

## PART VI

### THEORY OF FOREIGN EXCHANGE

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### THE FOREIGN EXCHANGE

"It necessarily follows that every flow of payments from one country to the rest of the world must be exactly balanced by an equal flow of payments into that country from the rest of the world, for every pound given in exchange by one set of persons is also a pound taken in exchange by another set of persons. This is the first, and virtually the only Golden Rule of the Foreign Exchanges."

—Geoffrey Crowther, *An Outline of Money* (1949), p. 207.

#### MEANING OF FOREIGN EXCHANGE

The term 'Foreign Exchange' is used in two senses : (1) Narrow Sense, and (2) Wide Sense.

(1) *Narrow Sense*. Some economists have used the term 'Foreign Exchange' in a narrow sense. According to them, foreign exchange refers to the sale and purchase of foreign currencies. According to still other economists, the term 'Foreign Exchange' refers to the rate of exchange or the rate at which the currency of one country is converted into the currency of another country.

(2) *Wide Sense*. According to some economists, the term 'Foreign Exchange' refers to that entire operation by which two countries clear off their indebtedness. Here the term 'Foreign Exchange' is used in wide sense. It includes (i) all those institutions which facilitate foreign payments, (ii) all those methods and mechanisms which are made use of for making international payments, and (iii) the rate at which the currency of one country is converted into the currency of another country.

From the above discussion, it appears that the economists are not unanimous so far as the interpretation of the term 'Foreign Exchange' is concerned. According to Dr. S. E. Thomas, "Foreign exchange is that branch of the science of economics in which we seek to determine the principles on which the peoples of the world settle their debts one to the other." In the words of Hartley Withers, "Foreign exchanges are a mechanism by which international indebtedness is settled between one country and another." According to S. J. Chapman, "The machinery

whereby payments are effected in international trade is known as foreign exchange." In the opinion of Dr. Brain Tew, "Foreign exchange is the problem of external liquidity."

So far as we are concerned, we shall interpret the term "Foreign Exchange" to mean that system whereby different nations clear off their international obligations. Thus, "foreign exchange includes all those methods, means and instruments with the help of which countries of the world clear off their international indebtedness."

In short, Foreign exchange rate is the price of one unit of the foreign currency in terms of the domestic currency.

#### PROBLEM OF FOREIGN EXCHANGE

As we know, every country has its own currency. For international payments the currency of one country has to be converted into the currency of another country, because every country wants the payments for its exports to be made in terms of its own currency. For example, if an American firm exports goods to India, it would like to have the payment made in terms of Dollars. Hence, the Indian importer has to make the payment for the imported goods in terms of American Dollars, not in Indian Rupees. Therefore, it becomes necessary to convert Indian Rupees into American Dollars. In fact, this is the problem of foreign exchange. The problem of foreign exchange was not so complicated under the gold standard as it is today under the managed paper standard. The reason was that under the gold standard the importers of a country could make the payment for imported goods in terms of gold. But these

days, no country makes the international payments in terms of gold. In fact, no country wants to utilize its gold reserves for international payments. Moreover, it is expensive to make international payments in terms of gold because the cost of transporting gold from one country to another is quite prohibitive these days. Therefore, every country has to convert its national currency into foreign currency for international trade transactions.

### METHODS OF FOREIGN PAYMENTS

A country can make payments to another country in three ways :

(1) *Export of Commodities.* A country can make payments for its imports by exporting its own goods to that country. In other words, the payments are made not in terms of currency or gold, but in terms of commodities. This method, however, is highly defective. *Firstly*, it is possible that the second country may not like to import goods from the first country because the second country is perhaps producing those goods itself. *Secondly*, under this method, the country in question has to face all those difficulties which arise under the barter system.

(2) *Export of Gold.* The payment for foreign goods can also be made in terms of gold. But this system is also defective because the cost of transporting gold from one country to another is quite prohibitive these days. Moreover, it is inconvenient for one country to make the payment to another country in terms of gold, the reason being that there are innumerable international trade transactions taking place every day.

(3) *Payment through Foreign Exchange Bills.* The foreign payments these days are mostly made through foreign exchange bills. According to this method the trader of a country makes the payment for the imported goods through the medium of foreign exchange bills. The foreign exchange bills are generally of three types : (i) Bills of Exchange, (ii) Banker's Draft, and (iii) Telegraphic Transfer.

(i) *Bill of Exchange.* As said above, most of the international payments these days are made through the medium of exchange bills. This can be illustrated with the help of an example. Supposing Mr. Mohan of India exports goods worth Rs. 100/- to Mr. Maclagan of Britain. Now Mr. Mohan is to receive payment of Rs. 100/- from Mr. Maclagan. For this, Mr. Mohan will draw a bill of exchange worth Rs. 100/- in terms of Sterling on Mr. Maclagan. After having signified his acceptance, Mr. Maclagan will return the exchange bill to Mr. Mohan of India.

The exchange bill is generally for a period of three months. After three months, Mr. Mohan of India will present the accepted bill of exchange to Mr. Maclagan of Britain to receive the payment. But it is quite possible that Mr. Mohan of India cannot wait for three months. Perhaps, he requires the funds immediately, so he will take the exchange bill accepted by Mr. Maclagan to some exchange bank in India and get it discounted by it. The exchange bank after having paid the present worth of the bill to Mr. Mohan will send it to its branch (in Britain) which will receive the payments after three months from Mr. Maclagan. But it is quite possible that during this period Mr. Sanderson of Britain exports goods worth Rs. 100/- to Mr. Sohan of India. Mr. Sanderson will now draw an exchange bill of Rs. 100/- on Mr. Sohan and send it to him for acceptance. Mr. Sanderson will present the accepted bill to Mr. Sohan after three months for payment. But it is quite possible that Sohan may buy Sterling from the exchange bank worth Rs. 100/- and remit to Mr. Sanderson in Britain. But it is also possible that the exchange bank may give to Mr. Sohan the exchange bill accepted by Mr. Maclagan against Rs. 100/-, deposited by him (Mr. Sohan). Mr. Sohan will send the same bill to Mr. Sanderson who will get it discounted from the British branch of the Exchange Bank. After the period of maturity is over, the British branch of the Exchange Bank will present the accepted bill to Mr. Maclagan to receive the payment. Thus, the two debts between two countries can be cleared off through the use of a single bill of exchange.

(ii) *Banker's Draft.* This is the second method of making international payments. It is similar to the internal bank draft. An importer can make the payment for the imported goods by sending the banker's draft to the exporter of the other country. By depositing the national currency, the importer can buy from the Exchange Bank the banker's draft which he can send to his creditor in the exporting country. The banker's draft is always drawn in terms of foreign currency.

(iii) *Telegraphic Transfer.* This is the third method of making international payments. Generally, making payments through bank drafts is a time-consuming process. If the foreign exporter has to be paid immediately, the importer makes the payment through telegraphic transfer. Under this, the foreign exporter receives the payment for his goods telegraphically. Telegraphic transfers, like banker's drafts, are issued by the Exchange Bank. The importer

can purchase the telegraphic transfers by depositing national currency with the Exchange Bank.

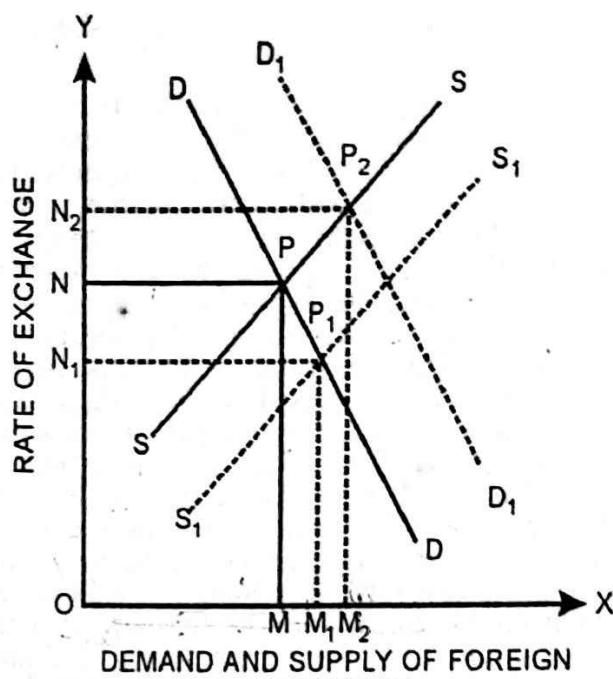
### DEMAND AND SUPPLY OF FOREIGN CURRENCY

The demand for foreign currency arises from those traders who have to make payments for imported goods to the foreign exporters. They need foreign exchange because the exporter of the foreign country insists upon receiving the payment in his national currency. Likewise, if any person wants to invest his capital in some foreign country, he requires that country's currency, which he can obtain in exchange for national currency. Thus, the demand for foreign currency arises from those individuals who import goods and services or wish to make investment in foreign countries. The supply of foreign currency comes from those people who have exported their goods and services to foreign countries or who have imported capital from abroad. Thus, the price of any foreign currency (or, the rate of exchange) at any time is determined by the demand for and supply of that currency.

#### Equilibrium Rate of Exchange

The rate of exchange refers to the rate at which the currency of one country can be converted into the currency of another country. The rate of exchange, thus, indicates the exchange ratio between the currencies of the two countries. Let us suppose that one Indian Rupee is equal to 0.0476 Pound Sterling. What this implies is that one Indian Rupee can fetch 0.0476 Pound Sterling in the exchange market. Just as the price of a commodity is determined by the demand and supply, in the same manner, the price of foreign currency (or, the rate of exchange) is also determined by its demand and supply. Any changes taking place in the demand and supply of foreign currency will certainly affect its price in the foreign exchange market. In fact, the rate of exchange keeps on changing in the foreign exchange market on account of the changes in the demand and supply of foreign currency. It should, however, be remembered that the exchange rate is not always constant but keeps on changing from time to time on account of the changes in the demand and supply of foreign currency.

The determination of the rate of exchange can be illustrated with the help of a diagram. In the Diagram above the demand and supply of foreign currency is represented along  $OX$  and the rate of exchange is shown along  $OY$ .  $DD$



DEMAND AND SUPPLY OF FOREIGN CURRENCY

Fig. 31.1

represents the demand, while  $SS$  represents the supply of the foreign currency. Both these curves intersect each other at the point  $P$ .  $PM$  or  $NO$  represents the equilibrium rate of exchange. At  $PM$  rate of exchange the demand for foreign currency is in equilibrium with the supply of foreign currency. Now let us suppose that the demand for foreign currency increases and this increase in the demand is represented in the diagram by  $D, D_1$ . The supply of foreign currency, however, remains constant. The rate of exchange under the circumstances is bound to increase. The increased rate of exchange is shown in the diagram by  $P_2M_2$  or  $N_2O$ . Now let us suppose that the supply of foreign currency increases while its demand remains constant. The increased supply is shown in the diagram by  $S, S_1$ . As is clear from the diagram, the rate of exchange falls down to  $P_1M_1$  or  $N_1O$ .

We, thus, reach the conclusion that when the demand for foreign currency increases, supply remaining constant, the rate of exchange also increases. As against this, when the supply of foreign currency increases, demand remaining the same, the rate of exchange decreases.

#### 'Favourable' and 'Unfavourable' Rate of Exchange

The rate of exchange can either be favourable or unfavourable to a country. Before knowing the meaning of favourable or unfavourable rate of exchange, it is necessary to know how the rate of exchange of the national currency is being expressed in the foreign exchange market. Is the rate of exchange being expressed in terms

of national currency or is it being represented in terms of foreign currency?

(1) *Expressing the Rate of Exchange in Terms of National Currency.* When the rate of exchange of a country is expressed in its national currency, a lower rate of exchange is favourable to that country while a higher rate of exchange is unfavourable. Let us suppose that the exchange value of the Pound Sterling is being expressed in terms of the Indian Rupee and that the rate of exchange is 1 Pound Sterling = Rs. 55/- . Now if the rate of exchange goes down or if the rate of exchange now is 1 Pound = Rs. 54/- , this new rate of exchange is favourable to India but is unfavourable to Britain. The reason is that the Indian importer will now have to spend Rs. 54/- in order to buy goods worth 1 Pound Sterling from Britain. The new rate of exchange, as said above, is unfavourable to Britain. The reason is that the British importer now will have to pay 1 Pound Sterling in order to buy goods worth Rs. 54/- from India. Formerly, with the same 1 Pound Sterling, he could buy goods worth Rs. 55/- from India.

(2) *Expressing the Rate of Exchange in Terms of Foreign Currency.* When the rate of exchange of a country is expressed in terms of foreign currency, the increase in the rate of exchange is favourable while a decrease in the rate of exchange is unfavourable to that country. Let us suppose that the current rate of exchange between India and U.S.A. is 1 dollar = Rs. 38. Let us now further suppose that the rate of exchange now changes to 1 dollar = Rs. 36. Now this new rate of exchange is favourable to India but is unfavourable to the U.S.A. The reason is that the Indian importer by spending Rs. 36 can now buy goods worth 1 dollar from the U.S.A. whereas formerly, he could buy goods worth Rs. 38. The new rate of exchange is, however, unfavourable to the U.S.A.

Besides the above, there are certain other concepts which are often used in discussions pertaining to foreign exchange.

(i) *Single Rate and Multiple Rates.* Ordinarily, the government of a country adopts a single rate *vis-a-vis* the currency of another country. But in certain circumstances it may adopt more than one rate – two or even three rates *vis-a-vis* another currency. This is known as the system of *multiple exchange rates*. The government of the country may adopt one rate for exports, another for imports and a third one for tourists.

(ii) *Spot Rate and Forward Rate.* The spot rate of exchange refers to that rate of exchange at which the delivery of foreign exchange is made to the buyer by the seller at the spot. The forward rate of exchange is that rate of exchange at which the seller contracts to deliver to the buyer foreign

exchange at some future date at a rate settled in the present. The forward rate is quoted either at a premium or at a discount over the spot rate.

**Foreign Exchange Rates as on Sept. 12, 1996**  
(Market Rate is Rs. per unit of foreign currency)

Foreign Currency	Buying Rate	Selling Rate
1. Pound Sterling	55.00	56.00
2. US Dollar	35.55	35.90
3. Canadian Dollar	25.53	26.55
4. Australian Dollar	28.26	28.82
5. Hongkong Dollar	4.53	4.71
6. New Zealand Dollar	24.38	25.36
7. Deutsche Mark	23.43	23.89
8. Dutch Guilder	20.91	21.32
9. Swiss Franc	28.67	29.24
10. Belgian Franc	1.13	1.17
11. French Franc	6.86	6.99
12. Swedish Kroner	5.23	5.44
13. Italian Lira	0.023	0.024
14. Japanese Yen	0.32	0.33
15. Malaysian Rengitt	14.01	14.57
16. Danish Kroner	6.02	6.26
17. Norwegian Kroner	5.41	5.63
18. Malaysian Rengitt	14.01	14.57
19. Austrian Schilling	3.30	3.43
20. Spanish Peseta	0.28	0.29
21. Finish Maupa	7.67	7.98

Foreign Exchange Rates of some Leading Countries on 1st June, 2002 :

Foreign Currency	Indian Currency
	Rupee
1. U S Dollar	49.04
2. British Pound	71.90
3. Euro	46.02

#### PARITY OF EXCHANGE

As explained above, the rate of exchange is determined by the demand and supply of foreign exchange. When the demand for foreign exchange is exactly equal to its supply, the rate of exchange is said to be at par or there is said to be parity of exchange. But, in actual life, the demand for foreign exchange is seldom equal to its supply. Thus, parity of exchange is a rare phenomenon. The actual rate of exchange is either above or below the parity of exchange. For example, if the demand for foreign exchange exceeds its supply, the rate of exchange will rise above the parity of exchange. In other words, the value of foreign exchange will rise in terms of national currency. As against this, when the supply of foreign exchange exceeds its demand, the rate of exchange falls below the parity of exchange. In other words, the value of foreign exchange falls down in terms of national

currency. It is very seldom that the actual rate of exchange coincides with the parity of exchange.

The question now arises as to what extent can the actual rate of exchange rise above or fall below the parity of exchange? There are certain limits within which the actual rate of exchange fluctuates round the parity of exchange. These limits are different under different conditions. This parity of exchange itself is determined in different ways under different conditions. In other words, the parity of exchange between countries is determined in different ways according to the monetary system of the countries concerned. We can study the problem of the determination of the rate of exchange under four different types of situations :

- (1) when both the countries are either on the gold standard or on the silver standard ;
- (2) when one country is on the gold standard while the other is on the silver standard ;
- (3) when one country is on the gold standard while the other is on inconvertible paper currency standard ;
- (4) when both the countries are on inconvertible paper currency standard.

(1) When Both the Countries are either on the Gold Standard or on the Silver Standard. We shall first take the example of two countries which are on gold standard and shall see how the rate of exchange between them is determined in actual practice. As is well known, in a country on gold standard, the standard coin is either made of gold or its value is expressed in terms of gold. Along with that under the gold standard, no restrictions are imposed by the countries concerned either on the export or on the import of gold.

To understand the determination of the rate of exchange between the two countries on gold standard, we shall first try to understand the meaning of the term 'mint par of exchange'. The reason being that the rate of exchange between two countries on the gold standard depends upon the 'mint par of exchange'. The term 'mint par of exchange' means the mint rate at which the currencies of the two countries can be exchanged with each other. Under the 'mint par of exchange', the gold contents of the standard coins of the two countries are evaluated and the rate of exchange between them is established. The 'mint par of exchange', in other words, is that rate which establishes equality between the gold contents of the standard coins of the two countries. In the words of S. E. Thomas, "The mint par is an expression of the ratio between

the statutory bullion equivalents of the standard monetary units of two countries on the same metallic standard." For example, before the First World War, the mint par of exchange between the U. K. and the U. S. A. was 1 Pound Sterling equal to 4.866 Dollars. What this implied was that 1 Pound Sterling contained in it as much gold as was to be found in 4.866 Dollars. At that time, the Pound Sterling as well as the Dollar were both made of gold or their values were being expressed in terms of gold. Thus, 1 American Dollar contained in it 23.22 grains of fine gold while the Pound Sterling had in it 113.0016 grains of fine gold. The mint par of exchange between the British Pound and the American Dollar was 1 Pound Sterling equal to 4.866 Dollars.

But this did not mean that the actual rate of exchange between Britain and America was 1 Pound Sterling equal to 4.866 Dollars. This was only the mint rate between these two countries. The actual rate of exchange could either be more or less than the mint par of exchange. The actual rate of exchange between the two countries is determined by the balance of payments. The rate of exchange keeps on changing from time to time according to the favourableness or unfavourableness of the balance of payments. But the changes in the rate of exchange take place within two well-defined limits. These limits are known as the gold points—the upper gold point and the lower gold point. As already said above, the actual rate of exchange between two countries will fluctuate between these two gold points. In other words, the rate of exchange can neither rise above the upper gold point nor can it fall below the lower gold point.

The question now arises what are these gold points and how are they determined in actual practice? As said above, the gold points fix two limits and the rate of exchange between Britain and America will keep on fluctuating between these two limits. The upper gold point is arrived at by adding the cost of transporting gold (from one country to another country) to the existing mint par of exchange. As already said, there are no restrictions on the export of gold from the country on the gold standard. Transporting gold from one country to another involves some expenditure or cost on the part of exporter of gold. If this cost of transporting gold is added to the mint par of exchange, we shall arrive at the upper gold point. Let us suppose that the cost of transporting gold worth 1 Pound from Britain to America is .020 cent. Now if this expenditure on the transport of gold is added to the mint parity, we shall get the upper gold point. For example, Pound Sterling = 4.866 + .020 = 4.886 Dollars.

Likewise, when we deduct the cost of transporting gold from the mint par of exchange, we arrive at the lower gold point. In other words, 1 Pound = 4.866 - .020 = 4.846 Dollars. Thus, the rate of exchange between Britain and America will keep on fluctuating between these two gold points. It shall neither rise above 1 = 4.886 Dollars nor shall it fall below 1 = 4.846 Dollars.

Let us now suppose that the balance of payments of America becomes unfavourable. As a result, the demand for Pounds will rise in America. Consequently, the value of the Pound in terms of Dollars will rise. In other words, 1 Pound shall no longer be equal to 4.866 Dollars. On the contrary, the Americans will have to pay more than 4.866 Dollars to obtain 1 Pound. The Dollar value of the Pound will rise up but it shall not go beyond 4.886 Dollars, because this constitutes the upper gold point between the two countries. Let us suppose for a moment that the exchange value of the Pound in the American market rises to 4.896 Dollars. In such a situation, the American importers instead of making the payments in Pounds will like to pay the British exporters in terms of gold. The reason is that the total expenditure on transporting gold worth 1 Pound from America to Britain is 4.886 Dollars. It shall be more economical for the American importers to make the payments to the British exporters in terms of gold rather than in terms of Pounds. This would result in a fall in the demand for Pounds in the exchange market. Consequently, the Dollar value of the Pound will decline. In other words, the value of Pound cannot for long remain above 4.886 Dollars.

Let us now suppose that Britain's balance of payments turns unfavourable. As a result, the British importers will now need Dollars to make payments for imported goods to the American exporters. Since the British balance of payments is unfavourable, the demand for American Dollars will rise up. The exchange value of the Dollar in terms of Pound will rise up as a consequence of the increase in the demand for Dollars. In other words, the rate of exchange between Britain and America will fall down. But, it shall, under no circumstance be less than 1 Pound = 4.846 Dollars. The reason is that 1 Pound = 4.846 Dollars is the lower gold point. If the actual rate of exchange falls below 1 Pound = 4.846 Dollars, then in that situation the British importers will like to make payments for the imported goods in terms of gold rather than in terms of Dollars. The reason is that it costs them less to make the payment in gold rather than in Dollars. Let us suppose, for a moment,

that the exchange value of the Pound falls below 4.846 Dollars or becomes equal to 4.836 Dollars. In such a situation, the British importers will prefer to make the payment in terms of gold. The reason is that by doing so they obtain 4.846 Dollars in exchange for gold worth 1 Pound, while in the open market they can obtain not more than 4.836 Dollars against 1 Pound. If the British importers start making payments in terms of gold, the demand for Dollars will automatically decline. As a result, the exchange value of Dollars in terms of Pounds will go down. In other words, the rate of exchange between Britain and America will certainly rise above in course of time.

We, thus, reach the conclusion that the rate of exchange between Britain and America will neither rise above 1 Pound = 4.886 Dollars nor shall it fall below 1 Pound = 4.846 Dollars. In other words, the rate of exchange between the two countries on the gold standard will keep on fluctuating between the two gold points according to the favourableness or the unfavourableness of the balance of payments. If the two countries impose restrictions on the import or export of gold, in that case the rate of exchange may even cross the gold points. For example, if America restricts the export of gold when its balance of payments is unfavourable, in such a situation, the rate of exchange will exceed the upper gold point. The reason is that the demand for Pounds will go on increasing on account of the imposition of restrictions on the export of gold from America. Hence, the rate of exchange will remain confined within the two gold points only if the two countries impose no restrictions of any kind on the import and export of gold. It should, however, be remembered that the gold points of two countries on the gold standard are never permanent. They keep on changing from time to time according to the changes in the cost of transportation of gold. For example, if there occurs a change in the cost of transporting gold, the gold points will also change.

Hence, our conclusion is that the rate of exchange between the two countries on the gold standard will remain within the two gold points. It shall neither rise above the upper gold point nor shall it fall below the lower gold point. If, at any time, the rate of exchange crosses the gold points in any direction (upward or downward), then, in such a situation, the disequilibrium in the balance of payments will soon be automatically corrected through the import and export of gold. The rate of exchange shall once again be back to the limits fixed by the gold points.

This can be illustrated with the help of a diagram. In the Diagram ahead,  $AB$  represents the mint par of exchange,  $EF$  indicates the upper gold point, while  $CD$  shows the lower gold point.  $RE$  shows the rate of exchange. As shown in the diagram,  $RE$  keeps on fluctuating between the two gold points. It never crosses them.

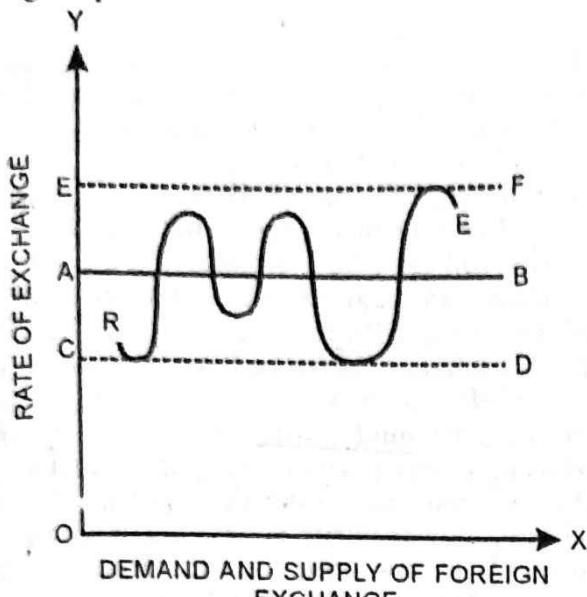


Fig. 31.2

If the two countries happen to be on the silver standard, the rate of exchange between them shall be determined in the same manner as between two countries on the gold standard.

*When One country is on the Gold Standard while the Other is on the Silver Standard.* In such a situation, we shall have to find out the quantity of fine gold contained in the standard coin of the country on the gold standard. Along with that, we shall find quantity of fine silver contained in the standard coin of the country on the silver standard. After that, we shall have to find out the gold value of the silver content of the standard coin of that country. In actual practice, it is not difficult to find out the gold value of the silver coin of the country on the silver standard because the government of that country invariably fixes under the law the gold value of the silver content of its standard coin. Thus, by comparing the gold values of the standard coins of the two countries, we can easily arrive at the mint par of exchange between the two countries. It becomes easier then to determine the rate of exchange between the two countries after having found out the mint parity of their currency units.

Till 1898, the rate of exchange between Britain and India was determined in the manner explained above. According to the mint laws, the Indian Rupee contained in it 165 grains of fine silver. At that time, the gold value of 165 grains

of fine silver was equivalent to 7.53344 grains of fine gold. The British Pound, at that time, contained 113.016 grains of fine gold. Thus, taking 1 Indian Rupee equivalent to 7.53344 grains of fine gold, 15 Indian Rupees were held equivalent to 113.016 grains of fine gold. Thus, one British Pound was equivalent to 15 Indian Rupees. In other words, 1 Indian Rupee was equal to 1s. 4d. Thus, the mint par of exchange between India and Britain was 1 Rupee = 1s. 4d. It should, however, be remembered that the actual rate of exchange between Britain and India could be different from 1 Rupee = 1s. 4d. But the variations in the rate of exchange used to be within the limits set by the gold points. The rate of exchange between the two countries at no time violated the gold points but remained well within the limits imposed by them.

*When One Country is on the Gold Standard while the Other is on Inconvertible Paper Currency Standard.* In such a situation, the mint parity between the two countries is determined by the quantity of gold which will be purchased by the currencies of the two countries, taken individually. The gold value of the currency of the country on the gold standard is invariably declared by the government. But the gold value of the currency of the country on inconvertible paper currency standard is not fixed in terms of gold by the government of that country. The gold value of its currency keeps on changing from time to time according to the situation prevalent in the market.

The question now arises : How is the actual rate of exchange determined between two such countries ? What are the limits within which this rate of exchange keeps on fluctuating ? In the earlier situations, as we have seen above, the rate of exchange was governed by the gold points—the upper as well as the lower gold points. In other words, the fluctuations in the rate of exchange were confined to the limits set by the gold points. This, however, is not possible in the present situation, the reason being that one country is on the gold standard while the other is on the inconvertible paper currency standard. As such, it is not possible to determine the gold points between these two countries. No doubt, the upper gold point or the gold export point can be fixed for the country on the gold standard. The reason is that the export of gold from that country is permitted without any restrictions of any kind. Whenever the rate of exchange in the gold standard country exceeds the upper gold point, the importers in that country find it more convenient to make the payments for imported

goods in terms of gold rather than in terms of foreign currency. Thus, the rate of exchange in the gold standard country cannot rise above the upper gold point or the gold export point. Since the other country is on inconvertible paper currency standard, it does not permit the export of gold to other countries on account of commercial transactions. Consequently, there is no lower limit (or, the lower gold point) below which the rate of exchange cannot fall. Thus, the changes in the rate of exchange of the country on the paper currency standard are governed by the demand and supply of foreign currency. To what extent, the rate of exchange in such a country will rise or fall cannot be laid down with any degree of certainty or definiteness because there are no well-defined limits to contain the changes in the rate of exchange. Just as the rate of exchange of the country on the gold standard cannot rise above the gold export point or the upper gold point, in the same manner, the rate of exchange in the country on the paper currency standard cannot fall below the gold import point. There is, however, no gold export point for the country on the paper currency standard. The reason is that the currency in such a country has no direct link with gold. Consequently, gold cannot be exported from a country on paper currency standard on account of trade transactions.

Thus, when one country is on the gold standard while the other is on inconvertible paper currency standard, the rate of exchange in the country on the gold standard cannot rise above the gold export point, but there is no lower limit below which it cannot fall. As against this, there are no limits within which the rate of exchange may vary so far as the country on the paper currency standard is concerned. The rate of exchange in such a country can rise or fall without limits.

→ (4) When Both the Countries are on Inconvertible Paper Currency Standard. The rate of exchange between two countries on inconvertible paper currency standard is not governed by the gold points. The reason is that the currencies of both the countries have no link with any metal, gold or silver. As such, the rate of exchange between the two countries is determined by the demand and supply of foreign exchange. The rate of exchange between the currencies of these countries is greatly influenced by their purchasing power parity. If there are changes in the purchasing powers of the currencies of the two countries, such changes do influence the rate of exchange between them.

Hence, it becomes necessary to estimate the purchasing powers of the currencies of the two countries to determine the rate of exchange between them. In other words, the rate of exchange between two countries on inconvertible paper currency standard is determined by the purchasing power parity of their currencies.

Let us suppose that India and Britain are both on inconvertible paper currency standard. Let us further suppose that we have to spend one rupee on purchasing a particular collection of goods in India and that we have to spend 1s. 6d. on purchasing the same collection of goods in Britain. The rate of exchange between the two countries will then be 1 Rupee = 1s. 6d. At this rate, India can clear off its debt equivalent to 1s. 6d. by paying 1 Rupee from its side. Thus, the rate of exchange between two countries on inconvertible paper currency standard is not determined by mint parity but is fixed by the purchasing power parity of the paper currencies of the two countries. Like the mint parity, the purchasing power parity is also not constant or permanent in any sense of the term. On the contrary, it keeps on changing from time to time according to the changes in the price level of the two countries.

The long-term rate of exchange between two countries on inconvertible paper currency standard is determined by the purchasing power parity of their currencies. In the short period, however, the rate of exchange between these countries can either be less or more than the purchasing power parity. In other words, the rate of exchange between these two countries can either rise above or fall below the purchasing power parity in the short period. But the rate of exchange has the tendency to coincide with the purchasing power parity in the long period. This can be illustrated with the help of an example. Let us suppose that the rate of exchange between India and Britain changes from 1 Rupee = 1s. 6d. to 1 Rupee = 1s. 9d., although the purchasing power parity between the two countries remains constant at the old level. In such a situation, it will be more profitable for the Indian traders to accept 1s. 9d. in exchange for 1 Rupee. Consequently, the Indian traders will start buying more goods and services from Britain. The reason is that formerly they could purchase goods worth 1s. 6d. by spending 1 Rupee. Now by spending the same one Rupee, they can buy goods worth 1s. 9d. from Britain. As a result, India's imports from Britain will increase. The demand for Sterling will exceed its supply. Consequently, the rate of exchange will start

falling till it reaches the old level of 1s.6d. Thus, we conclude that the long-term rate of exchange between two countries on inconvertible paper currency standard has the tendency to coincide with the purchasing power parity between the currency units of the two countries. In other words, the rate of exchange between the two countries in the short period may rise above or fall below the purchasing power parity. But the rate of exchange between the two countries in the long period has a tendency to be equal to the purchasing power parity between their currency units.

(b) The rate of exchange between two countries on inconvertible paper currency standard is greatly influenced by inflation or deflation in either of the two countries. The reason is that the internal price level of the country concerned undergoes a change as a result of inflation or deflation in that country. Consequently, the rate of exchange between the two countries cannot remain unchanged at the old level. This can be illustrated with an example. Let us suppose that the rate of exchange between India and Britain is fixed at 1 Rupee = 1s. 6d. on the basis of the purchasing power parity of their currency units. Let us further suppose that the price level in both the countries doubles or the value of money in both the countries is halved as a result of inflation. Then, in such a situation, there shall be no effect on the rate of exchange which will remain unchanged at 1 Rupee = 1s. 6d. Now suppose that the price level in India remains constant while the price level in Britain increases three times on account of inflation. The value of the British currency shall now be one-third of its old level. In such a situation, the rate of exchange between India and Britain will be 1 Rupee = 4s. 6d. The reason is that in the changed situation 1 Rupee cannot be equal to 1s. 6d., because the purchasing power of the British currency has fallen to one-third of its old level. In other words, 1 Rupee shall now be equal to 1s. 6d.  $\times 3 = 4s. 6d$ . Thus, the rate of exchange between India and Britain will be 1 Rupee = 4s. 6d., because this represents the purchasing power parity between the currency units of the two countries. Now, let us suppose, that the price level in India doubles or the purchasing power of the Indian Rupee falls to one-half of its old level on account of inflation. But the price level in Britain, as we have seen above, has increased three times or the purchasing power of the British currency has fallen to one-third of its old level. How shall the rate of exchange between the two countries be determined in such a situation?

It is clear that India's 2 Rupees will be equal to 4s. 6d. of Britain. In other words, 1 Rupee will be equal to 2s. 3d. Thus, the rate of exchange between the two countries on inconvertible paper currency standard is determined by establishing parity in the purchasing powers of their currency units. The changes in the purchasing powers of the currencies of the two countries can be measured by price-index numbers. Thus, the rate of exchange between two countries on inconvertible paper currency standard can be fixed with the help of price-index numbers. Let us suppose that the price-index numbers of India and Britain rise to 200 and 300 respectively. This implies that India's price level rises two times whereas the British price level increases three times. The purchasing power of the Indian Rupee in such a situation will be one-half while the purchasing power of the British Pound will be one-third of its old level.

Thus, one Indian Rupee  $= \frac{18 \times 3}{2} = 2s. 3d.$ , because this represents the (2 : 3) ratio of the currencies of the two countries. In the words of Gustav Cassel, "The rate of exchange between two currencies must stand essentially on the quotient of the internal purchasing powers of these currencies." In this way, the purchasing power parity of the two currencies forms the basis for the fixation of the rate of exchange between them.

#### DETERMINATION OF EXCHANGE RATE UNDER GOLD STANDARD AND PAPER CURRENCY STANDARD—A COMPARISON

The following differences are found in the determination of exchange rate between two countries on the gold standard and two countries on inconvertible paper currency standard :

(1) The rate of exchange between two countries on the gold standard is determined by mint par of exchange. But the rate of exchange between two countries on inconvertible paper currency standard is determined by the purchasing power parity of the currencies of the two countries.

(2) The rate of exchange between two countries on the gold standard is determined by the purchasing powers of their currencies in terms of gold. But the rate of exchange between two countries on inconvertible paper currency standard is determined by the purchasing powers of their currencies in terms of goods and services.

(3) The mint par of exchange between two countries on the gold standard remains constant. But the purchasing power parity between two

countries on inconvertible paper currency standard instead of being constant, is subject to changes from time to time as a result of the changes in the price levels of the countries.

(4) The changes in the rate of exchange between two countries on the gold standard remain confined to the gold points. In other words, the rate of exchange does not violate the gold points. But the rate of exchange between two countries on inconvertible paper currency standard can rise above or fall below the purchasing power parity. There are no gold points between two countries on inconvertible paper currency standard as there are between two countries on the gold standard.

### **PURCHASING POWER PARITY THEORY**

#### **Historical Background**

This theory was propounded by the well-known Swedish economist, Prof. Gustav Cassel after the First World War. According to some economists, the theory was first mooted by John Wheatley in 1802. Later on, it was given a scientific shape by William Blake in 1810. The well-known classical economist, David Ricardo, put it in an improved form. Gustav Cassel, it is said, picked up the thread from David Ricardo and put the theory in a presentable form.

#### **Meaning and Definition**

Before the First World War, almost all the major countries of Europe were on the gold standard. Hence, the rate of exchange amongst them used to be governed by the gold points. But after the First World War, almost all the countries of Europe abandoned the gold standard and adopted inconvertible paper currency standard in its place. Under the inconvertible paper currency standard, the question of fixing gold points did not arise at all, because the currencies of the countries of Europe had no direct link with gold in the post-war period. Hence, it became a problem to fix the rate of exchange between two countries on inconvertible paper currency standard. It was to remove this difficulty that Prof. Gustav Cassel was led to put forward his purchasing power parity theory. According to this theory, the rate of exchange between two countries on inconvertible paper currency standard was determined by their relative price levels. The rate of exchange determined thus on the basis of the relative price levels was said to be in conformity with the purchasing power parity theory. According to this theory, the rate of exchange between two countries on inconvertible paper currency standard was determined by their

relative price levels. The rate of exchange determined thus on the basis of the relative price levels was said to be in conformity with the purchasing power parity between their currency units.

According to Gustav Cassel, "The rate of exchange between two currencies must stand essentially on the quotient of the internal purchasing powers of these currencies." In the words of Prof. G.D.H.Cole, "The relative values of national currencies especially when they are not on the gold standard, in the long run, are determined by their relative purchasing powers in terms of goods and services." Prof. S. E. Thomas has defined the theory in the following words : "While the value of the unit of one currency in terms of another currency is determined at any particular time by the market conditions of demand and supply, in the long run, that value is determined by the relative values of the two currencies as indicated by their relative purchasing power over goods and services (in their respective countries). In other words, the rate of exchange tends to rest at that point which expresses equality between the respective purchasing powers of the two currencies. This point is called the purchasing power parity."

As is clear from the above definitions, the rate of exchange between two countries on inconvertible paper currency standard is determined by the purchasing power parity of their currencies. But this is true only of the long period. In the short period, the rate of exchange between the two countries can either be more or less than the purchasing power parity. But, in the long period, the rate of exchange between the two countries is determined by the purchasing power parity. As already pointed out above, the purchasing power parity is never constant but keeps on changing according to the changes in the price levels of the two countries.

The detailed explanation of the determination of the rate of exchange between two countries on inconvertible paper currency standard has already been presented above (see No. 4 on p. 448). It need not be repeated here.

#### **Explanation of the Theory**

Suppose, at a given time, a pound in England can purchase a combination of goods containing a certain quantity of each of a given list of articles, which is purchased in the U.S.A. of 5 dollars. In such circumstances, the purchasing power of pound and the dollar will be the same in England and U.S.A. and, in accordance with equality—the rate of exchange shall be £ 1 = \$ 5. If the value of £ 1 in the

exchange market increase to \$ 5.10, the purchasing power of two currencies remaining the same, it becomes profitable for Englishmen to buy goods in America rather than in their own country, for £ 1 now exchanges for \$ 5.10. The quantity of goods that can be purchased for this amount in U.S.A. is more than can be purchased for £ 1 in England. On the other hand, Americans will find it useful to buy things in their own country rather than in England. Thus, there is a larger flow of goods from U.S.A. to England than in opposite direction. The demand for dollars rises while that for pounds fall and the rate of exchange will fluctuate till it again comes to £ 1 = \$ 5.

Suppose for some reason the exchange value of £ 1 falls to \$ 4.90, the internal purchasing power of the two currencies remain unaltered. In this case, the Americans will find it worthwhile to buy more goods in England and Englishmen will find it advantageous to reduce their purchases from U.S.A. Thus, there will be larger flow of goods from pounds will rise while that for dollars will fall and the rate of exchange will fluctuate till it comes back to £ 1 + \$ 5. Therefore, £ 1 = \$ 5 is the normal rate between these two currencies.

#### Criticism of the Purchasing Power Parity Theory

The criticisms levelled against the theory of purchasing power parity from time to time may be summarised as under :

(1) *It is difficult to measure accurately the purchasing powers of the currency units of the two countries.* As pointed out above, the rate of exchange between two countries, according to this theory, is determined by the purchasing power parity. The purchasing powers of the currency units of the two countries are determined by the price-index numbers. According to the critics, there are three main defects in these price-index numbers.

(i) These index numbers are connected with the past prices. They do not deal with the present prices in the two countries. As such, they lose their importance in practical life.

(ii) These price-index numbers include the prices of even those commodities which are not internationally traded or which do not enter into international trade. In fact, the prices of only those commodities should be included in the index number which enter into international trade. Since the price-index numbers include the prices of all sorts of goods whether internationally traded or not, the rate of exchange

determined on their basis cannot be a realistic rate of exchange.

(iii) The third defect of these index numbers is that they do not include the same commodities in both the countries. In other words, the index numbers include different types of commodities in the two countries. As such, it becomes difficult to establish equality between the purchasing powers of the two currencies.

(2) *It neglects the cost of transportation.* This theory has neglected the costs incurred on the transportation of goods from one country to another. Further, as pointed out by Prof. Pigou, any trade restrictions imposed by any country on the flow of international trade will disrupt the purchasing power parity.

(3) *It neglects the quality of goods.* This theory does not take into account the quality of those goods the prices of which are compared between the two countries. It is not essential that the goods of the two countries be of the same qualitative standard in actual practice.

(4) *It does not study other elements which influence the balance of payments.* This theory furnishes no explanation of other elements which affect the rate of exchange by influencing the balance of payments between the two countries. This theory, as it is, studies only those elements which influence the internal price levels of the two countries. In fact, there are several elements which produce no effect on the internal price level, but do influence the balance of payments of a country, and as such its rate of exchange with the other country. For example, the movement of capital between two countries may not produce any special repercussions on the internal price level but will certainly influence the balance of payments. Thus, the theory is incomplete, because it does not offer a full explanation of all the factors which influence the rate of exchange.

(5) *The changes in the rate of exchange influence the price level.* According to this theory, the changes in the internal price level of the two countries influence the rate of exchange. But, according to the critics, the changes in the rate of exchange between the two countries also influence their price levels. Let us suppose that the current rate of exchange between India and Britain is 1 Rupee = 1s. 6d., but now it increases to 1 Rupee = 2s. In other words, the rate of exchange between India and Britain has gone up. As a result, the Indian goods will become costlier for Britain. The reason is that the British importer will now have to pay 2s. for goods worth 1 Rupee imported from India, whereas formerly he was required to pay only 1s. 6d. for goods

worth 1 Rupee from India. Thus, the rise in the rate of exchange will lead to an increase in the British price level. Hence, it will not be wrong to say that the changes in the rate of exchange do cause changes in the internal price levels of the two countries.

(6) *This theory is contrary to general experience.* There is hardly any example, according to the critics, where the rate of exchange between the two countries has been fixed on the basis of the purchasing power parity of their currencies. Since this theory is contrary to general experience, it has little importance in practical life.

(7) *This theory assumes a given rate of exchange.* A serious defect of this theory is that it starts with a given rate of exchange. How that rate of exchange is arrived at, is not explained by this theory. As already explained, this theory before establishing the parity between the purchasing powers of the two countries assumes a certain rate of exchange as the given rate. The reason is that without assuming a given rate of exchange, it is not possible to establish the parity between the purchasing powers of the currencies of the two countries. Thus, this theory tells us how with a given rate of exchange, the changes in the purchasing powers of the two countries affect the exchange situation.

(8) *This theory is based on a wrong conception of elasticity of demand.* This theory is based on the wrong assumption that the elasticity of the foreigners' demand for the goods of the country is equal to unity. In other words, the foreigners' demand for the goods declines in the same proportion in which their prices rise, or *vice versa* the foreigners' demand for the goods increases in the same proportion in which their prices decline. But this assumption is not true. In fact, the demand for goods in foreign countries does not vary in proportion to the changes in prices. In other words, the elasticity of demand can either be more or less than unity.

(9) *The theory offers only a long-term explanation of the rate of exchange.* Unfortunately, this theory does not explain how the rate of exchange between the countries is determined in the short period. Actually speaking, the rate of exchange between two countries is influenced by a large variety of factors during the short period, but this theory unfortunately omits to take such elements into account. From this point of view, the theory cannot be looked upon as a satisfactory one.

*Conclusion.* The theory, as we have seen above, suffers from a number of shortcomings

and drawbacks. It was on account of these shortcomings and drawbacks that Prof. Benham was led to call it a "dubious guide" to practical action in the field of foreign exchange. Despite the above criticisms, the theory has not lost its importance which will be obvious from the following points :

(1) This theory very clearly tells us how the rate of exchange between two countries on inconvertible paper currency standard is determined. It also establishes a close relationship between the internal price level and the rate of exchange of a country.

(2) This theory is applicable to all sorts of monetary standards.

(3) This theory also explains the state of the trade of a country as well as the nature of its balance of payments at a particular time.

(4) This theory also explains how the foreign trade and the rate of exchange of a country are affected by the depreciation and appreciation of its currency.

Our conclusion, thus, is that the purchasing power parity theory is a useful theory. While fixing a rate of exchange between the two countries, the purchasing power parity of their currencies cannot be ignored or overlooked in any manner. The rate of exchange between two countries may not coincide with the purchasing power parity, i.e., it may be more or less than the purchasing power parity in the short period. But in the long period the rate of exchange has a tendency to coincide with the purchasing power parity of the currencies of the two countries.

#### Improvement over the Classical Theory

The Purchasing Power Parity Theory is definitely an improvement over the classical theory which offered an explanation regarding the fixation of exchange rate on the basis of labour theory of value. As a matter of fact, it does not make absurd assumption as that of classical theory. In this way, it is a distinct improvement over the comparative cost principle that was formulated by the classical economists. It brings the value of currency of a country in terms of some other country's currency in line with general theory of pricing.

#### THE BALANCE OF PAYMENTS THEORY OF EXCHANGE RATE

##### Meaning and Explanation

This theory is also known as the general equilibrium theory of exchange rate. This theory at present is supposed to be the most satisfactory theory of exchange rate. Besides, it has also linked itself with the general equilibrium theory of value. According to this theory, the rate of

exchange between the two countries is determined by the supply of and the demand for foreign exchange in the exchange market. The rate of exchange is only a price, the price of the foreign currency in terms of the domestic currency. Like any other price, the rate of exchange is also determined by the market forces of demand and supply. The terms 'Demand' and 'Supply' refer to the demand and supply of foreign exchange in the foreign exchange market of the country. The rate of exchange comes to be fixed at that point where there takes place an equilibrium between demand and supply. Hence, it is known as the *equilibrium rate of exchange*. At this rate, the domestic currency is neither undervalued nor overvalued. This rate gives stimulus neither to imports nor to exports. At this rate, there are no conflicts or disharmonies in the economic system. The rate of exchange will change in accordance with the changes in the demand and supply conditions of foreign exchange. For example, the rate of exchange between the American Dollar and the Indian Rupee is determined by the relationship between the supply of Dollars and demand for Dollars in the Indian Exchange Market.

Let us now see what constitutes the "supply of foreign exchange". The supply of foreign exchange arises when Indian exporters export goods and services to foreign countries in which case the foreign importers have to make payments to India. For this purpose, they part with their own currencies in order to exchange them for Rupees in the exchange market so as to make payments to India. For example, the American importers of goods from India have to change their Dollars into Rupees in order to make payments for India's exports. These exports may be goods, services, or other items, in the balance of payments, such as, travel expenditure in India by foreign tourists, interest and dividends on foreign securities payable to Indian citizens, expenditure by foreign governments in India, and other remittances and contributions by foreigners to India. India has, thus, to receive payments on these accounts from the foreigners. All these items taken together may be called the *credit items* in the balance of payments. Thus, it may be said that it is the credit items in the balance of payments which give rise to the "supply of foreign exchange".

The "demand for foreign exchange" arises from those Indian importers who import goods from foreign countries. Thus, when an Indian imports goods from America, there arises a demand for Dollars in the exchange market. The

imports into India may be imports of goods or services or other items in the balance of payments, such as, travel expenditure by Indians abroad, interest and dividends on Indian securities held by foreigners, government expenditure in foreign countries and other miscellaneous remittances and contributions made by Indians to individuals or institutions abroad. All these items taken together are known as *debit items* in the balance of payments. Hence, it can be said that it is the debit items in the balance of payments which give rise to the demand for foreign exchange.

Whenever there is a *net surplus* in the balance of payments of a country, the supply of foreign exchange will be greater than the demand for it. Hence, the rate of exchange will fall leading to a rise in the exchange value of the national currency in terms of the foreign currencies. On the other hand, whenever there is a net debit in the balance of payments of the country, the demand for foreign exchange will be greater than its supply and the rate of exchange will rise, resulting in a fall in the exchange value of the national currency in terms of foreign currencies.

Let us suppose that the current rate of exchange between the Rupee and the Pound Sterling is 1 Pound = 15 Rupees. If there is now a net surplus in India's balance of payments, this will make the supply of foreign exchange greater than the demand for it, so that the rate of exchange will fall, say, to 1 Pound = 14 Rupees. The Rupee will, thus, get overvalued. This overvaluation of the Rupee will make Indian goods costlier in Britain and the British goods cheaper in the Indian market. India's imports will increase while its exports will decline. The balance of payments will turn against India. The demand for British Pounds will exceed their supply and the rate of exchange will once again rise to its original position of 1 Pound = 15 Rupees.

On the other hand, an initial deficit in India's balance of payments will make the demand for British Pound greater than their supply, leading to a rise in the rate of exchange, say to 1 Pound = 16 Rupees. This devaluation of the Rupee will encourage Indian exports to Britain, but discourage imports from Britain, giving rise to a surplus in the balance of payments of India. The supply of British Pounds will exceed their demand so that the rate of exchange will fall back to its original level of 1 Pound = 15 Rupees. This means that changes in the rate of

exchange are self-correcting, provided there is no intervention from the side of the government. Since the rate of exchange is closely related to the balance of payments of a country, this theory is often referred to as the Balance of Payments Theory of Exchange Rate.

### Merits of the Theory

This theory is now looked upon as the most satisfactory theory of exchange rate. It has certain merits which may be stated as follows : Firstly, this theory is in conformity with the General Theory of Value. Like that theory, this theory looks upon the rate of exchange as a 'price' and states that the rate of foreign exchange between the two countries is determined by the supply and demand conditions. Secondly, this theory brings the determination of the rate of foreign exchange within the overall framework of the general equilibrium. Thirdly, this theory points out that there are several important forces, besides exports and imports which influence the supply and the demand for foreign exchange. Fourthly, this theory points out that the disequilibrium in the balance of payments of a country can be corrected by making appropriate adjustments in the rate of exchange, i.e., through the devaluation or revaluation of the country's currency. This is significant because according to the purchasing power parity theory, the disequilibrium in the balance of payments can be corrected only through inflation or deflation in the country concerned. Finally, this theory is more realistic in the sense that domestic price of a foreign currency is seen as a function of many significant variables, not just purchasing power expressing general price levels.

### Demerits of the Theory

The theory, however, suffers from several serious drawbacks. Firstly, according to this theory, the rate of exchange is determined by the balance of payments of the country. In other words, the balance of payments constitutes the cause while the rate of exchange is the resultant. This may not always be true because the balance of payments is itself a function of the rate of exchange. In other words, the balance of payments itself is influenced by the rate of exchange. Secondly, this theory assumes perfect competition and free movement of money from one country to another. As a matter of fact, it is a very unrealistic assumption. Thirdly, this theory assumes that there is no causal connection between the rate of exchange and the internal

price level. However, the internal price level is positively affected in the rate of exchange. The balance payments position do affect the price cost structure of the national economy of a country. Fourthly, this theory advocates that the rate of exchange is the function of the balance of payments. In real life, it is equally true that the balance of payments is the function of the rate of exchange. In this sense the theory is undeterminate as confusing as to what determines what.

### FLUCTUATIONS IN THE RATE OF EXCHANGE

As pointed out above, the rate of exchange between two countries is seldom constant. On the contrary, it keeps on fluctuating from time to time both under the gold standard as well as under the inconvertible paper currency standard. The rate of exchange between two countries on the gold standard may either be above or below the mint parity. Likewise, the rate of exchange between two countries on inconvertible paper currency standard may either be above or below the purchasing power parity. But these fluctuations in the rate of exchange generally occur in the short period. In the long period, the rate of exchange between two countries is generally stable. But, as said above, the rate of exchange between two countries on the gold standard or two countries on the inconvertible paper currency standard keeps on fluctuating during the short period. These fluctuations in the rate of exchange create a good deal of uncertainty which can have harmful repercussions on the flow of foreign trade. Following are the causes of instability in the rate of exchange during the short period :

(1) *Changes in the Demand and Supply of Foreign Currencies.* The changes in the supply and demand conditions of foreign currencies exert the greater influence on the rate of exchange. If the demand for foreign exchange exceeds its supply, the rate of exchange is bound to rise. Since the supply and demand of foreign currencies keep on changing in the short period, the rate of exchange between two countries cannot remain stable at the old level. The following factors influence the demand and supply of foreign currencies :

(i) *Trade Conditions.* The demand and supply of foreign currencies are influenced by the imports and exports of a country. If the exports of a country exceed its imports the demand for that country's currency will rise in the foreign exchange market. On the contrary,

the demand for foreign currencies in that country will go down. Consequently, the rate of exchange will turn in favour of that country. As against this, if the imports of the country exceed its exports, the demand for foreign currencies will rise and decline in foreign countries. Consequently, the rate of exchange will turn against that country.

(ii) *Stock Exchange Influences.* The rate of exchange is also influenced by various transactions conducted on the stock exchanges. As is well known, several types of stocks, shares and securities are bought and sold every day on the stock exchanges.

(a) *Sale and purchase of stocks, shares and securities.* When the residents of a country buy stocks, shares and securities in foreign countries, they have to pay their prices to the foreign sellers in foreign currencies. As a result, the demand for foreign currencies goes up and the rate of exchange turns against the country. On the contrary, if the residents of a country sell their stocks, shares and securities to the foreigners, the prices of those stocks, shares and securities will have to be paid by the foreigners in the currency of the country to which the sellers belong. As a result, the demand for the currency of the country in question will go up and the rate of exchange will turn in favour of that country.

(b) *Loan transactions.* If the residents of a country accept loans from foreigners, the demand for the currency of that country will rise. Consequently, the rate of exchange will turn in favour of that country. On the contrary, if the foreigners borrow from the residents of the country, then in such a situation the demand for foreign currencies will rise in that country. Consequently, the rate of exchange will turn against it.

(2) *Banking Influences.* We can discuss the banking influences on the rate of exchange under the following three subheads :

(i) *Bank Rate.* If the Central Bank of a country increases its bank rate, the foreigners will start remitting their capital to that country with a view to earning the higher rate of interest. Consequently, the demand for the currency of that country will increase in the foreign exchange market and the rate of exchange will turn in

favour of that country. On the contrary, if the Central Bank reduces its bank rate, the foreigners will start repatriating their capital from that country. Consequently, the demand for foreign currencies will increase in the foreign exchange market and the rate of exchange will turn against that country.

(ii) *Issuing of Credit Instruments.* The credit instruments issued by the exchange banks also influence the rate of exchange between two countries. Whenever an exchange bank issues banker's drafts or other credit instruments on its foreign branches, this leads to an increase in the demand for foreign currencies, and the rate of exchange turns against that country. The inverse operation will turn the rate of exchange in favour of that country.

(iii) *Arbitrage Operations.* When securities are bought and sold in different stock exchanges of the world for speculative gains, such operations are known as 'Arbitrage Operations'. In other words, the speculators in different stock exchanges of the world make speculative gains by buying and selling securities on account of the differences in their prices. Such arbitrage operations produce deep repercussions on the rate of exchange.

(3) *Currency Conditions.* The currency conditions also deeply influence the rate of exchange of a country :

(i) *Inflation.* The onset of inflation in a country results in the repatriation of foreign capital from the country. Since the purchasing power of domestic currency starts deteriorating on account of the inflationary spiral, the foreign capitalists start repatriating their capital from the country to avoid financial losses. This results in an increase in the demand for foreign currencies. Consequently, the rate of exchange turns against the country.

(ii) *Deflation.* The onset of deflation results in the inflow of foreign capital into the country. The reason is that the foreign capitalists now start remitting their capital to that country with a view to making financial gains out of the appreciation in the value of the currency of that country. This increases the demand for the currency of the country in question. Consequently, the rate of exchange turns in favour of that country.

(4) *Political Conditions.* The influence of political conditions on the rate of exchange can be discussed under the following subheads :

(i) *Policy of Protection.* If the government of a country adopts a policy of protection with a view to giving encouragement to the domestic

industries, this will have its inevitable repercussions on the rate of exchange. The reason is that by discouraging imports the policy of protection will make the country's balance of payments favourable. The demand for foreign currencies will go down and the rate of exchange will turn in favour of the country concerned.

(ii) *Exchange Control.* The policy of exchange control adopted by the government also influences the rate of exchange of the country. The reason is that exchange control invariably results in cutting down imports. The demand for foreign currencies declines and the rate of exchange turns in favour of the country.

(iii) *Financial Policy of the Government.* If the government of a country resorts to a policy of deficit financing, it will have its repercussions on the rate of exchange. The interest value of the currency will decline. Foreign capital will start leaving the country, and consequently, the rate of exchange will turn against the country concerned.

(iv) *Peace and Security in the Country.* The existence of peace and security in the country will automatically attract foreign capital into the country. This will increase the demand for domestic currency, and consequently, the balance of payments will turn in favour of the country.

#### Limits of Fluctuations in the Rate of Exchange

The fluctuations in the rate of exchange between two countries take place within certain well-defined limits under given situations :

(1) *Limits of Fluctuations under Gold Standard.* The rate of exchange between two countries on the gold standard is governed by the gold points. The rate of exchange between such countries invariably remains within the gold points. It neither rises above the upper gold point nor does it fall below the lower gold point.

(2) *Limits of Fluctuations under Inconvertible Paper Currency Standard.* If two countries happen to be on inconvertible paper currency standard, the rate of exchange between them tends to be fixed roundabout the purchasing power parity of the currencies of the two countries. But there are no definite limits within which the rate of exchange fluctuates under inconvertible paper currency standard. In other words, the rate of exchange between two such countries can rise and fall to any limit because there are no gold points here as they are under the gold standard.

#### How to Check the Fluctuations in the Rate of Exchange ?

As we have seen, the rate of exchange is influenced by a large variety of factors. The problem now is how to check violent fluctuations in the rate of exchange. As is evident, the stability of the rate of exchange depends upon the equilibrium in the balance of payments. Hence, all efforts should be made to remove or at least to minimize the trade imbalance of the country in question. This trade imbalance (in the form of deficit) can be removed or minimized by taking such steps as the imposition of import duties, exchange control, depreciation or devaluation of currency, etc. In addition, the stability in the rate of exchange can also be achieved to some extent by making appropriate changes in the bank rate of the country.

#### Stable (Fixed) vs. Fluctuating Rate of Exchange

Of late, a controversy has arisen among the economists as to whether a country should have a stable or fluctuating rate of exchange.

*Arguments for Stable Exchange Rates.* The following arguments are adduced in favour of a stable rate of exchange :

(1) A developing country should invariably opt for a stable rate of exchange to achieve its planned economic development. A fluctuating rate of exchange will retard the development of the country by impeding the inflow of capital from abroad.

(2) A country should adopt a policy of stable rate of exchange in order to develop and promote its foreign trade. A stable rate of exchange enables the importers and exporters to know in advance how much they are going to pay or how much they are going to receive out of trade transactions. A fluctuating rate of exchange, by creating exchange uncertainty, will discourage the development of the foreign trade of a country.

(3) A stable rate of exchange is also essential for sustained and uninterrupted international lending on a large scale. A fluctuating rate of exchange, by creating uncertainty in the minds of the lenders and borrowers, discourages international capital movements. This is borne out by historical experience. An era of fluctuating exchange rates set in after the general abandonment of the gold standard by the European countries during the 'thirties. It is a historical fact that international lending came to a sudden halt as a result of the fluctuating rates of exchange of these countries.

(4) A stable rate of exchange is also necessary for a small country in whose economy foreign trade plays a significant role, such as, Britain and Denmark. Without stability in the exchange rate, the foreign trade of such a country would be seriously dislocated causing disruption in the smooth functioning of its economy. In fact, the fluctuating rate of exchange is extremely harmful for such a country.

(5) A stable rate of exchange also appears to be indispensable for the smooth functioning of currency blocs. The rate of exchange for the reserve currency of such a bloc must necessarily be stable to ensure stability in the exchange rates of the member countries.

(6) A stable rate rules out speculative activities in foreign exchange.

(7) A stable rate gives an added incentive to the country to adjust its domestic affairs.

(8) A stable rate is desirable if multilateral trade transactions and agreements are to be encouraged through regional economic cooperation of different countries.

(9) A stable rate will assist in internal economic stabilisation of a country.

(10) It is more advantageous to follow a stable rate when the economic traffic among the nations has become too vast and complex.

(11) A stable rate is essential for having an orderly growth of world's economy capital markets and the regularised flow of international capital movements. It facilitates long term international investments.

*Arguments against Stable Exchange Rates.* The following arguments are adduced against the stable rate of exchange :

(1) A system of stable exchange rate places the burden of adjustment in the balance of payments of a country on domestic incomes and prices. A country under this system has to pursue, by necessity, a policy of monetary expansion or contraction in order to maintain the stability in its exchange rate. The policy of stable exchange rate thus deprives the country of its monetary independence.

(2) A system of stable exchange rate does not reflect the true cost-price relationship between the currencies of the countries. As we know, two countries follow different economic policies. As such, the cost-price relationship between them cannot remain unchanged. If the rate of exchange is to reflect truly the cost-price relationship between the two currencies, it has to be flexible to a certain extent.

(3) The stable exchange rate system leads to instability and uncertainty, which causes reduction in the volume of international trade and investments below optimum levels.

(4) The stable exchange rate system imposes strict and strong discipline on the domestic policies to prevent inflation in order to maintain the external value of the currency. However, in the modern economy, it is very difficult to prevent inflation.

These arguments point to the advisability of abandoning the system of stable foreign exchange rate in favour of a system of flexible foreign exchange rate.

#### *Arguments for Fluctuating Exchange Rates.*

(1) It is wrong to say that a fluctuating rate of exchange hampers the development of foreign trade of a country. This is fully borne out by the post-war experience of the countries of Europe. The rates of exchange of the countries were freely fluctuating in the post-war period and yet the international trade amongst them was not discouraged in any way. The technique of forward exchange transactions protects the importers and exporters from financial losses consequent upon fluctuating exchange rates.

(2) A system of fluctuating foreign exchange rates enables a country to find out its natural rate of exchange in course of time. Of course, the natural rate of exchange is that rate of exchange which results in a perfect equilibrium in the balance of payments of the country.

(3) A system of fluctuating exchange rates automatically brings about equilibrium in the balance of payments of a country. A stable exchange rate system, on the contrary, is not in a position to do this job because this makes the rate of exchange rigidly stable to all intents and purposes. The rigidity in the exchange rate fails to correct the disequilibrium in the balance of payments.

(4) A fluctuating rate of exchange is no hindrance in the smooth functioning of the currency blocs. The sterling bloc functioned more or less smoothly during the 'thirties in spite of the fluctuating rates of exchange of the member countries.

(5) A fluctuating rate of exchange protects the domestic economy of a country from the shocks generated by disturbances originating abroad. A fluctuating rate of exchange, in fact, acts as the shock-absorber and saves the internal economy of the country from serious disruption on account of causes external to the country.

(6) Flexible exchange rate system is quite simple in its operative mechanism. The exchange rates moves automatically and freely to equate supply and demand, thereby clearing the foreign exchange market.

(7) There is no need of having official foreign exchange reserves when exchange rate is moving freely.

*Arguments against Fluctuating Exchange Rates.* (1) No country can allow its rate of exchange to drift from day to day in response to international events, because such a fluctuating exchange rate will have serious repercussions on the entire economic structure of that country by changing the prices of imported and exported goods from time to time. Such a position will be quite incompatible with the maintenance of domestic stability in the country.

(2) A system of freely fluctuating exchange rates induces unnecessary and unwarranted international capital movements. By encouraging speculative activities, a system of fluctuating exchange rates may lead to massive capital outflows or unnecessary capital inflows. Both of them may inflict serious damage on the economy of the country.

(3) Speculative capital movements engendered by a system of fluctuating rates of exchange may, in turn, create the problem of an extremely high liquidity preference amongst the people. The existence of an extremely high liquidity preference may lead to extensive hoarding of currency, high rate of interest, fall in investment and large-scale unemployment in the economy.

(4) A system of fluctuating exchange rates hinders long-term foreign investment by creating uncertainty in the minds of the borrowers and the lenders. If the loan is contracted in terms of the borrower's currency, the creditor is constantly confronted with the danger of financial losses consequent upon the depreciation of the currency of that country in relation to the lender's currency. If, on the contrary, the loan is contracted in the creditor's currency, the borrower is faced with the constant danger of an increased burden of the debt following the depreciation in the rate of exchange of his country's currency.

(5) It has been argued that a fluctuating rate of exchange is essential to enable a country to reach its natural rate of exchange. This, in fact, is not necessary. A stable rate of exchange can also become the natural rate of exchange in course of time.

*Conclusion.* From the above discussion, we conclude that neither a constantly fluctuating nor

a rigidly stable rate of exchange is in the interest of the country. Both of them are harmful. The best solution would be to devise an arrangement which allows a country to change its rate of exchange within certain well-defined limits in response to changes in the international economy. In other words, neither a system of freely fluctuating exchange rates nor a system of rigidly stable exchange rates would be in the interest of a country. What is required is a system of *flexible exchange stability* which, as we know, has been provided by the international monetary fund (I.M.F.).

Though the I.M.F. has provided for flexible exchange stability for its member countries, examples are not wanting where the Fund itself allowed some of its member countries to float their exchange rates in the free exchange markets. In other words, the Fund itself permitted certain members to practise a system of fluctuating exchange rates in certain exceptional cases. For example, the Mexican Peso was allowed to float freely in the exchange market for full one year in 1948. The Peruvian Sol was allowed to have a fluctuating rate of exchange for nearly 20 years ending in December 1970. The Canadian dollar had its exchange value determined exclusively by the market forces of demand and supply for nearly 12 years from 1950 to 1962. More recently, the Japanese Yen, the German Mark and the other European currencies have been allowed to float freely in the exchange markets after the devaluation of the American Dollar in February 1973.

#### ADJUSTABLE PEG AND CRAWLING PEG SYSTEMS OF EXCHANGE RATE

The adjustable peg system of exchange rate was provided in the constitution of the I. M. F. According to this system, the exchange rate of a country was allowed to deviate from the par value of its currency within a margin of 1 per cent on either side of the exchange parity. Since this system did not provide for a wide margin for the exchange rate to move about, it caused frequent disequilibrium in the balance of payments of member countries through the speculative activities of the exchange operators. In fact, the narrower the margin within which the exchange rate fluctuates, the greater is the possibility of speculative activities in the foreign exchange markets.

To get over the difficulties inherent in the adjustable peg system, an alternative proposal known as 'crawling peg system' was mooted in the mid-sixties by eminent economists like James

Meade, William Fellner, John H. Williamson and others. This system allows a wider margin for the rate of exchange to fluctuate on either side of the par value of the currency of the member country. In fact, this proposal brought about a compromise between the system of freely fluctuating exchange rates, on the one side, and the system of rigidly stable exchange rates, on the other. The crawling peg system was later on accepted by the I.M.F., in December 1971. According to this system, the margin within which the exchange rate could deviate from the par value had been widened from 1 to 2.25 per cent on either side of the exchange parity. Under the new system, the exchange rate of a country can now crawl within a wider limit of 4.5 per cent instead of the earlier range of 2.25 per cent provided under the adjustable peg system.

### FORWARD EXCHANGE

After the First World War, the various countries of Europe had adopted the system of inconvertible paper currency standard. As a consequence, there were violent fluctuations in their exchange rates. As already pointed out, there were no limits within which the exchange rate could fluctuate under the inconvertible paper currency standard. Consequently, there were heavy fluctuations in the exchange rates of European countries in the post-war period. This had created a lot of uncertainty for the smooth functioning of their economies. The violent fluctuations in the exchange rates created adverse repercussions on their foreign trade. These countries ultimately resorted to the technique of forward trading in foreign exchange to get over the business risk inherent in a system of freely fluctuating exchange rates.

The uncertainty created by freely fluctuating exchange rates can do untold harm to the traders of a country. Let us suppose that an Indian importer places an order with a British exporter for goods worth 100 Pounds. Let us further suppose that the rate of exchange at the time of placing the order is 1 Pound = 21 Rupees. In other words, the Indian importer will have to pay Rs. 2,100/- in Indian currency in payment for the contracted goods. Let us now further suppose that the rate of exchange between India and Britain rises to 1 Pound = 23 Rupees before the goods reach India. The Indian importer will now have to pay Rs. 2,300/- for the same goods, i.e., he will have to pay Rs. 200/- more for the same goods on account of the rise in the rate of exchange. It is quite possible that his expected profit may be converted into a loss when the goods reach India. This shows how harmful can

be the effects of the changes in the rate of exchange between two countries.

As stated above, it is to safeguard the trader against the harmful effects of the changes in the rates of exchange that the technique of forward trading in foreign exchange is adopted by the traders of the various countries of the world.

Taking the same example, let us suppose that in order to safeguard himself against the losses resulting from the changes in the exchange rate, the Indian trader resorts to the technique of hedging (or, forward trading). In other words, when he places an order with the British exporter for goods worth 100 Pounds, he, at the same time, enters into a future transaction with some other party, say an individual operator or an Exchange Bank. According to this transaction, the other party agrees to supply to him (the Indian trader) 100 Pounds at a predetermined rate in the future. If the rate settled between the two parties is 1 Pound = 21 Rupees, that operator or the Bank will have to supply the 1 Pound Sterling currency to the Indian trader at the settled rate in future at the stated time. Thus, the Indian trader safeguards himself against the harmful effects of the changes in the exchange rate by resorting to the technique of forward exchange trading.

The speculators in the foreign exchange market also enter into similar transactions with each other. Let us suppose that Mohan agrees to sell to Sohan 1 Pound Sterling at 1 Pound = 21 Rupees, 3 months hence. Now if after the expiry of three months, the market rate of exchange rises to 1 Pound = 22 Rupees, Mohan will suffer a loss while Sohan will reap a profit. The reason is that in the market 1 Pound is available against 22 Rupees, whereas Sohan gets it against Rs. 21/- only. Thus, whenever the rate of exchange rises in the future, the seller-speculator suffers a loss while the buyer-speculator reaps a profit. Now let us suppose that the rate of exchange in the market falls down to 1 Pound = 20 Rupees. In such a situation, the buyer-speculator will suffer a loss while the seller-speculator will reap a gain. The reason is clear. Sohan was to pay 21 Rupees to Mohan to buy 1 Pound whereas the same Pound is available freely at 20 Rupees in the exchange market. Thus, under forward exchange trading, one party loses, while the other party gains. But the importer, by resorting to forward exchange trading, safeguards himself against the harmful effects of the changes in exchange rate in either direction.

The forward exchange rates, like any other prices, are determined by the demand and supply of foreign currencies. If the demand for a foreign

currency, in the forward market, exceeds its supply, its price will rise or the foreign currency concerned will be quoted at a premium. The demand for a foreign currency is generally in excess of its supply when the country in question has an unfavourable balance of payments. On the contrary, if the demand for foreign currency is less than its supply, its price will fall or the foreign currency concerned will be quoted at a discount. This happens when the country in question has a favourable balance of payments.

Forward exchange trading, thus, means the sale and purchase of foreign exchange in the future market. Forward exchange trading plays a significant role in international trade. (1) The importers as well as the exporters, by resorting to forward trading, protect themselves against the adverse effects of changes in the rate of exchange. (2) Forward trading in foreign exchange also reduces the fluctuations in the rates of exchange. For example, if there is the possibility of a rise in the exchange rate in the near future, the number of forward transactions will rise immediately in the foreign exchange market. As a result, the rate of exchange will start rising in the present, and there shall be no sudden jump in the rate of exchange in the future.

There is a close relationship between the present and the future rates of exchange. The future rate of exchange invariably depends upon, and is governed by, the present rate of exchange. While buying and selling foreign exchange, exchange operators keep on comparing the interest rates on short-term loans both within and without the country. If the rate of interest on short-term loans is higher outside the country, the forward exchange will be sold in the present at a discount. On the contrary, if the rate of exchange on short-term loans is lower outside the country, foreign exchange will be sold at a premium. In addition, the rate of foreign exchange is also determined by the possible demands and supplies of the foreign currencies in the future.

The forward exchange market, it should be remembered, is not a separate market where only future transactions take place. It is, on the contrary, a part and parcel of the foreign

exchange market. The transactions in this market are known as *future* transactions (as opposed to *spot* transactions). The rates at which these transactions take place are known as *forward rates* (as opposed to *spot rates*).

### ARBITRAGE

This refers to the act of simultaneously buying foreign exchange, securities, commodities, etc., in one market and selling them in another market at a higher price. Though the term "arbitrage" is a wide one, it is generally used in relation to foreign exchange transactions. An example will illustrate how the arbitrage operations are conducted by the arbitrators. Let us suppose that at a particular time the British Pound (£ 1) is selling for 2.80 American Dollars in the London Exchange Market and that at the very moment the British Pound is trading for 2.75 American Dollars in the New York Exchange Market. Obviously, there is a difference in exchange rates between the two markets. A clever arbitrager will buy Pounds in the New York Market at 2.75 Dollars per Pound and sell them in the London Exchange Market at 2.80 Dollars per Pound, earning a profit of 5 cents per Pound, minus any costs arising from the transaction. An arbitrager, it should be remembered, can earn profit only when the price-differential between the two markets exceeds the cost of the transaction. Generally speaking, an act of arbitraging tends to reduce the price-differential between the two markets. The above example will serve to illustrate this point. Since the Pound is trading cheaper in the New York market, the arbitragers will buy Pounds there and sell them in the London market. The demand for Pounds will rise in the New York market. So the price of Pounds will rise. At the same time, the supply of Pounds will increase in the London market. This will have the effect of reducing its price there. These trends will continue in the two markets till the price differential is completely eliminated and equality is established between the exchange rates in the two markets. The arbitragers, thus, render a useful service smoothing out disparities in exchange rates in world markets.

### SUGGESTED READINGS

1. Geoffrey Crowther, *An Outline of Money*, Chapter 7.
2. L.V. Chandler, *The Economics of Money and Banking*, Chapter 18.
3. Gottfried Von Haberler, *The Theory of International Trade*, Chapter 4.
4. C. P. Kindleberger, *International Economics*, Chapter 3.