P_0. The production equilibrium takes place now at S where P_1P_1 is tangent to A_2A_3.

The point S shows a larger production of labour-intensive commodity cloth and reduced output of the capital-intensive commodity steel. This can happen only if steel is an inferior commodity. The expansion in labour force and shift in the production possibility curve to the right imply an increase in national income.

In such a situation, barring the inferior goods, the demand for both the goods must increase. Therefore, the new position of equilibrium must lie on that part of the production possibility curve A_2A_3 that lies between the lines RQ and RT. The slope of this segment on the curve A_2A_3 is less steep than the slope of AA_1 at R. It implies that the price of cloth will be relatively lower and that of steel is relatively higher. A lower price of exportable commodity cloth and a higher price of importable commodity steel mean that there is deterioration of terms of trade subsequent to an increase in the supply of labour.

About the pattern of consumption, Rybczynski explained that the pattern of consumption may remain unaltered, or change in favour of one good or the other despite the change in the relative prices of the two commodities. If the marginal propensity to consume of the product intensive in the accumulated factor is equal to or greater than the average propensity to consume, the production and the consumption pattern will change in the direction of the product intensive in that factor.

When the marginal propensity to consume falls short of the average propensity to consume, the new production and consumption pattern may still change in favour of the commodity using much of the factor increased, or may remain unchanged or move in the direction of the other good. This

depends upon the relative magnitudes of the average and marginal propensities to consume.

From the above analysis, it is obvious that the Rybczynski theorem has several implications related to production, factor and commodity prices, and terms of trade and consumption pattern. However, its implication related to the factor price equalisation is most clear-cut. When the supply of the abundant factor increases rapidly, the factor price ratio may remain unchanged preventing the equalisation of factor prices among the trading countries.

Criticisms of the Rybczynski Theorem:

E.J. Mishan has raised two major objections against the theorem given by Rybczynski. Firstly, if the increase in the supply of one factor (labour) is accompanied by the increased supply of the other factor (capital), the results suggested by Rybczynski are not likely to follow. Secondly, there is technical difficulty in extending Rybczynski's two- factor model to a multi-factor system.

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UNIT - II

THEORIES OF TRADE - II

2.1. Recent Theories of International Trade

Over the last thirty years, a set of new theories has been put forward to complement the simple Heckscher Ohlin (H-O) model. The new theories were a response to two deficiencies in the H-O paradigm. First, the oversimplified and often patently unrealistic, assumptions behind H-O, especially in the simplest textbook versions: these include perfect competition, international identity of production functions and factors, non-reversibility of factor intensities and international similarity of preferences, together with constant returns to scale, if the usual free trade, and specialisation in accordance with factor endowment, conclusions are to be derived. Second, the theory, at least superficially, seemed incapable of explaining certain significant empirical findings about the world economy. These included the Leontief paradox: the growth in trade between similar economies with near identical factor endowment; the fact that a considerable portion of trade in manufacturers is intra industry; and the fact that there appears to be a strong tendency for growth in trade to exceed growth in income.

2.2. Karvi's Theory of Availability

An important extension of international trade theory given by Heckscher and Ohlin is the availability approach to international trade. This approach was given by Irving B. Kravis in 1956. According to Kravis, it is the domestic availability or non-availability of goods that governs the pattern of trade. Kravis, while attempting to test the generalisation of H-O theory that labour-abundant countries export labour-intensive goods, found that the exporting-industries invariably had been paying relatively high wage rates even in those countries.

Kravis, therefore, asserted that the nations would export those products which were readily available in the home country. They would tend to import, on the contrary, such products the domestic supply of which had been short of their demand. According to him, the essential basis of international trade has been the 'non-availability of goods at home'. The non-availability of goods in the home country may either be in the absolute or the relative sense.

In the former case, certain goods may not be available at all in the home country such as diamonds in the U.S. economy. The non-availability in the relative sense signifies that the domestic supply of products is short of their demand and the additional output of those goods can be possible in the home country at much higher costs. The principle of comparative advantage in such a case comes into its own and countries prefer to import such products from abroad rather than to produce them at home at the prohibitive costs.

Kravis maintains that the domestic availability or otherwise of certain specified products in a particular country is governed by:

(i) Natural Resources:

If a country is well- endowed with minerals like iron ore, bauxite and oil, the products which involve the use of such materials will be produced in large quantity in the home country. A part of production of these products will be exported abroad. On the opposite, if there is scarcity of forest products in a given country, the scarcity thereof can be met by importing them from abroad. Thus, the pattern of trade of a given country is influenced by the relative abundance or scarcity of natural resources.

(ii) Technical Progress:

The technical progress can have a significant impact upon factor utilisation, factor costs, expansion in the scale of production and improvement in the quality of product. In general, technical progress can increase considerably the domestic availability of certain categories of products, the surplus quantities of which can be exported abroad.

(iii) Product Differentiation:

The producers in different countries are inclined to produce different varieties of products. The production of such goods confers temporary monopoly to a specific innovating country and it disposes of its special product variety in the foreign markets.

(iv) Government Policy:

The tariff and non- tariff trade restrictions tend to restrict the international flows of goods. The international cartels like OPEC too follow restrictive policy measures and the availability of a large range of products gets affected on the international plane.

While natural resources, technical progress and product differentiation together lead probably to expansion in the volume of international trade, the trade restrictions imposed by the countries tend to have a limiting impact upon trade.

Kravis' availability theory of trade can be explained through a hypothetical example. It is supposed that there are four countries - A, B, C and D. There are two commodities, wheat and steel. The production of both the commodities requires labour and capital. In addition, the production of wheat requires fertile agricultural land whereas the production of steel requires iron ore. Out of the four countries. A, B and C are endowed with agricultural land. The countries B, C and D are endowed with iron ore. Given these factor endowments, country A can produce only wheat and country D can produce only steel. The countries C and D can produce both wheat and steel. Now according to the availability doctrine, country A will export wheat to country D and latter will export steel to the former. Since B and C are capable of producing both the commodities, the trade between them will be governed by their respective comparative cost advantages.

Suppose the domestic exchange ratio between wheat and steel in country B is 6 units of wheat = 1 unit of steel. It is 3 units of wheat = 1 unit of steel in country C. If the international exchange ratio is settled at 4 units of wheat = 1 unit of steel, country B will export wheat to country C and latter will export steel to country B.

The availability approach has been discussed by R. Findlay in relation to the factor proportions approach. It is supposed that two countries A and B can produce two commodities, wheat and steel. They have equal endowments of labour, capital and iron ore. However, country B has more agricultural land than the country A. The pattern of trade between these two countries may be explained through Fig.

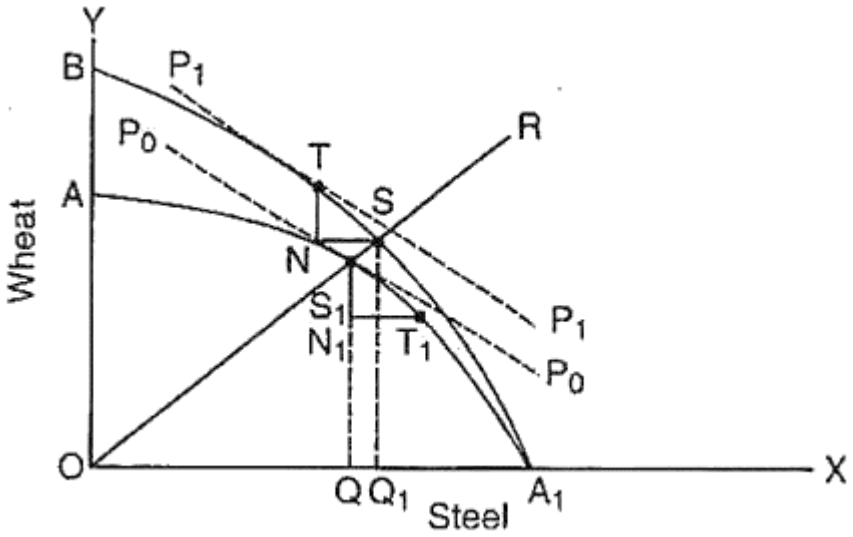


Fig. 2.1.

In Fig.2.1, commodity steel is measured along the horizontal scale and commodity wheat is measured along the vertical scale. Given the equal availability of labour, capital and iron ore in two countries and relatively large availability of wheat- producing land in country B, AA_1 is the production possibility curve of country A and A_1B is the production possibility curve of country B. P_0P_0 and P_1P_1 are the terms of trade lines which have the same slope.

The line OR starting from origin indicates the demand proportions of two commodities in these countries. OR intersects AA_1 and A_1B at S_1 and S respectively. The point S_1 indicates that country A requires OQ quantity of steel and S_1Q quantity of wheat. The point S indicates that country B requires OQ_1 quantity of steel and SQ_1 quantity of wheat. The point of production in country A is T_1.

Thus, country A has T_1N_1 quantity of steel over and above the quantity required by it. The excess availability of steel in this country will be exported to country B. The point of production in country B is T. At this point country B has TN quantity of wheat over and above its domestic requirement. The excess availability of wheat in this country will be exported to country A.

Findley argues that availability approach has superiority over the factor proportions approach. Although two countries have equal endowments of labour and capital, yet country A produces and exports the capital-intensive commodity steel and country B produces and exports the relatively less

capital-intensive commodity wheat. It is not fully consistent with the factor proportions theory. However, the availability theory recognises that the trade pattern between these two countries is governed by the availability of more land in country B and iron ore in country A. Thus, Kravis' availability theory seems to be better than the factor proportions theory.

Weaknesses:

No doubt, Kravis' availability theory provides a more precise and specific explanation of the pattern of trade. It is, in some respects, even better than both comparative costs and factor proportions approaches. But there are certain weaknesses in this model of trade.

(i) Limited Applicability:

In this model, the pattern of trade is explained on the basis of availability of more land in one country and more iron ore in the other country. The number of product- specific resources may be quite large. The determination of the trade pattern, in such a situation, is likely to be very difficult and complex. The multi- commodity approach based on comparative advantage may seem to be more appropriate in such a situation.

(ii) Methodological Weakness:

Although Jagdish Bhagwati attempted to derive a number of hypotheses concerning the availability theory such as:

(a) Domestic inelasticity of supply of importable goods;

(b) Excess of foreign over domestic elasticity of supply of importable goods;

(c) Higher rate of technical progress in export industries of the home country than the overall average rate of technical progress in the country;

(d) The excess of rate of technical progress in domestic export industries than the rate of technical progress in the same industries in the foreign countries; and

(e) The intensity of use in export goods of those materials which are relatively abundant in the home country.

However, neither such hypotheses have been systematically formulated, nor these have been scientifically tested.

(iii) Neglect of Demand Pattern:

This theory recognises that the bases of availability factor are natural resources, technical progress, product differentiation and the government policies. The pattern of demand or consumer preferences in foreign countries is a very crucial factor in influencing trade pattern. This factor, however, has been overlooked in Kravis' approach.

(iv) Not Relevant to Trade among Advanced Countries:

The advanced countries generally have similar factor endowments and technical know-how. The availability factor may not exercise a significant impact upon their pattern of trade. In the same way, the trade among less developed countries may also not be based on availability factor as they also generally have similar factor endowments. It is only in the case of trade between the North and the South that the availability factor may have some relevance.

(v) Limited Empirical Support:

Kravis' theory of availability has doubtful validity as there has been very limited empirical support for it.

2.3. Linder Theory of Volume of Trade and Demand Pattern

Swedish Economist Staffan Burestam Linder proposed the Preference Similarity hypothesis in 1961 to describe the pattern of International Trade. This theory is different from the H – O model because it is exclusively demand oriented whereas H-O is primarily supply oriented as it focused on factor endowments and factor intensities. This theory was given as a possible resolution to the Leontief paradox which questioned the empirical validity of Heckscher - Ohlin theory. H-O and other theories of factor – endowment-based trade had dominated the field of international economics until Leontief performed a study empirically rejecting H-O theory. Linder proposed an alternative theory which was consistent with the Leontief findings.

Preference Similarity Hypothesis

Linder gave importance to the demand side factors like similarity in income levels across nations and income distribution characteristics in determining pattern of trade. As per this theory, international trade takes

place between those countries which have similar income levels and demand patterns. Staffan Linder gave the two explanations of world trade patterns one for the manufactured goods and other for the primary goods (agriculture). Preference similarity Hypothesis (Linder Hypothesis) whereas proposed that trade in manufactured goods was primarily determined by domestic demand conditions. A country will export products for which there is a large and active domestic market to realize the scale economies. So, the lower cost will help to penetrate the foreign markets. Linder explained that tastes of consumers are conditioned strongly by their income levels. Thus, a country's percapita income will yield particular patterns of tastes. Nation with high percapita income will demand high quality manufactured goods (luxuries), whereas nations with low per capita income will demand lower quality goods (necessities). So high income countries will trade with other high-income countries as there is a great possibility of overlapping demands. Similarly low-income countries will trade with the other low-income countries as there is again the probability of overlapping demand. Linder's hypothesis is therefore referred to as the preference similarity hypothesis or the theory of overlapping demand. Linder theory of overlapping demand is the first hypothesis explaining the existence of intra industry trade between the countries. According to Linder the existence of intra industry trade is caused by different consumer preferences. "The more suitable demand structure of country, the more they will trade with one another".

Explanation to Preference Similarity Hypothesis

The income of nation is measured along horizontal axis. Demand and production of nation is measured along the vertical axis. The level of per capita income in nation1 yields a demand for goods A, B, C, D and E. Nation 2 with higher per capita income yields a demand for goods C, D, E, F and G. Suppose that Nation1 has a per capita income level that yield demand for goods A, B, C, D and E. Goods from A to E are arranged in the ascending order i.e. good A and B being low quality goods , whereas the quality improves of consumer moves to C,D and E. Now if Nation 2 has a higher per capita income and will demand and therefore produce C, D, E and even more quality goods F and G. Nation 1 with low income cannot produce F and G as they are not demanded

by the consumers. Each nation is therefore producing goods that cater to the demands and tastes of its own citizens. With the above pattern of production, the two countries will trade in goods that have an overlapping demand ie the consumer in both nations are demanding the particular items. The goods C, D and E will be traded between Nation 1and Nation According to Linder hypothesis, there will be an interest in trade only when the product demands are similar or overlap. So, Nation 1 and Nation2 will trade C, D and E goods with each other.

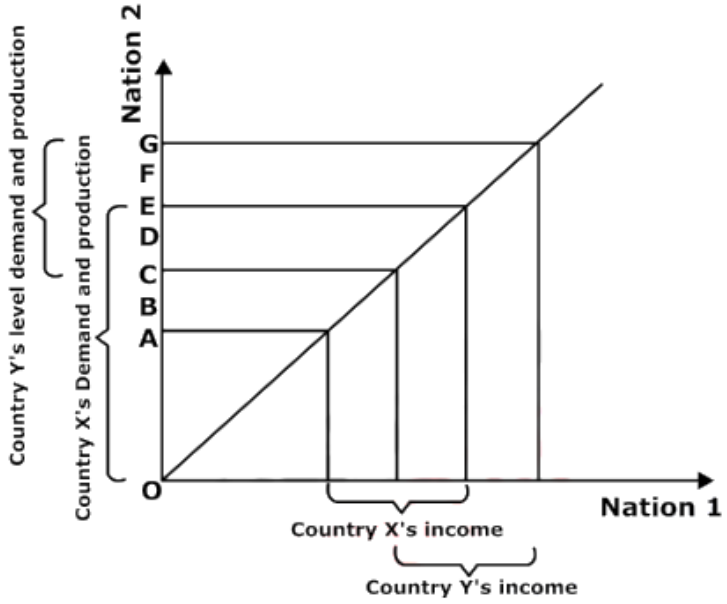


Fig.2.2.

The patterns of trade were explained by Linder hypothesis. He concluded that the strong demand for domestic goods induce investment and hence give rise to the exports. The countries will trade intensively with others that share similar consumption pattern. Due to increasing returns to scale and a high-income elasticity of demand for the capital intensive good, the rich capital abundant nations trade intensely among themselves in 2001, the study by Bils and Klenow showed a strong correlation between household income and the average price paid by the household for goods. The countries with high income demand higher quality goods and also specialize in their production. Linder hypothesis advocated that market size will vary with per capita income and product quality. These factors affect the foreign investment pattern. Due to the presence of trading costs, firms are more likely to serve the foreign market with local production facilities and so it was considered important to

understand global patterns of international investment. The preferences of consumers to opt for high quality varieties rise with the income level. Even with countries equal in size but with different distribution of income, the aggregate demand for high quality goods will be greater in the market by the high-income consumers. The main motive to serve the foreign markets was either through exports or subsidiary sales. So, the circumstances under which the firms in a country will choose to serve the foreign markets by exports or through subsidiary sales were studied. It was found that firms may serve destinations that have similar demand composition from their home market through the foreign direct investment and the destinations that have different demand composition from their home market can be met by export sales. So, international investment turns out to be more likely across similar income nations as these nations specialize in similar quality products.

2.4. Posner's Technological Gap Theory

The Heckscher-Ohlin theory, like the earlier theories of trade, assumed that the techniques of production were given and fixed. Such an assumption can be valid only in a static system. In actual dynamic realities, there can be no place for such an assumption. The technical changes have highly significant effects on production and trade. A technological change may be expressed in new methods of producing existing goods or in the production of new varieties of goods.

The two prominent models that attempt to explain the international trade on the basis of technological changes are: 1. Technological Gap or Imitation Gap Model 2. Product Cycle Model.

1. Technological Gap or Imitation Gap Model:

The technological gap model was developed by M.V. Posner in 1961. Posner maintains that technological change is a continuous process. According to him, even if the countries have similar factor proportions and tastes, yet continuous process of inventions and innovations can give rise to trade.

According to this model, as a firm develops a new product, its first test is in the home market. After it is proved to be successful in the home market, the efforts are made to introduce it in the foreign markets. The new

products confer a temporary monopoly position upon the producing firm or exporting country in the world trade. This monopoly position is often protected by the patents and copyrights. The exporting country enjoys comparative advantage over the rest of the world until the foreign producers imitate the new varieties of products or learn new processes of production.

Assumptions:

The main assumptions in Posner's theory are as follows:

(i) There are two countries, A and B.

(ii) The factor endowments are similar in two countries.

(iii) Both the countries have similar demand conditions.

(iv) The factor price ratios in the two countries are similar before trade.

(v) There are different techniques in the two countries.

The lag existing between the appearance of new products and introduction of their substitutes by the foreign producer manifests the technological gap or imitation gap. Posner has decomposed the technological gap into three components—the foreign reaction lag, domestic reaction lag and the demand lag.

The foreign reaction lag is the time taken by the first foreign firm to produce the new variety of product. The domestic reaction lag signifies the time required by the domestic producers to introduce still newer varieties in order to establish their hold on the domestic market and sustain it in the foreign market. The demand lag means the time taken by the domestic consumers to acquire a taste for the new product.

Posner referred the integration of innovation and imitation lag as 'dynamism'. According to him, a dynamic country in international trade is one which innovates at a greater rate and which imitates the foreign innovations at a greater speed. If one of the two trading countries has a greater degree of dynamism than the other, the latter will find the erosion of its markets and consequent deficit in trade balance.

According to Posner, if the two countries are otherwise identical, whether trade between them will be generated by technological innovation, will depend on the net effect of the demand and imitation lags. If the demand

lag is longer than the imitation lag, the producers in the imitating country would adopt the new technology before the consumers in their home market had started demanding the new good. In this case, the technological innovation would not generate trade.

On the other hand, if the imitation lag is longer than the demand lag, the international trade is likely to be generated by innovation.

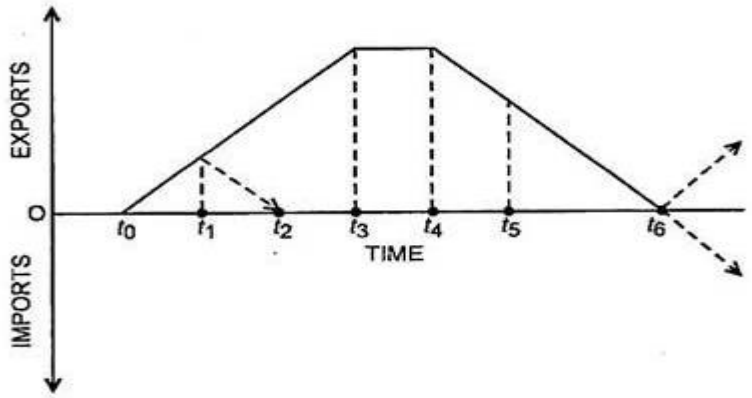


Fig.2.3.

The trade theory given by Posner can be explained through Fig. 2.3. In Figure time is measured along the horizontal scale and the trade balance of country A, the innovating country, is measured along the vertical scale. Upto point t_0, no trade takes place between the two countries. At this point, the innovating country A introduces the new product. As the consumers in imitating country B become aware of the product, they start consuming it. Country A, therefore, starts exporting it.

In case, the country B were unable to adopt the new technology, the exports from country A would continue to rise until they reached the maximum level in time t_3.

The period, t_0t_3 can be identified as demand lag. If new technology could be adopted by country B by the time t_1, the imports of the product in their market could be contained before they reached the maximum level. Country B then reversed them with trade ceasing at time t_2. If the imitation gap were longer and the producers in country B could not adopt the new technology until time t_4, exports from country A to country B would have continued at the maximum level until t_4.

As country B started imitating the new technology, there would have been decline in exports from A to B and these would fall down to zero in time t_6. In this connection, two other possibilities can be discussed. If producers in country A fail to introduce new innovation in time t_6 and country B makes further innovations, country B will start penetrating the domestic market of country A indicated by the arrow in the lower part of the Fig. The second possibility in that producers in country A may introduce new innovation in time t_6 leading to increase in its exports to country B. That is shown in the Fig by the arrow in the upward direction.

Shortcomings:

This model has certain shortcomings:

(i) It does not explain the technological gap or imitation gap in a precise manner.

(ii) It fails to explain why the technological gaps arise and how they get eliminated over time.

2. Vernon Product Cycle Model:

Product life cycle serves to explain the Intra Industry trade. The Product Life Cycle theory is an economic theory that was developed by Raymond Vernon in 1966. The theory of product cycle is that as each good moves through its product cycle, there will be changes in the geographical location of where and how the good is produced. So, the changes in technology or a new product design can change the pattern of imports and exports According to this model, when a new product is introduced, it usually requires high skilled labor. As the product matures & obtains mass acceptance, it becomes standardized and then it can be produced by mass production techniques and less skilled labor. Therefore, the country that has comparative advantage in the production of product shifts from the innovating (developed) country that originally introduced it to the developing nations, where labor is relatively cheaper. This can be accompanied by foreign direct investments from innovating nation to nations with cheaper labor.

According to Vernon the high income & labor-saving products are most likely to be introduced in rich nations due the following reasons –

(1) The opportunities are greatest in these countries.

(2) The development of the new products require proximity to markets so as to benefit from consumers in modifying the product.

(3) There is need to provide service which can be easily done by the advanced nations.

The example of product life cycle model is provided by the experience of U.S and Japanese radio manufactures. Since World War II, the radio was a well-established product. U.S manufactures dominated the international market for radios because vacuum tubes were initially developed in the United States. But as production technologies spread, Japan used cheaper labor and captured a large share of the world radio market. The transistor was then developed by U.S companies. For a number of years, U.S radio manufacturers were able to compete with the Japanese, who continued to use outdated technologies. Again, the Japanese imitated the U.S technologies and were able to sell radios at more competitive prices.

Illustration of Product Life cycle model

The product life cycle identifies five different stages in the life cycle of the product

Stage 1 – Introduction: In stage one or new product phase the product is produced & consumed only in the innovating country. New products are presented to fulfil local needs & new products are 1st exported to alike countries i.e. countries with analogous needs, preferences & incomes. For example, the IBM PCs were produced in the US and spread quickly throughout the industrialized countries.

Stage 2 – Growth: In product growth phase production is perfected in the innovating country &rise rapidly to accommodate the rising demand at home & abroad. At this stage there is not yet any foreign production of the product and the innovating country still has a monopoly in both the home and exports market.

Stage 3 – Maturity: In this phase the product becomes standardized & the innovating firm may find it profitable to license other domestic & foreign firms to manufacture the product. Thus, in this stage the imitating country starts producing the product at this stage for the domestic consumption.

Stage 4 – Saturation: this is a period of stability. As now the product has become standardized, the imitating country facing the lower labor cost and no longer requires development and engineering skills will began to undersell the innovating country in 3rd market. So, the production of the product in the innovating country falloffs.

Stage 5 – Decline: In the decline phase, the poor countries comprise of the only markets for the product. Therefore, the production of the product in the innovating country declines rapidly and the products are produced in the developing countries.

The above five stages of the product cycle theory are explained with the help of diagram.

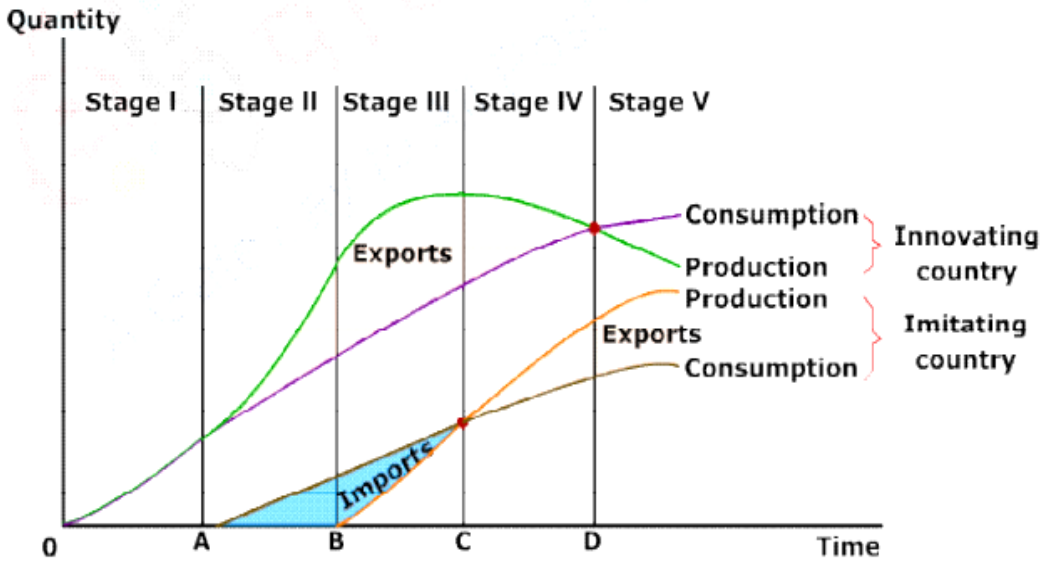


Fig.2.4.

As shown in figure, in stage I (time OA), the product is produced and consumed only in the innovating country. In stage II (time AB), production is perfected in the innovating country and increases rapidly to accommodate the rising demand at home and abroad. In stage III (time BC), the product becomes standardized and the imitating country starts producing the product for domestic consumption. In stage IV (time CD), the imitating country starts underselling the innovating country in the 3rd markets and in stage V (past point D) the production of the product declines in the innovating country.

2.5. Intra Industry Trade

Introduction

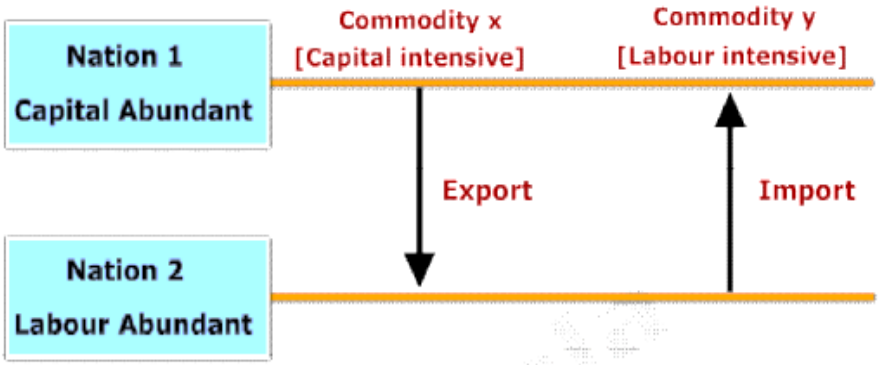
The traditional theories of comparative advantage (Ricardo and Hecksher Ohlin) based on constant returns to scale and perfect competition predicted that the more the countries are different, the more they should trade. The international variations in production function, factor endowments and consumer preferences determine in which goods the country has a comparative advantage and comparative disadvantage. For example, Nation 1 has a comparative advantage in commodity X and Nation 2 has in commodity Y because the two countries are endowed with different factor proportions. This comparative advantage decides the pattern of trade known as Inter Industry Trade. However, trade is possible between countries with similar technologies and endowments for example trade between developed countries. The countries often export & import within the same sector. This type of trade is defined as Intra Industry Trade. So Intra Industry Trade is a pervasive part of international trade for many countries. The few theories that serve to explain the Intra Industry trade are economies of scale, the product life cycle and overlapping demand theory.

Intra industry trade vs. Inter Industry trade

The large portion of today's international trade is unexplained by the factors proportion theory. We assumed up till that international trade is Inter Industry trade which means that the countries are trading different goods with one another. For example, US imports cloth and exports machines and India imports machines and exports cloth. As each country have different resource endowments, countries trade in different goods. But today the output of modern economies involves the exchange of distinguished products of the same industry or broad product group which is termed as Intra Industry Trade. For Example, Germany exports cars to France & simultaneously imports cars from Italy. Assume that the economy is consisting of two countries i.e Nation 1 and Nation 2. Each of these countries has two factors of production capital and labor. Also assume Nation 1 is a capital abundant country ie has a higher overall capital labor ratio than Nation2. The two industries X and Y in both nations are producing Commodity X and

Commodity Y where Commodity X is capital Intensive as compared to commodity Y. If commodity X is homogenous product sector, then the trade pattern would look like as given in the figure. Because Nation 1 is capital abundant and Commodity X is capital intensive, so Nation 1 would export commodity X and import commodity Y.

The length of the arrows indicates the values of trade in each direction. The figure shows that Nation 1 will export commodity X equal in value to the commodity Y it imports. This pattern of trade is Inter Industry trade where without the economies of scale there will be simple exchange of commodity X



for commodity Y Now, we assume that X is a monopolistically competitive industry in which number of firms produce distinguished products rather than a perfectly competitive industry producing homogenous products. Due to the economies of scale or increasing returns, neither nation is able to produce full range of commodity X by itself. Nation 1 in commodity X will produce different varieties from those that Nation 2 produces. The consumers in Nation 1 may prefer the varieties produced in Nation 2. So, Nation 1 even if running trade surplus in commodity X, will import as well as export with in X industry. The pattern of trade will be as shown in figure.

So, the world trade in a monopolistic competition model consists of two parts. There will be two-way trade with in commodity X. This exchange of Commodity X for commodity X is called Intra Industry trade. The remainder of trade is an exchange of commodity X for commodity Y is called Inter Industry Trade. So, Inter Industry trade is explained by the principle of comparative advantage whereas Intra Industry trade is illuminated by the product differentiation & economies of scale.

Defining Intra Industry Trade:

The Grubel- Lloyd index Intra Industry trade play's enormous role in the trade in manufactured goods among advanced industrial nations, which accounts for most of the world trade. The most often used method for determining the extent of Intra Industry trade is Grubel and Lloyd Index. It was introduced by Herb Grubel and Peter Lloyd in 1971.

$$\text{Intra Industry Trade Index} = 1 - \frac{|X_i - M_i|}{X_i + M_i}$$

X represents the value of exports and M represents the value of imports for a particular industry or product group. The vertical bars in the numerator of the index denotes the absolute value of the difference between the amount exported and the amount imported. Consider a situation where Nation 1 only imports Rs 10,000 of Commodity X from Nation 2, without exporting anything. So Intra Industry trade index as per the above formula will be zero. This indicates that there is no Intra Industry trade in X Industry. Similarly, if Nation 1 only exports Rs10,000 of commodity X to Nation 2, without importing anything, then the Intra Industry trade index will again be zero which indicates no intra industry trade in Commodity X. However, if Nation 1 exports Rs 5, 00,000 in commodity Y to Nation 2 and imports Rs 5, 00,000 in commodity Y, then the Index calculated with above formula is one which indicates 100 percent of trade in commodity Y is Intra Industry trade. The above two extreme cases of trade shows that the Intra Industry trade index ranges from 0 (no intra industry trade) and 1(100 percent intra industry trade). The closer the index is to 1, the more Intra industry trade is there. The major limitation o of using this index is that we get very different values for intra industry trade depending on how we define the industry or product group. For example, India Imports laptops and exports desktop then what will be the amount of Intra Industry trade. So, if we define industry to be computers industry rather than laptop and desktop as a separate industry, the Intra industry trade index calculated will be 1 as exports and imports are equal. But if laptop and desktop are separately defined then index calculated will be 0 indicating no Intra Industry Trade. So more broadly we define an

industry the greater will be the value of Index and more narrowly the industry is defined, the lower the index will be.

Types of Intra Industry Trade

I. Intra Industry trade in homogenous products

The goods being traded up till now were assumed to be the homogenous goods. For example, the goods produced in India are identical to goods produced in US. It is the inter industry trade in homogenous goods which was explained by factor proportion theory. But Intra Industry trade can also occur in homogenous goods due to the following circumstances

1. Location - A nation may export and import the same product because of transportation cost. For example, there are several cement plants located on each side of the U.S and Canadian border. Cement users in both Canada and the U.S might find it cheaper to buy from a supplier on the other side of the border, if that supplier is closer than the nearest domestic supplier. So, exports and imports show up as intra industry trade for both Canada and U.S.

2. Joint Products – The homogeneous services can be the basis of intra industry trade due to joint production of the services. For example, a country imports and exports the banking services, shipping services and insurance services because these services are produced jointly with another traded product. For example, export of computers from U.S to India must be transported, insured and financed. The export and import of these goods represent inter industry trade, but the export and import of insurance, transportations and financing services to move the goods is intra industry trade.

3. Entrepot Trade -The trade where the goods are imported in to a country and later the same goods are exported to another country. For example, Nation 1 exports goods to Nation 2 for warehouse facility and then Nation 2 exports these goods to other nations. Entrepot trade provides the country with relatively easy method of earning foreign exchange either by value addition or by re exporting at the higher rate.

4. Re Export Trade – In this trade goods are imported in to a country and later on the same goods are exported to another country with small

transformation. For example, Nation 1 import the goods and then repack and relabel these goods for use in the countries to which they will ultimately be shipped. So, in case of entrepot and re-export trade, the trading country does not actually produce the good but tranships it using its own facilities.

5. Seasonal Variations – Seasonal variations impact both supply and demand which results in intra industry trade in homogenous goods. For Example, International trade in fruits and vegetables, electricity and tourist services.

II. Intra Industry Trade in Differentiated Products

The most Intra industry trade is the trade in the differentiated goods between the countries. Differentiated goods are the goods competing in the same market or industry that appear different from one another on the basis of their features. The differentiated products are of two types:

1. Horizontally differentiated goods – These goods are different but at the same price the consumers will prefer to buy other depending on their preferences. For example, breakfast cereals available in different flavors.

2. Vertically differentiated goods – The goods that have very different characteristics and also different prices. For example, mobile phones and automobile sector.

Reasons for Imports and Exports of Differentiated goods

The International trade resulting due to the differentiated products is due to economies of scale in the products production. Economies of scale means that as the production of the good increases, the cost per unit falls. This is known as decreasing cost or increasing returns to scale. It creates an incentive for firms to specialize in production which stimulates intra industry trade.

1. Economies of scale - The economies of scale are Internal Economies of scale and External Economies of scale.
2. Internal economies of scale - The scale economies are internal when the firms increase in output causes a decline in its average cost. Most firms in the automobile industry are subject to internal economies of scale. For example, Toyota produce a large number of automobiles at relatively lower prices.

3. External economies of scale – It occurs when the cost per unit of output depends on the size of the industry. In developing countries such as China, external economies are pervasive in manufacturing. As the industry expands output, several factors may influence cost for all firms.

Implications of Intra Industry Trade:

Intra Industry Trade occurs in identical products & in horizontally or vertically distinguished products and has following important implications for the gains from trade

1) Consumers gain from having a greater variety of goods to choose.

2) Intra industry trade is effective in reducing the monopoly power of domestic firms.

3) The increased output results in price decline. In both export market and domestic market due to economies of scale.

2.6. Theory of Imperfect Competition

Introduction

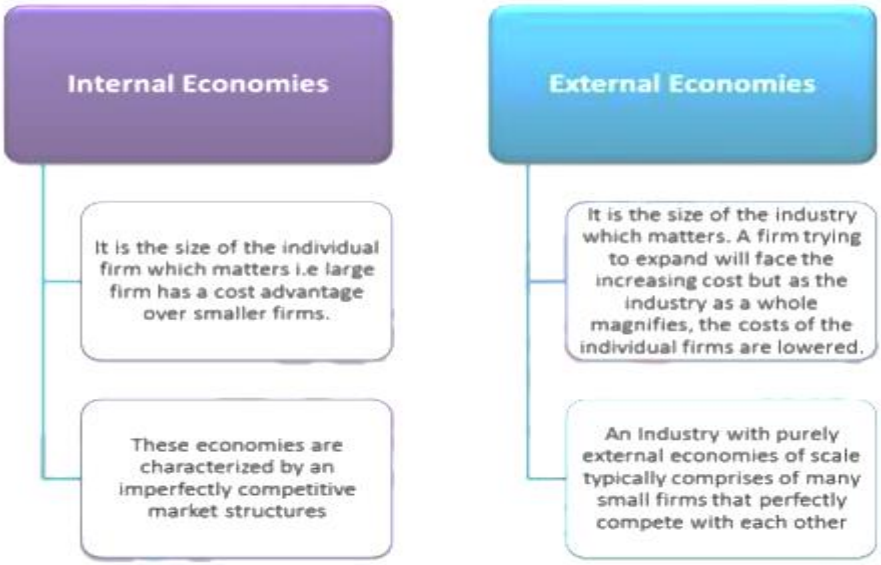
The Classical and Hecksher Ohlin theories assumed that the trade occurs in perfectly competitive markets where the firm's do not perceive any market power. But if a firm does not take the price level on the market as given but interacts with other firms and the market to maximize its profits, it can no longer have the perfect competition. Rather we say that a market is characterized by the Imperfect competition. The trade is not only the result of comparative advantage; instead, it can also result from increasing returns or economies of scale where unit cost tends to be lower with larger output. Economies of scale lead to the breakdown of perfect competition, so the trade in the presence of economies of scale are analyzed using the models of imperfect competition.

Economies of Scale and International Trade

Differences in prices across countries were attributed to differences in resource/technology. The countries used to specialize in the products which were produced by them at lesser cost. All the previous models were characterized by CRS technologies & perfectly competitive markets. But all

the commodity markets do not reveal purely competitive behavior and moreover the concept of intra industry trade cannot be described with the model of perfect competition. So, we study the imperfect market structures particularly at a model with monopolistic competition and dumping where there are scale effects in production that provide a clarification for international trade patterns.

Economies of scale refer to the fact that the unit cost decreases with the scale of production. So it is beneficial to specialize in relatively few goods in order to achieve large scale of production. There are two types of economies of scale which have different implication for the market structures.



Theory of Imperfect Competition

In imperfect form of market structure, the firms can influence the prices of their products and can sell more only by decreasing their price. Imperfect competition is the feature of both the industries in which there are only few major producers and of industries in which each producer's product is seen by consumers as strongly differentiated from those of opponent firms. So, each firm is a price setter rather than the price taker. The simplest form of imperfect competitive market structure is of pure monopoly, in which a firm faces no competition

Monopoly

In this market from firm faces a downward sloping demand curve D as shown in figure. The downward slope of the demand curve D shows that the firm can sell more units of output only if the price of output falls. The MR which corresponds to the demand curve in figure. MR is the additional revenue that the firm gains from selling an additional unit of output. Marginal revenue of the monopolist is always less than the price as to sell an extra unit the firm must lower the price of all units.

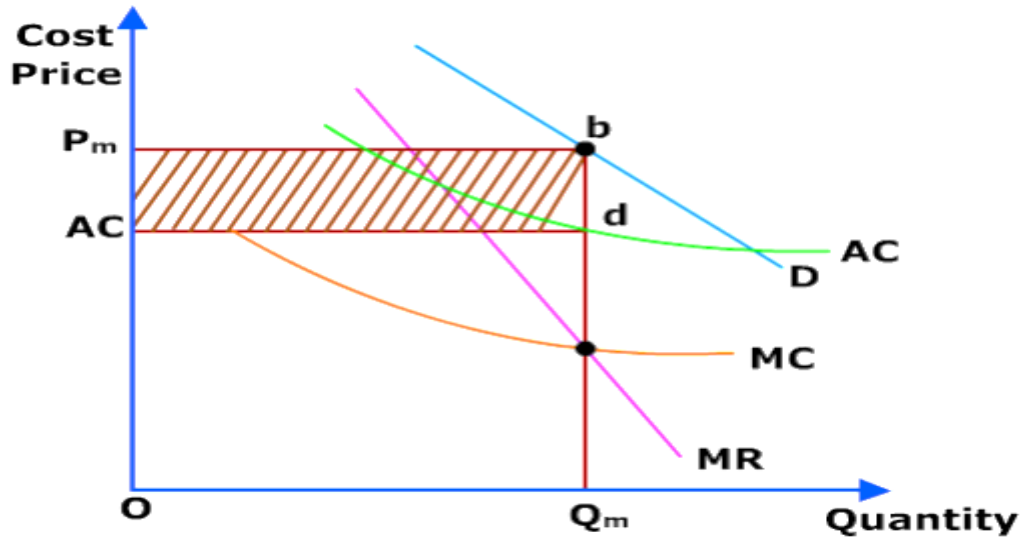


Fig.2.5.

Relationship between Marginal revenue and Price The relationship between Marginal revenue & price depends on two things a) Sales of the firm – A firm that is not selling much of the units will not lose much by cutting down the price. But if the sales of the firm are high, it will gain by reducing the price. b) Slope of the demand curve – The gap between price & marginal revenue depends on the slope of the demand curve, which tells us how much the monopolist has to reduce the price to sell an extra unit of output. So, if the curve is flat, the monopolist can sell an extra unit with only a small price cut and therefore will not have to lower the price on units which would otherwise have been sold by higher price. On the other hand, if the DD curve is very steep, selling an extra unit will require a large price cut, which implies that marginal revenue is much less than the price. If the equation of the demand curve of the firm is

$$q = a-bp,$$

Where q is the no. of units the firm sell, p is the price per unit and a,b are the constants, then the marginal revenue will be

$$MR = p - q/b$$

$$So,\ p - MR = q/b$$

The above equation implies that the gap between price and marginal revenue depends on the sales of the firm, q and slope of the demand curve, b. So higher the q, lower will be the marginal revenue.

Average and Marginal cost

In figure, AC represents the firm's average cost of production and MC represents the firm's marginal cost. As average cost is a decreasing function of output so marginal cost is always less than average cost. Thus, marginal cost lies below average cost. Suppose the cost of the firm is the linear cost function

$$C = F+c*q \text{ and } AC= C/q$$

Where F is a fixed cost, c is he firms marginal cost and q is firm output. The fixed cost in a linear cost function gives rise to economies of scale, because the larger the firms output, the less is the fixed cost per unit. The firm chooses an output at which MR= MC. This profit maximizing output is shown as Qm and the price at which the output is demanded is Pm. The monopoly profits is the difference between price and the average cost which is equal to the area PmACdb.

Monopolistic competition

The pure monopoly discussed above is rare in practice. A firm making higher profits attracts the competitors. The market structure that is more common to industries and characterized by internal economies of scale is Oligopoly. The analysis of the oligopolistic behavior is complex because the pricing policies of the firms are interdependent. So, we will here analyze a special case of oligopoly ie monopolistic competition.

The monopolistic firm has two key assumptions:

1. Firms can differentiate their products from that of their rivals. That is, they are not the perfect substitutes but only to some degree. This assumption assures that the firms have some monopoly in its particular product and also have the competition with other firms.

2. Each firm takes the prices charged by its rivals as given ie they ignore the impact of its own price on the prices of other firms. Each firm behaves as a monopolist even though they face competition.

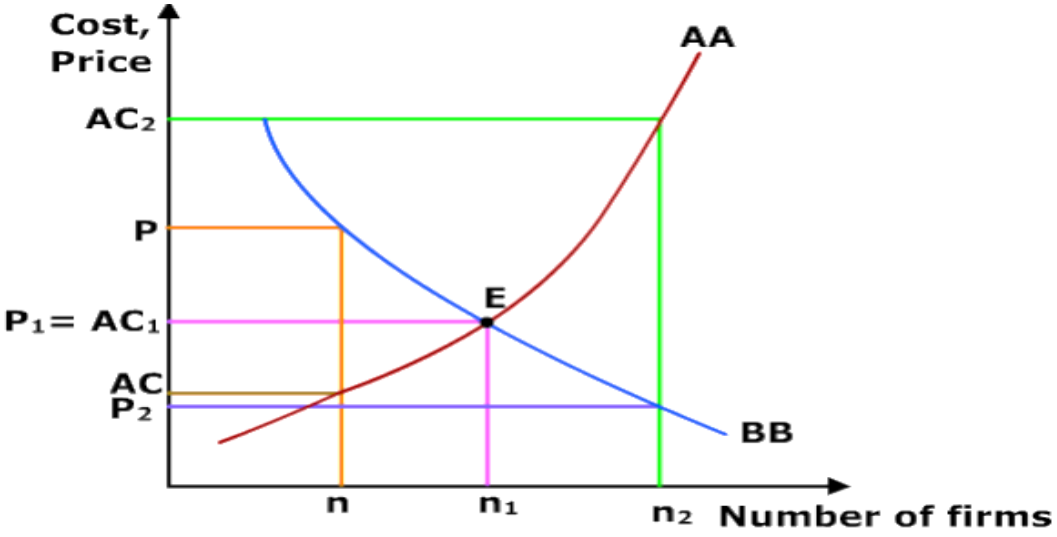


Fig.2.6.

The monopolistic competition model explains us that how economies of scale can give rise to the mutually beneficial trade. To model the behavior of this monopolistically competitive industry we assume that all the firms in this industry are symmetric ie the demand function and the cost function are identical for all the firms even if they are selling the differentiated products. To determine the equilibrium in the monopolistic market we need to determine the number of firms ie n and the price they charged ie p. It involves three steps

1. To determine the relation between number of firms and Average cost of a firm – More the number of firms there are in the industry, the higher is the average cost. This is due to that when number of firms is more, the less each firm produces. For example, imagine an industry with total sales of 5 crores. If there are 5 firms in the industry, each firm will be selling 1 crore. But if there are 10 firms then each firm can sell only 5, 00,000 annually and so each firm will have higher average cost. So, there is an upward sloping relationship between n and AC which is shown as AA in figure.

2. The number of firm and the price – The price charged by the firm depends on the number of firms in the industry. More the number of firms are, the

more intense will be the competition and hence lower will be the price. This relationship is shown as downward sloping curve BB in Figure.

3. The equilibrium number of firms – The industry is summarized by two curves. The downward sloping curve BB shows that more the number of firms in the industry, more competition will be there and hence price will be lower. The upward sloping AA curve tells us that more the number of firms (n) in the industry, more will be the average cost (AC). The equilibrium point is where both the curves intersect at point E, corresponding to n_1. Their profit maximizing point is P_1 which is exactly equal to its AC_1. Now suppose number of firms in less than n_1 ie n, then the price charged is P, and the average cost is AC. So, the firm is making the monopoly profits. Conversely, if number of firms were greater than n_1 ie n_2, then firm would charge price P_2 while average cost would be AC_2 and the firm would be suffering losses. So, the firms will enter the industry when it is profitable and will exit when they are suffering losses.

Welfare implications of Monopolistic competition and trade

In the monopolistic competitive market, due to economies of scale the country can specialize in producing a thinner range of products than would in the absence of trade. So, trade offers an opportunity for mutual gain even when the countries do no differ in their resources or technology. For example, there are two countries each with an annual market for 1 billion automobiles. By trading with each other, these countries can create combined market of 2 billion autos. So, in this combined market, more varieties of automobiles can be produced at lower average cost than in the market alone. Increased market size – An increase in the size of market allows each firm, other things being equal to produce more and thus have a lower average cost. In figure 3 the equilibrium point is at E with price P_1 and the no. of firm's n_1. An increase in the size of market shifts the AA curve down to AA_1 and has no effect on BB curve. So, the new equilibrium point is E_1. The number of firms increases from n to n_1 while the price falls from P to P_1. So, at new equilibrium consumers get a greater variety of products at a lower price.

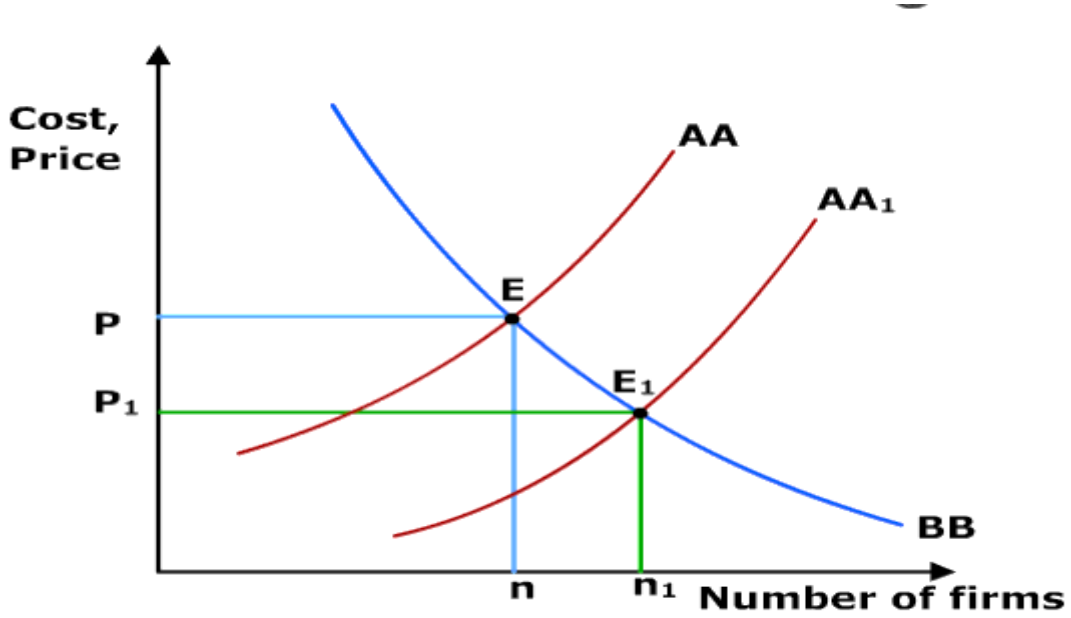


Fig.2.7.

1. Gains from integrated market – International trade allows formation of a unified market that is larger than any one country's market and thus makes it possible simultaneously to offer consumers a wide variety of products at less prices.
2. Economies of scale & comparative advantage – In the monopolistic competition model, trade may be divided in to two kinds ie intra industry trade and inter industry trade. The both way trade in differentiated products within an industry is called intra industry trade and the trade that exchanges the products of one industry for the products of another is called inter industry trade. It reflects economies of scale whereas inter industry trade reflects the comparative advantage.

Dumping

The monopolistic competition model helps us understand how increasing returns promote international trade. In imperfectly competitive market the important consequence for international trade is that the firms do not necessarily charge the same price for the goods that are exported and those that are sold to domestic buyers. The practice of charging different customers different prices is called price discrimination. Dumping is the most common form of price discrimination in international trade.

Dumping is a pricing exercise in which a firm charges less price for exported goods than it does for the same good domestically. The dumping is explained in figure. It shows an industry in which there is a single monopolistic domestic firm. The firm sells in two markets – domestic market and an export market. The domestic market demand curve is shown by Dm. In the export market we assume that the firm can sell as much as it wants at price Pf. So the demand curve for sales in the foreign market is shown by horizontal line Pf. The firm charges higher price domestically than it does for exports. MC is the marginal cost of total output.

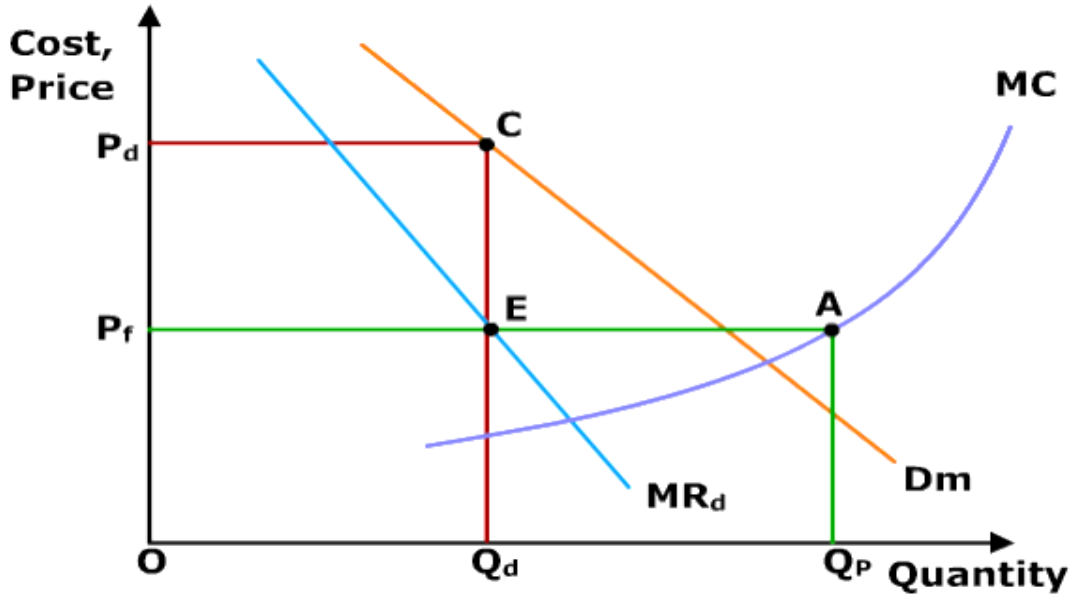
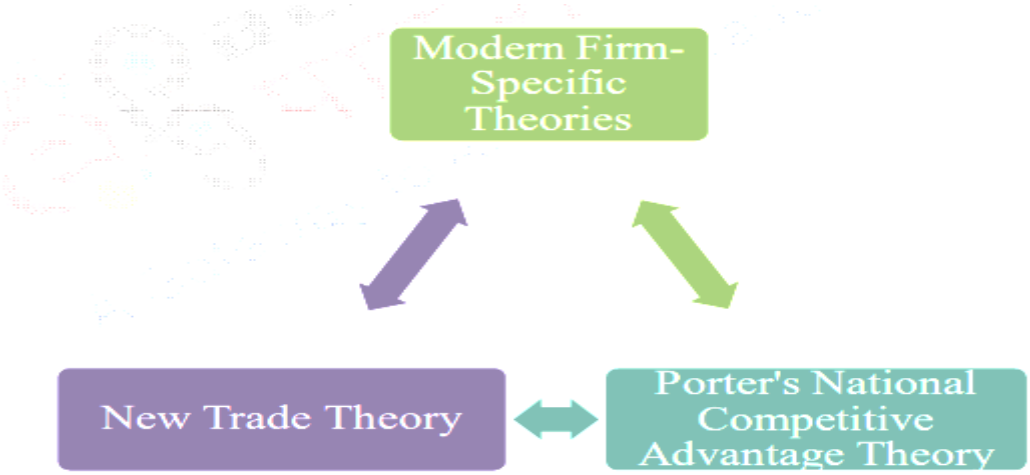


Fig. 2.8.

To maximize profit, the firm must set MR = MC in each market. MRd is the Marginal revenue of domestic firm which lies below Dm. Since an extra unit can always be sold at P_f, the firm raises output until marginal cost equal P_f. So the profit maximizing output is shown as Q_p. Since the firms MC at quantity Q_p is P_f, it sells output in the domestic market up to the point where MR is equal to Pf. This profit max level of domestic sales is shown as Q_d. So the remaining output (Qp-Qd) is exported. The price at which domestic consumers demand Q_d is P_d. Since Pd > Pf, the firm sells exports at a lower price than it charges to domestic consumers.

2.7. Strategic Theory

You must be aware of Country Similarity Theory and Product Life Cycle Theory. This module provides an insight on the other modern theories of trade



that is New Trade Theory and Porter's Diamond National Competitive Advantage Model. These theories are shown in Figure 1 below:

New Trade Theory Comparative Advantage theory was based on constant returns to scale. However, the supposition of diminishing returns to specialization seems more realistic. This happens when more units of resources are needed to manufacture each additional unit. But in the 1970s, certain economists questioned the presumption of diminishing returns to specialization in international trade. They pointed that countries trade not only to take the benefit of their distinctions but to attain increasing returns that makes specialization advantageous. Hence, this leads to the exposure of New Trade Theory in the 1970s by Paul Krugman and other economists. This trade theory is also known as Strategic Trade Theory.

Several contributions are made to the understanding and enlargement of international trade:

- An industrial organization view has been incorporated in the new trade theory where new trade theorists contended that increasing returns to scale prevails due to economies of scale. Economy of Scale is curtailment in the cost per unit as a consequence of large quantity of output. The assumption of increasing returns gives revive to imperfectly competitive markets. For instance, automobile companies experience economies of scale by manufacturing large quantity of automobiles from an assembly

line where unique task is performed by each employee. Thus, by analyzing the major effect on economies of scale, trade will give consequence by enhancing the variety of products available to consumers and simultaneously there will be curtailment in the average costs.

- New trade theorists suggest that factors of Heckscher-Ohlin Theory are determined by inter-industry trade. On the other side, increasing returns which results from specialization within the industry drives intra-industry trade. Hence, there is coexistence between comparative advantage from factor endowment differences and increasing returns from economies of scale because of differences in the application of inter-verses intra-industry trade. Increasing Product Variety and Reducing Costs.
- Importance of externality is realized by new trade theory in international trade. Externality prevails when the actions of one agent directly affect the environment of another agent. Government policies, political relations between countries, consumption differences between different cultures etc are included in externalities. These externalities are considered as alternatives to comparative advantage which directly influence international trade.

New trade theory significantly focuses on two points:

1. Increasing Product Variety and Reducing Costs
2. Economies of Scale, First-Mover Advantages and Pattern of Trade

1. Increasing Product Variety and Reducing Costs

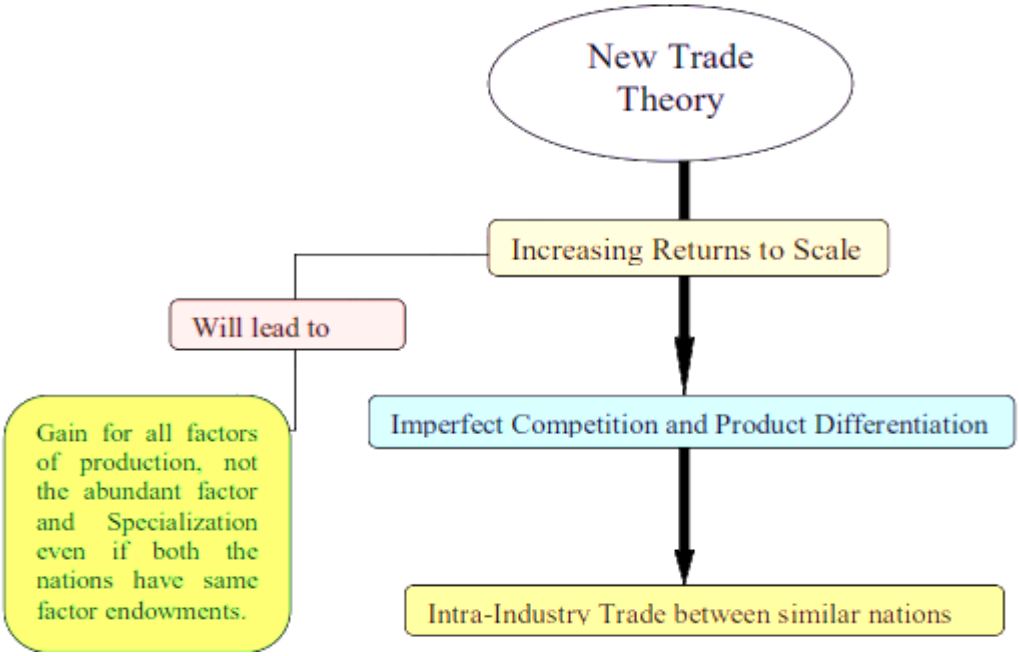
Considering that there is no world trade, it is difficult for producers to of scale for products whose market is not wide. Thus, this results in limited production of products in the market. On the contrary, size of the market expands other. In such a case, economies of scale are realized. According to new trade theory, trade is mutually beneficial as it brings in specialization of production, realization of economies of scale, the production of wide variety of products and lower prices.

2. Economies of Scale, First-Mover Advantages and Pattern of Trade

International Trade is influenced by economies of scale and first mover advantages. The advantages that accrue to early entrants into an industry are first-mover advantages. The output that is required to achieve economies of

scale signifies a larger proportion of total world demand of that product. Under such a situation, only few firms get support and the firms first to establish enjoy the first-mover advantage.

Describes New Trade Theory which results in realizing economies of scale, incorporating real-life imperfect competition in international trade and also suggesting intra-industry trade between nations.



Strategic trade policies have been instituted by the national governments to assist industries in achieving national competitive advantage. The main aim of these types of policies is to make a shift from perfect competition to managed competition. This theory mainly covers oligopolistic industries like aerospace industry. Boeing-Airbus instance can explain this theory. Assuming there is only room for one firm in the international aircraft market. If two firms decide to produce, then both will incur losses. But if one firm produces, then producing firm will generate profits. In this situation, if large amount is committed by the European government to subsidize the production of aircrafts by Airbus rather than the expected loss if both firms remain in the market, then Airbus will be the leader of whole market. Simultaneously, Boeing will quit. Thus, government intervention is very crucial when firms play strategically in international markets. However, WTO

rules prescribe that no subsidies should be given and these create barriers to free trade.

Implications- Strategic Trade Theory

1. The theory suggests that trade provides an advantage for mutual gain irrespective of differences in resource endowments. This results in economies of scale that is increasing the variety of products and lowering the costs.

2. The Boeing-Airbus instance shows country dominance in the export of good because it feels lucky to have one or more firms among the first to produce that good. The first movers in an industry may get locked in the world market that discourages subsequent entry because of their ability to gain economies of scale.

3. Heckscher-Ohlin theory explains only the part of trade which is at variance with new trade theory. However, this theory does not replace Heckscher-Ohlin theory but complements it. Hence, the theory suggests the predominance of a country in the export of a product when it is well endowed with those factors used intensively in its manufacture.

4. On the other hand, new trade theory is not at variance with comparative advantage theory. This theory identifies an important source of comparative advantage as economies of scale increase productivity.

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UNIT - III

BALANCE OF PAYMENTS

3.1. Introduction

The balance of payments accounts is an integral part of the national income accounts for an open economy. They record all transactions between residents of the country concerned and those of other countries, where residents are broadly interpreted as all individuals, businesses, and governments and their agencies; international organisations are also classified as foreign residents for this purpose. The balance of payments accounts however serve another purpose. The balance of a country's foreign transactions, and the accompanying issues of the exchange rate and reserves has long been a focus of interest for policy makers, the way in which policy makers view these foreign transactions, and the policies they have adopted, have of course varied over time. There is a distinct contrast, for example, between the mercantilist view that foreign trade should be managed so as to accumulate gold specie through running a surplus, and the view taken in the decades after the Second World War that governments should seek to maintain balance of payments equilibrium. There are equally important distinctions between the various exchange rate regimes that have been employed, from the various gold standards to the floating exchange rates of the 1930s and the recent period and the pegged exchange rate system devised at Bretton Woods and used until the early 1970s.

3.2. Balance of Payments:

The term Balance of Payments is very often referred to in the news and is always a hot topic for political and economic discussions across the globe. The term Balance of Payments is used in various contexts and in order to avoid ambiguity, it is essential to understand its meaning. According to V. Sharan, "Balance of Payments is a macro level statement showing inflow and outflow of foreign exchange". This means that it is a statement that records the flow of foreign exchange arising as a result of international economic transactions. International economic transactions include export and import of goods and services, unilateral transfers, Foreign Direct Investment, Foreign Portfolio Investments, etc. in and out of a country. A more comprehensive

definition of Balance of Payments is provided by Cheol S. Eun and Bruce G. Resnik. According to them, Balance of Payments can be defined as, “the statistical record of a country's international transactions over a certain period of time presented in the form of double entry book keeping”. This definition shows that Balance of Payments statement has a time dimension that is, it is prepared over a certain time period which can be a quarter, a year, etc. Since BOP is a statement showing inflow and outflow of foreign currency in a country, all receipts from foreigners will be recorded as credit, bearing a positive sign. Receipts accrue to a country in case of exports (sale of goods and services abroad results in inflow of foreign exchange into the country), sale of financial and real assets. Likewise, all payments to foreigners will be recorded as debit, bearing a negative sign, indicating an outflow of foreign exchange. Payment of foreign exchange arises due to import of goods and services, purchase of financial and real assets. Thus,

Inflow of foreign exchange	=>	+ve entry (CREDIT)
Outflow of foreign exchange	=>	-ve entry (DEBIT)

3.3. Components of Balance of Payments

The BOP statement covers and records all types of international economic transactions that a country engages in over a certain time period. Based on the type of transactions, the BOP sub accounts are as follows:

i. The current account
ii. The capital account
iii. Statistical errors and discrepancies
iv. The official reserves account.

3.3.1. Current Account

The current account records all international economic transactions involving export and import of goods and services occurring within the current period. It has the following four sub categories:

1. Goods/ Merchandise Trade: The export and import of goods is included in this subcategory of the current account. This is the most basic and traditional form of international economic transaction. The export of goods causes an inflow of foreign exchange into the country while the import of goods causes an outflow of foreign exchange from the country. Consequently,

export of goods is recorded as a credit or +ve item in the BOP statement while the import of goods is recorded as a debit or a –ve item in the BOP statement. The difference between the export and import of goods is known as Balance of trade (BOT). If export of goods is more than the import of goods, the BOT is in surplus. On the other hand, if import of goods exceeds the export of goods, the BOT is in deficit.

Thus, Exports – Imports => BOT

Exports > Imports => BOT surplus/+ve BOT

Exports < Imports => BOT deficit/-ve BOT

2. Services/ Invisible Trade: This sub-category of the current account includes export and import of services. Services are intangible commodities. Since, they do not have a physical substance, service trade is also known as invisible trade. Common internationally traded services are transportation, tourism, financial charges for banking and insurance, royalties for intellectual property rights, constructions services, etc. The rendering or export of these services, entitles a country to receipt of foreign exchange and is therefore recorded as a credit or +ve item. On the other hand, the utilization or import of these services, creates a foreign exchange payment liability and is hence, recorded as a debit or a –ve item. This sub-category of the current account has recorded the fastest growth for many industrial countries in the last two decades.

3. Factor Income: This sub-category of the current account includes income by way of interest and dividend on investments made abroad in previous periods. Eg. If an Indian company sets up a subsidiary in Singapore, the proportion of net income of the subsidiary (as dividend) is paid to the parent company (in India), in the current period, it shall be treated as current investment income for India. Also, wages and salaries to non-resident workers shall be included in this sub-category.

4. Unilateral Transfers: As the name suggests, this sub-category of current account includes one-direction flows. Unlike exports and imports, unilateral transfers are unrequited or unreciprocated flow of funds. Hence, there is no offsetting flow against unilateral transfers. Flow of funds by way of gifts, remittances, pension, foreign aid, official and private grants and other similar

transfers against which no services are rendered or goods provided are included in this sub-category. Receipt of such transfers causes in inflow of foreign exchange and is recorded as a credit or +ve item and vice versa. The debit and the credit side of the various sub-categories of current account need to be balanced. If the credit side is bigger than the debit side, the difference is known as current account surplus and when the debit side is bigger than the credit side, the difference is known as current account deficit. A deficit in the current account is to be met by either of the following:

- Borrowings from foreigners, or
- Selling off past foreign investments

3.3.2. The Capital Account/ Financial Account: The capital account records all international economic transactions relating to investment in or withdrawal from financial assets and real estate. It reflects the flow of funds relating to international loans, investments and banking funds. Investment in or purchase of financial and real estate abroad is recorded as a debit item in the capital account since it involves an outflow of capital. Likewise, sale of financial assets and real estate to foreigners is recorded as a credit item in the capital account since it results in receipt of foreign exchange.

1. Foreign Direct Investment (FDI): When a foreign investor acquires 10% or more of the voting rights of a domestic business, with an intent to control it, such an investment is called foreign direct investment or FDI. Eg. When the Japanese automobile manufacturer, Honda, built an assembly plant in Ohio, it made a foreign direct investment in Ohio. In the same way, acquisition of Carnation, a U.S. firm by the Swiss multinational, Nestle Corporation, amounted to FDI. Giant multinationals locating their production facilities in India, China and other Asian countries to benefit from cheap labor also amounts to FDI. When a country receives FDI, capital flows into the country and it is hence recorded as a credit or a +ve item in the capital account of the BOP statement. On the other hand, when a country makes FDI abroad, capital flight takes place. Hence, it is recorded as a debit or a –ve item in the BOP.

2. Portfolio Investment: This sub-category of the capital account includes the sale and purchase of foreign financial assets such as bonds, stocks, money market instruments, financial derivatives and the like which does not

cause a transfer of control. Purchase of Indian financial assets by foreigners causes an inflow of foreign exchange and hence, it should be recorded as a credit or +ve item in the BOP statement. Likewise, Purchase of foreign financial assets by Indians causes a capital flight and hence, should be recorded as a debit or –ve item in the capital account. In the same way, withdrawal of investment in foreign financial assets by Indians causes an inflow of capital and withdrawal of investment in Indian financial assets by foreigners causes an outflow of capital.

3. Other Investments: This sub-category of capital account includes transactions in trade credit, currency, bank deposits, etc.

3.3.3. Errors and Omissions: This is an item in the BOP statement. It is also known as statistical discrepancy. It is considered while arriving at the overall balance. The statistical discrepancy in the BOP arises due to the following reasons:

1. Difficulty in data collection: Data for the BOP statement is collected from different sources and these sources differ in their approach of data compilation. Hence, statistics from different sources vary resulting in statistical discrepancy in the BOP statement.

2. Lead or lag transactions: Movement of foreign exchange may lead or lag the transactions that they are financing. Eg. If goods are shipped in March 2013 and payment for them is received in April 2013. The sent shipment will be recorded in the financial year ending 31st March 2013. However, payment for it shall be recorded in the following financial year ending 31st March 2014. This difference leads to statistical discrepancy in the BOP statement.

3. Estimates: The BOP statement uses estimates to arrive at certain figures relating to travel, tourism, etc., for which exact amounts are difficult to ascertain. Estimates are based on samples. If the sample chosen is defective, statistical discrepancy is bound to arise.

4. Unrecorded illegal transactions. Once statistical discrepancy is identified, the overall balance can be arrived at. The balancing between all credits and debits in the current account, capital account and the statistical discrepancies represent the overall balance. If the overall balance is in surplus the surplus amount is used to repay borrowings from the IMF and the balance

(if any) is carried to the official reserves account. If the overall balance is in deficit, the monetary authorities of the country arrange for capital flows via drawings from the IMF or official borrowings or by bringing down the foreign exchange reserves, to make good the deficit. Based on the above, capital account flows can be of two types: Accommodating capital flows and autonomous capital flows. Accommodating capital flows or above the line capital flows is the inflow of capital meant to cover the overall BOP deficit. The objective of such flows is to bring the BOP statement into equilibrium. It usually includes drawings from the IMF. Autonomous capital flows or below the line capital flows is the inflow of capital which occurs regardless of any deficit in the BOP. Eg. Foreigners repaying loan, FDI inflows in a country, etc.

3.3.4. Official Reserves Account: The official reserves account records monetary gold, SDR allocations to a country by the IMF and foreign currency assets held by the monetary authorities of a country. If the overall BOP is in surplus, the surplus gets added to the official reserves account. If the overall BOP is in deficit, the official reserves account gets reduced by the deficit amount, if accommodating capital flows are unavailable.

3.4. System of BOP Accounting

International economic transactions are recorded in the BOP in the form of double entry bookkeeping. Every credit has a corresponding and matching debit entry and vice-versa. This means that disequilibrium in the BOP does occur, however, not from the accounting point of view since all credits are matched with corresponding debits (if the entries are correctly recorded.). Eg. Suppose that an export house in India exports garments worth Rs. 10 million to the US and the US pays for it from its rupee bank account kept with India. Then, the receipt of Rs. 10 million by USA will be recorded as a credit or a positive item in the current account, and its corresponding debit or negative entry will be in the capital account showing a reduction in the Indian bank's liabilities (US rupee deposits in India). It should be noted that though BOP is based on the double entry book-keeping system of accounting, however, individual transactions i.e. the current and capital account entries are recorded independently of one another. Hence, due to mistakes, errors and

statistical discrepancies, the debit of the BOP may not match with its credit and hence, the overall balance may not balance.

BOP is always in a balance. BOP disequilibrium always exists. This statement is a statistical explanation of equilibrium in BOP. However, there are two notions of equilibrium. The first notion is an accounting notion. Here, it is said that "BOP is always in a balance". It must first be understood that unlike an ordinary system of accounting, the BOP accounts are a peculiar account. It is a single account which consists of a current account as well as a capital account. The receipts and payments in the current account are revenue items of income & expenditure. Therefore, any surplus of expenditure (imports) over income (exports) would result in a revenue deficit. This deficit is known as the Current Account Deficit (CAD). In an accounting sense, the BOP Accounts is said to be always in a balance because as a single account, the deficit on the current account has to necessarily be matched with a surplus on the capital account. In this sense, BOP accounting is different from financial accounting. Hence, BOP being a single account is recorded in such a way that on the whole, it remains in a state of balance. This does not preclude the possibility of a deficit or surplus arising in any one of the two constituents of the BOP accounts. One part of the account compensates the deficit or surplus in the other part of the BOP account. In an economic sense, however, the BOP accounts, in most cases is found to be in a state of disequilibrium. Therefore, we can justify both the statements, namely that BOP is always in a balance and disequilibrium in BOP always exist.

3.5. Disequilibrium in Balance of Payments:

Albeit the credit and debit sides are written balanced in the BOP, it may not always remain balanced. Very often, either the debit side exceeds the credit side (referred to as deficit) or the credit side exceeds the debit side (referred to as surplus) which engenders an imbalance in the BOP account which is referred to as disequilibrium. Surplus in balance of payments when the autonomous receipts (credits) are greater than autonomous payments (debits), the balance of payments will be in surplus or favorable. To state it otherwise, if total credits exceed total debits in the current and capital account (including errors & omissions), the balance of payments will say to

be in surplus. This surplus is settled with an equal amount of net debit in the official reserves account. Deficit in BOP When the autonomous receipts (credits) are smaller than autonomous payments (debits), the balance of payments will be in deficit or unfavorable or adverse. To state it differently, when total debits exceed total credits in the current and capital accounts (including errors & omissions), the BOP is said to be in deficit. This deficit is settled with an equal number of net credits in the official reserve account.

3.5.1. Types of Disequilibrium:

There are three main types of Disequilibrium cause by different conditions. These are:

1) Temporary Disequilibrium: Temporary disequilibrium in the form of deficits or surpluses tends to last for a short span of time. They are the result of temporary alterations in the economy like - crop failure, seasonal fluctuations, effect of weather on agricultural production, etc. Such disequilibrium may occur once a while and gets automatically corrected. It does not pose a serious problem for a country.

2) Cyclical Disequilibrium: This arises due to the trade cycles or business cycles which very often differ between trading partners. Under such circumstances there would be periods when exports boom and other periods when imports are higher.

3) Fundamental Disequilibrium: This refers to a state of deficit in BOP caused by the weakness of fundamentals in an economy. This includes low growth, high-cost prices structure & low efficiency. This is a long term phenomenal which can be corrected only with structural changes in the economy.

4) Structural Disequilibrium: This is caused by change in tastes, culture & technology. For instance, developed economies may discover synthetic substitutes for primary exports from developing economies. This would lead to a permanent fall in the export potential of developing economies who are essentially primary exporters. Hence, there would be a long-term tendency towards deficits in BOP.

3.5.2. Causes of Disequilibrium in Balance of Payments

1. Population Growth: Most countries experience acceleration in the population and in some like India and China the population is not only large but increases at a faster rate. Imports become imperative to satisfy the needs of increasing population base.

2. Development Programs: Developing countries which have embarked upon planned development programs require importing capital goods, some raw materials which are not available at home and highly efficient and skilled manpower. To pursue long-term development, imports of these items for quite a long time become necessary which engenders a BOP deficit.

3. Demonstration Effect: It has been seen that people in developing countries try to adapt to the consumption pattern of the people in developed nations, due to which their imports tend to increase. If the exports do not rise at the same time, the balance of payments might become unbalanced.

4. Natural Factors: Sometimes, natural factors such as floods, famines etc. can adversely affect the agricultural and industrial production in a particular year. Due to low level of production, the country will be able to export less and will need to import more, thus causing disequilibrium in the BOP.

5. Cyclical Fluctuations: Trade cycles such as boom, recession etc. can affect the balance of payments by influencing the level of a country's exports. For instance, in case of a boom in the markets, the exports of a country will get an enhancement due to the increased demand from the other countries; this will cause disequilibrium in the BOP.

6. Inflation: Due to rapid economic development, income and price levels experience an increment. Due to this, imports get increased while exports get reduced, thus, causing a deficit in the BOP.

7. Poor Marketing Strategies: The developed nations follow advanced marketing strategies due to which their exports increase. Whereas, developing nations experience a deficit due to their poor marketing strategies.

8. Flight of Capital: Speculators tend to withdraw their funds from the developing nations whenever there is any adverse news related to their economy. Due to this, developing nations lose foreign exchange and gold reserves which the investors invest in more stable economies i.e. in developed

nations. This capital movement causes disequilibrium in the developing countries BOP.

9. Globalization: Due to globalization there has been more liberal and open atmosphere for international movement of goods, services and capital. Competition has been increased as a result of globalization of international economic relations. The emerging new global economic order has brought in certain problems for some countries which have resulted in the balance of payment disequilibrium.

3.5.3. Implications of Disequilibrium in BOP

Disequilibrium (surplus or deficit) in BOP is considered undesirable for a country. However, the implication of disequilibrium depends on location or source and duration. In this context the following generalizations are possible

a. With respect to location, it could be said that a surplus in the combined current and capital accounts should be considered desirable for a country. Whereas, a deficit in the combined current and capital account should be considered as undesirable for the country.

b. With respect to duration, it could be said that if the disequilibrium (surplus / deficit) is temporary or short term, then it is not much a serious concern for the country. But, if the disequilibrium (surplus / deficit) is persistent or long term, it becomes an issue of grave concern for the country and needs corrective policy action.

c. A fundamental disequilibrium (in the form of deficit) is undesirable because under a fixed exchange rates regime it forces the country to go for Devaluation, while under flexible exchange rates it causes depreciation in the External value of the currency.

d. It would increase the external debt of the country and may lead to external debt trap.

e. It leads to depletion in forex reserves and again makes the position of country extremely vulnerable.

f. It makes the country totally dependent on the loans supplied by international organizations and foreign governments and raises serious doubt about the maintenance of its external sovereignty.

g. It is observed that disequilibrium in the form of surpluses is very rare while disequilibrium in the form of deficits is a common phenomenon. Hence, in practice, the term disequilibrium is normally associated with deficits in BOP.

3.6. Adjustment Mechanism of Balance of Payments:

Different approaches to adjusting BOP Disequilibrium:

There are four main approaches to adjusting the BOP disequilibrium. These are as follows:

1. Classical View
2. Elasticity Approach
3. Absorption Approach
4. Monetary Approach

1. The Classical View:

The classical economists were of the view that BOP disequilibrium was self-adjusting. For example, as money supply in the economy increases, prices rise, exports turn uncompetitive and imports become cheaper. This causes exports to drop and imports to rise. With the two events happening, a BOP deficit arises. In order to finance the imports, precious metals leave the country. This reduces the money supply in the economy which lowers the price level. Lower prices make exports rise and imports fall, thus correcting the BOP disequilibrium.

2. The Elasticity Approach:

The traditional approach in respect of effects of devaluation is condensed in the form of Marshall-Lerner condition. It means exports earning will increase and imports expenditure will decline if price elasticity is more than proportionate (i.e., if it exceeds unity or greater than unity). This situation is known as Marshall and Lerner Condition, since it was discovered in 1923 by A. Marshall and later in 1944 by Abba P. Lerner. The essence of this condition is that an improvement in competitiveness (relative prices) will improve trade balance and balance of payments only if the sum of price elasticity of demand for imports by residents and the price elasticity of demand for exports by non-residents is more than proportionate (exceeds or is greater than unity). The important point to note is that the emphasis of Marshall-Lerner Condition is on the sum of the elasticity and not on elasticity

separately. For this reason, the theory is called Elasticities Theory. This may also be called the theory of price-effects on balance of payments. In case of deficit current account balance, they recommended for devaluation of currency. If currency is devalued, export become cheaper and import become costlier, thus export increases and import decreases, which automatically lead balance of payment back in equilibrium. But there is a condition that price elasticity must be greater than unity,

$$\text{i.e. } \in > 1$$

$$Em + Ex > 1$$

Where Em is the price elasticity of demand for import, and Ex is the price elasticity of demand for export. The purpose of the Elasticities Theory is to bring out the effects of price changes on balance of payments. The theory provides the basis for a policy measure like devaluation of a currency, as it indicates the conditions required for the success of devaluation as a measure to correct adverse balance of payments position. "J-CURVE EFFECT":- if the elasticity of demand is greater than unity, the import bill will contract and export earnings will increase as a sequel to devaluation. Trade deficit will be removed. However, the problem is that the trade partner may also devalue its own currency as a retaliatory measure. Moreover, there may be a long lapse of time before the quantities adjust sufficiently to change in price. Till then, trade balance will be even worse than that before devaluation. This is nothing but the J-curve effect of devaluation.

Fig.3.1. J-Curve Effect

In figure, trade balance moves deeper into the deficit zone immediately after devaluation. But then it gradually improves and crosses into surplus zone.

The curve resembles the alphabet, J and so, it is known as the J-curve effect. On the basis of experiences of India, trade deficit was very high in 1965 and then India devalued rupees by 36% in June 1965. Export should have gone up but export increased only in 1972. Between, 1966-1971, devaluation does not help export to rise. So, this theory was examined by many experts and they realized that there is a lag between devaluation and rising exports. Apart from this the theory also suffers with some other limitations:-

1. It assumes that country's balance of payments position is in balance initially and that change in prices would affect the balance of payments. This is not correct, as no country's balance of payments is in balance, i.e., neither surplus nor deficit.
2. Generally. Exports and imports consist of thousands of different items, and it is difficult to estimate elasticities for all these individually or in aggregate.
3. Marshall-Lerner condition assumes that the supply side is highly flexible; that is, there are no difficulties in the availability of goods for export and production will quickly respond to changes in foreign demand. This is not correct. The most important of these other influences is the change in income.
4. Lastly, the Elasticities Theory overemphasis the role of trade in improving a country's balance of payments. Changes take place in other parts of balance of payments, as well that is, in the current account as a whole as well as in the capital accounts.

3. Absorption Approach:

This approach is developed in 1952 by S.S.Alexander of the International Monetary Fund, is based on Keynes theory of balance of payments which explains balance of payments on current account as a macroeconomic phenomenon. It focuses attention on the relationship between international trade and the domestic economy or the domestic economic activity represented by national income or Gross National Product (GNP). Thus, unlike the Elasticities Approach, which attempts to explain what happens to the balance of payments when relative price change, the Absorption Approach explain the changes in national income and their impact on balance of payments. National income or National output, is the sum total of economy activity of a country during a year, i.e., a sum total of goods and

services produced in a year. This may be measured as income earned by its population or as output produced by the economy, or as expenditures or total spending in the economy. For the purpose of absorption what is relevant is the latter two, i.e., output and spending or expenditure. Total availability or aggregate supply of goods and services in the economy is represented by output. What is produced is also used for consumption and investment in the economy. This is total spending. The relationship between income or output and expenditure or spending may be expressed thus Y = C+I; Y stands for income or output and C and I stand for consumption and investment spending, respectively. In a closed economy, i.e., an economy which has no transaction with the rest of the world, all national income or output will flow between producers and consumers within the economy. As a result, there will be no tendency for national income or output to change unless consumers, on their own, change their production levels. Thus, Keynes theory of income predicts that when there is change in level of either consumption (or saving) or investment, national income or output will increase or decline. In an open economy, however, foreign trade influences national income or national output through changes in exports and imports. An increase in export earnings is in addition to (or injection into) national income stream and spending on imports is a subtraction (or leakage) from the income stream. The increase in exports increases national income and increase in imports causes decline of it. This relationship between national income or output and foreign trade may be expressed thus Y = C+I+X-M; Y stands national income or output, C+I represent consumption and investment spending and X-M represent trade balance, X standing for exports and M standing for imports. The question is, by how much will the national income increase, due to an increase in exports. This is measured by the ratio of increase in national income to increase in export earnings. This ratio is called foreign trade multiplier. Similarly, national income will decline due to spending on imports is measured by the ratio of increase in imports to increase in income. This is called marginal propensity to imports. The net effect of the operation of these two tendencies determines the impact of foreign trade on national income. the conclusions that follow are: if in year expenditure or spending in the economy,

it means that the economy is absorbing or using up more resources than are available in the economy. The difference is available in the form of imported resources and this is reflected in the balance of payments deficit. If, on the other side, output exceeds expenditure in the economy, it means that the economy has more resources to spare in the form of exports; and this is reflected in the balance of payments surplus. The basic relationship for the absorption approach is BOP = Y-E, where BOP is balance of payments, Y is income or output and E is expenditure. According to absorption, balance of payments deficit (or surplus) on current account reflects the difference between national output and national expenditure.

4. Monetary Approach: The Monetary Approach to balance of payments or external transactions emphasizes the role played by money supply in a country's balance of payments. This is because money supply is the basis for total or aggregate demand in the economy. Every transaction in the economy is financed by the use of money. According to this approach, balance of payments surplus or deficit is a monetary phenomenon because it results from excess demand for money or excess supply of money in the economy. If there is excess money supply, it may be spent within the country and abroad and the country will run into balance of payments deficit, leading to an outflow of the national currency. If there is an inflow of currency into the country, it means that the country is receiving more money than it is paying abroad; that is, there is a balance of payments surplus. In short, inflows and outflows of currency in an economy are associated with balance of payments surplus and deficit. Since money supply changes take place not only due to transaction in goods and services but also because of capital transactions between countries, the monetary approach explains the balance of payments situation as a whole including capital account. The imported features of this theory are that it establishes a relationship between money supply and balance of payments. The policy implications of this theory are twofold. First, is that for a proper understanding of the balance of payments situation of a country, it is necessary to analyse the demand and supply of money in an economy? The second implication is that any balance of payments policy must aim to bringing into balance the demand for money and the supply of money

by focusing attention on the control of domestic money supply. Mundell (1968) also incorporates interest rate and capital account in the ambit of discussion. In his view it is not only government spending but also interest rate that influences income as well as balance of payments. While larger government spending increases income, an increase in income leads to rise in import. With a positive marginal propensity to import, any rise in income as a sequel to increase in government spending will lead to greater imports and worsen the current account. However, changes in interest rate influence both the capital account and current account. A higher interest rate will lead to improvement in current account through lowering of income. At the same time, a higher interest rate will improve the capital account by attracting foreign investment flow. New Cambridge School Approach takes into account savings (S), investment (I), taxes (T), and government spending (G), and their impact on the trade account. In form of equation, it can be written as:

$$S + T + M = G + X + I$$

Or $(S-I) + (T-G) + (M-X) = 0$

Or $(X-M) = (S-I) + (T-G)$

The theory assumes that (S-I) and (T-G) are determined independently of each other and of the trade gap. (S-I) is normally fixed as the private sector has a fixed net level of saving. So, the balance of payments deficit or surplus is dependent upon (T-G) and constant (S-I). In other words, with constant (S-I), it is only the manipulation of (T-G) that is necessary and a sufficient tool for balance of payments adjustment.

3.7. Expenditure Changing Monetary and Fiscal Policy

3.7.1. Introduction

Macroeconomic policies play a useful role in attaining macroeconomic objectives of economic growth, employment and price stability. Fiscal policy and monetary policy are two important instruments of the macroeconomic policy of a government. Fiscal Policy is changes in the tax and spending pattern of the central government for the purpose of expanding and contracting the level of aggregate demand. Monetary Policy is changes in the interest rates and money supply to expand and contract aggregate demand

under the control of the central bank, say Reserve Bank of India (RBI) in India. Changes in the monetary policy are more frequent and can be made at any time during a year. However, changes in fiscal policy take longer time as it requires parliamentary approval. The interdependence between fiscal policy and monetary policy is considerable. The fiscal policy has a direct impact on the goods market and the monetary policy has a direct impact on the money markets. The two markets interact with each other influencing output and interest rates by the simultaneous equilibrium in goods and money markets. Therefore, the present module examines the interdependence of fiscal and monetary policy through the changes in the aggregate demand.

3.7.2. Fiscal Policy and Monetary Policy

Fiscal Policy is comprised of mix of budgetary instruments like the use of taxation and government expenditure to influence the aggregate level of economic activities at the macroeconomic level. It aims to achieve economic objectives with soundness of public finance. The main policy objectives of fiscal policy that takes due account of state of the economy over long term is as follows:

1. To mobilize resources for economic growth
2. To achieve the target of full employment
3. To restrain price instability in order to ensure economic stability; and
4. To achieve equitable distribution of income and wealth

Governments fiscal policy is used as an active instrument of economic stabilization by minimizing the inflationary as well as recessionary fluctuations in the income by reducing or increasing the aggregate demand. The two mechanisms of fiscal policy are:

a. Discretionary fiscal policy and
b. automatic stabilizers.

The brief reviews of the mechanism are as follows:

a. Discretionary Fiscal Policy:

Fiscal policy can be employed either through discretionary or non-discretionary measures. The discretionary elements of fiscal policy are deliberate and focused actions are taken by the government to increase or decrease aggregate demand. The policy makes changes in taxation and public

expenditure policies to meet the recessionary and inflationary situations. At the time of recession, the government's deliberate action is the expansionary fiscal policy which increases its expenditure or cuts down taxes or a combination of both. An expansionary fiscal policy is an increase in government spending or a reduction in taxes aimed at increasing the aggregate output or income. An expansionary fiscal policy based on increase in government expenditure tends to lead to a multiplier effect and crowdingout effect. The increased government expenditures mean more transactions leading to increase in demand for money which increases the rate of interest. An important question is how to finance the increase in government expenditure. The increase in government expenditure must not be financed by raising taxes as it offsets the expansionary effect. Therefore, proper discretionary fiscal policy is to finance the government expenditure is to borrow from the public in the money market. This increases the interest rates if not administered by the Central Bank. As investment is inversely related to rate of interest the investment will fall and will then partially offset the increase in aggregate expenditures brought about by the increase in government expenditure. This is called crowding out effect. The expansionary fiscal policy in relation to reduction in taxes increases the aggregate output or income. At the time of inflation, the government deliberate action is the contractionary fiscal policy which decreases the government expenditure or raises the taxes or combination of both. A contractionary fiscal policy is a decrease in government expenditure or increase in net taxes aiming to increase in aggregate output or income. A decrease in government expenditure tends to decrease in demand for money and a decrease in the interest rate. However, the decrease in income is somewhat offset by the increase in planned investment resulting from the lower interest rate. The contractionary fiscal policy in relation to increase in taxes reduces the disposable income which further decrease the aggregate output or income. A contractionary fiscal policy means less expenditure or increase in taxes by government, which hampers the economic growth of a country. So, the government has to strike a balance between growth prospects & crowding out. Discretionary fiscal policy can be used in these cases, but has two

shortcomings. It suffers from time lags. It takes time for policy makers to recognize the existence of the instability, more time for them to implement a solution and yet more time for firms and households to respond to the stabilization policies. The implementation lag is much slower as compare to monetary policy as it includes political decision-making process influenced by multiple (possibly contradictory) considerations. Secondly, it is not automatically reversed when the economic cycle improves, giving rise to a potential deficit bias.

b. Automatic Stabilizers:

The second type of fiscal policy is built into the structure of government taxes and expenditure. This is referred to automatic stabilizers. They enact countercyclical policy without the lags associated with discretionary policy changes. No political decisions are required and therefore, implementation lags are minimized. It reduces the impact of recession and inflation and helps in ensuring economic stability. The automatic stabilizers ensure a prompter and self-correcting fiscal response. They operate in relation to the business cycle. The Built-in-stability of taxes and government expenditure of transfer payments and subsidies pattern automatically raise aggregate demand in times of recession and reduce aggregate demand at the time of inflation without any deliberate action by the Government or Parliament. The changes in expenditure and taxes that occur through automatic stabilizers do not shift the aggregate demand curve because they are automatic. The important automatic stabilizers include personal income tax, corporate income tax, transfer payments such as unemployment compensation, social security schemes and welfare benefits. The working of automatic stabilizers depends on the size of government but also on how responsive taxes and expenditures are to cyclical fluctuations and the progressivity of the tax system.

Monetary Policy:

Monetary policy is another policy instrument with which objectives of macroeconomic policy can be achieved. The monetary policy operates through the central bank (like Reserve Bank of India in India). It is completely discretionary as it does not require the Parliament approval to implement the policy. The central bank signals the market about the availability of credit &

interest rates. The key tools that the central bank focus on the stock of money and credit, the level and structure of interest rates & exchange rates. The primary objective is to ensure price stability taking due account of the overall economic development of a country. It creates conditions favourable for firms and households and thereby makes an impact contributing to stable economic development. There can be other objectives as well such as exchange rate stability, safeguarding the balance of external payments and to maintain financial stability. The main objectives of the Monetary Policy that takes due account of the economic development over the short or medium term is as follows:

1. To ensure economic stability at full employment
2. To achieve price stability
3. To promote economic growth

The mechanisms of monetary policy to achieve economic and price stability and thereby influencing aggregate demand in the economy are expansionary monetary Policy or easy money policy and contractionary monetary policy or tight money policy. It is the changes in interest rates and money supply to expand or contract aggregate demand.

3.7.3. Mechanism of Fiscal and Monetary Policy:

The countries face mix of macroeconomic imbalances and thus require consistent mix of fiscal and monetary policy response. The coordination of these policies is important to avoid imbalances. If the expansionary (contractionary) policy of one authority is met by expansionary (contractionary) policies of the other, the two policies are complementary. For instance, during a demand shock, at any given price level, aggregate demand rise or fall due to exogenous factors other than price that results in positive demand shock or negative demand shock. To correct these shocks the two policies are complement, both the authorities follow expansionary policies in case of negative demand shock to increase the aggregate demand to its original level while in the case of positive demand shock they would follow contractionary policies in order to decrease excess aggregate demand. The two policies could be conflicting when expansionary (contractionary) policy of one authority is countered by the contractionary (expansionary) policy of the

other. For instance, in the case negative supply shock (decrease in aggregate supply due to increase in input prices or decline in factor productivity). This would decrease the output and increase the prices. The government would follow the fiscal expansionary policy to increase the output to its original level whereas the central bank would follow the contractionary policy so as to reduce inflation created due to shortage of output. However, there are many ways fiscal policy affects monetary policy and thus central banks. Firstly, an expansionary fiscal policy would result in increased budgetary deficits for which the government can choose expansionary monetary policy by resort to the printing press. This would lead to inflation. The government can even resort to the funding of debt through market sources. There is a possibility of crowding out and if the domestic debt dependent on foreign funding result in balance of payment or exchange rate problems and worrying to central bank. This would further lead to banking crisis. The government can even resort to another direct channel say increasing indirect taxes - value added tax. This would raise the prices leading to wage-spiral and higher inflation. The higher taxation would be compensated by more savings and less consumption. The on-going budget deficits resulting in large borrowing may trigger lack of confidence in the economic prospects. The behavior of economic agents depends on the sustainability of fiscal policy on which central banks base their monetary policy decisions. It becomes a destabilizing factor on bond and exchange markets eventually might lead to the collapse of the monetary regime. Thus, expansionary fiscal policy may become ineffective as a means to increase demand and similarly fiscal contractions may turn out to be expansionary. It is also learnt that fiscal policy is more suitable to fight unemployment as monetary policy following expansionary policies would take longer to sort unemployment as it depends on the private sector to invest in new projects. However, government following expansionary fiscal policy by increasing expenditure on projects would open new vacancies and reducing unemployment faster. On the other hand, the monetary policy would be more effective to fight inflation than fiscal policy. The contractionary monetary policy would reduce money supply quickly and contractionay fiscal policy would take unattractive decisions like raising taxes or reducing expenditure.

3.8. Monetary and Fiscal policies for Internal and External Balance:

The important economic goals or the objectives of the nation are internal and external balance. Internal balance refers to the full employment with price stability. External balance refers to equilibrium in the balance of payments. Government can use a number of policies to influence employment and the balance of payment. These policies can be categorized as

- Expenditure - Changing Policies
- Expenditure - Switching Policies
- Direct Controls

Expenditure changing policies are those that change the level of economic activity, generally taken to be the level of price or the level of the GDP by managing aggregate demand. Expenditure – changing policies include fiscal and monetary policies. Fiscal policy is the use of the spending & taxing functions of govt. An expansionary fiscal policy is one that rises aggregate demand by lowering taxes or increasing government spending. Similarly, a contractionary fiscal policy decreases aggregate demand by rising taxes or decreasing government expenditure. Monetary policy is the management of the quantity of a country's money supply by the central bank of that nation. An expansionary monetary policy is one that rises the money supply. An increase in money supply will decrease the interest rate, which increases borrowing for spending. The increased spending rises aggregate demand and the equilibrium level of output. Expenditure – switching policy is a change in the exchange rate. Currency depreciation switches spending by both domestic and foreigners from foreign goods to domestic goods. By raising domestic spending, depreciation of currency will also offset some of its own effects on the trade balance because part of the increased spending will go to imports. Direct controls include tariffs, quotas, and other trade barriers as well as exchange controls & wage & price controls. The Swan diagram demonstrates how expenditure – switching and expenditure – changing policies can be used to achieve simultaneous internal and external balance.

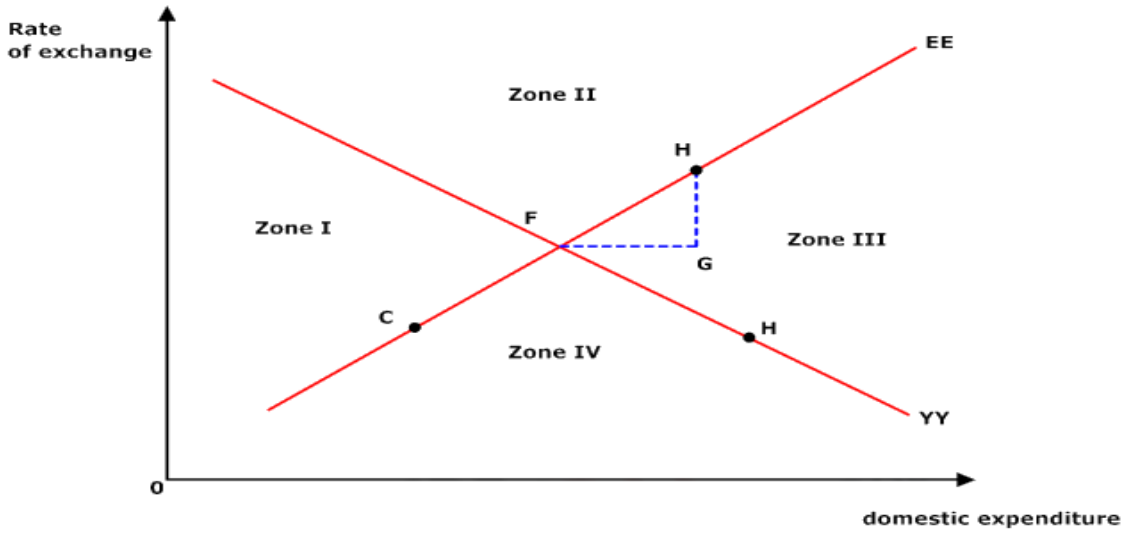

Fig.3.2.

On vertical axis, exchange rate is represented. An increase in R refers to a devaluation and decrease in R refers to revaluation in horizontal axis domestic expenditure or absorption is shown. Points on EE curve refers to external balance. EE curve is positively sloped because higher R (due to devaluation) improves nation trade balance and must be matched by an increase in real domestic absorption. At point F on EE which is a point of external balance, imagine an increase in expenditure to point G. An increase in expenditure will raise income and through MPI (marginal propensity to import), will also increase the imports producing the balance of payment deficit at point G. To restore the external balance and to eliminate the deficit, R will have to increase from point G to H (i.e. Depreciation of dollar) in order to increase exports and reduce imports. Ant point to the right of EE indicates an external deficit and any point to the left indicates external surplus. The line YY is indicating the internal balance, or the level of full employment with no inflation. For simplicity, it is assumed that inflation only occurs when output is above the level of full employment. If point J is one point of full employment, then the decrease in R to point K will cause unemployment by raising imports and lowering exports. So, to restore the level of full employment, domestic expenditure must rise from point k to point L. Any point to the left of YY indicates unemployment and any point to the right of YY indicates inflation. The four possible regions in the diagram are as follows:

Zone 1 External surplus and internal unemployment

Zone2 External surplus and internal inflation

Zone 3 External deficit and internal inflation

Zone 4 External deficit and internal unemployment

At point F there is both internal and external balance. Any other point will require an expenditure – changing or expenditure – switching policy to achieve simultaneous internal and external balance. Consider point C which is on EE line but below YY line, so there is external balance, but unemployment. In order to achieve point F, both types of policies are required. If only fiscal policy is used to raise expenditure to decrease unemployment, then increased income will cause more imports, producing an external deficit. So, the expenditure increasing policy must be accompanied by a devaluation of the domestic currency (an increase in R) in order to achieve the internal and external balance.

3.9. Mundell Fleming Model

Mundell Fleming model is an economic model first set forth by Robert Mundell and Marcus Fleming. The model is an extension of IS – LM model. The Mundell Fleming Model is also known as IS – LM – BP model. The traditional IS - LM model deals with economy under closed economy, whereas Mundell Fleming model describes the small open economy. The model is described to show how a nation can use fiscal and the monetary policies to achieve both internal and external balance without change in exchange rate. The working of IS, LM and BP curve is shown in Figure.

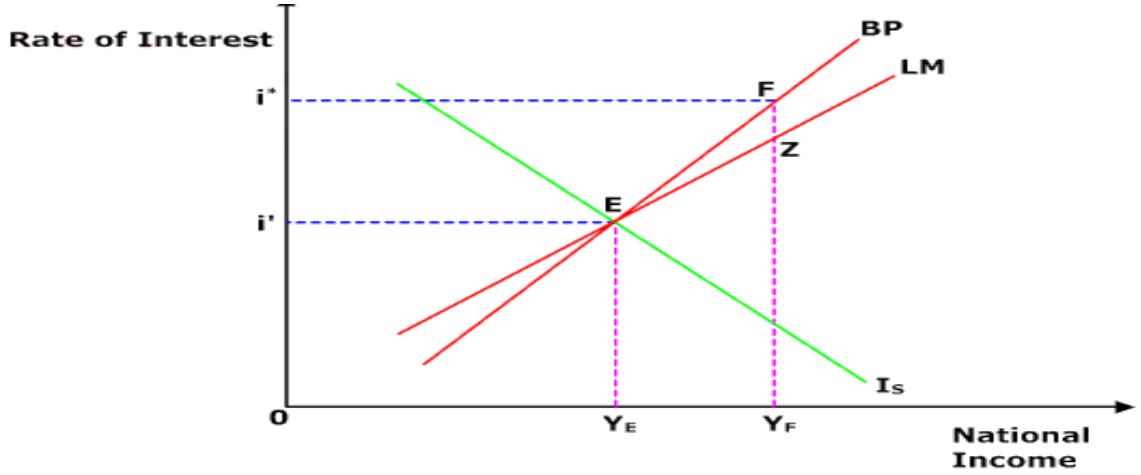

Fig.3.3.

The IS curve shows the various combination of interest rate (i) and national income (Y) that results in the equilibrium in the goods market. The goods market is in equilibrium whenever the quantity of goods and services demanded equals the quantity supplied or injections are equal to savings

$$I + X = S+M$$

Savings (S) and imports (M) are positive function of increase in the level of national income and the investment (I) is inversely related to the interest rate. The nation's exports (X), government expenditure (G) and the taxes (T) are taken to be exogenous. The IS curve is negatively sloped because at lower interest rates, the level of investment is higher which increases the national income and also induces a higher level of saving and imports. Thus, equilibrium is restored when change in investment is equal to change in savings and change in imports.

The LM curve shows the various combinations of interest rates (i) and national income (Y) at which the demand for money is equal to the given and fixed supply of money, which we call equilibrium in money market. The LM curve is inclined positively because the higher the rate of interest (i), the smaller the quantity of money demanded for the speculative purposes.

The BP line shows the combinations of income (Y) and the interest rate (i) for which there is an external balance. The BP curve is positively inclined because higher rates of interest lead to a greater capital inflow and must be balanced with higher level of national income and imports for the balance of payments to remain in equilibrium. In figure all the markets are in equilibrium at point E where IS, LM, BP curves cross at interest rate (i) = i and national income (Y) = Ye which is less than the full employment level Yf. At i = i*, the level of national income is Yf. To the left of FE curve, the nation has balance of payment surplus and to the right a balance of payment deficit. The more responsive international short term capital flows are to changes in the interest rate, the flatter is the BP curve. But BP curve is drawn on the assumption that exchange rate is constant. So, BP curve does not shift.

3.9.1. Mundell Fleming Model and Fixed Exchange Rate

Fiscal and Monetary policies from External Balance and Unemployment

An expansionary fiscal policy in the form of an increase in government

expenditure or the reduction in taxes shifts the IS curve to the right so that at each rate of interest the goods market is in equilibrium at a higher level of national income. On the other hand, contractionary fiscal policy shifts the IS leftwards. An easy monetary policy i.e. increase in the nation's money supply shifts the LM curve rightwards whereas a tight monetary policy shifts the LM curve leftwards. Here we are assuming that exchange rate is fixed so monetary and fiscal policies will not directly affect the BP curve. So, the BP curve does not shift i.e. remains unchanged. This situation is explained with the help of figure.

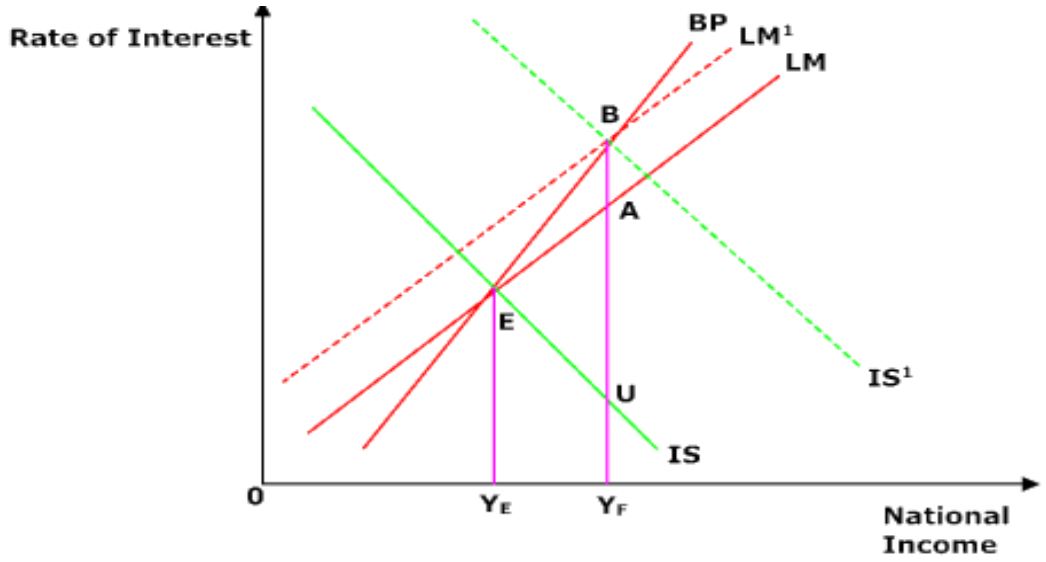

Fig.3.4.

With easy monetary policy, there is a shift in LM curve to the right which crosses the unchanged IS curve at pt U. But at pt U, the interest rate i' < i and so with low interest rate the capital inflow is reduced and so balance of payment is in deficit position. So now the nation could reach full employment level of national income by expansionary fiscal policy that shifts IS curve to right so as to cross the pt A. At point A , the interest rate is higher than at point E so that worsened trade balance is accompanied by an increased capital inflow. However, this increased capital inflow or reduced outflow is not sufficient to avoid a deficit in the nation's balance of payment as pt A is to the right of the BP curve. To reach the full employment level of national income of Yf and to have equilibrium in its balance of payment, the nation should follow the stronger expansionary policy that shifts IS curve to pt B on the BP curve. This resulted in increase in nation's interest rate to i". So, the two

policies i.e. an expansionary fiscal policy and a tight monetary policy are required for the nation to reach internal and external balance simultaneously.

Fiscal and Monetary policies from External Deficit and Unemployment:

A country with domestic unemployment and an external deficit can achieve both internal and external balance simultaneously with the appropriate expansionary fiscal policy and tight monetary policy. This is explained with the help of figure.

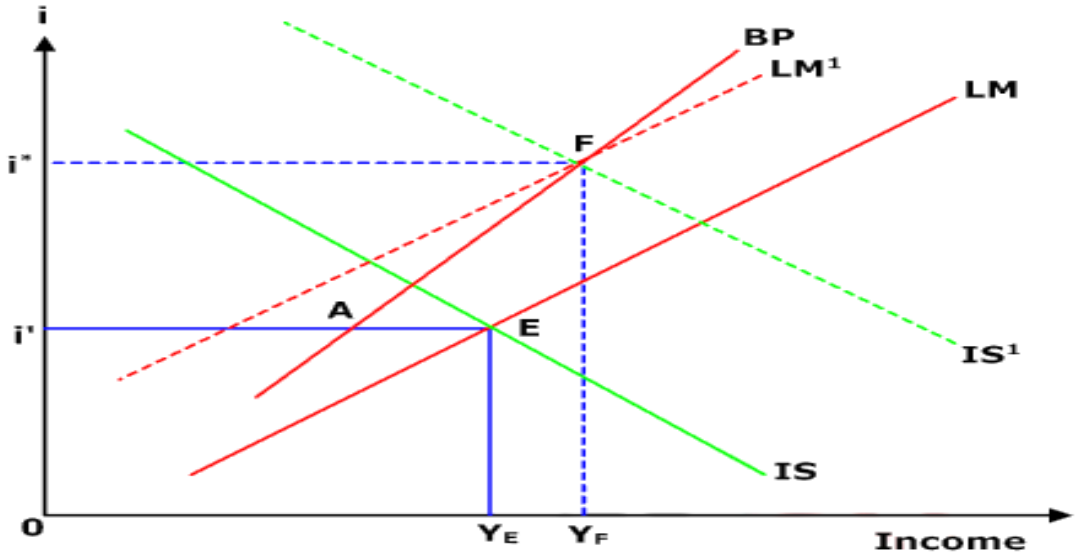

Fig.3.5.

The IS and LM curve intersects at point E but BP curve is not intersecting at this point of equilibrium. So only the domestic economy is in equilibrium at interest rate 'i' and income Ye. Here the nation faces a deficit in its balance of payment position because pt E is to the right of point A. Starting from the point E, where the domestic economy is in equilibrium with unemployment and a balance of payment deficit, the nation can reach the full employment level of output (Yf) by using expansionary fiscal policy that shifts IS curve to the right to IS' and the tight monetary policy that shifts the LM curve to the left to LM'. Now all the three markets are in equilibrium at F where curve and LM curve cross the unchanged BP curve IS. So, the nation achieved the external and internal balance with increased interest rate at i*.

Fiscal and Monetary policies with Perfect Capital Mobility

When the capital is perfectly mobile, a mall change in the domestic rate brings large flows of capital. The BOP is said to be in equilibrium when the domestic interest rate equals the world rate. If the domestic interest rate is lower than

the world rate, there will be large capital outflows in order to seek better rates abroad. On the other hand, if the domestic rate of interest is higher than the world rate, large capital inflows would bid the domestic rate of interest down to its initial level. In figure, the policy implications of perfect mobility under expansionary monetary policy is shown as

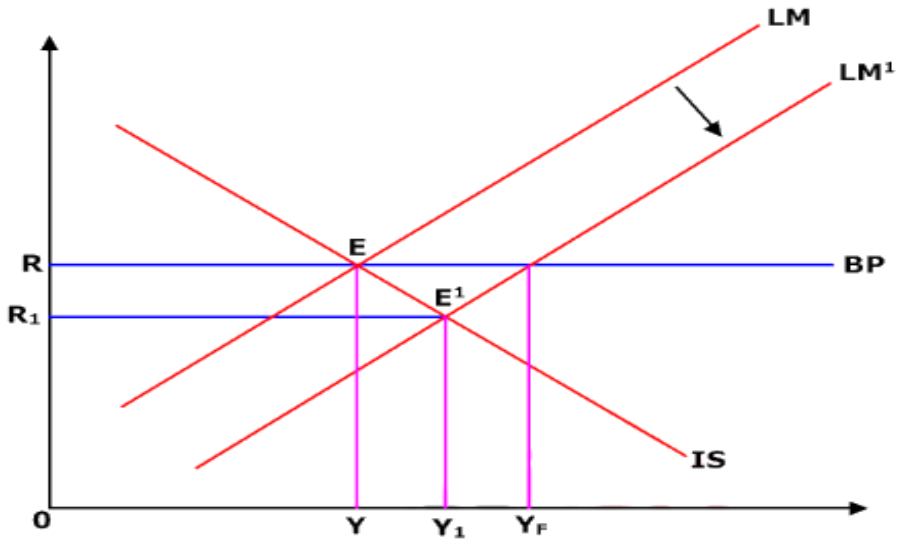

Fig.3.6.

In Ox axis the national income and on OY axis Interest rate is shown. The BP curve is drawn horizontally because even the slightest change in the interest rate will lead to infinitely large capital flow. If the domestic interest rate is above OR capital flows in to the country and if it is below OR, capital flows out of the country. Point E is the initial equilibrium level where IS – LM – BP curves intersect. This point determines the equilibrium level of income OY and the interest rate OR. Suppose point Y_f is the full employment income level which the economy wants to attain. The point E determines that the economy is not at full equilibrium level. If the monetary policy starts with an expansionary monetary policy by increasing the money supply, it will shift the LM curve to LM_1 which intersect the IS curve at E_1 and the interest rate falls to OR_1. So, it will lead to outflow of capital. Since the price of foreign exchange is fixed, the monetary authority will finance the outflow of capital by selling foreign exchange. The sales of foreign exchange will decrease the money supply and so LM_1 curve will shift upward to its original position of the LM curve. Thus, monetary policy can say to be ineffective under the scenario of

fixed exchange rates and perfect international capital mobility in maintaining the internal balance.

The expansionary fiscal policy has the effect of raising the income level by international capital mobility which is shown in Figure.

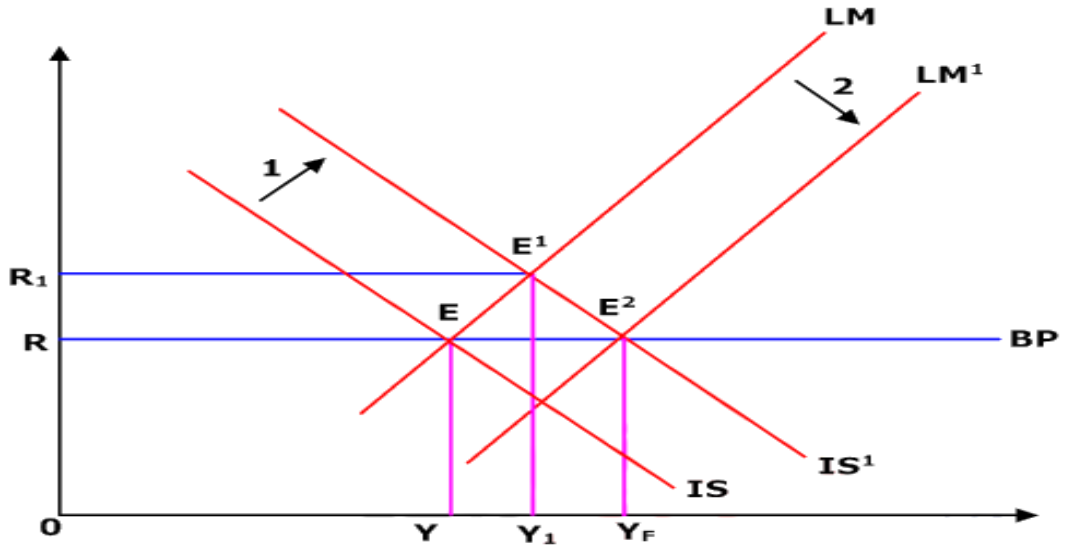

Fig.3.7.

Suppose the government expenditure is increased to achieve full employment level of income OY_f. This shifts the IS curve to the right to IS_1 which intersects the LM curve at E_1. This causes the interest rate to rise to OR1 and the income level to fall to OY_1. The rise in interest rate leads to large inflows of capital from abroad. This increases the money supply with the rise in foreign reserves, thereby shifting the Lm curve to the right to LM_1. This LM_1 intersects the IS_1 at point E_2 where at the fixed exchange rate full employment income level OY_f is reached. So, fiscal policy by increasing the money supply raises aggregate demand, income and employment. Thus, under perfect capital mobility and the fixed exchange rates, fiscal policy is effective in maintain internal balance rather than monetary policy.

3.10. Foreign Trade Multiplier

Multiplier constitutes an important edifice of Keynesian theory of employment and income determination. There exist various types of multipliers in Macroeconomics. They include investment multiplier, government expenditure multiplier, tax multiplier, transfer payment multiplier etc. All these multipliers result in change in National Income arising out of change in different entities like investment, government expenditure, tax and transfer

payment. However, these multipliers relate to a closed economy, which does not conduct any economic transactions with rest of the world. Once this assumption is dropped, national income will change when export changes. This leads to the concept of foreign trade multiplier.

The equation for foreign trade multiplier: $Kf = 1/MPS+MPM$

where MPS is Marginal Propensity to Save (S/Y), and MPC is Marginal Propensity to Import (M/Y) Therefore, the smaller the MPS & MPC, the larger will be the value of foreign trade multiplier and vice-versa.

Hence, foreign trade multiplier is: $Kf = 1/S+M$

It is thus evident from the above equation that smaller the leakages (i.e. the smaller the MPS and MPM) the greater the foreign trade multiplier and vice-versa. Foreign Trade Multiplier may be defined as the amount by which national income of a nation will be raised by a unit increase in domestic exports. It is based on a fundamental assumption which is the basis of operation of varied types of multipliers, as mentioned above. The assumption relates to existence of unemployed resources in the economy. The reason is well understood. For additional income generation, production must expand. Such an expansion is made possible by two factors, one relating to demand, while the other relates to supply. First, there needs to be a source of additional demand for output. It does not matter, what leads to such a rise in demand. It may be rise in investment, rise in government expenditure, fall in tax and rise in transfer payment made by government. While any one among them provides the additional demand for output, they lead to a rise in output and income in so far as unemployed resources are available in the economy. It just needs to be added that if the source of rise in demand does not relate a foreign country in the form of export, we have a new concept of foreign trade multiplier, which like other multiplier changes income, but unlike the rest relate to a phenomenon, which does not emanate from the domestic economy. We need to be aware of all the assumptions of the concept of foreign trade multiplier, before an explanation of the process leading to change in national income due to change in export.

Assumptions of Foreign Trade Multiplier

1. Existence of unemployment of resources in the economy needs to be assumed. If this assumption is not fulfilled, it will not raise income consequent to a rise in export. Price will rise instead of output and income.

2. One needs to assume an open economy, where there are economic transactions with rest of the world.

3. We are assuming a small economy. The significance of the assumption must be understood. In the discussion of investment multiplier, investment is assumed to be autonomous, i.e., it is assumed to be independent of national income. In order to simplify the analysis of foreign trade multiplier, one needs to make a similar assumption about exports. However, this has a very significant implication. It needs to be remembered that exports of the one country are imports of the trading partner, which depends on its national income. Now there need not be appreciable increase in income of the other country, which is exporting from the country in which production for such export is taking place. For this to happen, the concerned country needs to be small so that changes in the national economy need not produce a large impact on the national income of its trading partner. The assumption of a small domestic economy will ensure this.

4. We are keeping investment, government expenditure, tax and transfer payment to be constant, so that change in national income may be explicitly linked to change in export.

Illustration:

Suppose S (savings) = 0.3 and M (imports) = 0.2

Then K_f = 1/0.3+ 0.2 = 1/0.5 = 2

i.e. an increase in export income of Rs. 100 crores will lead to an increase in national income of Rs. 200 crores when K_f = 2.

Diagrammatic Illustration

In the figure given below, national income has been shown on X- axis and savings, investments, exports and imports have been shown on Y- axis. The horizontal line marked K_x represents exports. The savings and imports functions are represented by the line with a positive slope marked S+M.

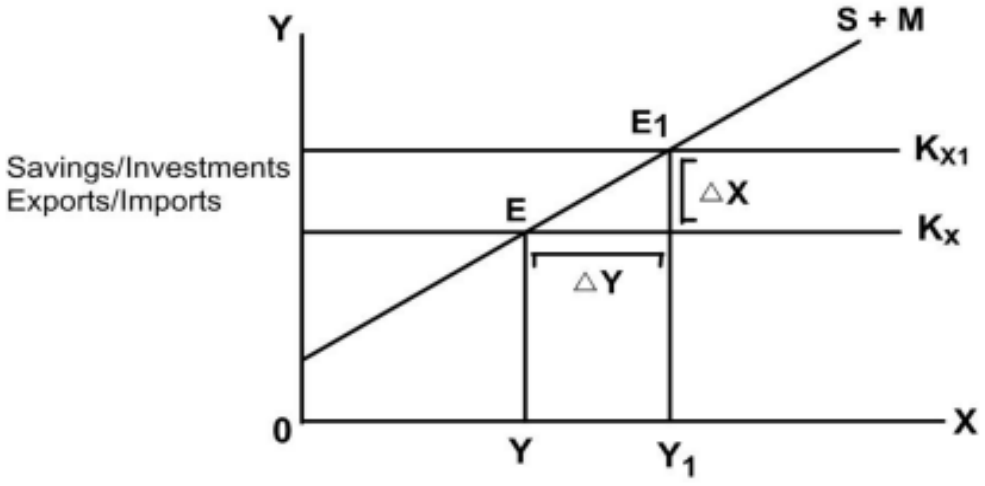

Fig.3.8.

Initially, the economy is in equilibrium at OY level of income where savings plus imports are in balance with exports at point E. Now, let us assume that there is an autonomous increase in exports so that the export function is shifted from Kx to KX_1. This increase in exports causes an injection of income of the exporting country to rise by more than the amount of new income from exports because people spend most of their additional income on domestic goods and services. Only part of the additional income will leak out by way of savings and imports. Suppose that the autonomous increase in exports amount to Rs. 100 crores, and the income will be Rs. 200 crore (because S+M=0.5) and value of K_f = 2.

It becomes clear from the Figure, that new equilibrium is established at OY_1 level of income where savings + imports are in balance with new level exports. Figure I, clearly depicts the multiplier effect of the autonomous increase in exports because. ΔY is greater than ΔX. How large the expansionary effect on national income will be from a given increase I exports, depends on the slope of the savings + imports schedule. This slope, obviously depends on the marginal propensities to save and import. The smaller the sum of these propensities, the smaller will be the slope of the schedule and the larger the expansionary effect of an increase in exports on national income and vice-versa.

Leakages and Injections

Leakages or withdrawals in an economy consist of spending by households, which does not flow back into the domestic firms. On the other hand, injections in an economy consist of spending by households, which flows back to the economy. In a very simple economy without any government intervention, consumption of domestic goods constitutes the injection, while saving constitutes leakages. If government is introduced, we have one more factor each for injection and withdrawal. They are tax and transfer payment respectively. Once the economy is open, consumption need not relate to domestic goods alone and demand for goods need not emanate from where they are produced. In such a case, export constitutes the injection and conversely imports constitute withdrawal. This has a significant policy implication. Unless, production is carried out in the economy pulled by stable domestic demand, the process of income generation may be very unstable, because export demand need not be stable. However, production may be mostly geared for domestic market only if the economy is large and capable of producing huge domestic demand. But this advantage does not exist for a small economy. That was why they had to pursue the strategy of export led growth.

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UNIT - IV

FOREIGN AID

4.1. Foreign Aid:

External assistance is considered to be a major element towards the advancement of the developing countries. It is said that aid, and not trade, is the engine of growth. The term foreign aid or external assistance or development assistance or development aid is often used synonymously, though there are certain subtle differences in their meanings. In essence, all these terms refer to transfer of resources (e.g., loans, growth, technical assistance) from rich to poor countries or from international agencies like the IMF, the WB.

To start with, it is better to have a clear understanding of the notion "foreign aid". Any transfers of capital from one country to another cannot be treated as foreign aid. In the strict sense, all governmental resource transfers from one country to another is to be called foreign aid. And resource transfers by private foreign investors need not to be confused with aid. According to economists, any flow of capital is included within the ambit of foreign aid to LDCs if it satisfies three criteria. Transfer of resources should be:

(i) developmental or charitable,

(ii) non-commercial, and

(iii) concessional.

Thus, loans to LDCs are treated as foreign aid if they contain a "growth element".

Foreign aid or external assistance can thus be defined to include all official grants and concessional loans either in foreign currency or in kind, which aims at transferring resources from the developed countries to the LDCs for developmental reasons.

4.2. Types of Foreign Aid:

Foreign aid enters a country in the form of private capital and public capital. Private foreign capital may take the form of direct and indirect investment. Direct investment means that the concerns of the investing country exercise de facto or de jure control over the assets created in the

capital importing country by means of that investment. Direct investment may take many forms: the formation in the capital importing country of a subsidiary of a company of the investing country; the formation of a concern in which a company of the investing country has a majority holding; the formation in the capital importing country of a company financed exclusively by the present concern situated in the investing country; setting up a corporation in the investing country for the specific purpose of operating in the other concerns; or the creation of fixed assets in the other country by the nationals of the investing country. Such companies or concerns are known as transnational corporation(TNCs) or Multinational Corporations (MNCs).

Indirect investment better known as "portfolio" or "rentier" investment consists mainly of the holdings of transferable securities, shares or debentures by the nationals of some other country. Such holdings do not amount to a right to control the company. The share holders are entitled to dividend only. In recent years, multilateral indirect investments have been evolved. The nationals of a country purchase the bonds of the world bank floated for financing a particular project in some less developed countries.

Public Foreign Capital may consist of:

a). Bilateral Hard Loans i.e., giving of loans by the British Government in pounds sterling to the Indian Government;

b). Bilateral soft loans i.e., Sale of foodgrains and other farm products to India by the United States under PL480;

c). Multilateral loans i.e., Contributions to the Aid India Club by the member countries. Under this category are also included loans made available by the various agencies of the United Nations like IBRD, IFC, IDA,UNDP.

d). Inter-Governmental grants.

Foreign aid refers to public foreign capital on hard and soft terms, in cash or kind, and intergovernmental grants.

4.3. Advantages and Disadvantages of Foreign Aid

The following arguments are advanced for foreign aid in Less Developed Countries:

1. To supplement Domestic Savings: LDCs are characterized as capital poor or low saving and low investing economies. There is not only an

extremely small capital stock but current rate of capital formation is also very low. On an average, gross investment is only 5 to 6 percent of gross national income in these economies, where as in advanced countries it is about 15 to 20 percent. such low rate of savings is hardly enough to provide for a rapidly growing population at the rate of 2 to 2.5 percent per annum, let alone invest in new capital projects. The importance of foreign capital helps reduce the shortage of domestic saving through the inflow of capital equipment and raw materials thereby raising the marginal rate of capital formation.

2. To overcome Deficiency of Technological Backwardness: Besides, low saving and low investment imply capital deficiency, and along with it, LDCs suffer from technological backwardness. Technological backwardness is reflected in high average cost of production and low productivity of labour and capital due to unskilled labour and capital equipment. Foreign capital overcomes not only capital deficiency but also technology backwardness. It brings sufficient physical and financial capital along with technical know how skilled personnel, organizational experience, market information, advanced production techniques, innovations in products, etc.
3. To overcome deficiency of overhead capital: LDCs lack in economic overhead capital which directly facilitates more investment. The rails, roads, canals, and power projects provide the necessary infrastructure for development. But since they require very large capital investment and have long gestation periods, such countries are unable to undertake them without foreign aid.
4. To establish basic and key industries: LDCs are not in a position to start basic and key industries by themselves. It is again through foreign capital that they can establish steel, machine tools, heavy electricals and chemical plants, etc. moreover the use of foreign capital is one industry may encourage local enterprise by reducing costs in other industries which may lead to chain expansion of other related industries. Thus, foreign capital helps in industrializing the economy.

5. To exploit new areas and natural resources: private enterprise in LDCs is reluctant to undertake risky ventures, like the exploitation of untapped natural resources and the exploitation of new areas. Foreign aid assumes all risks and losses that go with the pioneering stage.
6. To obtain social benefits: as a corollary to what is indicated above, we may say that the creation of the country infrastructure, the establishment of new industries, and increase employment opportunity within the economy.

Disadvantages of Foreign Aid:

The following arguments are put forth against foreign aid in LDCs:

1. Foreign aid is used for wasteful projects: foreign aid is often used for extremely wasteful projects which make large losses year after year. They absorb more local resources of greater value than their net output when the costs of administration, maintenance and replacement of fixed assets originally donated for the projects are taken into consideration.
2. Foreign aid does not increase net investment: foreign aid does not always bring about an increase in net investment. All less developed countries receiving foreign aid impose sever restrictions on the inflow and use of foreign capital. These retard the operation and expansion of private enterprise within the economy. Consequently, both foreign and domestic private enterprises are forced to work below capacity. Thus, foreign aid may reduce rather than increase net investment within the recipient country.
3. Influences policies towards inappropriate directions: foreign aid frequently influences policies into inappropriate directions by promoting unsuitable external models, such as western type universities who's graduated cannot get jobs, western style trade unions which are only vehicles for the self-advancement of politicians, and a western pattern of industry even where it is quite inappropriate such as airlines and steel plants.
4. Foreign aid politicises public life: foreign aid often politicises public life in LDCs and thereby contributes to social and political tensions which

ultimately retard material progress. It is on the basis of political pressures that many recipient governments in LDCs restrict the activities of highly productive and economically successful minorities such as Chinese in Indonesia, Asians in Africa, Indians in Burma, Europeans everywhere.

5. Foreign aid leads to dependency: foreign aid leads to dependency because the donors insist on aid typing to the purchase of goods and services at costs much higher than the competitive world prices, and on monetary and fiscal policies detrimental to the national interests of the recipients of aid. For instance, the recipient may be required to keep an overvalued exchange rate, low real interest rates and to neglect export promotion and fiscal restraint.
6. Reduction in domestic savings: Griffin and Enos have concluded on the basis of statistical evidence for thirty-two Less Developed Countries (LDCs) that only 25 percent of foreign aid results in an increase of imports and investment, while 75 percent is used for consumption. Thus, aid causes a reduction in domestic savings.it is used as a substitute for domestic savings rather than as a supplement.

4.4. Factors Determining Foreign Aid:

The amount of foreign aid flowing to LDCs, however depends upon a number of factors:

1. Availability of Funds:

Developed countries have enough capital to export these does not appear to be an excess of surplus in such countries. With the exception of the United States, there are few countries that can spare so much capital as to bring it up to 10 -15 billion dollars annually, required by LDC's. some of the developed countries like Canada and Australia themselves borrow from the United States and Great Britain to finance their development projects. But it does not mean that these countries cannot provider foreign aid to the LDCs.

2. Capacity to Absorb Capital:

LDCs should get as much as they could usually invest. Absorptive capacity covers all the ways in which the ability to plan and execute

development projects, to change the structure of the economy and to reallocate the resources in circumscribed by the lack of crucial factors, by institutional problem or by unsuitable organization. The structure of the economy along with its utilization capacity will have an important bearing on a country's absorptive capacity. World Bank States in their 4th Annual Report: "the principal limitation upon bank financing in the development field has not been lack of money but lack of well prepared and well-planned projects ready for immediate execution. The project must not only be built to be absorbed, they must be productive." The amount of capital that can be utilized by the LDCs is determined by the availability of complimentary resources. It will remain unutilized if complementary resources are unavailable. Uneven infrastructure in LDCs keep the capacity to absorb foreign aid Low.

3. Availability of Resources:

If an LDC has little adequately developed human and natural resources it will act as an impediment to the effective use of foreign capital. It will be all the more difficult for such a country to utilize the available foreign aid if it lacks in human and natural resources. But the latter should not act as limit to economic development.

4) The Will and Effort to Develop:

Perhaps the most important factor is the will and effort on the part of the recipient country to develop. Capital received from abroad does not fructify, unless it is desired and paralleled by an effort on the part of the recipient country.

5) Capacity of the Recipient Country to Repay Loans:

This is very pertinent problem. For the burden of servicing loans acts as barrier to the borrowing of large funds by LDCs. This, in itself, can be attributed to their extreme poverty. The capacity for the repayment, however, hings on their capacity to export and their ability to augment their foreign exchange resources. Overtime, the only determinant of the capacity to repay is the loans contribution to the productivity of the economy as a whole, and the capacity of the system to skin off the necessary portion of that productivity in taxes or pricing, and reallocates resources so as to transfer debt service

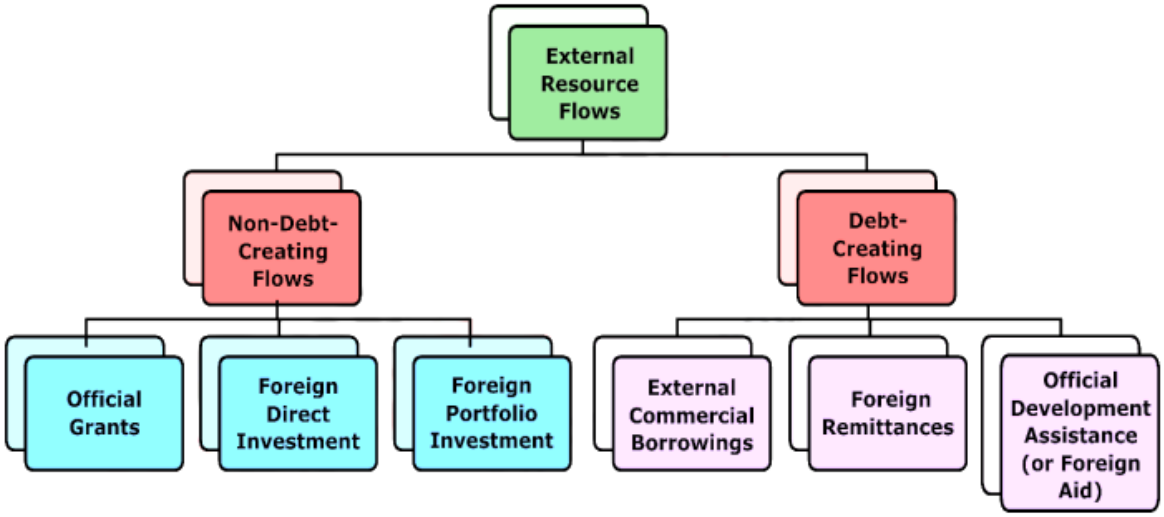
abroad. The requirement for the payment is that the fiscal systems raise the necessary funds, and the transformation occurs to shift resources to export increasing and import decreasing lines. If the loans flow in a steady and increasing stream and for very long periods with liberal terms of repayment, the problem of repayment is easy.

4.5. Foreign Investment

In today's era, every economy is questing for excellence, and gearing towards progressive institutionalization that paves the way for economic growth and development. Economic growth and development are the imprints of the economic well-being and better standard of living. So, capital as the driver of economic development plays a very significant role. This module focuses on capital and how it is flowing globally. The module also focuses on trends of FDI and FPI in context of India. We are in the age of globalization wherein all the economies are interlinked and interdependent. This has paved way for capital flowing across the globe. Majorly, developed economies invest in developing and emerging economies. This is because there is a strong relationship between foreign investment and economic growth. Larger inflows of foreign investments are needed for the country to achieve a sustainable high path of economic growth, as foreign capital can augment domestic savings as well as accelerate productive investments, promote financial deepening and risk diversification.

4.5.1.External Resource Flows:

There are two types of external resource flows namely; Debt creating flows and non-debt creating flows, these are further bifurcated into foreign direct investment, foreign portfolio investment and external borrowings, foreign remittances and official development assistance (Foreign Aid) respectively. The categories of external resource flows can be depicted as follows:



I. Non - Debt Creating Flows:

Non-debt-creating Flows are net foreign direct investment, portfolio equity flows, and official grants (excluding technical cooperation). Net foreign direct investment and portfolio equity flows are treated as private source flows. Grants for technical cooperation are shown as a memorandum item. It refers to the flow of financial resources in the form of Foreign Investment which do not involve any repayment obligation and hence do not create debt burden on the recipient country.

These non-debt-creating flows mainly are of two types:

a. Foreign Direct Investment (FDI), and b. Foreign Portfolio Investment (FPI).

a. FDI: Foreign Direct Investment

Foreign direct investment is the act of investing a certain capital in the chosen business enterprise that operates in foreign countries. FDI is usually a physical investment like building a factory, hotel, farms, or other businesses or an office. It usually includes a parent company, which in the effort of expanding establishes its office as a permanent company in a foreign country. FDI intends to 'control' and 'participate in' the management of a business enterprise. In this way the parent company gets the level of MNC and its investment is known as FDI for the host country. FDI involves foreign investors taking a controlling and lasting stake in productive enterprises. FDI is not just a transfer of ownership as it usually involves the transfer of factors complementary to capital, including management, technology and

organisational skills. This is a major source of non-debt financial resource for the economic development.

Features of FDI:

The following are important features of FDI:

(i) An investment made to acquire lasting interest in enterprises operating outside of the country of the investor;

(ii) The foreign entity that makes the investment is termed the 'direct investor';

(iii) The investor's purpose is to gain an effective voice in the management of the enterprise. Some degree of equity ownership is almost always considered to be associated with an effective voice in the management of an enterprise. The IMF's Balance of Payments Manual: Fifth Edition (BPM5) suggests a threshold of 10 per cent of equity ownership to qualify an investor as a foreign direct investor. An effective voice in management only implies that direct investors are able to influence the management of an enterprise and does not imply that they have absolute control;

(iv) In most instances, both the investor and the asset it manages abroad are business firms. In such cases, the investor is typically referred to as the 'parent firm' and the asset as the 'affiliate' or 'subsidiary'; and

(v) Operationally, FDI flows may take following forms: (a) equity acquisition--buying shares of an existing or a newly created enterprise, (b) profit re-investment--FDI firms re-investing their profits for further expansion, and (c) Loans from a parent company.

In addition to FDI, foreign investor has a number of routes for investment into India. These include: (i) Investment in export trading companies, (ii) NRI investments, (iii) off-shore funds, (iv) Euro issues, (v) Foreign institutional investments, and (vi)Venture capital investments.

b. FPI: Foreign Portfolio Investment:

FPI is an emerging alternative source of international financing. Under this activity foreign investors supply funds through the channels of "Equity capital" that consists of foreign purchase of stocks (equity), certificates of

deposits, and commercial papers of developing countries through international markets, such as: institutional investors, Global Depository Receipts (GDRs) and American Depository Receipts (ADRs). Institutional investors include institutions like pension funds, investment trusts, asset management companies, nominee companies and incorporated institutional portfolio managers. It cushions domestic companies without restraining control over the venture. This is because investors have no involvement in the management. The different avenues of FPI are: 1) Securities Market 2) Equity Market 3) Real estate investment 4) Consumption loans.

FPI have gained momentum in recent years as they alleviate the flight of domestic capital abroad caused by inflationary pressures and capital depreciation as a result of debt creating instruments. Notwithstanding, it also augments the efficiency of investment since it focuses on return on capital and therefore encourages high standards of accounting, financial planning and corporate disclosure. The other benefits of FPI are: a) It provides exposure to international capital markets. b) Helps corporate in reducing hefty borrowings. c) Makes financial system more solvent.

4.5.2.Challenges Faced by Foreign Investors:

It is more than two decades since India dismantled its restrictive FDI regimes and replaced it with one of the most open and relaxed countries. However, even now the debate is about how much more open India should be towards FDI. FDI flows to India continued to be sluggish because foreign investors face major roadblocks. All this made India a far less attractive investment destination for FDI than most of its competitors. Indian policymakers must weigh the reasons behind low volume of FDI inflow. India can't have foreign investment coming in from MNCs by overruling Supreme Court judgments and proposing laws backdated to tax investors.

To recapitulate the factors which limit the growth of FDI in India are: (i) Inefficient and poor quality of infrastructural facilities, (ii) Slow decision-making process, (iii) Outdated laws and their inefficient implementation, (iv) Weak credibility of regulatory system, (v) Conflicting role of various agencies of government, (vi) Bureaucratic procedures, (vii) Corruption and red tape-ism, etc. Geographically speaking, destinations matter because in which

states FDI is going is an important aspect of attraction for the investors. According to Ila Patnaik, "in India, we have tied ourselves up in knots. Even at a time when the country needs capital inflows, it is not easy for the government to move at the required speed. The U.K. Sinha committee on capital controls documented the complex maze of capital controls that has taken the power of switching controls on and off, depending on the need of the hour, away from the government and into the hands of a number of financial regulators. But it is equally important that the system of controls now be re-examined and rationalised keeping in mind the objectives they serve".

II. Debt Creating Flows:

Debt-Creating Flows are in the form of External Commercial Borrowings, Foreign Remittances, in general, and Official Development Assistance (or Foreign Aid), in particular, has also a significant role to play in supplementing the domestic financial resources and in developing the productive capacity of the recipient developing economies, in the above-mentioned areas, where FPI has a limited role. These flows are considered as debt-creating because these involve the repayment obligations in the form of amortization and interest payments, and hence create debt burden in the recipient countries.

A. External Commercial Borrowings (ECBs):

It refers to the loans procured from the private international commercial banks and financial institutions, such as: International Finance Corporation (Washington), Asian Development Bank, Asian Finance and Investment Corporation Ltd., etc.; securitized instruments like floating rate notes and fixed rate bonds, and loans from semi-government export credit agencies, like DEG Germany, CDC UK, Nordic Investment Bank; and foreign currency convertible bonds, till these are converted into equity shares. These borrowing are usually taken by the developing countries at the market rate of interest for the purpose of meeting their BOP requirements. But these ECB accruals depend upon certain factors, such as international interest rates (particularly the US dollar denominated), demand of domestic industry for investment, expectation of exchange rate fluctuations, hedging costs and

credit rating of the recipient country by the international credit rating agencies, like the Standard and Poor's Outlook, Moody's Investor Service, Duff and Phelps Credit Rating, and Japanese Credit Rating Agency, etc.

B. Foreign Remittances:

Under this non-resident bank deposit schemes, expatriate nationals residing abroad are allowed to open bank accounts in the recipient country freely, out of the funds remitted from abroad or foreign exchange brought in from abroad or out of funds legitimately due to them. For instance: in India, RBI has granted general permission to the banks which are authorized to deal in foreign exchange, to open such accounts freely in the form of Foreign Currency Non-Resident (Bank) Accounts, Non-Resident (External) Rupee Accounts and Non-Resident (Non-Repatriable) Rupee Deposits, etc.

C. Official Development Assistance (ODA):

The Official Development Assistance (ODA) also known as 'foreign aid', in the form of the official flows from bilateral sources, like friendly countries, and multilateral sources, such as: the World Bank (including IBRD and IDA), Asian Development Bank (ADB), and International Fund for Agricultural Development (IFAD), etc., on concessional and non-concessional terms, is another major external debt-creating source used to supplement the domestic financial resources in the recipient developing countries. Though the term 'foreign aid' nevertheless remains fuzzy, but refers to the congeries of governmental programmes through which funds, goods and services, additional to those normally acquired are made available to the developing countries for the benefit and welfare of their citizens, in cash or kind, as outright grants or loans, on concessionary or non-concessionary terms including technical assistance in the form of technical equipment, know-how, expert human resources, and training to the local counterparts.

4.6. Multinational Corporations:

4.6.1. Introduction

Globalization provides new opportunities to underdeveloped nations by allowing them access to new markets around the world. China and India have ridden the wave of globalization throughout the twentieth century and into the twenty-first, for example, and are rapidly becoming economic

powerhouses. Even tribal groups in nations, like Brazil and Africa, can ride the wave of globalization, selling locally-made products around the world via the Internet to raise their standard of living.

The multinational corporation (MNC) is playing a vital role in the globalization of world economy. MNC is a business organization whose activities are located in more than two countries and is the organizational form that defines foreign direct investment. This form consists of a country location where the firm is incorporated and of the establishment of branches or subsidiaries in foreign countries. Multinational companies can, obviously, vary in the extent of their multinational activities in terms of the number of countries in which they operate. The economic definition emphasizes the ability of owners and their managerial agents in one country to control the operations in foreign countries.

4.6.2. Definition of Multinational Corporation:

A multinational corporation or transnational corporation (MNC/TNC) is a corporation or enterprise that manages production establishments or delivers services in at least two countries. Very large multinationals have budgets that exceed those of many countries. Multinational corporations can have a powerful influence in international relations and local economies. Multinational corporations play an important role in globalization; some argue that a new form of MNC is evolving in response to globalization: the 'globally integrated enterprise'

The World Book Encyclopaedia defines a multinational corporation (MNC) as "a business organization that produces a product, sells a product, and provides a service in two or more countries." It is a company that manages, owns and controls production facilities in several foreign countries. An expert group of United Nations defined Multinational Corporations (MNC's) as those enterprises which own or control production or service facilities, outside the country in which they are based.

The basic characteristics of an MNC are: (i) It operates on the basis of internationally owned assets;

(ii) It is concerned with international transfer of distinct, but complementary, factor inputs not merely equity capital, but also knowledge, entrepreneurship and sometimes goods and services of a varied kind;
(iii)Resources are transferred, but not traded in accordance with the traditional norms and practices of international trade.

4.6.3. Multinational Corporate Structure:

Multinational corporations can be divided into three broad groups according to the configuration of their production facilities:

- Horizontally integrated multinational corporations manage production establishments located in different countries to produce the same or similar products. (example: McDonalds)
- Vertically integrated multinational corporations manage production establishment in certain country/countries to produce products that serve as input to its production establishments in other country/countries. (example: Addidas)
- Diversified multinational corporations manage production establishments located in different countries that are neither horizontally nor vertically nor straight, nor non-straight integrated. (example: Microsoft)

4.6.4. Benefits of Multinational Corporations:

- Create wealth and jobs around the world. Inward investment by multinationals offers much needed foreign currency for developing economies. They also create jobs raises expectations of what is possible.
- Their size and scale of operation enables them to benefit from economies of scale enabling lower average costs and prices for consumers. This is particularly important in industries with very high fixed costs, such as car manufacture and airlines.
- Large profits can be used for research & development. For example, oil exploration is costly and risky; this could only be undertaken by a large firm with significant profit and resources. It is similar for drug manufacturers.
- Ensure minimum standards. The success of multinationals is often because consumers like to buy goods and services where they can rely

on minimum standards. i.e. if you visit any country, you know that the Starbucks coffee shop will give something you are fairly familiar with. It may not be the best coffee in the district, but it won't be the worst. People like the security of knowing what to expect.

4.6.5. Criticisms of Multinational Corporations

Companies are often interested in profit at the expense of the consumer. Multinational companies often have monopoly power which enables them to make excess profit.

- Their market dominance makes it difficult for local small firms to thrive. For example, it is argued that big supermarkets are squeezing the margins of local corner shops leading to less diversity.
- In developing economies, big multinationals can use their economies of scale to push local firms out of business.
- In the pursuit of profit, multinational companies often contribute to pollution and use of non-renewable resources which is putting the environment under threat.
- MNCs have been criticized for using 'slave labour' – workers who are paid a pittance by Western standards.

4.6.6. The Scenario of Multinational Companies in India:

The post financial liberation era in India has experienced huge influx of 'Multinational Companies in India' and propelled India's economy to greater heights. Although, majority of these companies are of American origin but it did not take too long for other nations to realize the huge potential that India Inc offers. 'Multinational Companies in India' represents a diversified portfolio of companies representing different nations. It is well documented that American companies account for around 37% of the turnover of the top 20 firms operating in India. But, the scenario for 'MNC in India' has changed a lot in recent years, since more and more firms from European Union like Britain, Italy, France, Germany, Netherlands, Finland, Belgium etc have outsourced their work to India. Finnish mobile handset manufacturing giant Nokia has the second largest base in India. British Petroleum and Vodafone (to start operation soon) represent the British.

A host of automobile companies like Fiat, Ford Motors, Piaggio etc from Italy have opened shop in India with R&D wing attached. French Heavy Engineering major Alstom and Pharma major Sanofi Aventis is one of the earliest entrants in the scene and is expanding very fast. Oil companies, Infrastructure builders from Middle East are also flocking in India to catch the boom. South Korean electronics giants Samsung and LG Electronics and small and mid-segment car major Hyundai Motors are doing excellent business and using India as a hub for global delivery. Japan is also not far behind with host of electronics and automobiles shops. Companies like Singtel of Singapore and Malaysian giant Salem Group are showing huge interest for investment.

In Spite of the Huge Growth India Inc Have Some Bottlenecks, Like –

- Irrational policies (tax structure and trade barriers).
- Low invest in infrastructure - physical and information technology.
- Slow reforms (political reforms to improve stability, privatization and deregulation, labour reforms).

Reports says, performance of 3 out of every 4 'Multinational Companies' has met or exceeded internal targets and expectations. India is perceived to be at par with China in terms of FDI attractiveness by 'Multinational Companies in India'. In view of 'Multinational Companies' community, it ranks higher than China, Malaysia, Thailand, and Philippines in terms of MNC performance. Multinational Companies Operating in India cite India's highly educated workforce, management talent, rule of law, transparency, cultural affinity, and regulatory environment as more favourable than others. Moreover, they acknowledged, India's leadership in IT, business processing, and R&D investments.

Multinational Companies in India' are bullish on –

- India's market potential.
- Labour competitiveness.
- Macro-economic stability.
- FDI attractiveness.

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UNIT - V

FOREIGN EXCHANGE

5.1. Introduction

A foreign exchange market is a market where foreign currencies are exchanged. In a foreign exchange market, investors buy foreign currencies with domestic currencies and sell foreign currencies for domestic currencies. Hence, it's a market where the claims to foreign moneys are bought and sold for domestic currency. Exporters sell foreign currencies for domestic currencies and importers buy foreign currencies with domestic currencies. According to Ellsworth, "A Foreign Exchange Market consists of all those individuals and institutions that buy and sell foreign exchange which can be stated as foreign money or any liquid claim on foreign money". Foreign Exchange transactions result in inflow & outflow of foreign exchange. Foreign Exchange markets comprise up of banks, commercial companies, central banks, investment management firms, hedge funds and retail forex brokers and investors. The forex market is considered the biggest financial market in the world.

It is significant to see that the foreign exchange market is not a solitary exchange; rather it is composed of a global array of computers that connect investors from all parts of the world. The foreign exchange market, also known as the forex, FX, or currency market, involves the exchange of one currency for another. Earlier than 1996, the forex market was limited to the reach of big corporate banks and international institutions, however, now it can be accessed by all types of traders and speculators. In trading foreign exchange, investors bet that a particular currency's value will increase over another currency's value, they tend to gain if they bet accurately and collect the gains as an interest rate spread when they return to the original currency. The profit margins are less as compared to the margins in other fixed-income markets. Large trading volumes can, however, result in very high profits. Over half of all forex transactions are carried out in London and New York, with London dominating the market at 37% of all transactions. New York's market share is 18%, with Tokyo taking third place at 6%. Singapore, Switzerland, and

Hong Kong are the next-biggest foreign exchange markets of the world with around 5% market share each.

The major forex market in India is Mumbai, Chennai, Calcutta and Delhi. These account for a larger portion of the total exchange transactions. The RBI has focused on decentralizing the operations of the exchanges and developing the exchange markets with a broader base. Due to the efforts of the RBI, Cochin, Ahmadabad, Bangalore and Goa have come out as new centres of forex market.

5.2. Exchange Rate: Definition and Determination:

Financial managers of Multinational Companies that carry out international business must regularly keep a watch on exchange rates since their cash flows significantly depend on them. They need to understand what factors affect exchange rates so that they can anticipate how exchange rates might alter in response to specific conditions. An exchange rate is the prevailing market price at which a particular currency can be exchanged for another one. For instance, if the exchange rate of a U.S Dollar to Canadian Dollar is $1.60, it signifies that 1 American Dollar can be exchanged for 1.6 Canadian dollars. Exchange Rate is also known as a currency quotation, the foreign exchange rate or forex rate.

5.3. Exchange Rate Determination:

Albeit it is easy to gauge by how much the value of a currency changed, it is quite difficult to explain why the value changed or to forecast how it might change in the future. To achieve either of these objectives, the concept of an equilibrium exchange rate must be understood, along with the factors that affect the equilibrium rate. Before considering why an exchange rate changes, realize that an exchange rate at a given point of time represents the price of a currency, or the rate at which a particular currency can be exchanged for another. Like any other product sold in markets, the price of a currency is the product of demand for that currency and its supply. Thus, for each possible price of a British pound, there is a corresponding demand for pounds and a corresponding supply of pounds for sale. At a particular point of time, a currency should exhibit the price at which the demand for that currency is equal to supply and this represents the equilibrium exchange rate. Of course,

conditions can change over time, causing the supply or demand for a given currency to adjust and thereby causing movement in the currency's price. Demand for a Currency The demand curve is sloping downwards since the corporations and individuals in the U.S will be encouraged to buy more British goods when the pound is worth less, since fewer dollars will be required to obtain the desired amount of pounds and vice versa.

Fig.5.1.

Supply of a Currency There is a positive relationship between the value of the British pound and the quantity of the British pounds for sale (supplied), which can be explained as follows. If the value of pound is high, British consumers and firms are more inclined to buy U.S goods. Thus, they supply a greater number of pounds to the market, to be exchanged for dollars. In contrast, when the value of pound is low, the supply of pounds is smaller, reflecting less British desire to obtain U.S goods.

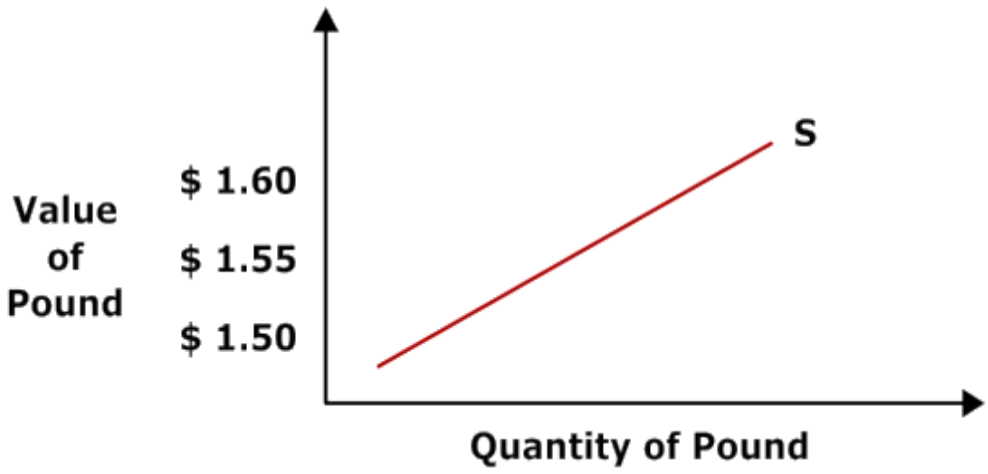

Fig.5.2.

Equilibrium

The demand and supply schedules for British pounds are combined in the exhibit. At an exchange rate of $1.50, the quantity demanded would exceed the supply of pound. Consequently, there will be a shortage of pounds at that exchange rate. At an exchange rate of $1.60, the demand of pounds will be lower than the supply of pounds for sale. Therefore, the banks providing exchange services will have a surplus of pounds at that exchange rate. According to the exhibit, the equilibrium exchange rate is $1.55 because this rate equates the quantity of pounds demanded with the supply of pounds for sale.

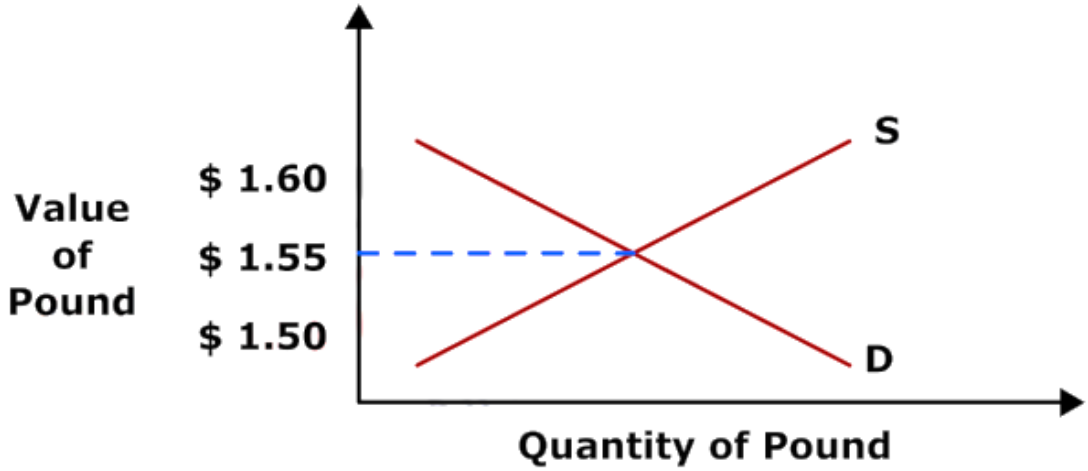

Fig.5.3.

Factors that influence Exchange Rates:

The equilibrium exchange rate will change at different points in time as and when there is a change in the demand and supply schedules. The factors due to which demand and supply schedules tend to change are mentioned here by relating each factor's influence to the demand and supply schedules.

The following equation summarizes the factors that can influence a currency's spot rate:

E = f (Change in INF, change in INT, Change in INC, change in GC, Change in EXP)

E - Percentage change in the spot rate.

- **Change in INF**- change in the differential between domestic country's inflation and the foreign country's inflation.

- **Change in INT-** change in the differential between domestic country's interest rate and the foreign country's interest rate.
- **Change in INC -** change in the differential between income level of domestic country and the income level of foreign country.
- **Change in GC -** Change in Government controls.
- **Change in EXP -** change in expectations of future exchange rates

5.4. Exchange Rate Systems:

Exchange rate systems can be classified on the basis of the degree of government control over the determination of exchange rates. Exchange rate systems basically fall into one of the following categories, each of which is discussed in turn:

1. Fixed exchange rate system
2. Freely Floating exchange rate system
3. Managed Float exchange rate system
4. Pegged exchange rate system

1. Fixed Exchange Rate System (1945-1973):

In a fixed exchange rate system, exchange rates are not allowed to fluctuate, even if these are allowed to change, these can change only within specified narrow boundaries. A fixed exchange rate system requires much intervention of the central bank in order to maintain a currency's value within narrow boundaries. In general, the central bank has to offset any imbalance between supply and demand conditions for its currency to prohibit its value from changing. In some situations, the central bank may reset a fixed exchange rate. That is, it will devalue or reduce its currency's value against other currencies. A central bank's actions to devalue a currency in affixed exchange rate system are termed as Devaluation, while the term Depreciation represents the decrease in a currency's value that is permitted to change in response to market conditions. In a fixed exchange rate system, a central bank may also revalue (increase the value of) its currency against other currencies. Revaluation refers to an upward adjustment of the exchange rate by the central bank, while the term Appreciation represents the increase in

the value of a currency that is allowed to change in response to the market conditions.

2. Freely Floating Exchange Rate System: In a freely floating exchange rate system, market forces determine the exchange rate without intervention by governments. Whereas a fixed exchange rate system permits no flexibility for exchange rate movements, a freely floating exchange rate system provides for total flexibility. Under this system, whenever the demand and supply schedules for that currency change, the exchange rate gets changed accordingly.

3. Managed Float Exchange Rate System: The exchange rate system prevalent today for some currencies lies somewhere between fixed and freely floating. It reflects the freely floating system in that exchange rates are permitted to change on a continuous basis and no official boundaries exist. It is similar to the fixed rate system in that governments can and sometimes do interfere to not let their currencies significantly move in a particular direction. This type of system is known as a 'managed float' or 'dirty' float (as opposed to a 'clean' float where rates float freely without government intervention). At times, the governments of various countries including Brazil, Russia, South Korea and Venezuela have imposed bands around their currency to limit its degree of movement. Later, however, they removed the bands when they realized that it was difficult to maintain the currency's value within the bands.

4. Pegged Exchange Rate System: Some countries use a pegged exchange rate arrangement, under which their home currency's value is pegged to one foreign currency or to an index of currencies. Albeit the value of home currency is fixed and constant in relation to the foreign currency to which it is pegged, it moves in line with the currency against other currencies.

Some governments peg their currency's value to that of a stable currency, such as the dollar, because that forces the value of their currency to be stable. First, this forces their currency's exchange rate with the dollar to be fixed. Second, their currency will move against non-dollar currencies by the same degree as the dollar. Since the dollar is relatively more stable than most currencies, it will make their currency more stable than most currencies.

5.5. Instruments of Foreign Exchange Market:

A financial instrument is a financial medium such as bill of exchange, bond, currency, stock etc. which is used for the borrowing purposes. In relation to the foreign exchange market, the various financial instruments that are commonly used are as follows:

1. Spot Transaction: A spot transaction is an agreement to buy or sell a currency at the current exchange rate. To state otherwise, it is an exchange of one currency for another. The transaction is generally settled within two business days after the trade date and involves a cash exchange instead of the creation of a longer-term contract. The currencies are exchanged at the spot rate at the time of the contract. Currency traders use spot transactions to make profits in the same way as equity or commodity traders, buying low and selling high.

2. Forwards: Forwards transactions involve buying or selling of a foreign currency at a future date, not less than three days, at a price determined today. In short, a buyer and a seller agree to trade currency at a particular time and at a particular exchange rate, regardless of the prevailing exchange rate at the time of actual transaction. By locking in a specific exchange rate, the trader is protected against currency fluctuations for the term of the contract. Forward contracts are not standardized and are not traded on exchanges. This type of financial instrument enables the trader to take advantage of currently favorable exchange rates at a future date, as well as protect the trader against the risk of exchange rate volatility.

3. Futures: A futures contract is a forward contract with a pre-determined currency amount, maturity date and interest amount. A futures contact is an agreement to buy or sell a currency in a designated future month at a price determined by the buyer and seller. They are standardized and traded on futures exchanges such as the Chicago Mercantile Exchange (CME). A future transaction is usually carried out within three months. Currency futures are always quoted in terms of the currency value with respect to the US Dollar.

4. Swap: In a swap transaction, one currency is exchanged for another for a specified length of time. The transaction is reversed at a pre-determined future date, in which the original amounts are swapped. The two exchanges

occur at different exchange rates. It is the difference in the two exchange rates that determines the swap price. Swaps have various maturity periods. A swap is another form of forward contract.

5. Options: A currency option is similar to a futures contract, as it involves a fixed currency transaction at some future point in time. A currency option gives the holder the right, but not the obligation, to either buy from the option writer or to sell to the option writer a stated quantity of one currency in exchange for another currency at a fixed rate of exchange. The fixed rate of exchange is called the strike price. The option styles can be American or European. In an American-style option the option can be exercised at any date before the agreed upon expiration. European options can only be exercised on the exercise date, not before. The option holder pays a premium to the option writer for the option. The premium is lost if the buyer does not exercise the option. Options protect the holder against the risk of unfavorable changes in the exchange rates.

5.6. Components of the Indian Foreign Exchange Market:

Forex markets can be classified on the premise of type of transactions that are carried out i.e. whether the transactions are spot or forward. On this basis, there are two types of forex markets:

1) Spot Market

2) Forward Market

1) Spot Market: Spot market implies a market where the payments and receipts are made immediately. Generally, a time of two business days is permitted to settle the transaction. Spot market is of daily nature and deals only in spot transactions of foreign exchange (not in future transactions). The rate of exchange, which commands in the spot market, is referred to as spot exchange rate or current rate of exchange. The term 'spot transaction' is a bit misleading. In fact, spot transaction should mean a transaction, which is executed 'on the spot' (i.e., immediately). However, a two-day margin is permitted as two days are required for transactions made through cheques to be cleared.

2) Forward Market: Forward market is a market were selling and buying of foreign currency is settled at a specified future date at a specified rate agreed upon today. The exchange rate quoted in forward transactions is known as the forward exchange rate. Generally, almost all international transactions are signed on one date and completed on a later date. Forward exchange rate becomes useful for both the parties involved in the transaction. The time period ranges from days to years. Currency swaps are a prominent type of forward transaction; these imply an exchange of currency by two parties for an agreed timeframe and an arrangement to swap currencies at an agreed later date. Another type is a foreign currency future, which is inclusive of interest. A standard contract is drawn up and a maturity date arranged. The time schedule is about three months. In a foreign exchange option (FX option), the most liquid and biggest options market in the world, the owner may choose to exchange money in a designated currency for another currency at an agreed future date. This type of transaction depends on the availability of option contracts on an organized exchange. Otherwise, such forex deals may be carried out using an over-the-counter (OTC) contract.

Forward Contract is executed for two reasons:

a) To minimize the risk of loss due to unfavorable changes in the exchange rate (through hedging);

b) To make profit (through speculation).

5.7. Significance of the Foreign Exchange Market:

The forex market is the mechanism, through which purchasing power can be transferred from one country to another, credit for international transactions can be obtained and exposure to foreign exchange risk can be minimized.

1. Transfer of Purchasing Power (Clearing Function): The core element of the forex market is to provide for the conversion of one currency into another i.e. payment between importers and exporters. For e.g. Indian rupee is converted into U.S. dollar and vice-versa. To carry out this function, various credit instruments are used such as telegraphic transfers, foreign bills and bank drafts.

2. Credit Function: The foreign exchange market supplies credit to both national and international, to encourage foreign trade. It is necessary as sometimes; the international payments get delayed for 60 days or 90 days. Obviously, when foreign bills of exchange are used in international payments, a credit for about 3 months, till their maturity, is required.

3. Hedging Function: Another function of forex market is to hedge against foreign exchange risks. Hedging signifies providing for the forex risk that arise out of the changes in exchange rates. Under this function the forex market protects the interest of the concerned persons from any unforeseen alterations in exchange rate. The exchange rates in a free market may move upward and downward; this can either be advantageous or dis-advantageous for the transacting parties. Hedging can be executed by means of a spot exchange market or a forward exchange market involving a forward contract.

Advantages of the Foreign Exchange Market

- The foreign exchange market is extremely liquid; hence it is rapidly growing popularity. Currencies can be converted when purchased or sold without engendering significant price movement and the losses can be minimized.
- Since no central bank is there, trading can take place anywhere in the world and works on a 24-hour basis apart from weekends.
- A small amount of investment is required as compared to the amount required in other investments. Forex trading is tremendous in this respect.
- In common with futures, forex is transacted using a “good faith deposit” rather than a loan. The interest rate spread is an attractive advent.

Limitations of the Foreign Exchange Market

- The main risk involved in the transactions is that one counter party does not deliver the currency concerned with a very large transaction. In theory at least, this can bring failure to the entire foreign exchange market.
- A large amount of capital is required to make gains since the profit margins on small-scale trades are very low.

- The increased amount of leverage means that traders may have to bear losses to a significant extent of their investment if the market moves significantly in a particular direction against the investor's current open position.

5.8. Types of foreign exchange risk:

Foreign exchange risk means the exposure of a company to risk caused by the fluctuation in foreign exchange rates. Every company must prudently manage this risk along with the other risks of business. The adverse fluctuations in exchange rates may result in a loss to the company. Foreign exchange risk arises mainly due to currency differences in a company's assets & liabilities and cash flow differences. Such risk continues till the foreign exchange position is settled. This risk arises because of foreign currency cash transactions, foreign exchange trading, investments denominated in foreign currencies and investments in foreign companies. The quantum of risk is derived out by multiplying the magnitude of exchange rate changes with the size and duration of the foreign currency exposure.

Here we briefly present each type of exposure translation (accounting) exposure, transaction (commitment) exposure and economic (operational, competitive or cash flow) exposure and later we will discuss different techniques to manage these risks.

1. Transaction Exposure:

Transaction exposure occurs when a company trades, borrows or lends in a foreign currency, or sells fixed assets of its subsidiaries in a foreign country. All these operations involve time decay between the commitment of the transaction (sale of an asset, for example) and the receipt or delivery of the payment. During this time interval exchange rates will most probably change and the company is exposed to a risk that could be positive or negative. Imagine the case of a local Indian importer and a foreign, let us say US supplier. If the importer pays in the currency of the supplier (US dollars) then it is the importer who carries the risk or he has to buy dollars in order to pay the supplier. Alternatively, if the importer pays in its own currency (Indian Rupee) then the exporter is the one who carries the risk or then it is up to him to change the Indian Rupee into dollars. Usually, it is the exporter

who is exposed to the exchange rate risk because usually he quotes the price in the buyer‘s currency.

2. Translation Exposure:

Translation exposure arises from converting financial statements expressed in foreign currencies into the home currency. When a company consolidates the results of all its foreign subsidiaries, it has to present a final report to shareholders and the numbers in this document should be expressed in one currency. All foreign currency denominated assets and liabilities as well as revenues and costs have to be translated in one basic currency. Assets, liabilities, and equity on a balance sheet are expressed in historical values and the foreign exchange rate at which the currencies trade at the end of the accounting period is most probably not the same foreign exchange rate when the accounts were booked.

3. Economic Exposure:

Economic exposure measures the change in the present value of the firm resulting from any change in the future cash flows of the firm caused by an unexpected change in the exchange rates. Future cash flows can be divided into cash flows resulting from contractual commitments and cash flows from anticipated future transactions. In a way, economic exposure includes transaction exposure in itself. Transaction exposure is the part of economic exposure comprising future cash flows resulting from contractual commitments and denominated in foreign currency. However, we should make a clear distinction between transaction exposure and economic exposure. Transaction exposure arises from firm contractual commitments and the amounts to be paid or received are known. With economic exposure these amounts are uncertain and based on estimates. Economic exposure can be defined as the future effect of foreign exchange changes on liquidity, operations, financial structure and profit. Economic risk arises, for example, when a multinational firm incurs costs in one currency and generates sales in another. In this case, changes in foreign exchange rates affect the competitive position of the firm. Profits may decrease if the cost currency appreciates against the sales currency or it becomes more expensive to buy materials and cheaper to sell finished goods, for example. This will inevitably

change the expected future cash flows and thus the value of the firm, which is the present value of these cash flows. Price changes are another component of a firm's economic exposure because they affect future cash flows. Economic exposure can arise because the competitive position of a company could be affected by a given exchange rate volatility. Different factors can affect the future cash flows of a company and hence its economic exposure: the investment policy of the company, or external factors such as a political crisis in a country that would affect the level of sales, for example. It is difficult to identify and quantify this kind of risk as it may involve movements in currencies in which the company has no physical dealings. From a theoretical point of view, economic exposure should be the relevant exposure concept. However, it is more complex to cover economic exposure than transaction exposure.

Transaction, Translation and Economic Exposure: Comparisons

Transaction exposure and translation exposure are interrelated. A company will not be able to do away with both these exposures. If it minimizes transaction exposure, then it incurs translation exposure or vice versa. For example, a parent may ask a subsidiary to bill all its payments to and receipts from the parent in parent's reporting currency. This mitigates the transaction exposure to the parent as the parent's all receipt and payments are in its reporting currency. But this increases the subsidiary's transaction exposure as the reporting currency of the subsidiary is different than the parent's reporting currency. By doing this, the parent may reduce its own translation exposure but all its subsidiaries would incur transaction exposure. The major differences between operation/economic exposure and translation exposure are:-

- Translation exposure is there only when the company has overseas operations or has foreign subsidiaries. Economic exposure is there even in case of a company which operates in the domestic territory and has purely domestic operations.
- Economic exposure measures the impact of exchange rate on all future cash flow while translation exposure arises only when consolidated account statements are prepared. Hence economic exposure is a

forward-looking concept while translation exposure is backward looking i.e. past performance of the subsidiary is translated as per the parent's reporting currency.

- Economic exposure affects actual cash flow of the company while translation exposure results in translation gain or loss – mere accounting entry.

5.9. Understand the Management of Exposures through Internal and External Techniques:

Risk and in particular foreign exchange risk can be managed in various manners. In this we are taking about hedging the risk. A distinction between the hedging techniques can be made: there are internal and external hedging techniques. The former includes all the techniques that do not require external parties. External hedging techniques deal mainly with financial with contracts such as futures, forward, options and swaps. If the company organises its international transactions within the company itself, it is called internal technique. It is also noted that internal techniques use methods of exposure management which are part of a firm's regulatory financial management and do not resort to special contractual relationship outside the group of company itself. These techniques aim to reduce or prevent exposed positions from arising. The main forms of internal techniques are netting, matching, pricing policies and asset liability management and leading and lagging. When choosing between different types of hedging, the risk manager must compare costs, taxes, effects on accounting conventions and regulation. Several objectives can be assigned to risk management, the most common ones are: to minimize foreign exchange losses, to reduce the volatility of cash flows, to protect earning fluctuations, to hedge the risk irrespective of the views on foreign exchange risk. Most corporations do not use only one technique but rather determine which technique is the most suitable for a particular case.

Understand Internal Techniques

Netting:

Netting is probably one of the most used methods. The idea is to reduce the number of transactions that a firm needs to make in order to cover an

exposure. It requires the firm to have a centralized organization of its cash management. The centralization means that the company collects foreign currency cash flows between subsidiaries and groups them together so as an inflow offsets an outflow in the same currency. Two types of netting exist: bilateral and multilateral netting.

Matching:

Although netting and matching are terms that are frequently used interchangeably, there are distinctions. Strictly speaking, netting is a term applied to potential flows within a group of companies whereas matching can be applied to both intra-group and third-party balancing. Matching is a mechanism whereby a company matches its foreign currency inflows with its foreign currency outflows in respect of amount and approximate timing. Receipts in a particular currency are used to make payments in that currency, thereby reducing the need for a group of companies to go through the foreign exchange markets to the unmatched portion of foreign currency cash flows. The prerequisite for a matching operation is a two-way cash flow in the same foreign currency within a group of companies; this gives rise to a potential for natural matching. This should be distinguished from parallel matching, in which the matching is achieved with receipt and payment in different currencies but these currencies are expected to move closely together, near enough in parallel. An example would be currencies that adhere to a joint currency float. Of course, there is always the chance with parallel matching that the currencies concerned may move away from their previously parallel paths. In this case the expected match fails to be realized. The practical mechanics of matching are rather like multilateral netting, since it involves the group treasury and gives rise to the need for information centralization with the group finance function just before settlement. Practical problems may arise because of the uncertain timing of third-party receipts and payments. Unexpected delays can create problems for the multinational treasury in its endeavours to match receipts and payments. There are obvious difficulties in the possibility that receipt of a sum due on a certain settlement day is postponed, but payment is nonetheless made on that same date as originally anticipated. For this reason, success in matching is very much a

function of the quality of information coming to the corporate financial centre, including realistic and accurate predictions of settlement dates. Like netting, the extent of matching is constrained by the exchange controls of some countries.

Leading and Lagging:

Leading and lagging are carried out to adjust the timing of receipts and payments. 'Leading is making a payment early, while 'lagging' is delaying payment. Leading and lagging are best suited to the intercompany settlement environment rather that for dealing with third parties. It enables a group to manage both its cash position and its currency exposures in such a way as to benefit from offsetting positions within the group. Leading and lagging can enable a group to adjust the timing of currency flows to eliminate unnecessary dealing to take advantage of expected currency movements.

Pricing Policy:

Price adjustment can be made in different manners. First, when the local currency of a subsidiary is devaluating, the subsidiary can increase the price, so as to cancel the effect of devaluation. This technique is particularly used in countries where devaluation is high and where derivative markets are inefficient. On the side of disadvantages, the difficult implementation of this method needs to be signalled. Prices cannot be raised without any consideration about competitors because if the price increases too much the customer will choose an equivalent and cheaper product from a competitor. In the same logic, a firm can increase the export price. But then the price adjustment is even more complex, since the company has to face not only local but also international competitors. Second, the company can change the currency of billing. Third, the firm can use export currency of billing to transfer profits from one affiliate to another. The purpose is to raise or lower intergroup selling prices by billing rate adjustment so that profits appear in hard currency or low-tax companies. This technique is very aggressive and can be forbidden by regulation.

Asset and Liability Management:

This is another internal technique to manage unfavourable change in exchange rate in the future. Asset and liability management technique can be

used to manage balance sheet, income statement and cash flow exposures. It can also be used aggressively or defensively. They aggressive approach reflects to increase exposed assets, revenues, and cash inflows denominated in strong currencies and to increase exposed liabilities, expenses, and cash outflows in weak currencies. The defensive firm will seek to minimize foreign exchange gains and losses by matching the currency denomination of assets/liabilities, revenues/expenses and cash inflows/outflows, irrespective of the distinction between strong and weak currencies. To achieve these objectives, variables are grouped. Operating variables includes trade receivables and payables, inventory & fixed assets and financial variables cash, short-term investments and debt. The currency denomination of operating variables is determined by intrinsic business conditions, production and marketing factors. Financial variables can be used for exposure management purpose and thus corporate financial management has more discretion over currency denomination. The paucity of currency finance is often a major problem. The parent company would borrow the weak currency for long term while the subsidiary is usually limited to short term borrowing. This is because: - (a) most subsidiaries are not individually listed on a stock exchange, so that the public issue of debt instruments is very difficult, hence, the substance of long-term loans taken out by foreign subsidiaries are private placements; (b) many foreign subsidiaries are relatively small and not well known to the local financial community; and (c) host governments may be reluctant to allow term borrowing by expatriate subsidiaries.

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