



## Department of Open & Distance Learning

### Punjabi University, Patiala

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**Class : M.A. I (Economics) Semester : 4**  
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#### ***Lesson No.***

- 1.1 : Foreign Exchange Market
- 1.2 & 1.3 : Exchange Rate & Determination of Exchange Rate in Mint and Purchasing Power Parity Theory
- 1.4 : Monetary Approach, Portfolio Balance Theory of Exchange Rate and Optimum Currency Areas
- 1.5 : Balance of Payments - Concepts and Components
- 1.6 : Equilibrium, Disequilibrium and Balance of Payment Adjustment under different Exchange Rate Systems
- 1.7 : Policy for Correcting Disequilibrium in Balance of Payments: Expenditure Reduction, Switching, Devaluation and Absorption Approach
- 1.8 : Monetary Approach and Exchange Controls

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**FOREIGN EXCHANGE MARKET**

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### **1.1.1 Introduction**

The mechanism through which payments are effected between two countries having different currency system is called foreign exchange. In simple words, by foreign exchange we mean foreign currencies. However, in broad sense, the term refers to the system of external or international payments. It covers methods of payment, rules and regulations of payment and institutions facilitating such payments.

The foreign exchange market is the market where foreign exchange or foreign currencies are bought and sold. The foreign exchange market places at the disposal of buyers and sellers of foreign currencies, the specialised services of intermediaries. It implies that the buyers and sellers claims on foreign money and intermediaries constitute the structure of foreign exchange market. In the words of Kindelberger : 'The foreign exchange market is the market for a national currency (foreign money) anywhere in the world, as the centres of the world are limited in a single market.

Foreign exchange market is described as an OTC (over the counter) market as there is no physical place where the participants meet to execute their deals. It is more an informal arrangement among the banks and brokers operating in a financing centre purchasing and selling currencies, connected to each other by tele-communications like telex, telephone and a satellite communication. network- SWIFT (Society for worldwide interbank Financial Telecommunications).

#### **1.1.1 Foreign Exchange Market**

1.1.1 Participants of two levels.

1.1.1.1 Wholesale level : 95% of the foreign exchange market is whole sale market where the dealings take place among the banks.

1.1.1.2. Retail level : The retail market refers to the dealings which take place between banks and their customers. The retail segment is situated at a large number of places. They can be considered not as foreign exchange markets, but as the counters of such markets.

#### **1.1.1.2 Types of Currency Markets**

On the basis of transaction, there are two types of currency markets.

**1.1.1.2.1. Spot market :** In such a market, the spot transactions of foreign exchange is required to deliver the foreign exchange he has sold (i.e. within two days). The buyer, on the other hand, will receive immediately (within two days) the foreign exchange he has bought.

The main participants of spot market are :

**1.1.2.1.1. Commercial banks :** The most important participants of spot market are commercial banks. Banks dealing in foreign exchange have branches with substantial balances in different countries. Through their

branches and correspondents the services of such banks, usually called 'Exchange Banks', are available all over the world. These banks discount and sell foreign bills of exchange, issue bank drafts, effect telegraphic transfers and other credit instruments and discount and collect amounts for such documents.

**1.1.1.2.1.2 Brokers :** Brokers help sellers and buyers in foreign bills to come together. They are intermediaries and unlike banks are not direct dealers. Still another category of intermediaries are the acceptance houses. They accept the bills on behalf of the customers and assist in foreign remittances.

**1.1.1.2.1.3. Central Banks :** Central banks sometimes intervene in the market. Now-a-days, these authorities manage exchange rates and implement exchange controls in various ways.

**1.1.1.2.2. Forward market :** The forward exchange market is concerned with such transactions of foreign exchange in case of which, the contract to buy or sell foreign exchange delivery of foreign exchange takes place at a future date at a price agreed upon in advance. The period for settlement of contract between the buyers and sellers of foreign exchange is usually three months.

The main participants of forward market are :

**1.1.1.2.2.1. Arbitrageurs:** The arbitrage is the act of simultaneously buying a currency in one market and selling it in another market to make profit by taking advantage of price or exchange rate differences in the two markets. If the arbitrage operations are confined to two markets only, they will be known as 'two point' arbitrage. If they extend to three or more markets, they are known as 'three point' or 'multi-point' arbitrage.

**1.1.2.2.2 Traders :** They exchange domestic currency for foreign currency or foreign currency for domestic currency to execute the international transactions.

**1.1.1.2.2.3. Hedgers :** Hedging refers to the avoidance of a foreign exchange risk or the covering of an open position. Hedgers in international dealings are persons who have a home currency and insist on having an exact balance between their liabilities and assets in foreign currencies.

**1.1.1.2.2.4. Speculators :** Speculation is the opposite of hedging whereas a hedger seeks to cover a foreign exchange risk, a speculator accepts and even seeks out a foreign exchange risk, or an open position, in the hope of making a profit.

**1.1.1.3 Clearing systems :** In the foreign exchange market there are two types of clearing system.

**1.1.1.3.1. Chips :** Chips stand for clearing House Interbank Payment System. It is an electronic payment system owned by 12 private

commercial banks constituted the New York Clearing House Association. It provides the mechanism for settlement of every day payment and receipts of numerous dollar transactions among member banks at new York, without the need for physical exchange of cheques/funds for each such transactions.

**1.1.1.3.2. Fedwire :** Fedwire is a networked system for payment processing between member banks themselves or other Fedwire member participants members can consists of depository financial institutions in the United States, as well as US branches of certain foreign banks or government groups, provided that they maintain an account with a Federal Reserve Bank. It is owned and operated by the 12 Federal Reserve Banks. The Fedwire funds transfer system, operated by the Federal Reserve Bank are used primarily for domestic payments, bank to bank and third party transfers such as interbank overnight funds sales and purchased and settlement transactions. Fed guarantees settlement on all payments sent to receivers even if the sender fails.

**1.1.1.4 Electronic trading :** Electronic trading is mainly concerned with automated trading.

**1.1.1.4.1 Automated Trading**

Forex autotrading is a slang term for automated market, wherein trades are executed by a computer system based on a trading strategy implemented as a program run by the computer system. The main results of automated trading that it reduces the cost of trading, provide liquidity and also threatens traders' oligopoly of information.

**1.1.1.5 Size of the Market**

**1.1.1.5.1 Largest in the world**

Unlike other financial markets like the New York Stock Exchange, the forex market has neither physical location nor central exchange.

The forex market is considered on over-the counter (OTC) or 'interbank' market due to the fact that the entire market is run electronically, within a network of banks, continuously over a 24-hour period. The dollar is the most traded currency, taking up 84.9 % of all transactions. The euro share is second at 39.1% while that of yen is third at 19.0%.

**1.1.1.5.2 Market Centres :** London market is by far the largest where 90 billion dollar foreign currency is transacted each day, followed by New York, Tokyo. German, Japan markets respectively. So far as India is concerned, till recently, it was having a regime of strict exchange control. The leading foreign exchange market in India is Mumbai, Calcutta, Chennai and Delhi. As a result of the efforts of Reserve Bank, Cochin,

Bangalore, Ahmadabad and Goa have emerged as new centre of forex market.

### **1.1.2 Swift (Society for Worldwide on interbank Financial Telecommunications)**

Foreign exchange markets make extensive use of the latest developments in telecommunications for transmitting as well as settling foreign exchange transaction. Banks use the exclusive network SWIFT to communicate messages and settle the transactions at electronic clearing houses such as CHIPS at New York.

**SWIFT:** SWIFT is a acronym for Society for Worldwide Interbank Financial Telecommunications, a co-operative society owned by about 250 banks in Europe and North America and registered as a co- operative society in Brussels, Belgium. It is a communications network for international financial market transactions linking effectively more than 25,000 financial institutions throughout the world who have been allotted bank identified codes. The messages are transmitted from country to country via central interconnected operating centers located in Brussels, Amsterdam and Culpeper, Virginia. The member countries are connected to the centre through regional processors in each country. The local banks in each country reach the regional processors through the national networks.

The SWIFT System enables the member banks to transact among themselves quickly (i) international payments (ii) Statements (iii) other messages connected with international banking. Transmission of messages takes place within seconds and therefore this method is economical as well as time saving. Selected banks in India have become members of SWIFT. The regional processing centre is situated at Mumbai.

#### **1.1.2.1 Advantages of Swift**

The swift provides following advantages for the local banking community:

- (i) Provides a reliable (time tested) method of sending and receiving messages from a vast number of banks in a large number of locations around the world.
- (ii) Reliability and accuracy is further enhanced by the built in authentication facilities, which has only to be exchanged with each counterparty before they can be activated or further communications.
- (iii) Message relay is instantaneous enabling the counterparty to respond immediately, if not prevented by time differences.
- (iv) Access is available to vast number of banks global for launching new cross border initiatives.

- (v) Since communication in SWIFT is to be done using structure formats for various types of banking transactions, the matter to be conveyed will be very clear and there will not be any ambiguity of any sort for the received to revert for clarifications. This is mainly because the formats are used all over the world on a standardised basis for conducting all types of banking transactions.
- (vi) Usage of SWIFT structure formats for message transmission to counterparties will entail the generation of local banks internal records using at least minimum level of automation. This will accelerate the local banks internal automation activities, since the maximum utilisation of SWIFT a significant internal automation level is required.

### **1.1.3 Functions of Foreign Exchange Market**

**1.1.3.1 Transfer function :** The most fundamental 'function of a foreign exchange market is to effect transfer of funds or purchasing power from one country and currency to another. The transfer of purchasing power is brought about by various instruments such as foreign bills, bank drafts, telegraphic transfers and direct dialling telephone service. The foreign exchange market facilitates simultaneous international settlement of claims in both directions exactly as happens in the domestic clearing houses.

**1.1.3.2 Credit function :** the foreign exchange market performs another function of the financing of trade. It is called as the credit function. Credit is usually required when goods are in transit and also to allow the buyer to resell the goods and make the payment. In general, the exporters allow 90 days to the importer to pay. This permits the payment to the exporters right away but the commercial banks will eventually collect the payment from importers when due. Thus the foreign exchange market permits time to the importers in making payment, on the one hand, and permits instant payment to exporters through discounting facility, on the other.

**1.1.3.3 Hedging function:** Another function of the foreign exchange market is to furnish facilities for hedging exchange risks. In a free exchange market, the variations in exchange rates result in a gain or loss to the concerned parties. If there is rise in the exchange value of the foreign currency between the time at which obligation arises and the time at which it is discharged, the importer is faced with a risk of loss. To protect himself from such an exchange risk, the importer can avail himself of the hedging facility. Hedging means covering of an exchange risk, which can be avoided

reduced through a forward contract. It is a contract to buy or sell foreign exchange against another currency at some fixed date in the future at a price agreed upon presently.

All the commercial transactions never covered when some traders are confident that the spot rate of exchange will not change or alternatively, when it is possible for them to make accurate anticipation of the direction or magnitude of its movement, they may not feel the necessity of hedging. It means those traders are clearly engaged in speculation about the rate of exchange.

#### 1.1.4 Long Questions.

1.1.4.1 What is a foreign exchange market ? Explain its important functions.

1.1.4.2 Explain the organization of foreign exchange market in details.

#### 1.1.5 Short Questions

1.1.5.1 Write a note on arbitrage.

1.1.5.2 What are the advantage of SWIFT ?

#### 1.1.6 References

1. Kindelberge, C.P., International Economics (1973)
2. Salvatore, D.; International Economics (1994).
3. Snider, D.A.; International Monetary Relations (1966).

**EXCHANGE RATE & DETERMINATION OF EXCHANGE RATE IN MINT AND PURCHASING POWER PARITY THEORY**

- 1.0 Introduction
- 1.1 Exchange Rate Systems
  - 1.1.1 Fixed Exchange Rates
  - 1.1.2 Flexible Exchange Rates
  - 1.1.3 Spot and Foreign Exchange Rates.
- 1.2. Foreign Exchange Risks, Hedging and Speculation
- 1.3. Foreign Exchange Futures and Option
- 1.4. Long Questions
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**1.1 Introduction**

The transactions in the exchange market are carried out at what are termed exchange rates. It is the price of foreign money. Thus, exchange rate may be defined as the price paid in the home currency for a unit of foreign currency. Or more simply, rate of exchange is the price of one national currency in terms of another. It can be quoted in two ways :

1. One unit of foreign money units of the domestic currency; or
2. A certain number of units of foreign currency to one unit of domestic money.

For instance: I. U.S. dollar =Rs.30, or Re. 1 = U.S. 3.33 cents.

It is obvious that the reversibility in the mode of quoting exchange rate does not alter the basic value of one currency in terms of another.

**1.1 Exchange Rate Systems**

Exchange Rate systems is as follows:

**1.1.1 Fixed Exchange Rates**

Countries following the fixed exchange rate (also known as stable exchange rate and pegged exchange rate) system agree to keep their currencies at a fixed, pegged rate and to change their value only at fairly infrequent intervals, when the economic situation forces them to do so.

Under the gold standard, the values of currencies were fixed in terms of gold. Until the breakdown of the Bretton Woods System in the early 1970, each member country of the IMF defined the value of its

currency in terms of gold or the US dollar and agreed to maintain (to peg) the market value of its currency within  $\pm 1$  per cent of the defined (par) value. Following, the breakdown of the Bretton Woods System, some countries took to managed floating of their currencies while a number of countries still embraced the fixed exchange rate system.

### **Arguments for the Stable Exchange Rate System**

A number of arguments have been put forward for the against each system. The important argument supporting the stable exchange rate system.

- (i) Exchange rate stability is necessary for orderly development and growth of foreign trade. If exchange rate stability is not assured, exporters will be uncertain about the amount they will receive and importers will be uncertain about the amount they will have to pay. Such uncertainties and the associated risks adversely affect foreign trade. A great advantage of the fixed exchange rate system is that it eliminates the possibilities of such uncertainties and risks.
- (ii) Especially the developing countries, which have a persistant balance of payment deficits, should necessarily adopt the stable exchange rate system to prevent continuous depreciation of the external value of their currencies.
- (iii) Exchange rate stability is necessary to attract foreign capital investment as foreigners will not be interested to invest in a country with an unstable currency. Thus, exchange rate stability is necessary to augment resources and foster economic growth.
- (iv) Unstable exchange rates may encourage the flight of capital. Exchange rate stability is necessary to prevent its outflow.
- (v) A stable exchange rate system eliminates speculation in the foreign exchange market.
- (vi) A stable exchange rate system is a necessary condition for the successful functioning of regional groupings and arrangements among nations.
- (vii) Foreign trade plays a very important role in case of a number of countries. For certain countries, the value of foreign trade exceeds GNP, while for others, the value of foreign trade is more than 50 per cent of their GNP. Exchange rate stability is especially important for such countries to ensure the smooth functioning of the economy. Its absence will give rise to uncertainties and this would disturb the foreign trade sector and, thereby, the economy.
- (viii) A stable exchange rate system is also necessary for the growth of international money and capital markets. Due to the uncertainties associated with unstable exchange rates, individuals, firms and

institutions may shy away from lending to and borrowing from the international money and capital markets.

### **1.1.2 Flexible Exchange rates**

Under the flexible exchange rate system, exchange rates are freely determined in an open market primarily by private dealings, and they like other market prices, vary from day-to-day.

Under the flexible exchange rate system, the first impact of any tendency toward a surplus or deficit in the balance of payments is on the exchange rate. A surplus in the balance of payments will create an excess demand for the country's currency and the exchange rate will tend to rise. On the other hand, a deficit in the balance of payments will give rise to an excess supply of the country's currency and the exchange rate will, hence, tend to fall.

Automatic variations in the exchange rates, in accordance with the variations in the balance of payments position, tend to automatically restore the balance of payments equilibrium. A surplus in the balance of payments increases the exchange rate. This makes foreign goods cheaper in terms of domestic currency and domestic goods more expensive in terms of the foreign currency. This, in turn, encourages imports and discourages exports, resulting in the restoration of the balance of payments equilibrium. On the other hand if there is a payments deficit, the exchange rate falls and this makes domestic goods cheaper in terms of the foreign currency and foreign goods more expensive in terms of the domestic currency. This encourages exports, discourages imports and thus helps to establish the balance of payments equilibrium.

A number of economists, however, point out that certain serious problems are associated with the system of flexible exchange rates.

1. Flexible exchange rates present a situation of instability, creating uncertainty and confusion. Friedman disputes this view and argues that a flexible exchange rate need not be an unstable exchange rate. If it is it is primarily because there is underlying instability in the economic conditions governing international trade. And a rigid exchange rate may, while itself remaining nominally stable, perpetuate and accentuate other elements of instability in the economy.
2. The system of flexible exchange rates, with its associated uncertainties, makes it impossible for exporters and importers to be certain about the price they will have to pay or receive for foreign exchange. This will have a dampening effect on foreign trade.

Under flexible exchange rates, there will be widespread speculation which will have a destabilising effect. Against this, it is argued that normally has a stabilising influence on exchange rates.

The system of flexible exchange rates gives an inflationary bias to an economy. When the currency depreciates due to payments deficit, import becomes costlier and this stirs up an inflationary spiral. The supporters of the flexible exchange rates, however, counter this criticism by stating that when imports become costlier, the demand for them falls, compelling foreign suppliers to reduce prices. The general feeling is that flexible exchange rates may have an inflationary impact on the economy.

### **1.1.3 Spot and Forward Exchange Rates**

Spot rate of exchange refers to the price of foreign exchange in terms of domestic money payable for the immediate delivery of a particular foreign currency. It is, thus a day-to-day rate. On the other hand, forward rate of exchange refers to the price at which a transaction will be consummated at some specified time in the future. A forward exchange market functions side by side with a spot exchange market. The transactions of forward exchange market are known as forward exchange transactions which simply involve purchase or sale of a foreign currency for delivery at some time in the future; the rates at which these transactions are, therefore, called forward rates. Forward exchange rate is determined at the time of sale but the payment is not made until the exchange is delivered by the seller. Forward rates are usually quoted on the basis of a discount or premium over or under the spot rate of exchange; thus forward rates may be expressed as a percentage deviation from the spot rates. To illustrate the point suppose an Indian citizen buys goods from America worth \$100, payable in 3 months. The 'spot rate' (i.e. rate prevailing at the time of purchase) is Rs.37.50 = \$1. In order to avoid exchange risk, he may enter into a forward contract in the forward exchange market to buy \$100 three months' forward at a rate agreed on now – the forward rate. If the rate agreed on is 50 paise at a discount then the buyer shall have to pay at the rate of Rs.37=\$1. If the rate is fixed at 50 paise at a premium then he shall have to pay whatever, may be the fluctuations in exchange rate in the future, he knows now what he will have to pay for \$100. Thus, forward exchange rates enable exporters and importers of goods to know the prices of their goods which they are about to export or import. Thus, in general, the process of covering exchange risks in the forward market is simply a way of eliminating uncertainties of spot rate fluctuations from time to time.

However, the forward exchange rate is quite sensitive to speculative influences and to changes in sentiments with respect to different

currencies. Moreover, forward rates are not independent of spot rate of exchange and they are inter-related indirectly through interest rates prevailing in the two countries.

Thus forward exchange theory holds that under normal conditions, the forward discount or premium on one currency in terms of another is directly related to the difference interest rates prevailing in the two countries. That means usually the forward rate is determined by the relative rates of interest in the countries concerned. If the rate of interest is lower abroad relative to the rate of interest at home, the forward rate will be at a premium compare with the spot rate by an amount equal to the difference in the rates of interest plus commission. This is because the dealer (usually the bank) borrows at home at a rate higher than the rate at which he invests the foreign funds abroad; he makes out a deficit that goes to his client in competitive market, plus his own charges-commission. Conversely, if the rate of interest abroad is higher, then the forward rate may be quoted at discount by an amount equal to the difference in the rates of interest, less dealer's commission.

The other factors which determine the forward rate are:

1. The confidence in the future of a currency. If the future of a foreign currency is unstable the dealer may quote at a premium on the spot rate.
2. The chance of "marrying". If the chance of cancelling the purchases and sales of a foreign currency is high the dealer may quote at a discount on the spot rate, for it reduces the exchange risks.

In short, the spot rate is the exchange rate meant for immediate delivery of currencies exchanged, whereas the forward rate is the exchange rate quoted for future delivery of currencies exchange, forward exchange rate depends on future expectations and uncertainties. It may be higher than or lower than the spot rate as per premium or discount percentage.

### **1.3 Foreign Exchange Future and Options**

An individual, firm, or bank can also purchase or sell foreign exchange future and options. Trading in foreign exchange future was initiated in 1972 by the International Monetary Market (IMM) of the Chicago Mercantile Exchange (CME). A foreign exchange futures is a forward contract for standardized currencies traded on the IMM are the Japanese yen, the Canadian dollar, the British pound, the Swiss franc, the Australian dollar, the Mexican peso and the euro.

IMM trading is done in contracts of standard size. For example the IMM Japanese yen contract is for ¥12.5 million; the pound contract is for £62,500, the Canadian dollar contract is for C\$100,000, and the euro contract is C125,000. Only four dates per year are available: the third

Wednesday in March, June, September and December. The IMM imposes a daily limit on exchange rate function. Buyers and sellers pay a brokerage commission and are required to post a security deposit or margin (of about 4 percent of the value of the contract). A market similar to the IMM is the London International Financial Futures Exchange (LIFFE), which started operation in September 1982, and the Eurex, the German/Swiss exchange. Currency futures are also exchanged on the COMEX commodities exchange in New York. In 1994 the Globex, a round-the-world electronic futures-trading system, was launched by the Chicago Board of Trade, the Chicago Mercantile Exchange, and the Reuters Holdings PLC. Globex now includes the Chicago Mercantile Exchange, Motif (the French exchange), and the Singapore International Monetary Exchange. In 2001, the electronic exchange FXALL was started by 17 of the world's largest foreign financial institutions (including Citi group, J.P. Morgan Chase, Goldman Sachs, and Credit Suisse).

The future market differs from a forward market in that in the futures market only a few currencies are traded; trades occur in standardized contracts only, for a few specific delivery dates, and are subject to daily limits on exchange rate fluctuations; and trading takes place only in a few geographical locations, such as Chicago, New York, London, Frankfurt, and Singapore. Futures contracts are usually for smaller amounts than forward contracts and thus are more useful to small firms than to large ones but are somewhat more expensive. Futures contracts can also be sold at any time up until maturity on an organized futures market, while forward contracts can not. Although the market for currency future is small compared with the forward market, it has grown very rapidly, especially in recent years. The two markets are also connected by arbitrage when prices differ.

Since 1982, individuals, firms and banks have also been able to buy foreign exchange options (in Japanese yen, Canadian dollars, British pounds, Swiss francs, Australian dollar, Mexican peso, and euros) on the Philadelphia Stock Exchange, the Chicago Mercantile Exchange (since 1984), or from a bank. A foreign exchange option is a contract giving the purchase the right, but not the obligation, to buy (a call option) or to sell (a put option) a standard amount of a traded currency on a stated date (the European option) or at any time before a stated date (the American option) and a stated price (the strike or exercise price). Foreign exchange options are in standard sizes equal to those of futures IMM contracts. The buyer of the option has the choice to purchase or forego the purchase if it turns out to be unprofitable. The seller of the option, however, must fulfill the contract if the buyer so desires. The buyer pays the seller a premium (the

option price) ranging from 1 to 5 percent of the contract's value for this privilege when he or she enters the contract.

In contrast neither forward contracts nor futures are options. Although forward contracts can be reversed and futures contracts can be sold back to the future exchange, both must be exercised (i.e. both contracts must be honored by both parties on the delivery date). Thus, options are less flexible than forward contracts, but in some cases they may be more useful may be required to promise to pay a specified amount in euros. Since the American firm.

## **1.2 Foreign Exchange Risks, Hedging, and Speculation**

In this section, we will discuss the meaning of foreign exchange risks and how they can be avoided or covered by individuals and firms whose main business is not speculation. Next will be how speculators attempt to earn a profit by trying to anticipate future foreign exchange rates.

### **1.2.1 Foreign Exchange Risks**

Through time, a nation's demand and supply curves for foreign exchange shift, causing the spot (and the forward) rate to vary frequently. A nation's demand and supply curves for foreign exchange shift over time as a result of changes in tastes for domestic and foreign products in the nation and abroad, different growth and inflation rates in different nations, changes in relative rates of interest, changing expectations, and so on.

For example, if U.S. tastes for EMU products increase, the U.S. demand for euro increases (the demand curve shifts up), leading to a rise in the exchange rate (i.e. depreciation of the dollar). On the other hand, a lower rate of inflation in the United States than in the European Monetary Union leads to U.S. products becoming cheaper for EMU residents. This tends to increase the U.S. supply of euros (the supply curve shifts to the right) and causes a decline in the exchange rate (i.e. an appreciation of the dollar). Or simply the expectation of a stronger dollar may lead to an appreciation of the dollar. In short, in a dynamic and changing world exchange rates frequently vary, reflecting the constant change in the numerous economic forces simultaneously at work.

### **1.2.2 Hedging**

The fact that exchange rates can change makes people take different views of foreign currencies. Some people do not want to have to gamble on what exchange rates will hold in the future and want to keep their assets in their home currency alone. Others, thinking they have a good idea of what will happen to exchange rates, would be quite willing to gamble by holding a "foreign" currency, one different from the currency in which they will ultimately buy consumer goods and services. These two attitudes have

been personified into the concepts of hedgers and speculators, as though individual persons were always one or the other, even though the same person can choose to behave like a hedger in some cases and like a speculator in others.

Hedging against an asset, here a currency, is the act of making sure that you have neither a net asset nor a net liability position in that asset.

We usually think of hedgers in international dealings as persons who have a home currency and insist on having an exact balance between their liabilities and assets in foreign currencies. In financial jargon, hedging means avoiding both kinds of "open" positions in foreign currency—both "long" positions, or holding net assets in the foreign currency, and "short" positions, or owing more of the foreign currency than one holds. Hedging is a perfectly normal kind of behavior, especially for people for whom international financial dealings are a sideline. Simply avoiding any net commitments in a foreign currency saves on the time and trouble of keeping abreast of fast-changing international currency conditions.

The foreign exchange market provides a useful service to hedger by allowing hedgers of all nationalities to get rid of net asset or net liability positions in currencies they don't want to own or owe. Suppose, for example, that you are managing the financial assets of an American rock group and that the group has just received £100,000 in checking deposits in London as a result of selling its records in Britain. The group wants to hold onto the extra money in some form for a while, say for three months. But doing so exposes the group to an exchange-rate risk. The value of each pound sterling, which is now (say) \$1.174/£, may drop or rise over the next three months, affecting the value in dollars that the group ends up with when selling the pounds in the future. Let us suppose that the group does not want to take on this risk and headache and that it wants to assure itself right now of a fixed number of dollars. It can use the foreign exchange market, selling its £100,000 for \$117,400, and investing those dollars at interest in the United States. Whether or not the group ends up making more money by getting out of sterling now is of limited relevance since the group has decided that it does not want to have the value of its wealth depend on the future of the exchange rate between sterling and the dollar.

The foreign exchange market provides the same kind of hedging opportunity to people in all sorts of other situations involving foreign currencies. An American who will have to pay £100,000 three months from now need not wait that long to buy sterling at a future an uncertain exchange rate. He can hedge against this sterling liability by buying

sterling now and holding enough money in Britain to be able to repay the £100,000 after three months. Similarly, somebody in Britain with dollar assets to get rid of can sell them at today's exchange rate and thus end any uncertainty about their worth in terms of pounds sterling. British residents with dollar debts to discharge in the near future can similarly buy dollars with pounds now and eliminate any uncertainty about how many pounds it will cost them to pay off their dollar debts. The same foreign exchange market that produces changing exchange rates give hedgers a way of avoiding gambles on the future of exchange rates.

Whenever a future payment must be made or received in a foreign currency, a foreign exchange risk, or a so-called open position, is involved because spot exchange rates vary over time. In general, business people are risk averse and will want to avoid or insure themselves against their foreign exchange risk. (Note that arbitrage does not involve any exchange risk since the currency is bought at the cheaper price in one monetary center to be resold immediately at the higher price in another monetary center). A foreign exchange risk arises not only from transactions involving future payments and receipts in a foreign currency (the transaction exposure), but also from the need to value inventories and assets held abroad in terms of domestic currency for inclusion in the firm's consolidated balance sheet (the translation or accounting exposure), and in estimating the domestic currency value of the future profitability of the firm (the economic exposure).

### **1.2.3. Speculation**

Speculation is the opposite of hedging. Whereas a hedger seeks to cover a foreign exchange risk, a speculator accepts and even seeks out a foreign exchange risk, or an open position, in the hope of making a profit. If the speculator correctly anticipates future changes in spot rates, he or she makes a profit; otherwise, he or she incurs loss. As in the case of hedging, speculation can take place in the spot, forward futures, or options markets – usually in the forward market. We begin by examining speculation in the spot market.

If a speculator believes that the spot rate of a particular foreign currency will rise he or she can purchase the currency now and hold it on deposit in the bank for resale later. If the speculator is correct and the spot rate does indeed rise, he or she earns a profit on each unit of the foreign currency equal to the spread between the previous lower spot rate at which he or she purchased the foreign currency and the higher subsequent spot rate at which he or she resells it. If the speculator is wrong and the spot rate falls instead, he or she incurs a loss because the foreign currency must be resold at a price lower than the purchase price.

If, on the other hand, the speculator believes that the spot rate will fall, he or she borrows the foreign currency for three months, immediately exchanged it for the domestic currency at the prevailing spot rate, and deposits the domestic currency in a bank to earn interest. After three months, if the spot rate on the foreign currency is lower, as anticipated, the speculator earns a profit by purchasing the currency (to repay the foreign exchange loan) at the lower spot rate. If the spot rate in three months is higher rather than lower, the speculator incurs a loss.

In both of the preceding examples, the speculator operated in the spot market and either had to tie up his or her own funds or had to borrow to speculate. It is to avoid this serious shortcoming that speculation, like hedging, usually takes place in the forward market. For example, if the speculator believes that the spot rate of a certain foreign currency will be higher in three months than its present three-month forward rate, the speculator purchases a specified amount of the foreign currency forward for delivery (and payment) in three months. After three months, if the speculator is correct, he or she receives delivery of the foreign currency at the lower agreed forward rate and immediately resells it at the higher spot rate, thus realizing a profit. Of course, if the speculator is wrong and the spot rate in three months is lower than the agreed forward rate, he or she incurs a loss. In any event, no currency changes hands until the three months are over.

When a speculator buys a foreign currency on the spot, forward, or futures market, or buys an option to purchase a foreign currency in the expectation of reselling it at a higher future spot rate, he or she is said to take a long position in the currency. On the other hand, when the speculator borrows or sells forward a foreign currency in the expectation of buying it at a future lower price to repay the foreign exchange loan or honor the forward sale contract or option, the speculator is said to take a short position (i.e., he or she is now selling what he or she does not now have).

Speculation can be stabilizing or destabilizing. Stabilizing speculation refers to the purchase of a foreign currency when the domestic price of the foreign currency (i.e., the exchange rate) falls or is low, in the expectation that it will soon rise, thus leading to a profit. Or it refers to the sale of the foreign currency when the exchange rate rises or is high, in the expectation that it will soon fall. Stabilizing speculation moderates fluctuations in exchange rates over time and performs a useful function.

On the other hand, destabilizing speculation refers to the sale of a foreign currency when the exchange rate falls or is low, in the expectation that it will fall even lower in the future, or the purchase of a foreign

currency when the exchange rate is rising or is high, in the expectation that it will rise even higher in the future. Destabilizing speculation thus magnifies exchange rate fluctuations over time and can prove very disruptive to the international flow of trade and investment.

Speculators are usually wealthy individuals or firms rather than banks. However, anyone who has to make a payment in a foreign currency in the future can speculate by speeding up payment if he or she expects the exchange rate to rise and delaying it if he or she expects the exchange rate to fall, while anyone who has to receive a future payment in a foreign currency can speculate by using the reverse tactics. For example, if an importer expects the exchange rate to rise soon, he or she can anticipate the placing of an order and pay for imports right away. On the other hand, an exporter who expects the exchange rate to rise will want to delay deliveries and extend longer credit terms to delay payment. These are known as leads and lags and are a form of speculation. Speculation in foreign exchange is very risky and can lead to huge loss.

**DETERMINATION OF EXCHANGE RATE IN MINT AND PURCHASING POWER PARITY THEORY**

Economic stability, international as well as domestic, presupposes stability in the value of money as one of the essential requirements. Foreign exchange covers all the means and methods by which the claims expressed in terms of one currency are converted into another currency and the rate at which exchanges take place. The money of a country circulates freely as medium of exchange and measure of value only in that country but it cannot be used in a foreign country. A mechanism of foreign exchange is, therefore, necessary for making payments possible between countries. The term foreign exchange comprises the methods by which the currency of one country is exchanged for that of another, the causes which make such exchanges necessary, the forms in which such exchanges are conducted and the rates at which the exchanges are effected.

**Demand and Supply**

The forces of demand and supply determine the market price of a commodity and exactly the same conditions apply in the case of the price of a currency i.e. the exchange market. When there is an increase in the demand for a foreign currency without a change in its supply, its price in terms of the domestic currency rises. If at any time, there is a rush on the banks, in the home country dealing on foreign exchange for the purpose of a foreign currency, say, dollars, the banks find their balances in the U.S.A. getting depleted and they try to meet the situation by selling dollars at a higher price. If, on the other hand, the banks find that their dollar balances are larger than usual and there is not much demand for that currency, the balance between demand and supply is restored by lowering the price of dollars in terms of domestic currency. Thus the demand for and supply of a currency in the exchange market of a country determines its price in terms of the domestic currency.

What are the factors influencing the demand for and supply of foreign exchange? The demand for and supply of foreign exchange is in the final analysis nothing else than the demand for and supply of foreign goods and services; the former is derived from the latter. The supply of foreign exchange results from the "Credit" items in the balance of payments, while the demand for foreign exchange results from "debits". Therefore, to know what constitutes credit and debits is to know the sources of the demand and supply of foreign exchange, as shown in the following list :

<b>Supply (Credits)</b>	<b>Demand (Debits)</b>
1. Commodity exports	1. Commodity imports
2. Services rendered to foreigners (e.g. shipping and freight)	2. Services rendered by foreigners.
3. Travel expenditure by foreigners abroad	3. Travel expenditure by nationals abroad
4. Interest and dividends on foreign securities owned here.	4. Interest and dividend on domestic securities owned by foreigners.
5. Remittances and charitable contributions by foreigners.	5. Remittances and charitable contributions by residents.
6. Government expenditures by foreign nations.	6. Government expenditures by home Government.
7. Imports of long-terms capital (i.e. exports of stocks and bonds to home country by foreigners, foreign direct investments here and to foreign loans to home country).	7. Exports of long-terms capital (i.e. import of foreign stock and bonds, domestic country making direct investments aboard, and loans to foreigners)
8. Imports of short-terms capital (i.e. increase of foreign owned bank balances balances in the home country).	8. Export of short-terms capital (i.e. increase of domestic bank balances abroad).
9. Gold Exports	9. Gold imports.

It is a recognised practice to put 1, 2, 3, 4, 5 and 6 on both sides in the category of current transactions, 7 and 8 in capital movements and 9 in gold movements. Of all the items, exports and imports have predominant position; it is usually the single largest source of the demand for and supply of foreign exchange. We must, however, remember that the quantitative significance of any one item differs from country to country. If a country has a deficit in its current account as a result of an excess of visible and invisible imports over similar exports, it must experience an adverse balance of payments in the sense that it is paying off the debts by drawing on its foreign exchange reserves, by exporting gold, or by borrowing on short term from creditor countries-in short, by giving foreigners' claims on its currency. Conversely a favourable balance of payments, means that a surplus country (on current account) must be accumulating claims on foreign currencies. It is not difficult, therefore, to explain the relation between the balance of payments and the exchange rate.

Since an increase in a country's claims on another country's currency means an increase in the supply of that currency on the first country's foreign exchange market, the domestic price of that currency tends to decrease, thus appreciating the external value of the creditor country's currency. When the creditor country's currency appreciates in value such a country becomes a dear market in which to buy and eventually exports decline. This is likely to wipe out a favourable balance of payments, cheaper the domestic currency relative to other currencies and thereby restore equilibrium. A deficit country, on the other hand, is likely to have a weak exchange-rate position since an increase in foreign claims on its currency means an increase in the demand for foreign exchange relative to supply to cause a decline in the external value of its currency. It is now clear that change in the demand for and the supply of a foreign currency occurs because of variations in the payments which the nationals of the country have to make and to receive from foreigners.

### **Exchange Rate and Foreign Exchange Market**

The rate of exchange between two countries is the price in the home currency for one unit of the money of foreign country payable in that country, or more simply the price of the money of one country expressed in the money of the other. It is generally quoted in two ways :

1. One unit of the foreign currency to so many units of the domestic currency,  
or
2. A certain number of units of foreign currency to one unit of the domestic currency or for instance, we can say  
 $\text{£ } 1 = \text{Rs. } 15$  or  $\text{Re. } 1 = \text{£ } 1$  = i.e.  $\text{Re. } 1 = 1 \text{ \$ } . 4 \text{ d}$

The market for a commodity comprises the buyer and sellers of that commodity. Similarly, the buyers and sellers of foreign currency, in the form of credit instruments, constitute the foreign exchange market. There are various institutions operating in the foreign exchange market whose primary business is to deal in foreign exchange e.g. banks, discount houses, exchange brokers, etc. While there are others who enter the market in subsidiary capacity e.g. traders in merchandise or buyers and sellers of foreign securities.

We have to remember that prior to World War-II, foreign exchange markets functioned freely but the situation has changed thereafter because most of the countries have introduced wide-ranging exchange controls measures. At present, the authorities fix exchange rates, consciously allocate the foreign currency available to importers, require exporters to sell their foreign exchange earnings to specified dealers and

regulate borrowing and lending. The foreign exchange markets as they existed in pre-World War-II times, do not function today.

### **Methods of Fixation of Rate of Exchange**

The external value of money or the domestic price of foreign currencies on the foreign exchange market is determined diversely under different monetary standards and the way in which it is determined affects domestic and international economic welfare differently. It is, therefore, necessary to examine both the theoretical basis and the practical implications of various international currency systems. There are three typical monetary standards, namely, (a) the gold standard, (b) the paper standard and (c) the mixed standard, the International Monetary Fund'.

#### **(a) Mint Par of Exchange**

It seems useful to begin with a definition of gold standard. A country is said to be on the gold standard (i) When its monetary authority is committed to a policy of buying and selling gold at a fixed price in unlimited amounts. (ii) When the purchasing power of a Unit of its currency is kept equal to the purchasing power of a given weight of gold and (iii) when the external value of its currency is fixed through the medium of gold. Practically all major trading nations were on gold in the above sense before 1931 and gold served as a principal international means of payment and as an important reserve of international liquidity.

The gold standard enables exchange rates between currencies to be stable. The normal rate of the par of exchange then depends on the gold values of currencies. Since gold has the same value in all gold standard countries, the rate based on it tend to remain unchanged. There are small fluctuations on either side but these take place within narrow and well-defined limits because of the possibility of people making remittances in gold.

The method of ascertaining the rate of exchange by comparing the metallic contents of the currencies of different countries is called the Mint Par Theory of exchange. A simple example will make it clear. Suppose we want to find out rate of exchange between England and America-assuming both of them to be on the gold standard. We know that the weight of the British Sovereign is equal to 113.0016 grains of fine gold. The weight of the American golden eagle (which is equal to \$ 10) is equal to 232.2 grains of fine gold. The weight of one dollar comes to 23.22 grains of fine gold.

Therefore  $\text{£ } 1 = \$ 4.8665$ . Hence the London-New York or Sterling-Dollar Mint Par of Exchange is  $\text{£ } 1 = \$ 4.8665$ .

By similar comparisons, the Mint Pars between two countries using the same metal their standards of value can be calculated but it must be

understood that any Mint Par is merely a theoretical measurement of the value of one standard coin in terms of another standard coin. It takes no account of practical variations in the weight or fineness of actual coins due to wear and tear and is purely arbitrary basis of comparison. It is a theoretical rate of exchange based on the laws of the two countries which prescribe the weight of fine gold contained in the respective coins.

Even when gold is available, the traders prefer to settle their debits through exchange bills purchased from bankers. If the bills drawn on a particular country are exactly equal to the bills drawn by this country upon foreigners, there is no difficulty. The debits are offset by credits such a condition, however, seldom exists. In actual practice, sometimes a country imports more than what it exports and sometimes its exports largely exceed its imports, so that the price of the bills of exchange varies in accordance with their supply and demand. Let us take an example to show how it all happens. X in New York has sold a consignment of steel to Y in London. Before it is detached from New York the steel becomes represented by a bill of London 'X' draws a bill of exchange on 'Y' for the amount, that is, he instructs 'Y' to pay a definite sum at a definite time. It may be according to the terms of bargain, payable 'at sight' or in the three months time. This bill of exchange and the bill of lading are sold by 'X' to a New York banker who sends them to his London Agent from whom 'Y' obtains 'the bill' of lading enabling him to get the steel by accepting or by actually paying the bill. The New York banker thus has at his disposal credit in London.

Now suppose another businessman 'Z' in U.S.A. owes money to somebody in England. He goes to New York Banker (who has credit in London) and wants a draft payable in London. The banker knows very well that if his client did not get the bill he shall have to ship the required amount of gold and incur the cost of transportation and insurance into the bargain, that in addition to spending \$4.866 for every, £ 1 he will have to spend .024 cents per sovereign. He therefore, quotes for his bill any price between \$ 4.866 and 4.89 (4.866+ .024). He cannot demand a price higher than \$ 4.89 for every £ 1) because otherwise 'Z', the American debtor, will think it worthwhile to undergo the risk and expense of shipping gold. The highest point to which the price of bills can go is called the Upper Special Point of the Gold Export Point. The actual rate of exchange will be different from mint par but it will vary between \$ 4.866 and 4.89 depending on the supply and demand of bills. When the demand for the bills of exchange is less than their supply, their prices fall. The lowest price to which it can fall is determined by deducting the cost of commission, insurance and freight from the mint par and is

called the Lower Special Point or the Gold Import Point. Thus the rate of exchange cannot fall below \$ 4.842 (4,866-.024) for every pound. It will be clear that the rate of exchange between two countries on the gold standard is determined by the Mint Par and the rate thus determined fluctuates between the upper and lower specie points depending upon the extent of mutual indebtedness measured by the supply and demand of bills.

**(b) The Purchasing Power Parity Theory**

Suppose there are two countries on gold standard and one unit of the currency of one is equal to one of that of the other or the par rate of exchange is unity. If both of them resort to inconvertible paper money and the former doubles the quantity of currency in circulation while the latter quadruples it, the price level in the former will be half of that of the latter. The rate of exchange, therefore will be 1:2 in accordance with their price levels. The rate of exchange obtained by comparing price-levels of two countries is called the purchasing power parity.

The essence of this theory is that we judge the value of a foreign currency to us by its command over goods and services. Purchasing Power is indicated by the general level of prices so that if prices in a foreign country are higher compared with our own the money of that country will not go very far and we, therefore, expect to get more of its money in exchange for our own. In other words, the value of the unit of one currency in terms of another is, in the long run, determined by the relative values of the two currencies indicated by their respective purchasing powers over goods and services.

Gustav Cassel, J. M. Keynes and others used the purchasing power parity theory after World War-I to show that the fall in the external value of some European currencies was largely the result of the post-war inflation in Europe. The theory is also useful in demonstrating the consequences of a possible discrepancy between the internal and external purchasing power of a national currency. The concept of over-valuation and under-valuation are based on purchasing power parities. There are a number of limitations of the purchasing power parity theory:

Firstly, we know that the calculation of the purchasing power parity depends upon index numbers of prices. Since index numbers are merely indications of average rise or fall in prices, the rate of exchange calculated by means of purchasing power parity theory frequently deviates from the existing rate of exchange.

Secondly, the theory suffers from its failure to take into consideration the elasticities of reciprocal demand. By the elasticity of reciprocal demand is meant by responsiveness of one country's demand for another country's exports with respect to price or income. As far as the price elasticity of

demand for exports, the price change which is relevant here might be considered to be due to exchange depreciation or appreciation, not to general price movements. With international price movement remaining constant, whether the external value of a national currency will change depends, on the responsiveness of the foreign demand for a nation's total exports to a slight change in that nation's export prices in terms of foreign currencies. Needless to say, in the longer period the elasticities of the reciprocal demand can change significantly as a consequence of change in international consumer tastes.

Thirdly, although Keynes concentrates on short-term speculative capital movements, long term capital movements may have an equally important effect on exchange rates. Short-term speculative capital movements, otherwise known as "capital flight", may arise from a desire to make a profit or avoid a loss on exchange fluctuation as in the case of "hot money", or from a desire for safety and security as in the case of "refugee capital". The new exchange rate resulting from capital movements has nothing whatsoever to do with general price movements or changes in purchasing power parities.

### **(c) Pegged Rate of Exchange**

The International Monetary Fund is substitute for the old gold standard and an alternative to both a system of completely free exchange rates and a system of extreme exchange control. It is a mixed standard embodying within itself some features of the gold standard and the paper standard.

The Fund requires that the par value of a member-country's currency be expressed in terms of gold as a common denominator or in terms of U.S. dollar of the weight and fineness in effect on July 1, 1944. We must bear in mind that this requirement is for accounting purpose, not for the purpose of maintaining stable exchange rates as under the gold standard. If, for example, the dollar sterling exchange rate is fixed at \$ 4.08= £1 as an expression of the relative gold weights of the dollar (0.889 gram) and the pound (3.581 grams), as was initially set by Fund, it by no means precludes the possibility that the rate may be altered as domestic and international conditions necessarily change.

In order to facilitate multilateral trade among member countries the Fund bars "competitive exchange alterations" and requires each member country to "maintain orderly exchange arrangements with other members". In other words, the Fund thereby hopes to avoid the disadvantage of a laissez-faire exchange rate policy as well as the disadvantage of unalterable exchange rates, in short, to achieve managed exchange stability. To implement this exchange arrangement, the Fund provides for

a 10 percent adjustment upwards or downward, in the external value of a member-country's currency without prior approval of the Fund and for a more than 10 percent adjustment with the Fund's consent all for the express purpose of correcting a serious disequilibrium in a member country's balance of payments. This is an important concession to exchange flexibility which is impossible under either the gold standard or the paper standard. Under gold standard, exchange flexibility of any kind is out of the question, while under the paper standard, exchange flexibility is in the habit of degenerating into disorderly, discriminatory competitive exchange depreciation.

The international monetary system has been under a serious strain since August 1971. The official price of gold was raised by U.S.A. from \$ 35 to \$ 38 per fine ounce i.e. 8.57 percent. This meant a devaluation of the dollar in gold by 7.89 percent. The dollar, however, continued to remain inconvertible. The exchange parities of many other currencies were realigned and their values in the dollar were revised upwards. Another important change that was effected was an increase in the range of exchange fluctuations from 10 percent to 2.25 percent on either side of the parities. The exchange could, thus fluctuate within a span of 4.5 percent instead of 2 percent as before. This will give greater scope to the balance of payments to change without causing any serious concern to the Fund authorities to do anything about it. Exchange rates will, thus, have greater flexibility without losing any of their stability.

## **Monetary Approach, Portfolio Balance theory of exchange rate and Optimum Currency Areas**

### **Monetary Approach**

The monetary approach was introduced by *Robert Mundell* and *Harry Johnson* in 1960 for the adjustment in balance of payment. The Monetary approach represent an extension of domestic monetarism to the international economy in that it views the balance of payment as an essential monetary phenomenon. It describes adjustment in balance of payment in term of the demand for and supply of money. According to this approach, “a balance of payment deficit is always and everywhere a monetary phenomenon. In the long run, money plays the vital role in both the disturbance and as an adjustment of in the country’s balance of payment.

The monetary approach is based on the following assumptions:

1. The ‘law of one price’ holds for identical goods sold in different countries, after permitting for transportation cost.
2. There is a perfect substitution in consumption of both capital and product market which ensure one price for each commodity and single interest rate across countries.
3. It is supposed that under fixed exchange rate the sterilisation of currency flow is not possible on account of the law of one price globally.
4. The demand for money is stock demand, and is stable function of income, prices, wealth and interest rate.
5. The supply of money is a multiple of monetary base which includes domestic credit and the country’s foreign exchange reserves.
6. The demand for nominal money balances is a positive function of nominal income.

The monetary approach is explained as under:

1. Monetary Approach under Fixed Exchange Rate
  2. Monetary Approach under Flexible Exchange Rate
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### **Monetary Approach under Fixed Exchange Rate**

The monetary approach begins by assuming that the demand for nominal money balances is positively related to the level of nominal national income and is stable in the long run. Thus the equation for demand for money can be written as:

$$Md = kPY \quad \text{-----} \quad (1)$$

$Md$  = quantity demanded of nominal money balances

$k$  = desired ratio of nominal money balance to nominal national income

$P$  = domestic price level

$Y$  = real output

In equation (1),  $PY$  is the nominal national income or output (GDP). The symbol  $k$  is desired ratio of nominal money balances to nominal national income:  $k$  is also equal to  $1/V$ , where  $V$  is the velocity of circulation of money. With  $V$  (and thus  $k$ ) depending on institutional factors and assumed to be constant,  $Md$  is stable and positive function of the domestic price level and real national income.

The demand for money is inversely related to the interest rate ( $i$ ) or opportunity cost of holding inactive money balances rather than interest bearing securities.  $Md$  is positively related to  $PY$  and inversely related to  $i$ . To simplify the analysis we assume that  $Md$  is related only to  $PY$ , or nation's nominal GDP, and will work with equation (1).

The nation's supply of money is given by

$$Ms = m(D+F) \quad (2)$$

$Ms$  = the nation's total money supply

$M$  = money multiplier

$D$  = domestic component of the nation's monetary base

$F$  = international and foreign component of the nation's monetary base

The domestic component of the nation's monetary base ( $D$ ) is domestic credit created by the nation's monetary authorities or the domestic assets backing the nation's monetary supply. The international or foreign component of the nation's monetary supply ( $F$ ) refers to the international reserves of the nation, which can be increased or decreased through balance of payment surpluses or deficits, respectively.  $D+F$  is called the monetary base of the nation, or *high powered money*.

Starting from condition of equilibrium where  $Md=Ms$ , an increase in demand for money can be satisfied either by an increase in nation's domestic monetary base ( $D$ ) or by an inflow of international reserves, or balance of payment surplus ( $F$ ). If the nation's monetary authorities do not increase  $D$ , the excess demand for money will be satisfied by an increase in  $F$ . On the other hand, an increase in the domestic component of the nation's monetary base ( $D$ ) and money supply ( $Ms$ ), in the fact of unchanged monetary demand ( $Md$ ), flow out of the nation and fall  $F$  (a deficit in the nation's balance of payment). Thus,

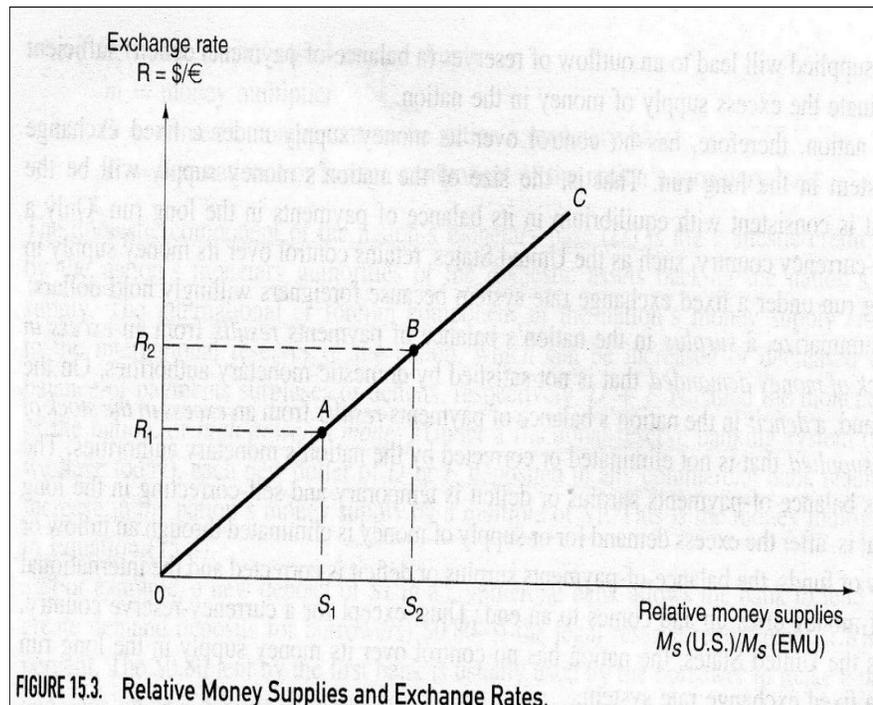
a surplus in nation's balance of payment results from an excess in the stock of money demanded that is not satisfied by an increase in the domestic component of the nation's monetary base, while a deficit in the nation's balance of payment results from an excess in the stock of the money supply of the nation that is not eliminated by the nation's monetary authorities but is corrected by an outflow of reserves.

The nation's balance of payment or surplus or deficit is temporary and self-correcting in the long run; that is, after the excess demand for or supply of money is eliminated through an inflow or out flow of funds, the balance of payment surplus or deficit is corrected and the international flow of money dries up and comes to an end.

## 2. Monetary Approach under Flexible Exchange Rate

Under the flexible exchange rate system, balance of payment disequilibria are immediately corrected by automatic changes in exchange rates without any international flow of money or reserves. Thus, under the flexible exchange rate system, the nation remains dominant control over its money supply and monetary policy. Adjustments take place as a result in changes in domestic prices that accompany the changes in the exchange rate. For example, a deficit in the balance of payment (resulting from an excess money supply) leads to an automatic depreciation of the nation's currency, which causes prices and therefore the demand for money to rise sufficiently to absorb the excess supply of money and automatically eliminate the balance of payment deficit. On the other hand, a surplus in the balance of payments (resulting from an excess demand for money) automatically leads to an appreciation of the nation's currency, thus eliminating the excess demand for money and the balance of payment surplus. Under flexible exchange rate system, a balance of payment disequilibrium is immediately corrected by an automatic change in exchange rates and without any international flow of money or reserves.

According to monetary approach, a currency depreciation results from an excessive money growth in the nation over time, while a currency appreciation results from inadequate money growth in the nation. Put differently, a nation facing greater inflationary pressure than other nations (resulting from more rapid growth of its money supply in relation to the growth of its real income and demand for money) will find its exchange rate rising (its currency depreciating- see **Figure 1**). Line **OC** shows the money supply in the United States relative to the money supply in the European Monetary Union (**EMU**) [ $S = Ms(EMU)$ ] and the dollar euro exchange rate ( $R = \$/\epsilon$ ). Line **OC** thus shows that a change from  $S_1$  to  $S_2$  causes a proportional change in **R** from  $R_1$  to  $R_2$ . On the other hand, a nation facing lower inflationary pressure than the rest of the world will find its exchange rate falling (its currency appreciating).



### Portfolio Balance Approach

The portfolio balance approach (also called the asset market approach) differs from the monetary approach in that domestic and foreign bonds are assumed to be imperfect substitutes, and by postulating that the exchange rate is determined in the process of equilibrating or balancing the stock of or total demand and supply of financial assets (of which money is one) in each country.

In the portfolio balance approach, individuals and firms hold their financial wealth in some combination of domestic money, a domestic bond, and a foreign bond denominated in the foreign currency. The incentive to hold bonds (domestic and foreign) results from the yield or interest that they provide. However, they also carry the risk of default and the risk arising from variability of their market value over time. Domestic and foreign bonds are not perfect substitutes and foreign bonds pose some additional risk with respect to domestic bonds. On the other hand, the holding of domestic money is riskless but provides no yield or interest.

Thus the opportunity cost of holding domestic money is the yield forgone on holding bonds. The higher the yield or interest on bonds, the smaller is the quantity of money that individuals and firms want to hold. At any particular point in time, an individual will want to hold part of his financial wealth in money and part in bonds, depending on his particular set of preferences and degree of risk aversion. Individuals and firms do want to hold a portion of their wealth in the form of money (rather than bonds) in order to make business payment. But the higher the interest on bonds, the smaller is the amount of money that they will want to hold.

The choice, however, is not only between holding domestic money, on the other hand, and bond in general, on the other, but among holding domestic money, the domestic bond, and the foreign bond. The foreign bond denominated in the foreign currency carries the additional risk that the foreign currency may depreciate, thereby imposing a capital loss in term of holder's domestic currency. But holding foreign bond also allows the individual to spread his risk because the disturbances that lower return in one country are not likely to occur at the same time in other country. Thus, a financial portfolio is likely to hold domestic money (to carry out business transaction), the domestic bond (for the return it yields), and the foreign bond (for the return and for the spreading of risk it provides). Given the holder's tastes and preferences, his wealth, the level of domestic and foreign interest rates, his expectation of the future value of the foreign currency, rate of inflation at home and abroad, and so on he will choose the portfolio that maximises his satisfaction.

A change in any of the underlying factors (i.e., the holder's preferences, his wealth, domestic and foreign interest rates expectation, and so on) will prompt the holder to reshuffle his portfolio until he achieves the new desired portfolio. For example an increase in domestic interest rate raises the demand for domestic bond but reduces the demand for money and the foreign bond. As investor sell the foreign bond and exchange the foreign currency for the domestic currency in order to acquire more of the domestic currency, the exchange rate fall (i.e., the domestic currency appreciate with respect to the foreign currency). On the other hand, an increase in the foreign interest rate raises the demand for foreign bond, but reduces the demand for money and the domestic bond. As investor buy the foreign currency in order to acquire more of foreign bond, the exchange rate raises (i.e., domestic currency depreciate). Finally, an increase in wealth increases the demand for money, for the domestic bond, and for the foreign bond. But the investor buy the foreign currency (i.e., the domestic currency depreciate). According to portfolio balancing approach, equilibrium in each financial market occurs when the quantity demanded of each financial assets is equals its supply.

## **Optimum Currency Areas**

The theory of optimum currency areas was developed by *Robert Mundell* and *Ronald McKinnon* during the 1960s. The theory of optimum currency area is the special branch of the theory of custom union. An optimum currency area or block refers to the group of nations whose national currencies are linked through permanently fixed exchange rates and the condition that would make such an area optimum. The currencies of member nations could then float jointly with respect to the currencies of non-member nations. Obviously, regions of the same nation, sharing as they do the same currency, are optimum currency areas. A common currency area may be linked through a common currency such as the *Euro* of EC countries.

### **Advantages of Optimum Currency Areas**

The optimum currency area has the following advantages:

1. The formation of optimum currency area eliminate the uncertainty that arises when exchange rate are not permanently fixed, thus stimulated specialisation in production and the flow of trade and investment among member regions or nations.
2. The formation of optimum currency area encourages producers to view the entire area as single market and to benefit from greater economies of scale in production.
3. The formation of optimum currency area is practiced greater price stability. With permanently fixed exchange rates, an optimum currency area is likely to experience greater price stability than if exchange rate could change between the various member nations. The greater price stability arises because random shocks in different regions or nations within the area tend to cancel each other out, and whatever disturbance may remain is relatively smaller when the area is increased. This greater price stability encourages the use of money as a store of value and as a medium of exchange and discourages inefficient barter deals arising under more inflationary circumstances.
4. An optimum currency area saves the cost of official intervention in foreign exchange market involving the currencies of member nations, the cost of hedging, and cost of exchanging one currency for another to pay for imports of goods and services and when citizens travel between member nations.

### **Disadvantages of Optimum Currency Areas**

Despite these benefits, the greatest disadvantage of an optimum currency area is that each member nation cannot pursue its own independent stabilisation and growth

policies attuned to its particular preferences and circumstances. For example, a depressed region or nation within optimum currency area might require expansionary fiscal and monetary policies to reduce an excessive unemployment rate, while the more prosperous region or nation requires contractionary policies to curb inflationary pressure. Moreover, the formation of an optimum currency area may lead to differences among member nations. The more prosperous region or nation may dictate in policy matter over depressed nation or region. The latter may like to follow independent monetary, fiscal and other policies to safeguard their interest.

**Balance of Payments - Concepts and Components**

**Meaning and Significance**

The balance of payments of a country is a statement showing the various payments to and from the country in a given period, generally a year. All transactions in a year which give rise to claims by residents of the country on foreigners and claims by foreigners on citizen of the country are comprised in balance of payments. Therefore, the balance of payments may be defined in a statistical sense as an itemised account of transactions involving receipts from foreigners on the one hand, and payments to foreigners, on the other. Since the former relate to the international income of a country, they are called "Credits" and since the latter to international payments, they are called "Debits".

According to the rules of double-entry book keeping, a nation's receipts and payments for any given period must be exactly equal. Hence in a way, the balance of payments will always be in equilibrium. In an open economy, however, total receipts may differ from total payments. The positive difference is termed as surplus and the negative difference is termed as deficit in the balance of international payments of a country.

A country's balance of payments serves as its economic barometer. There are, however, many things which are only partially explained by it. A surplus or a favourable balance of payments position is not always a sign of the economic prosperity of a country nor is adverseness or unfavourable balance of payments position always an indicator of a country's economic insolvency. A balance of payments deficit is not, in itself, proof, of the competitive inability of a country in foreign markets. A detailed analysis of the causes and prospects will be necessary to determine the magnitude of alarm. The longer a deficit continues, however, the more it would seem to point to some fundamental deficiencies. Likewise, a favourable balance of payments position need not always make the government of the country feel complacent. It can happen that a debtor and economically backward nation at the time of receiving foreign loans might have surplus in its balance of payments.

Generally speaking, the balance of payments exhibit various aspects of a country's international economic position. In the case of an underdeveloped country, the balance of payments will reveal the degree of dependence of the country's economic development on the financial assistance given by the industrially advanced capital lending countries. The balance of payments help in analysing or appraising a nation's short-term international economic prospects, evaluating the extent of its international solvency and determining the

appropriateness of the foreign exchange rate of the money unit of a national currency. Comparison of a pair of balance of payments covering a given period shows changes in the country's trading position, that is, in the relative movements of exports and imports. The information so obtained could clearly be significant for the determination of trade and commercial policies. The effect of such changes on employment and production will also be of value to monetary and fiscal policy.

### **Distinction between Balance of Trade and Balance of Payments**

The term 'Balance of Trade' and 'Balance of Payments' are often interchangeably used leading to confusion. A country's exports and imports comprise many items both visible and invisible. Invisible items refer to the services like shipping, banking and insurance services for which payments are made and received by a country in the sphere of international trade. The merchandise imports of a country are constituted by the value of goods purchased by the nationals and government of the country from those of other countries in a given period. These have to be paid for and necessitate remittance from the country to various other countries. The country is debtor to this extent. The exports are the value of goods sold by its nationals to other country and has to receive payments for them from abroad. The country is creditor on this account. The net amounts the country has to pay and receive in a given period from its balance of trade. Balance of trade is, therefore, the difference between merchandise exports and imports of a country.

The balance of payments has a wider connotation and it comprise the total debits and credits due to all items on account of which a country makes payments to rest of the world and receives payments from rest of the world. In this way, the balance of payments includes both the visible and invisible items. The balance of trade is only a part of the balance of payments. There is no doubt that it is major part but its significance is limited. We can very well imagine a situation in which a country's balance of trade is favourable yet its balance of payments may show deficit and vice versa. Seen in historical perspective, England's balance of trade was for long unfavourable but her balance of payments used to be favourable because on account of exports of visible services and interest earnings on her foreign investments she used to receive payments more from the rest of the world than she had to pay the rest of the world on account of imports of visible goods.

### **Components of Balance of Payments**

The emphasis in classical economics was on the export and import and on the whole, little attention was paid to capital movements. In part the explanation lies in the classical assumption that capital does not move across national boundaries or is transferred only with hesitation. Today the position has changed. It is a rule of book keeping to charge, or debit, the owner of an account for everything he gets and to credit him for everything he gives up. Therefore, the debits and credits can be conveniently linked with payments and receipts. Since a

country's exports or the services i.e. shipping, banking or insurance companies rendered to others are the items it gives up, they are entered in the balance of payments as credits. One could equally say that these items give rise to receipts, when this term is used in connection with the balance of payments. Similarly, since a country's imports or services rendered to its residents by foreigners are what the country acquires, they are entered as debits. These items also give rise to payments on the part of the country concerned and the term payments is used in this sense is a balance of payments.

As an illustration, we give below the Balance of Payments of Country X:

**TABLE I—BALANCE OF PAYMENTS OF COUNTRY X**

<i>Debits</i>		<i>Credits</i>	
<b>Current Account</b>			
Merchandise imports	Rs. 1800	Merchandise exports	Rs. 2300
Services	Rs. 300	Services	Rs. 200
Donation : Official	Rs. 100		
	_____		_____
	Rs. 2200		Rs. 2500
	_____		_____
<b>Capital Account</b>			
Short-term		Short-term	
Capital (Private)	Rs. 500	Capital (Official)	Rs. 450
Long-term capital	Rs. 500	Gold exports	Rs. 250
	_____		_____
	Rs. 3200		Rs. 3200
	_____		_____

It will be seen from the table I, that the most important way in which a country can acquire foreign currency is by exporting merchandise. This comes to Rs. 2300. The value of merchandise imports is Rs. 1800/-. These two items relate to Country X's visible trade and the difference i.e. 500/- indicates the balance of trade. If a country exports more goods than it imports, it is said to have a favourable balance or surplus in its balance of trade. Here country X's balance of trade is favourable. The next item in order of importance relates to services rendered to foreigners during the period in question or to the services received by the citizen of the country. In the former case it gives rise to receipts whereas in the latter it entails payments. Shipping services are significant under this heading because both exports and imports of merchandise have to incur costs of transportation. Other types of earnings under this heading are interest and dividends which citizens of the country earn on investments abroad. Such payments are regarded as

payments made by foreigners for current services which they derive from capital in question. Investment income is included in the current account since it is associated with a service; the use of one's capital. It gives rise to the payments for the country which has borrowed or in which foreigners own income-earning property; it is a source of receipts to a lending or investing country. Tourism constitutes another example and income earned from X this source comes under the same heading. Other payments falling under this heading are those for banking and insurance services which are necessary components of modern trade and commerce. The item of services in table-I figures both on the credit and debit side, it is 300/- on the debit side Rs. 200/- on the credit side.

Donations differ from ordinary business transactions, such as are included in the current accounts, in that they do not reflect an exchange of goods or services for money. They involve no quid pro quo. A person or government transfers commodities or services or money to some other persons or government and receives nothing in exchange. The category of donations in a nation's balance of payments includes a wide variety of transactions : military aid, economic aid, technical assistance, etc. Frequently, the term "unilateral transfers" is applied to these transactions to indicate their one sided character. In table I, the value of donations shown on the debit side comes to Rs. 100.

Even though the country X had a surplus in its balance of trade, this might be offset by items on other accounts. Country X has a deficit of Rs. 100 in its balance of services and a deficit in its balance of unilateral transactions to the extent of Rs. 100. When we take into account these heads, we arrive at the balance of current account, which is large concept than the balance of trade. This is because it takes into account the balance of trade, the balance of services and the balance of donations or unilateral transfers. The balance of current account need not be equal but can show a surplus or a deficit. In table I, Country X has a surplus in its balance of current account to the tune of Rs. 300.

The balance of current account is a very valuable concept because it reveals the flow aspect of a country's international transactions. We could say that all the goods and services produced within the country during the time period in question and exported are entered on the credit side of the balance of current account and all the goods and services imported and consumed within the country during the same period are entered on the debit side of the balance of current account. Thus it can be observed that all the international transactions entering a country's system of national accounting should be listed on the country's balance of current account. It is therefore clear that all items of a flow nature find a place in the balance of current account whereas all those items which exhibit changes in stock are entered in the balance of capital account.

Reverting back to Table I, we find that since country X's receipts from the export

items exceed payments for imports items and donations, X is said to have surplus on current account. The difference between a country's exports and imports, including broadly all current account items, in its international investment i.e. X's surplus on current account, is the basis for an improvement in its capital position vis a vis the rest of the world.

The surplus or the deficit has to be settled. If a country has a surplus on the balance of current account, the country has spent less in abroad during the period than it has earned. A way to settle this is by a transaction on the capital account. The country can increase its stocks to an amount equal to the surplus on the balance of current account. This can be done, for example, by lending abroad, i.e. by buying a loan instrument to the value of Rs. 300 abroad, by purchasing assets or by increasing its reserves of foreign currency.

### **Balance of Payment Concept**

Three fundamentally different ideas are simultaneously called by the same name. For the sake of clearer understanding, it is necessary to distinguish each one of them from the other two. What is indiscriminately termed as the balance of payments may refer to one of the following balance :

#### **1. The Market Balance**

The market balance of payment is a model of given situation in the foreign exchange market, characterised by the effective demand and supply of foreign exchange at given exchange rate, and at alternative, hypothetical rates. This is an ex ante concept for use in the analysis of the foreign exchange market, with major emphasis on the effects which changes in the exchange rate might have upon the amounts of exchange effectively demanded and supplied.

The dollar deficit in a country's market balance of payments may be tentatively defined as an excess of dollar amount effectively demanded at the given exchange rate by would be purchasers (who are not restricted by specially adopted or discretionary government control measures) over the dollar amounts supplied at the exchange rate by would-be sellers (who are not motivated by a desire to support the exchange rate.)

The market supply is by no means confined to transactions on income account, i.e. to the proceeds from sales of exported goods and services (and certain donations). It includes all those transactions on capital account (and donations) which are not the result of deliberate efforts to satisfy the effective demand. Long term capital imports i.e. direct investment by foreigners and the proceeds from the sale of securities to foreigners, are unquestionable components of such a balance of payments. Every supply and demand analysis has several time aspects. It pictures a situation prevailing at a particular time and expected to last for a definite period of time, it deals with quantities offered or demanded per unit of time,

and it expresses the variability of those quantities in response to changes in the price with a certain time interval allowed for the adjustment. The significance of time aspect is great, particularly in relation to policy decisions. For instance, if excess demand for foreign exchange is expected soon to give way to excess supply; the problem of the dollar shortage is surely quite different from what it would be if no change was expected in the foreseeable future.

It makes no sense to recast the market balance of payments for a future period into which the present market conditions can hardly continue, unless, we believe that we know the future market conditions. Thus, the market balance of payments refers to a given exchange rate under given conditions of supply and demand.

## **2. The Programme Balance**

The programme balance of payments is a statement of sources and uses of foreign funds, expected or planned over a future period of one or more years based upon the nation's capital and consumption requirements and on a programme of meeting an excess of requirements over resources by recourse to foreign finance expected or sought. This also is an ex ante concept, not for analysis but for use in planning, forecasting, or negotiating with major emphasis not on what is effectively demanded but on what is felt to be desirable with reference to some expected norm. A dollar deficit in a country's programme balance of payments may be defined as an excess of dollar amounts needed or desired for some specified purposes (assumed to be important with reference to some accepted standards) over the dollar amounts expected to become available from regular sources.

The existing foreign exchange rate is not as essential for the programme balance as it is for the market balance of payments. The amounts of dollar effectively demanded and supplied will vary if the price of dollars changes, but the amounts of the dollar needed or desired for certain national purpose may be entirely independent of the price of the dollar. Further it is in the assumptions about the level of incomes that the difference between market balance and programme balance of payments is most striking. An increase in money and real income will be most striking. An increase in money and real income will most likely increase a dollar deficit in the market balance. But decrease, a dollar deficit in the programme balance. In the market, the dollar-gap will be widened at a given exchange rate because people can buy much more and thus more goods will be imported and fewer goods made available for exports. In the programme, the dollar gap will be narrowed because people produce more, thus fewer goods need be imported and more goods may be made available for exports.

Generally, policy measures are undertaken to deal with deficit in the balance of payments; but, in a sense one should really not speak of policies "dealing" with a deficit in a programme balance of payments. This is not a deficit which first "exists" and than is "dealt with". Instead, it is a deficit which is programmed when there is a possibility of financing it. There is no sense in drawing

up a programme balance with a dollar deficit.

### **3. The Accounting Balance of Payments**

The accounting balance of payments is a record of all transactions, real and financial, which have taken place over a past period of one or more years between the country's residents and the residents of other Countries, the record being kept in the form of double-entry book keeping with each credit (debit) entry balanced by an offsetting debit (credit) entry. This is an ex post concept based on statistical information and estimates for use chiefly in the description of past developments, and perhaps also in the appraisal of the present position of one nation in relation to others. Although every body agrees that the accounting balance of payments necessarily balances, many choose to present it as showing a surplus or deficit in some meaningful sense.

Thus a dollar deficit in a country's accounting balance of payments may be defined as an excess of dollar amounts entered on the debit side of certain accounts in the annual record of its international transactions over the dollar amounts entered on the credit side of the same accounts, the accounts being selected from the full, necessarily balancing statement in order to throw light upon problems connected with market or programme balances of payments. The apparent puzzle of a balance in the accounting sense, and also of a deficit, leads us to the realm of equilibrium and disequilibrium in the balance of payments.

The concepts of balance of current account and the balance of capital account are of a great significance. The former shows the flow aspect of country's international transactions whereas the latter lists all items expressing changes in stocks. The balance of current account which includes the merchandise exports, and imports, services and donations need not be in equilibrium. It may show a deficit or a surplus and, therefore, a transaction on capital account has to take place in order to cover the difference. The movement of capital plays an important role in settling the differences and the movement of capital itself is dependent on a broader economic perspective. Thus, the different concepts of balance of payments are designed to serve different objectives.

**Equilibrium, Disequilibrium and Balance of Payment Adjustment under  
Different Exchange Rate Systems****1.6.1 Introduction****1.6.2 Objectives of the lesson****1.6.3 Structure of Balance of Payments Accounts****1.6.4 Equilibrium in Balance of payments****1.6.5 Measures to Correct Deficit in Balance of Payments****1.6.6 Foreign Exchange Rate****1.6.7 The Balance of Payments Theory****1.6.8 Conclusion****1.6.9 Short Answer Type Questions****1.6.10 Long answer Type Questions****1.6.11 Recommended Books****1.6.1 Introduction**

The balance of payments of a country is a systematic record of all its economic transactions with the outside world in a given year. It is a statistical record of the character and dimensions of the country's economic relationships with the rest of the world. According to Bo Sodersten, "The balance of payments is merely a way of listing receipts and payments in international transactions for a country." B. J. Cohen says, "It shows the country's trading position, changes in its net position as foreign lender or borrower, and changes in its official reserve holding."

**1.6.2 Objectives of the lesson**

In this lesson we will study structure of balance of payments account, different policies and exchange rate

**1.6.3 Structure of Balance of Payments Accounts**

The balance of payments account of a country is constructed on the principle of double-entry book-keeping. Each transaction is entered on the credit and debit side of the balance sheet. But balance of payments accounting differs from business accounting in one respect. In business accounting, debits (-) are shown on the left side and credits (+) on the right side of the balance sheet. But in balance of payments accounting, the practice is to show credits on the left side and debits on the right side of the balance sheet.

When a payment is received from a foreign country, it is a credit transaction while payment to a foreign country is a debit transaction. The principal items shown on the credit side (+) are exports of goods and services, unrequited (or transfer) receipts in the form of gifts, grants, etc. from foreigners, borrowings from abroad, investments by foreigners in the country and official *sale* of reserve assets including gold to foreign countries and international agencies. The principal items on the *debit* side (-) include imports of goods and services, transfer (or unrequited) payments to foreigners as gifts, grants, etc., lending to foreign countries, investments by residents to foreign countries and official *purchase* of reserve assets or gold from foreign countries and international agencies.

These credit and debit items are shown vertically in the balance of payments account of a country according to the principle of double-entry book-keeping. Horizontally they are divided into three categories: the current account, the capital account and the official settlements account or the official reserve assets. The balance of payments account of a country is constructed in Table 1:

Table 1: Balance of Payments Account

Credits (+) (Receipts)		Debits (-) (Payments)	
1. Current Account			
Exports		Imports	
(a)	Goods	(a)	Goods
(b)	Services	(b)	Services
(c)	Transfer Payments	(c)	Transfer Payments
2. Capital Account			
(a)	Borrowings from Foreign Countries	(a)	Lending to Foreign Countries
(b)	Direct Investments by Foreign Countries	(b)	Direct Investments in Foreign Countries
3. Official Settlements Account			
(a)	Increase in Foreign Official Holdings	(b)	Increase in Official Reserve of Gold and Foreign Currencies
Errors and Omissions			

**1. Current Account.** The current account of a country consists of all transactions relating to trade in goods and services and unilateral (or unrequited) transfers. Service transactions include costs of travel and transportation, insurance,

income and payments of foreign investments etc. Transfer payments relate to gifts, foreign aid, pensions, private remittances, charitable donations etc. received from foreign individuals and governments to foreigners.

In the current account, merchandise exports and imports are the most important items. Exports are shown as a positive item and are calculated f.o.b. (free on board) which means that costs of transportation, insurance, etc. are excluded. On the other side, imports are shown as a negative item and are calculated c.i.f. which means that costs, insurance and freight are included. The difference between exports and imports of a country is its *balance of visible trade* or merchandise trade or simply *balance of trade*. If visible exports exceed visible imports, the balance of trade is favourable. In the opposite case when imports exceed exports, it is unfavourable.

In the current account, the exports of goods and services and the receipts of transfer payments (unrequited receipts) are entered as credits (+) because they represent receipts from foreigners. On the other hand, the imports of goods and I services and grant of transfer payments to foreigners are entered as debits (-) because they represent payments to foreigners. The net value of these visible and invisible trade balances is the balance on current account.

**2. Capital Account.** The capital account of a country consists of its transactions in financial assets in the form of short-term and long-term lendings and borrowings, and private and official investments. In other words, the capital account shows international flow of loans and investments, and represents a change in the country's foreign assets and liabilities. Long-term capital transactions relate to international capital movements with maturity of one year or more and include direct investments like building of a foreign plant, portfolio investment like the purchase of foreign bonds and stocks, and international loans. On the other hand, short-term international capital transactions are for a period ranging between three months and less than one year.

There are two types of transactions in the capital account—private and government. Private transactions include all types of investment: direct, portfolio and short-term. Government transactions consist of loans to and from foreign official agencies.

In the capital account, borrowings from foreign countries and direct investment by foreign countries represent capital inflows. They are positive items or credits because these are receipts from foreigners. On the other hand, lending to foreign countries and direct investments in foreign countries represent capital outflows. They are negative items or debits because they are payments to foreigners. The net value of the balances of short-term and long-term direct and portfolio investments is the *balance on capital account*.

**3. The Official Settlements Account.** The official settlements account or official reserve assets account is, in fact, a part of the capital account. But the U.K. and U.S. balance of payment accounts show it as a separate account. "The official settlements account measures the change in nation's liquidity and non-liquid liabilities to foreign official holders and the change in a nation's official reserve assets during the year. The official reserve assets of a country include its gold stock, holdings of its convertible foreign currencies and SDRs and its net position in the IMF." It shows transactions in a country's net official reserve assets.

Errors and Omissions. Errors and omissions is a balancing item so that total credits and debits of the three accounts must be equal in accordance with the principles of double entry book-keeping so that the balance of payments of a country always balances in the accounting sense.

#### 1.6.4 Equilibrium in Balance of payments

Balance of payments always balances means that the algebraic sum of the net credit and debit balances of current account, capital account and official settlements account must equal zero. Balance of payments is written as

$$B = R_f - P_f$$

Where

$B$  represents balance of payments,  $R$  receipts from foreigners,  $P$  payments made to foreigners.

When  $B = R_f - P_f = 0$ , the balance of payments is in equilibrium.

When  $R - P > 0$ , it implies receipts from foreigners exceed payments made to foreigners and there is *surplus* in the balance of payments. On the other hand, when  $R_f - P_f < 0$  or  $R_f < P$  there is *deficit* in the balance of payments as the payments made to foreigners exceed receipts from foreigners.

If net foreign lending and investment abroad are taken, a flexible exchange rate creates an excess of exports over imports. The domestic currency depreciates in terms of other currencies. The exports become cheaper relatively to imports. It can be shown in equation form:

$$X + B = M + I$$

Where  $X$  represents exports,  $M$  imports,  $I$  foreign investment,  $B$  foreign borrowing

or  $X - M = I - B$

or  $(X - M) - I - (-B) = Q$

The equation shows the balance of payments in equilibrium. Any positive balance in its current account is exactly offset by negative balance on its capital account and vice versa. In the accounting sense, the balance of payments always balances. This can be shown with the help of the following equation :  $C + S + T = C + I + G + (X - M)$

or  $Y = C + I + G + (X - M)$  [ $Y = C + S + T$ ]

where  $C$  represents consumption expenditure,  $S$  domestic saving,  $T$  tax receipts, / investment expenditures,  $G$  government expenditures,  $X$  exports of goods and services, and  $M$  imports of goods and services. In the above equation

$C + S + T = GNI$  or national income ( $K$ ) and

$C + I + G = A$ , where  $A$  is called 'absorption'.

In the accounting sense, total domestic expenditures ( $C + I + G$ ) must equal current income ( $C + S + T$ ) that is  $A = Y$ . Moreover, domestic saving ( $S_d$ ) must equal domestic investment ( $I_d$ ). Similarly, an export surplus on current account ( $X > M$ ) must be offset by an excess of domestic savings over investment ( $S_d > I_d$ ). Thus, the balance of payments always balances in the accounting sense, according to the basic principle of accounting. In the accounting system, the inflow and outflow of a transaction are recorded on the credit and debit sides respectively. Therefore, credit and debit sides always balance. If there is a deficit in the current account, it is offset by a matching surplus in the capital account by borrowings from abroad or/and withdrawing out of its gold and foreign exchange reserves, and vice versa. Thus, the balance of payments always balances in this sense also.

### **Disequilibrium in Balance of Payments**

A disequilibrium in the *BOP* of a country may be either a deficit or a surplus. A deficit or surplus in *BOP* of a country appears when its autonomous receipts (credits) do not match its autonomous payments (debits). If autonomous credit receipts exceed autonomous debit payments, there is a surplus in the *BOP* and the disequilibrium is said to be *favourable*. On the other hand, if autonomous debit payments exceed autonomous credit receipts, there is a *deficit* in the *BOP* and the disequilibrium is said to be unfavourable or adverse.

### **Causes of Disequilibrium**

There are many factors that may lead to a *BOP* deficit or surplus:

- 1. Temporary Changes:** There may be a temporary disequilibrium caused by random variations in trade, seasonal fluctuations, the effects of weather on agricultural production etc. Deficits or surpluses arising from such temporary causes are expected to correct themselves within a short time.
- 2. Fundamental Disequilibrium:** Fundamental disequilibrium refers to a persistent and long-run *BOP* disequilibrium of a country. It is a chronic *BOP* deficit, caused by such dynamic factors as changes in consumer tastes within the country or abroad which reduce the country's exports and increase its imports, continuous fall in the country's foreign exchange reserves due to supply inelasticities of exports and excessive demand for foreign goods and services, excessive capital outflows due to massive imports of capital goods, raw materials, essential consumer goods,

technology and external indebtedness, low competitive strength in world markets which adversely affects exports and inflationary pressures within the economy which make exports dearer.

**3. Structural Changes:** Structural changes bring about disequilibrium in BOP over the long-run. They may result from the following factors: (a) Technological changes in methods of production of products in domestic industries or in the industries of other countries. They lead to changes in costs, prices and quality of products, (b) Import restrictions of all kinds bring about disequilibrium in *BOP*. (c) Deficit in *BOP* also arises when a country suffers from deficiency of resources which it is required to import from other countries. (d) Disequilibrium in *BOP* may also be caused by changes in the supply direction of long-term capital flows. More and regular flow of long-term capital may lead to *BOP* surplus, while an irregular and short supply of capital brings *BOP* deficit.

**4. Changes in Exchange Rates:** Changes in foreign exchange rate in the form of over-valuation or under-valuation of foreign currency lead to *BOP* disequilibrium. When the value of currency is higher in relation to other currencies, it is said to be overvalued. Opposite is the case of an undervalued currency. Over-valuation of the domestic currency makes foreign goods cheaper and exports dearer in foreign countries. As a result, the country imports more and exports less of goods. There is also outflow of capital. This leads to unfavourable *BOP*. On the contrary, under-valuation of the currency makes *BOP* favourable for the country by encouraging exports and inflow of capital and reducing imports.

**5. Cyclical Fluctuations:** Cyclical fluctuations in business activity also lead to *BOP* disequilibrium. When there is depression in a country, volumes of both exports and imports fall drastically in relation to other countries. But the fall in exports may be more than that of imports due to decline in domestic production. Therefore, there is an adverse *BOP* situation. On the other hand, when there is boom in a country in relation to other countries, both exports and imports may increase. But there can be either a surplus or deficit in *BOP* situation depending upon whether the country exports more than imports or imports more than exports. In both the cases, there will be disequilibrium in *BOP*.

**6. Changes in National Income:** Another cause is the change in the country's national income. If the national income of a country increases, it will lead to an increase in imports thereby creating a deficit in its balance of payments, other things remaining the same. If the country is already at full employment level, an increase in income will lead to inflationary rise in prices which may increase its imports and, thus, bring disequilibrium in the balance of payments.

**7. Price Changes.** Inflation or deflation is another cause of disequilibrium in the balance of payments. If there is inflation in the country, prices of exports increase. As a result, exports fall. At the same time, the demand for imports increase. Thus, increase in export prices leading to decline in exports and rise in imports results in adverse balance of payments.

#### **1.6.5 Measures to Correct Deficit in Balance of Payments**

When there is a deficit in the balance of payments of a country, adjustment is brought about automatically through price and income changes or by adopting certain policy measures like export promotion, monetary and fiscal policies devaluation and direct controls.

##### **1. Devaluation or Expenditure-Switching Policy**

Devaluation raises the domestic price of imports and reduces the foreign price of exports of a country devaluing its currency in relation to the currency of another country. Devaluation is referred to as expenditure switching policy because it switches expenditure from imported to domestic goods and services. When a country devalues its currency, the price of foreign currency increases which makes imports dearer and exports cheaper. This causes expenditures to be switched from foreign to domestic goods.

##### **2. Direct Controls**

To correct disequilibrium in the balance of payments, government also adopts direct controls which aim at limiting the volume of imports. The government restricts the import of undesirable or unimportant items by levying heavy import duties, fixation of quotas etc. At the same time, it may allow imports of essential goods duty free or at lower import duties, or fix liberal import quotas for them. For instance, the government may allow free entry of capital goods, but impose heavy import duties on luxuries. Import quotas are also fixed and the importers are required to take licenses from the authorities in order to import certain essential commodities in fixed quantities. In these ways, imports are reduced in order to correct an adverse balance of payments.

##### **3. Adjustment through Capital Movements**

A country can use capital import to correct a deficit in its balance of payments. A deficit can be financed by capital inflows. When capital is perfectly mobile within countries, a small rise in the domestic rate of interest brings a large inflow of capital. The balance of payments is said to be in equilibrium, when the domestic interest rate equals the world rate. If the domestic interest rate is higher than the world rate, there will be capital inflows and the balance of payments deficit is corrected.

##### **4. Adjustment through Income Changes**

Given the foreign exchange rate and prices in a country, an increase in the value of exports, causes an increase in the incomes of all persons associated with the

export industries. These, in turn, create demand for goods and services within the country. This will raise the incomes of persons engaged in the latter industries and services. This process will continue and the national income increases by value of the multiplier.

#### **5. Stimulation of Exports and Import Substitutes**

A deficit in the balance of payments can also be corrected by encouraging exports. Exports can be encouraged by producing quality products, by reducing exports through increased production and productivity and by better marketing. They can also be increased by a policy of import substitution. It means that the country produces those goods which it imports. In the beginning, imports are reduced but in the long-run exports of such goods start. An increase in exports causes the national income to rise by many times through the operation of the foreign trade multiplier.

#### **6. Expenditure-Reducing policies**

A deficit in the balance of payments implies an excess of expenditure over income. To correct it, expenditure and income should be brought into equality. For this expenditure reducing monetary and fiscal policies are used. A contractionary or tight monetary policy relates to cut in interest rates to reduce money supply and a contractionary fiscal policy relates to reduction in government expenditure and/or increase in taxes. Thus, expenditure reducing policies reduce aggregate demand through higher taxes and interest rates, thereby reducing expenditure and output. The reduction in expenditure and output, in turn, reduces the domestic price level. This gives rise to switching of expenditure from foreign to domestic goods. Consequently, the country's imports are reduced and the balance of payments deficit is corrected.

##### **1.6.6 Foreign Exchange Rate**

The foreign exchange rate or exchange rate is the rate at which one currency is exchanged for another. It is the price of one currency in terms of another currency. It is customary to define the exchange rate as the price of one unit of the foreign currency in terms of the domestic currency. The exchange rate between the dollar and the pound refers to the number of dollars required to purchase a pound. Thus, the exchange rate between the dollar and the pound from the US viewpoint is expressed as \$ 2.50 = £ 1. The Britishers would express it as the number of pounds required to get one dollar, and the above exchange rate would be shown as £0.40 = \$ 1.

The exchange rate of \$ 2.50 = £ 1 or £ 0.40 = \$ 1 will be maintained in the world foreign exchange market by arbitrage. *Arbitrage refers to the purchase of a foreign currency in a market where its price is low and to sell it in some other market where its price is high.* The effect of arbitrage is to remove differences in the foreign exchange rate of currencies so that there is a single exchange rate in the world foreign

exchange market. If the exchange rate is \$ 2.48 in the London exchange market and \$ 2.50 in the New York exchange market, foreign exchange speculators, known as arbitrageurs, will buy pounds in London and sell them in New York, thereby making a profit of 2 cents on each pound. As a result, the price of pounds in terms of dollars rises in the London market and falls in the New York market. Ultimately, it will equal in both the markets and arbitrage comes to an end. If the exchange rate between the dollar and the pound rises to \$ 2.60 = £ 1 through time, the dollar is said to depreciate with respect to the pound, because now more dollars are needed to buy one pound. When the rate of exchange between the dollar and the pound falls to \$ 2.40 = £ 1, the value of the dollar is said to appreciate because now less dollars are required to purchase one pound. If the value of the first currency depreciates that of the other appreciates, and vice versa. Thus, a depreciation of the dollar against the pound is the same thing as the appreciation of the pound against the dollar and vice versa.

#### **1.6.6.1 Determination of Equilibrium Exchange Rate**

The exchange rate in a free market is determined by the demand for and the supply of foreign exchange. The equilibrium exchange rate is the rate at which the demand for foreign exchange equals to supply of foreign exchange. In other words, it is the rate which clears the market for foreign exchange. There are two ways of determining the equilibrium exchange rate. The rate of exchange between dollars and pounds can be determined either by the demand and supply of dollars with the price of dollars in pounds, or by the demand and supply of pounds with the price of pounds in dollars. Whatever method is adopted, it yields the same result. The analysis that follows is based on the dollar price in terms' of pounds.

The demand for foreign exchange is a derived demand from pounds. It arises from import of British goods and services into the US and from capital movements from the US to Britain. In fact, the demand for pounds implies a supply of dollars. When the US businessmen buy British goods and services and make capital transfers to Britain, they create demand for British pounds in exchange for US dollars because they cannot make payments to Britain in their currency, the US dollars.

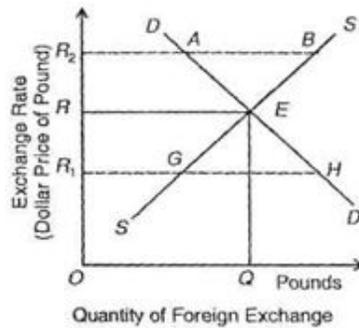
The demand curve for pounds *DD*. is downward sloping from left to right in Figure 1. It implies that the lower the exchange rate on pounds, the larger will be the quantity of pounds demanded in the foreign exchange (US) market, and vice versa. This is because a lower exchange rate on pounds make British exports of goods and services cheaper in terms of dollars. The opposite happens if the exchange rate on pound is higher. It will make British goods and services dearer in terms of dollars, and the demand for pounds will fall in the foreign exchange (US) market.

But the shape of the demand curve for foreign exchange will depend on the elasticity of demand for imports. If a country imports necessities and raw materials,

we may expect the elasticity of demand for imports to be low and the quantity imported to be insensitive to price changes. If, on the other hand, the country imported luxury goods and goods for which suitable substitutes exist, demand elasticities for imports might be high. If the country has many well-developed import competing industries, the elasticity of demand for imports most certainly is high. In the short-run, elasticity of demand for imports may not be very high. In the long-run, however, it is much more probable that the production pattern will alter according to price changes and the demand for imports, therefore, will be more elastic.

The supply of foreign exchange in our case is the supply of pounds. It arises from the US exports of goods and services and from capital movements from the US to Britain. Pounds are offered in exchange for dollars because British holders of pounds wish to make payments in dollars. Thus, the supply of foreign exchange reflects the quantities of pounds that would be supplied in the foreign exchange market at various dollar prices of pounds.

The supply curve for pounds  $SS$  is an upward sloping curve as shown in Fig. 58.1. It is a positive function of the exchange rate on pounds. As the exchange rate on pounds increases, the greater is the quantity of pounds supplied in the foreign exchange market. This is because with increase in the dollar price of pounds (lower pounds price of dollars), US goods, services and capital funds become better bargains to holders of pounds. Therefore, the holders of pounds will offer larger quantities of pounds with the increase in the exchange rate.



Figure

But the shape of supply curve of foreign exchange will be determined by the elasticity of the supply curve. As the value of the country's own currency increases, imports become relatively cheaper, and more is imported. As more is imported, more of the home currency is supplied in the foreign exchange market, provided elasticity is greater than unity. When imports become relatively cheap, new goods will start to be imported and domestic import-competing industry will be gradually eliminated by

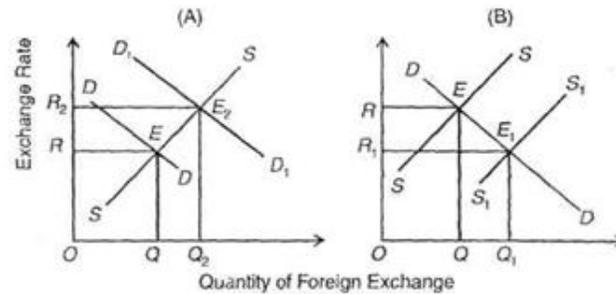
imports.

### **Equilibrium Exchange Rate**

Given the demand and supply curves of foreign exchange, the equilibrium exchange rate is determined where  $DD$ , the demand curve for pounds intersects  $SS$ , the supply curve of pounds. They cut each other at point  $E$  in Figure 1. The equilibrium rate is  $OR$  and  $OQ$  of foreign exchange is demanded and supplied. At  $OR$  exchange rate the US demand for pounds equals the British supply of pounds and the foreign exchange market is cleared. At any higher rate than this, the supply of pounds would be larger than the demand for pounds so that some people who wish to convert pounds into dollars will be unable to do so. The price of pounds will fall, less pounds will be supplied and more will be demanded. Ultimately, the equilibrium rate of exchange will be re-established. In Fig. when the exchange rate increases to  $OR_2$ , the supply of pounds is more than the demand for pounds. With the fall in the price of pounds, the equilibrium exchange rate  $OR_2$  is again established at point  $E$ . On the contrary, at an exchange rate lower than this, say  $OR_1$  the demand for pounds is greater than the supply of pounds. Some people who want pounds will not be able to get them. The price of pounds will rise which will reduce the demand and increase the supply of pounds so that the equilibrium exchange rate  $OR$  is re-established at point  $E$  where the two curves  $DD$  and  $SS$  intersect.

Suppose there is a shift upward in the US demand for pounds as shown by the upward shifting of the  $DD$  curve to  $D_1D_1$  in Fig. (A). This may be due to increase in the US tastes for British goods, an increase in the US national income etc. which increases the demand for imported goods in the US. With the shifting up of the demand curve to  $D_1D_1$  the US dollar depreciates and the British pound appreciates which re-establish the new equilibrium exchange rate  $OR_2$  at point  $E_2$  where  $OQ_2$  quantity of foreign exchange is demanded and supplied.

On the other hand, if the supply of pounds increases and the supply curve shifts down in Fig. (B), the value of pounds depreciates and that of dollars appreciates. This automatically brings about a new equilibrium exchange rate  $OR_1$  at point  $E_1$  in Panel (B) where the  $S_1S_1$  curve intersects the  $DD$  curve. At the new equilibrium exchange rate  $OR_1$   $OQ_1$  of foreign exchange is demanded and supplied. The supply of pounds may increase due to the increase in the tastes of Britishers for the US goods, the increase in the national income of Britain, etc.



Figure

Thus, under flexible exchange rates equilibrium rate of exchange will prevail which will clear the market and keep the balance of payments in equilibrium.

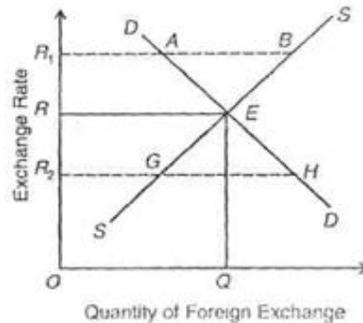
### 1.6.7 The Balance of Payments Theory

According to this theory, under free exchange rates the exchange rate of the currency of a country depends upon its balance of payments. A favourable balance of payments raises the exchange rate, while an unfavourable balance of payments reduces the exchange rate. Thus, the theory implies that the exchange rate is determined by the demand for the supply of foreign exchange.

The demand for foreign exchange arises from the debit side of the balance of payments. It is equal to the value of payments made to the foreign country for goods and services purchased from it plus loans and investments made abroad. The supply of foreign exchange arises from the credit side of the balance of payments. It equals all payments made by the foreign country to our country for goods and services purchased from us plus loans disbursed and investments made in this country. The balance of payments balances if debits and credits are equal. If debits exceed credits, the balance of payments is unfavourable. On the contrary, if credits exceed debits it is favourable. When the balance of payments is unfavourable, it means that the demand for foreign currency is more than its supply. This causes the external value of the domestic currency to fall in relation to the foreign currency. Consequently, the exchange rate falls. On the other hand, in case the balance of payments is favourable, the demand for foreign currency is less than its supply at a given exchange rate. This causes the external value of the domestic currency to rise in relation to the foreign currency. Consequently, the exchange rate rises.

When the exchange rate falls below the equilibrium exchange rate in a situation of adverse balance of payments, exports increase and the adverse balance of payments is eliminated, and the equilibrium exchange rate is re-established. On the other hand, when under a favourable balance of payment situation, the exchange rate rises above the equilibrium exchange rate, exports decline, the favourable balance of

payments disappears and the equilibrium exchange rate is re-established. Thus, at any point of time, the rate of exchange is determined by the demand for and the supply of foreign exchange as represented by the debit and credit side of the balance of payments. "Any change in the conditions of demand or of supply reflects itself in a change in the exchange rate, and at the ruling rate the balance of payments balances from day to day or from moment to moment."



Figure

The determination of exchange rate under the balance of payments theory is illustrated in Fig.  $DD$  is the demand curve for foreign currency. It slopes downward to the left because when the rate of exchange rises, the demand for foreign currency falls, and vice versa.  $SS$  is the supply curve of foreign exchange which slopes upwards from left to right. This is because when the exchange rate falls, the amount of foreign currency offered for sale will be less, and *vice versa*. The two curves intersect at  $E$  where  $OR$  equilibrium exchange rate is determined.  $E$  is also the point where the balance of payments is in equilibrium. Any exchange rate above or below  $OR$  will mean disequilibrium in the balance of payments. Suppose the exchange rate rises to  $OR_1$ . The demand for foreign exchange  $R_1A$  is less than its supply  $R_1B$ . It means that there is a favourable balance of payments. When the exchange rate is more than the equilibrium rate, exports decline and imports increase. Consequently, the demand for foreign exchange will rise and the supply will fall. Ultimately, the equilibrium exchange rate  $OR$  will be restored where demand and supply of foreign exchange equals at point  $E$ . In the opposite case, when the exchange rate falls below the equilibrium rate to  $OR_2$ , the demand for foreign exchange is greater than its supply. It implies an unfavourable balance of payments. But fall in the exchange rate leads to increase in exports and decline in imports. As a result, the demand for foreign currency starts falling and the supply starts rising till the equilibrium exchange rate  $OR$  is re-established with the equality of demand and supply of foreign exchange at point  $E$ .

However, according to this theory, the demand and supply of foreign exchange are determined by factors that are independent of changes in the exchange rate. Such

factors are interest on foreign loans, reparation payments etc. Further, the demand for many items that enter into import trade is perfectly inelastic so that exchange rate changes do not affect them at all.

### **Criticism of the Theory**

The balance of payments theory has been criticised by economists on the following counts:

1. **Balance of Payments Independent of Exchange Rate:** The main defect of the theory is that the balance of payments is independent of the exchange rate. In other words, the theory states that the balance of payments determines the exchange rate. This is not wholly true because it is changes in the exchange rate that bring about equilibrium in the balance of payments.
2. **Neglects the Role of Price Level :** The theory neglects the role of the price level in influencing the balance of payments of a country and hence its exchange rate. But the fact is that price changes do affect the balance of payments and the exchange rates between countries.
3. **No Free Trade and Perfect Competition:** The theory is based on assumptions of free trade and perfect competition . This is unrealistic because free trade is not practised these days. Governments impose a number of restrictions to reduce imports and adopt measures to encourage exports. This is how they try to correct disequilibrium in the balance of payments.
4. **Truism:** The theory presupposes that there is an equilibrium exchange rate where balance of payments balances. This is a truism. But the equilibrium exchange rate may not be one of balance of payments equilibrium. In fact, exchange rates between countries continue to prevail under conditions of surplus or deficit in the balance of payments and there is no tendency for the balance of payments to be in equilibrium over the long-run.
5. **Demand for Imported Raw Materials not Inelastic:** The theory has been criticised for the assumption that the demand for imported raw materials is inelastic. There is no raw material in the world the demand for which is perfectly inelastic.

### **1.6.8 Conclusion**

The above analysis is based on the assumption of fixed exchange rates. Thus, a deficit (or surplus) in the balance of payments is possible under a system of fixed exchange rates. But under freely floating exchange rates, there can in principle be no deficit (or surplus) in the balance of payments. The country can prevent a deficit (or surplus) by depreciating (or appreciating) its currency. Further, balance of payments always balances in an ex-post accounting sense, according to the basic principle of accounting.

**1.6.9 Short Answer Type Questions**

Write short notes on

1. Deficit in balance of payment
2. Exchange rate
3. Causes of disequilibrium in BOP
4. Equilibrium exchange rate

**1.6.10 Long answer Type Questions**

1. Discuss the Balance of Payments Theory of foreign exchange rates.
2. Examine the factors influencing the foreign exchange rates.
3. What are the measures to correct disequilibrium in balance of payments?

**1.6.11 Recommended Books**

G.K. Shaw: An Introduction to the Theory of Macroeconomic Policy

N.F. Kaiser: Readings in Macroeconomics

**Policy for Correcting Disequilibrium in Balance of Payments: Expenditure Reduction,  
Switching, Devaluation and Absorption Approach**

- 1.7.1 Introduction**
- 1.7.2 Objectives of lesson**
- 1.7.3 Expenditure-reduction policies**
- 1.7.4 Expenditure-switching policies**
- 1.7.5 Devaluation**
- 1.7.6 Absorption Approach**
- 1.7.7 Summary**
- 1.7.8 Short answer type questions**
- 1.7.9 Long answer type questions**
- 1.7.10 Suggested readings**

**1.7.1 Introduction**

The balance of payments is a summary of all the international transactions of a country and its citizens during a specified period of time. In the accounting sense, the balance of payments always remains in a state of balance but the necessity of accommodating capital flows clearly indicates that the countries have to contend with the problem of balance of payments disequilibrium.

**1.7.2 Objectives of the Lesson**

In this lesson we will discuss about the alternative methods for handling the disequilibrium in balance of payments deficit.

A deficit in the balance of payments entails an excess of expenditure over income. In order to correct it there is a need to equalise the two. The policies such as expenditure-reduction,

expenditure-switching, devaluation and absorption approach are used for correcting disequilibrium in balance of payments.

### **1.7.3 Expenditure-Reduction Policies**

A policy of expenditure-reduction or a reduction in aggregate demand can be implemented through taxes or higher interest rates. As the expenditure is lowered, a part of reduction in expenditure affects the domestic production. This brings multiplier in operation, through which the expenditure and output get further reduced.

A policy of expenditure-reduction can have both direct and indirect effects. The direct effects of such policies are favourable. The induced effect through lower output and consequently lower expenditure, however, will be unfavourable so long as a reduction in income reduces expenditure by a smaller amount, that is, if the marginal propensity to spend is less than one. Greater the initial reduction in expenditure on imports, smaller will be adverse effect of such policies. Thus so long as the marginal propensity to spend is less than unity, the net effect of an expenditure-reduction policy will be an improvement in the balance of payments deficit.

The expenditure reduction policies may include (i) Expenditure reducing monetary policy which is comprised of reduction in the supply of money and credit and increase in interest rates.

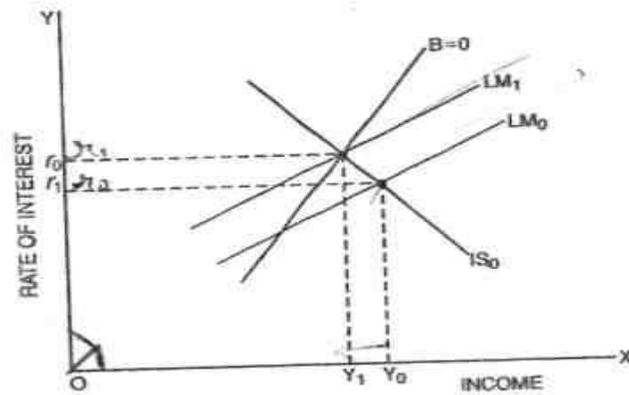
(ii) Expenditure reducing fiscal policy which is comprised of reduced government spending and increase in taxes.

As central bank restricts money supply and raises interest rates, there is reduction in investment and income. It leads to fall in aggregate demand for imported goods. A higher structure of interest rates also induces inflow of capital from abroad and restricts outflow of capital from the home country. Thus the expenditure-reduction monetary policy can result in the off-setting of BOP deficit.

The elimination of BOP deficit may also be brought through the government expenditure on imports and increase in import duties and other taxes lowering the aggregate demand. The restrictive fiscal policy will cause a decline in investment and consequent decline also in income

and aggregate demand. Thus expenditure reducing fiscal policies will remove the deficit in the international payments.

The effect of expenditure reducing monetary and fiscal policy on BOP deficit is explained through the help of figure 1.1.



In Figure 1.1, gives originally  $IS_0$  and  $LM_0$  functions, the equilibrium income is  $Y_0$  and rate of interest is  $r_1$ .  $B = 0$  is the balance of payments line. The equilibrium takes place below the BOP line signifying the BOP deficit. The adoption of expenditure reducing monetary policy including reduction in the supply, of money and increase in interest rates causes the shift in LM function to  $LM_1$ . The equilibrium between  $IS_0$  and  $LM_1$  takes place exactly at the balance of payments line with lower income  $Y_1$  and lower rate of interest  $r_0$

In this connection, two further points should also be made. Firstly, an expenditure reduction, by reducing the country's imports, will bring about multiple reduction in incomes abroad which in turn will reduce the foreign spending on the country's exports. As a result, the domestic output will decline. This is generally known as repurcussion effect. It was analysed by F. Machlup in his work, International trade and the National Income Multiplier.

Secondly, the reduction in expenditure and output may bring down the domestic price level. It may cause a switch of spending between the foreign and domestic goods.

**1.7.4 Expenditure-Switching Policies:** The policy of switching expenditure from the foreign produced goods towards the home produced goods will have the effect of raising the level of domestic production. So long as the marginal propensity to spend is less than unity, it will bring about an improvement in the payments deficit.

We can make a distinction, between two types of expenditure-switching policies. One is devaluation, which by making the country's goods relatively cheaper compared with foreign goods, will tend to switch both domestic and foreign expenditures towards the home-produced goods. The other is the use of import restrictions, which tends to divert the spending of domestic consumers, now unable to buy foreign-produced goods, towards the home-produced substitutes of foreign products. The control may also be imposed sometimes to stimulate exports or, in other words, to induce the foreigners to switch their spending towards domestic output.

Whatever is the expenditure-switching policy, the aim always is to raise the demand for domestic. This poses the questions: wherefrom will come the traditional output to meet the requirements of additional demand? This problem can be investigated in relation to three possible cases.

The first is the case in which domestic economy is afflicted by wide-spread unemployment. In such a case, a switch of demand towards home-produced goods will ensure an increase in domestic output and income through the increased utilization of unemployed resources.

The second case is one in which, there is a state of full employment in the economy and the policy of expenditure-switching is backed by a policy of reducing the aggregate demand. This combination of policies can ensure the balance of payments equilibrium without sacrificing full employment. However, a policy of reduction in aggregate demand can result in unemployment at home. In that case, the accompanying policy of switch of expenditure from foreign-produced goods to home-produced goods is employed to remove any such possibility of unemployment.

The third case is one in which the expenditure-switching policy is adopted in a state of full employment. In this case, the switch policy is not supplemented by the expenditure-reducing policy and, therefore, the inflationary consequences will follow.

### 1.7.5 Devaluation and Balance of payment adjustment

In a country having a stable or pegged exchange rate, the removal of balance of payments deficit can be possible through a deliberate policy measure of devaluation. The devaluation of a currency means the deliberate lowering down of the external value of a unit of home currency expressed in terms of gold, SDR's or a foreign currency by an official edict.

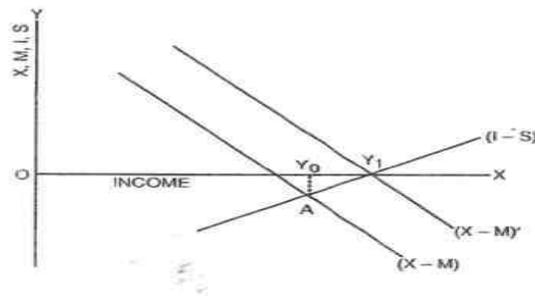
Devaluation is distinct from exchange depreciation in that the latter involves the reduction in the exchange value of home currency on account of the free working of market forces. Devaluation, on the contrary, is the result of deliberate government decision for the achievement of balance of payments equilibrium.

Indian rupee underwent devaluation in September 1949 against pound sterling by 30.5 percent. This measure was a defensive reaction to the devaluation of pound sterling by the United Kingdom. As India's 75 percent external trade was with Britain, its exports could have suffered grievously. The rate of exchange between rupee and pound sterling prior to devaluation was 1 Re = 30.225 cents and after devaluation it was 1 Re = 21 cents. Given these rates of exchange, the rate of devaluation can be computed as below:

$$\text{Rate of Devaluation} = \frac{21-30.225}{30.225} = \frac{-9.225}{30.225} = -30.5 \text{ percent}$$

Rupee was devalued again in June 1966 by 36.5 percent against pound sterling and the U.S. dollar. This measure was directed to rationalize the exchange rate, to increase the competitiveness of Indian exports in foreign markets, to promote import substitution and to offset the balance of payments deficit. In July 1991, the Indian rupee was allowed to readjust the exchange rate with the U.S. dollar and pound sterling. This had become necessary on account of sluggish growth of exports and consequent increasing balance of payments deficit. This resulted in a decline in the exchange value of rupees between 20.45 percent and 23.07 percent in relation to major world currencies. As devaluation is undertaken, the home currency becomes cheaper relative to the foreign currency. The foreigners start thinking that the devaluating country has become a cheaper market. Therefore, they direct their "demand to that market and the devaluing country finds opportunities to expand its exports. At the-same time, the importers of the devaluing country start feeling that the foreign market

has become relatively more costly. This leads to a reduction in the demand for foreign products. The consumer starts switching their demand to the home-produced goods. This encourages the substitution of home-produced goods in place of foreign products. Thus devaluation helps in improving the balance of payments through promoting exports and restricting imports. Even the advanced countries, including the U.S.A, Britain, France, Germany and Japan have resorted to this measure as and when the situation warranted the adoption of it. The immediate effect of devaluation is an increase in exports and reduction in imports so that the balance of payments deficits can either be reduced or completely eliminated. The achievement of balance of payments equilibrium through devaluation can be explained with the help of following Figure 1.2.



In Figure 1.2,  $(X-M)$  is the net exports or balance of payments function. It varies inversely with income.  $(I-S)$  is the net investment function which varies directly with the level of income. Initially given  $(X-M)$  and  $(I-S)$  function, the equilibrium takes place at the income  $Y_0$ . In this equilibrium position, there is a balance of payments deficit amounting to  $AY_0$ . The devaluation of home currency enlarges exports and reduces imports so that  $(X-M)$  shifts upto  $(X-M)'$ . Its intersection with  $(I-S)$  takes place exactly at the horizontal scale at the income  $Y_1$ . Since no gap is left between  $(X-M)$  and the horizontal scale, the BOP deficit has been completely wiped out.

In connection with devaluation it should be remembered that the beneficial effects of devaluation are not permanent. These can be available only for a limited time period until the cost-price structure abroad and in the home country does not adjust to the new exchange parity. The devaluation can bear the desired results and affect payments deficit under the following condition:

1 The demand for the exports of devaluing country in the foreign country and the demand for foreign products in the former should be more elastic. If the demand for the exports of devaluing country India in foreign markets is inelastic and the demand for imports from abroad is also inelastic, the devaluation is not likely to improve the balance of payment deficit. On the contrary, the BOP situation for the devaluing country is likely to get worsened.

2 The cost-price structure in the devaluing country should not react in a manner after devaluation that its favourable effects are neutralized. The export prices must be held stable through appropriate governmental restraints upon the activities of speculators and profiteers who are likely to exploit devaluation for raising the prices.

3 The devaluation by one country should not be offset by other governments through counter-devaluation measures. *Firstly*, They should not raise import tariffs on their imports from the devaluing country. Such a policy will neutralise the likely beneficial effects for the devaluing country in the form of larger exports. *Secondly*, the other countries should not readjust their internal cost-price structure at the lower level through export subsidies. Such a policy will make it difficult for the devaluing country to reduce her imports. *Thirdly*, the foreign countries should not themselves resort to devaluation.

There are two alternative approaches to analyse the effect of devaluation upon the balance of payment situation - (i) the elasticity approach and (ii) the absorption approach.

### **Elasticity approach or Marshall- Lerner condition**

The elasticity approach to BOP is associated with the Marshall- Lerner condition which was worked out independently by these two economists. It studies the condition under which exchange rate changes restore equilibrium in BOP by devaluing a country's currency. This approach is related to the price effect of devaluation. The extent by which devaluation can effect an improvement in the payments deficit of a country depends upon the magnitude of the price elasticities of demand for and supply of imports. If the elasticity of demand for exports of the devaluing country are less than unity ( $\eta_x < 1$ ), the devaluation will not reduce the payments deficit of the country. The balance of payments stringencies, on the opposite, are likely to rise. The devaluation of currency, by say 20 percent, given the elasticity of demand for exports less

than unity will increase the volume of exports by less than 20 percent. This is the positive factor resulting from devaluation. On the opposite, the price per unit of the export goods will fall by 20 percent. This is the negative factor which more than off-sets the positive factor. This may result in the negative net effect on the foreign exchange earned by the country.

**Assumptions of this approach:**

1. Product prices are fixed in domestic currency
2. Supplies of exports and imports are perfectly elastic
3. Income levels are fixed in the devaluing country
4. The supply elasticities are large
5. The price elasticities of demand for exports and imports are arc elasticities
6. Price elasticities refer to absolute values
7. The country's current account balance equals in trade balance.

**The explanation of the theory**

As per the given assumptions, when a country devalues its currency, the domestic prices of its imports are raised and the foreign prices of its exports are reduced. Thus devaluation helps to improve BOP deficit of a country by increasing its exports and reducing imports. But the extent to which it will succeed depends on the country's price elasticities of domestic demand for the imports and foreign demand for exports. This is what the Marshall-Lerner condition states that when the sum of price elasticities of demand for exports and imports in absolute terms is greater than unity, devaluation will improve the country's balance of payments, i. e.

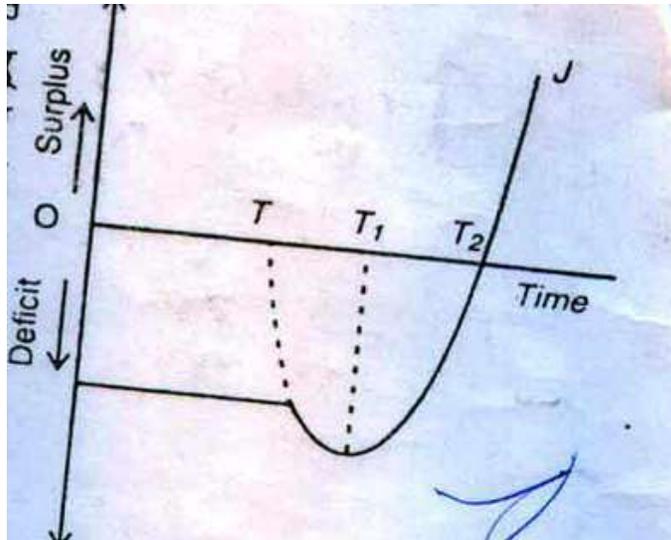
$$e_x + e_m > 1$$

where  $e_x$  is the demand elasticity of exports and  $e_m$  is the demand elasticity for imports. On the contrary, if the sum of price elasticities of demand for exports and imports in absolute terms is less than unity,  $e_x + e_m < 1$ , devaluation will worsen the BOP. If the sum of these elasticities in absolute terms is equal to unity,  $e_x + e_m = 1$ , devaluation has no effect on the BOP situation which will remain unchanged. The following is the process through which the Marshall-Lerner condition operates in removing BOP deficit of a devaluing country.

Devaluation reduces the domestic prices of exports in terms of the foreign currency. With low prices, exports increase. The extent to which they increase depends on the demand elasticity for exports. It also depends on the nature of goods exported and the market conditions. If the country is the sole supplier and exports are raw materials or perishable goods, the demand elasticity for its exports will be low. If it exports machinery, tools and industrial products in competition with other countries, the elasticity of demand for its products will be high and devaluation will be successful in correcting a deficit.

Devaluation has also the effect of increasing the domestic price of imports which will reduce the imports of goods. By how much the volume of imports will decline depends on the demand elasticity of imports. The demand elasticity of imports, in turn, depends on the nature of goods imports by the devaluing country. If it imports consumer goods, raw materials and inputs for industries, its elasticity of demand for imports will be low. It is only when the import elasticity of demand for products is high that devaluation will help in correcting a deficit in the balance of Payments. Thus it is only when the sum of the elasticity of demand for exports and the elasticity of demand for imports is greater than one that devaluation will improve the balance of payments of a country.

**The J- Curve Effect:** Empirical evidence shows that the Marshall-Lerner condition is satisfied in the majority of advanced countries. But there is general consensus among the economists that both demand-supply elasticities will be greater in the long run than in the short run. The effects of devaluation on domestic prices and demand for exports and imports will take time for consumers and producers to adjust themselves to the new situation. The short-run price elasticities of demand for exports and imports are lower and they do not satisfy the Marshall- Lerner condition. Therefore, to begin with, devaluation makes the BOP worse in the short-run and then improves it in the long-run. This traces a J-shaped curve through time. This is known as J-Curve effect of devaluation.



In the above figure time is taken on the horizontal axis and deficit-surplus on the vertical axis. Suppose devaluation takes place at time  $T$ . In the beginning, the curve  $J$  has a big loop which shows increase in BOP deficit beyond  $D$ . It is only after time  $T_1$  that it starts sloping upwards and the deficit begins to reduce. At time  $T_2$  there is equilibrium in BOP and then the surplus arises from  $T_2$  to  $J$ . If the Marshall-Lerner condition is not satisfied in the long run the  $j$ -curve will flatten out to  $F$  from  $T_2$ .

However, in case the country is on a flexible exchange rate, BOP will get worse when there is devaluation of its currency. Due to devaluation, there is excess supply of currency in the foreign exchange market which may go on depreciating the currency. Thus the foreign exchange market becomes unstable and the exchange rate may overshoot its long-run value.

**The elasticity approach has the following defects:**

1. **Perfectly elastic supply of exports and imports:** Such an assumption is clearly not realistic. If the devaluing country is not in a position to enlarge the production of exportable commodities, the earnings from exports can be raised. Thus supply inelasticities set a serious limitation upon the success of devaluation in correcting the BOP deficit.

2. **Neglect of income distribution:** Devaluation results in reallocation of productive resources from other sectors to the export sector and the import-substitution sector. This leads to a redistribution of income in the economy.
3. **Applicable in the long-run:** As discussed above in the J-curve effect of devaluation, the Marshall-Lerner condition is applicable in the long-run and not in the short run. This is because it takes time for consumers and producers to adjust themselves when there is devaluation of the domestic currency.
4. **Ignore capital flows:** This approach is applicable to BOP on current account or balance of trade. But BOP deficit of a country is mainly the result of the outflow of capital. It thus ignores BOP on capital account. Devaluation as a remedy is meant to cut imports and the outflow of capital and increase exports and the inflow of capital.
5. **Inadequacy of elasticity approach:** This approach alone is not sufficient to determine the success or failure of devaluation in a particular country. Even if the sum of elasticities of demand for exports and imports is more than unity, it does not necessarily mean that the devaluing country will be benefitted.
6. **Partial equilibrium approach:** The elasticity approach rests upon highly unrealistic assumptions such as full employment of resources, stability of domestic prices and incomes and absence of restrictions upon reallocation of resources. Given these assumptions, the entire analysis is essentially a partial equilibrium analysis.

### 1.7.6 Absorption Approach

The absorption approach to balance of payments is general equilibrium in nature and is based on the Keynesian national income relationships. It is, therefore, also known as the Keynesian approach. It runs through the income effect of devaluation as against the price effect to the elasticity approach. The theory states that if a country has a deficit in its balance of payments, it means that people are 'absorbing' more than they produce. Domestic expenditure on consumption and investment is greater than national income. If they have a surplus in the balance of payments, they are absorbing less. Expenditure on consumption and investment is less than national income. Here the BOP is defined as the difference between national income and domestic expenditure.

This approach was developed by Sydney Alexander. The analysis can be explained in the following form

$$Y = C + I_d + G + X - M \quad \dots(1)$$

where Y is national income, C is consumption expenditure,  $I_d$  total domestic investment, G is autonomous government expenditure, X represents exports and M imports.

The sum of  $(C + I_d + G)$  is the total absorption designated as A, and the balance of payments  $(X - M)$  is designated as B. Thus Equation (1) becomes

$$Y = A + B$$

$$\text{or} \quad B = Y - A \quad \dots(2)$$

which means that BOP on current account is the difference between national income (Y) and total absorption (A). BOP can be improved by either increasing domestic income or reducing the absorption. For this purpose, Alexander advocates devaluation because it acts both ways. First, devaluation increases exports and reduces imports, thereby increasing the national income. The additional income so generated will further increase income via the multiplier effect. This will lead to an increase in domestic consumption. Thus the net effect of the increase in national income on the balance of payments is the difference between the total increase in income and the induced increase in absorption, i.e.,

$$\Delta B = \Delta Y - \Delta A \quad \dots(3)$$

Total absorption ( $\Delta A$ ) depends on the marginal propensity to absorb when there is devaluation. This is expressed as a. Devaluation also directly affects absorption through the change in income which we write as D. Thus

$$\Delta A = a\Delta Y + \Delta D \quad \dots(4)$$

Substituting equation (4) in (3), we get

$$\Delta B = \Delta Y - a\Delta Y + \Delta D$$

or 
$$\Delta B = (1-a)\Delta y + \Delta D \quad \dots(5)$$

The equation points toward three factors which explain the effects of devaluation on *BOP*. They are: (i) the marginal propensity to absorb (*a*), (ii) change in income ( $\Delta Y$ ), and (iii) change in direct absorption ( $\Delta D$ ). It may be noted that since *a* is the marginal propensity (*MP*) to absorb, (1-*a*) is the propensity to hoard or save. These factors, in turn, are influenced by the existence of unemployed or idle resources and fully employed resources in the devaluing country.

**1. MP to Absorb.** To take the MP to absorb, it is less than unity ( $a < 1$ ), with idle resources in the country, devaluation will increase exports and reduce imports. Output and income will rise and BOP on current account will improve. If, on the other hand,  $a > 1$ , there will be an adverse effect of devaluation on BOP. It means that people are absorbing more or spending more on consumption and investing more. In other words, they are spending more than the country is producing. In such a situation, devaluation will not increase exports and reduce imports, and BOP situation will worsen. Under conditions of full employment if  $a > 1$ , the government will have to follow expenditure reducing policy measures along with devaluation whereby the resources of the economy are so reallocated as to increase exports and reduce imports. Ultimately, BOP situation will improve.

**2. Income Effects.** The income effects of devaluation shows that, if there are idle resources, devaluation increases exports and reduces imports of the devaluing country. With the expansion of export and import-competing industries, income increases. The additional income so generated in the economy will further increase income via the multiplier effect. This will lead to improvement in BOP situation. If resources are fully employed in the economy, devaluation cannot correct an adverse BOP because national income cannot rise. Rather, prices may increase thereby reducing exports and increasing imports, thereby worsening the BOP situation.

**3. Terms of Trade Effect.** The effect of devaluation on national income is also through its effects on the terms of trade. The conditions under which devaluation worsens the terms of trade, national income will be adversely affected, and vice versa. Generally, devaluation worsens the terms of trade because the devaluing country has to export more goods in order to import the

same quantity as before. Consequently, the trade balance deteriorates and national income declines. If prices are fixed in buyer's (other country's) currency after devaluation, the terms of trade improve because exports increase and imports decline. The importing country pays more for increased exports of the devaluing country than it receives from its imports. Thus the trade balance of the devaluing country improves and its national income rises,

**4. Direct Absorption.** Devaluation affects direct absorption in a number of ways. If the devaluing country has idle resources, an expansionary process will start with exports increasing and imports declining. Consequently, income will rise and so will absorption. If the increase in absorption is less than the rise in income, BOP will improve. Generally, the effect of devaluation on direct absorption is not significant in a country with idle resources. If the economy is fully employed and has also a BOP deficit, national income cannot be increased by devaluing the currency. So an improvement in BOP can be brought about by reduction in direct absorption. Domestic absorption can fall automatically as a result of devaluation due to real cash balance effect, money illusion and income redistribution.

**5. Real Cash Balance Effect.** When a country devalues its currency, its domestic prices rise. If the money supply remains constant, the real value of cash balances held by the people falls. To replenish their cash balances, people start saving more. This can be possible only by reducing their expenditure or absorption. This is the real cash balance effect of devaluation. If people hold assets and when devaluation reduces their real cash balances, they sell them. This reduces the prices of assets and increases the interest rate. This, in turn, will reduce investment and consumption, given the constant money supply. As a result, absorption will be reduced. This is the asset effect of real cash balance effect of devaluation.

**6. Money Illusion Effect.** The presence of money illusion also tends to reduce direct absorption. When prices rise due to devaluation, consumers think their real incomes have fallen, even though their money incomes have risen. They have the money illusion under whose influence they reduce their consumption expenditure or direct absorption.

**1.7. Income Re-distribution Effect.** Direct absorption falls automatically if devaluation redistributes income in favour of people with high marginal propensity to save and against those

with high marginal propensity to consume. If the marginal propensity to consume of workers is higher than those of profit-earners, absorption will be reduced. Further, when money incomes of lower income groups increase with devaluation, they enter the income tax bracket. When they start paying income tax, they reduce their consumption as compared with higher income groups which are already paying the tax. This leads to reduction in absorption in case of the former.

Income redistribution also takes place between production sectors after devaluation. Those sectors whose prices rise more than their costs of production earn more profits than the other sectors whose costs rise more than their prices. Thus the effect of devaluation will be to redistribute income in favour of the former sectors.

Devaluation will also redistribute income in favour of sectors producing and selling traded goods and against non-traded goods sectors. Prices of traded goods rise more than that of non-traded goods. As a result, profits of producers and traders and wages of workers producing traded goods rise more as compared to those engaged in non-traded goods.

**8. Expenditure-Reducing Policies.** Direct absorption is also reduced if the government adopts expenditure-reducing monetary-fiscal policies which are deflationary. They will make devaluation successful in reducing BOP deficit. But they will create unemployment in the country.

**Criticisms: The absorption approach to BOP deficit has been criticised on the following grounds:**

- 1 Neglects Price Effects. This approach neglects the price effects of devaluation which are very important.
- 2 Calculation Difficult. Analytically, it appears to be superior to the elasticity approach but propensities to consume, save and invest cannot be accurately calculated.
- 3 Ignores Effects on Other Countries. The absorption approach is weak in that it relies too much on policies designed to influence domestic absorption. It does not study the effects of devaluation on the absorption of other countries.
- 4 Not Operative in a Fixed Exchange Rate System. The absorption approach fails as a corrective measure of BOP deficit under a fixed exchange rate system. When prices rise

with devaluation, people reduce their consumption expenditure. With money supply remaining constant, interest rate rises will bring a fall in output along with absorption. Thus devaluation will have little effect on BOP deficit.

5 More Emphasis on Consumption. This approach places more emphasis on the level of domestic consumption than on relative prices. A mere reduction in the level of domestic consumption for reducing absorption does not mean that resources so released will be redirected for improving BOP deficit.

### 1.7.7 Summary

In this lesson we have discussed that how different policies are helpful for correcting balance of payments disequilibrium problem. A policy of expenditure-reduction or a reduction in aggregate demand can be implemented through taxes or higher interest rates. As the expenditure is lowered, a part of reduction in expenditure affects the domestic production. This brings multiplier in operation, through which the expenditure and output get further reduced. The policy of switching expenditure from the foreign produced goods towards the home produced goods will have the effect of raising the level of domestic production. The devaluation of a currency means the deliberate lowering down of the external value of a unit of home currency expressed in terms of gold, SDR's or a foreign currency by an official edict. The absorption approach states that if a country has a deficit in its balance of payments, it means that people are 'absorbing' more than they produce. An appropriate blend of all the measures mentioned above can ensure improvement in the balance of payments situation of a country.

### 1.7.8 Short answer type questions

- a. Explain the BOP adjustment through expenditure-reduction policies?
- b. Explain the expenditure-switching policies?
- c. What is meant by devaluation?
- d. What are the conditions necessary for the success of devaluation?
- e. Discuss the elasticity approach to devaluation?
- f. What is meant by absorption approach?
- g. What is the J-curve effect?
- h. Define Marshall-Lerner conditions?

**1.7.9 Long answer type questions**

- a. Discuss devaluation as a measure for correcting BOP deficit. What are conditions necessary for its success?
- b. Explain in detail the absorption approach to devaluation?
- c. Explain the expenditure-reduction and expenditure-switching policies. How can they correct BOP deficit?
- d. Explain clearly the Elasticity approach to devaluation. What are the grounds on which it is criticised?

**1.7.10 Suggested readings**

1. C. P. Kindleberger: International Economics
2. Bo, Soderston & Geoffrey Reed: International Economics
3. D. K. Salvatore: International Economics
4. K. C. Rana & Verma, K. N: International Economics

### **Monetary Approach and Exchange Controls**

- 1.8.1 Introduction**
- 1.8.2 Objectives of lesson**
- 1.8.3 Monetary Approach**
- 1.8.4 Exchange Controls**
- 1.8.5 Summary**
- 1.8.6 Short answer type questions**
- 1.8.7 Long answer type questions**
- 1.8.8 Suggested readings**

#### **1.8.1 Introduction**

The monetary approach to the balance of payments is associated with the names of R. Mundell and H. Johnson. The other writers who have made contribution to it include R. Dornbusch, M. Mussa, D. Kemp and J. Frankel. The basic premise of the approach is the recognition that the BOP disequilibrium is fundamentally a monetary phenomenon. It attempts to explain the BOP deficits or surpluses through demand for and supply of money. Exchange controls, like other expenditure-switching policies, divert the domestic spending from the foreign produced goods and services to the home produced goods and services.

#### **1.8.2 Objectives of lesson**

In this lesson we will discuss about the monetary approach and exchange controls as a measures to solve the disequilibrium in balance of payments deficit. The role of monetary policy and exchange controls for adjusting the balance of payments disequilibrium is explained below:

### 1.8.3 Monetary Approach

The monetary approach to the balance of payments is an explanation of the overall balance of payments. It explains changes in balance of payments in terms of the demand for and supply of money. According to this approach, "a balance of payments deficit is always and everywhere a monetary phenomenon." Therefore, it can only be corrected by monetary measures.

#### Assumptions of the monetary approach

- 1 The 'law of one price' holds for identical goods sold in different countries, after allowing for transport costs.
- 2 There is perfect substitution in consumption in both the product and capital markets which ensures one price for each commodity and a single interest rate across countries.
- 3 The level of output of a country is assumed exogenously.
- 4 There is full employment of resources in all the countries
- 5 It is assumed that under fixed exchange rates the sterilisation of circular flows is not possible on account of the law of one price globally.
- 6 The demand for money is a stock demand and is a stable function of income, prices, wealth and interest rate.
- 7 The supply of money is a multiple of monetary base which includes domestic credit and the country's foreign exchange reserves.
- 8 The demand for nominal money balances is a positive function of nominal income.

#### Explanation of the Theory

On the basis of above assumptions, the monetary approach can be expressed in the form of the following relationship between the demand for and supply of money:

The demand for money ( $M_D$ ) is a stable function of income ( $y$ ), prices ( $p$ ) and rate of interest ( $i$ )

$$M_D = f(Y, P, i) \quad \dots(I)$$

The money supply ( $M_s$ ) is a multiple of monetary base ( $m$ ) which consists of domestic money (credit) ( $D$ ) and country's foreign exchange reserves ( $R$ ). Ignoring in for simplicity which is a constant,

$$M_s = D + R \quad \dots(2)$$

Since in equilibrium the demand for money equals the money supply,

$$M_D = M_s \quad \dots(3)$$

or 
$$M_D = D + R \quad [ \because M_s = D + R ] \quad \dots(4)$$

A balance of payments deficit or surplus is represented by changes in the country's foreign exchange reserves. Thus

$$\Delta R = \Delta M_D - \Delta D$$

or 
$$\Delta R = B \quad (6)$$

where  $B$  represents balance of payments which is equal to the difference between change in the demand for money ( $\Delta M_D$ ) and change in domestic credit ( $\Delta D$ ).

A balance of payments deficit means a negative  $B$  which reduces  $R$  and the money supply. On the other hand, a surplus means a positive  $B$  which increases  $R$  and the money supply.

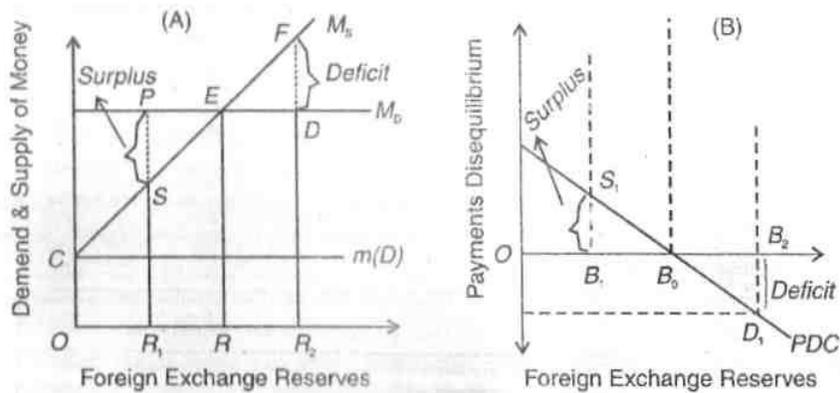
When  $B = 0$ , it means BOP equilibrium or no disequilibrium

The automatic adjustment mechanism in the monetary approaches is explained under both the fixed and flexible exchange rate systems.

**Under The Fixed Exchange Rate System,** assume that  $M_D = M_s$  that BOP (or  $B$ ) is zero. Now suppose the monetary authority increases domestic money supply, with no change in the demand for money. As a result,  $M_s > M_D$  and there is a BOP deficit. People who have larger cash balances increase their purchases to buy more foreign goods and securities. This tends to raise their prices and increase imports of goods and foreign assets. This leads to increase in expenditure on both current and capital accounts in BOP, thereby creating a BOP deficit. To maintain a fixed

exchange rate, the monetary authority will have to sell foreign exchange reserves and buy domestic currency. Thus the outflow of foreign exchange reserves means a fall in  $R$  and in domestic money supply. This process will continue until  $M_s = M_D$  and there will again be BOP equilibrium.

On the other hand, if  $M_s < M_D$  the given exchange rate, there will be a BOP surplus. Consequently, people acquire the domestic currency by selling goods and securities to foreigners. They will also seek to acquire additional money balances by restricting their expenditure relatively to their income. The monetary authority on its part, will buy excess foreign currency in exchange for domestic currency. There will be inflow of foreign exchange reserves and increase in domestic money supply. This process will continue until  $M_s = M_D$  and BOP equilibrium will again be restored. Thus a BOP deficit or surplus is a temporary phenomenon and is self-correcting (or automatic) in the long-run.



This is explained in figure 1.1. In Panel (A) of the figure,  $M_D$  is the stable money demand curve and  $M_s$  is the money supply curve. The horizontal line  $m(D)$  represents the monetary base which is a multiple of domestic credit,  $D$  which is also constant. This is the domestic component of money supply that is why the  $M_s$  curve starts from point  $C$ .  $M_s$  and  $M_D$  curves intersect at point  $E$  where the country's balance of payments is in equilibrium and its foreign exchange reserves are  $OR$ . In Panel (B) of the figure,  $PDC$  is the payments disequilibrium curve which is drawn as the vertical difference between  $M_s$  and  $M_D$  curves of Panel (A). As such, point  $B_0$  in Panel (B) corresponds to point  $E$  in Panel (A) where there is no disequilibrium of balance of payments.

If  $M_s < M_D$  there is BOP surplus of SP in Panel (A). It leads to the inflow of foreign exchange reserves which rise from  $OR_1$  to  $OR$  and increase the money supply so as to bring BOP equilibrium at point E. On the other hand, if  $M_s > M_D$ , there is deficit in BOP equal to DF. There is outflow of foreign exchange reserves which decline from  $OR_2$  to  $OR$  and reduce the money supply so as to reestablish BOP equilibrium at point E. The same process is illustrated in Panel (B) of the figure where BOP disequilibrium is self-correcting or automatic when there is  $B_1, S_1$  surplus and  $B_2, S_1$  deficit are equal.

Under a system of flexible (or floating) exchange rates, when  $B = 0$  there is no change in foreign exchange reserves (R). But when there is a BOP deficit or surplus, changes in the demand for money and exchange rate play a major role in the adjustment process without any inflow or outflow of foreign exchange reserves. Suppose the monetary authority increases the money supply ( $M_s > M_D$ ) and there is a BOP deficit. People have additional cash balances to buy more goods thereby raising prices of domestic and imported goods thereby raising prices of domestic and imported goods. There is depreciation of the domestic currency and a rise in the exchange rate. The rise in prices, in turn, increases the demand for money thereby bringing the equality of  $M_D$  and  $M_s$  without any outflow of foreign exchange reserves. The opposite will happen when  $M_D > M_s$ , there is fall in prices and appreciation of the domestic currency which automatically eliminates the excess demand for money. The exchange rate falls until  $M_D = M_s$  and BOP is in equilibrium without any inflow of foreign exchange reserves.

The monetary approach to the balance of payments has been criticised on the following basis:

- 1 **Demand for Money not Stable.** Critics do not agree with the assumption of stable demand for money. The demand for money is stable in the long run but not in the short run when it shows less stability.
- 2 **Full Employment not Possible.** Similarly, the assumption of full employment is not acceptable because there exists involuntary unemployment in countries.
- 3 **One Price Law Invalid.** Frankel and Johnson are of the view that the law of one price holds for identical goods sold is invalid. This is because when factors of production are drawn into sectors producing non-trading goods the excess demand for non-traded goods will spill over into reduced supplies of traded goods. This will lead to higher imports, and

disturb the law of one price for all traded goods.

**4 Market Imperfections.** There are also market imperfections which prevent the law of one price from working properly in many markets for traded goods. There may be price differentials due to the lack of information about overseas prices and trade regulations faced by traders.

**5 Sterilisation not Possible.** The assumption that the sterilisation of currency flows is not possible under fixed exchange rates, has not been accepted by critics. They argue that "the sterilisation of currency flows is entirely possible if the private sector is willing to adjust the composition of its wealth portfolio with regard to the relative importance of bonds and money balances, or if the public sector is prepared to run a higher budget deficit whenever it has a balance of payments deficit with which to contend."

**6 Link between BOP and Money Supply not Valid.** The monetary approach is based upon direct link between BOP of a country and its total money supply. This has been questioned by economists. The link between the two depends upon the ability of the monetary authority to neutralise the inflows and outflows of foreign exchange reserves when there is BOP deficit and surplus. This requires some degree of sterilisation of external flows. But this is not possible due to globalisation of financial markets.

**7 Neglects Short Run.** The monetary approach is related to the self correcting long-run equilibrium in BOP. This is unrealistic because it fails to describe the short time through which the economy passes to reach the new equilibrium. As pointed out by Prof. Krause, the monetary approach's "concentration on the long-run assumes away all of the problems that make the balance of payments a problem."

**8 Neglects Other Factors.** This approach neglects all real and structural factors which lead to disequilibrium in BOP and concentrates only on domestic credit.

**9 Neglects Economic Policy.** This approach emphasises the role of domestic credit in bringing BOP equilibrium and neglects economic policy measures. According to Prof. Currie, the balance of payments equilibrium can also be "achieved by expenditure-switching policies working through real flows and government budget."

**Conclusion.** Despite these criticisms, the monetary approach is realistic in that it takes into consideration both domestic money and foreign money. Emphasis is not on relative price

changes, but on the extent to which the demand for real money balances will be satisfied from internal sources, through credit creation or from external sources through surplus or deficit in the balance of payments. A balance of payments deficit or surplus can be corrected through changes in money supply and their consequent effects on income and expenditure, or more generally on production and consumption of goods.

#### **1.8.4 Exchange controls**

Exchange controls implies governmental intervention in the matter of foreign exchange and the exchange rates. According to Haberler, exchange control is "state regulation excluding the free play of economic forces from the foreign exchange market." Thus, when the exchange control is full fledged the foreign exchange market is ruled by the government's decision. It forbids free transactions in foreign exchange.

#### **Objectives of Exchange Controls**

In many countries of the world exchange control is regarded as a necessary evil. There are several objectives in practising exchange controls. The main objects of foreign exchange control may be stated as follows:

1. Conservation of Foreign Exchange: Exchange control may be introduced by the monetary authority to conserve the gold, bullion, foreign exchange currencies, *etc., i. e* foreign exchange resources, of the country. It may be necessary to ensure the availability of sufficient amount of foreign exchange needed to buy essential foreign goods.
2. Check on Flight of Capital: Under the free exchange system there is the danger of huge outflow of capital which may weaken the country's economy. Especially erratic shifting of capital tend to accentuate the disequilibrium in the balance of payments and it also adversely affects future growth of the country. Exchange control, however, offers a prompt and effective means to prevent such capital outflows.
3. Correcting Disequilibrium in Balance of Payments: To correct the deficit in the balance of payments, the country needs to put a curb on imports. For this purpose, the use of Foreign exchange earnings by exporters for import of goods must be checked through appropriate exchange controls.

Again, exchange control is essential to implement an import policy very effectively. In short, exchange control may be introduced to protect the country's balance of payments,

4. **Stabilisation of Exchange Rates:** In a free exchange market, exchange rate is a fluctuating phenomenon. Thus, exchange control may be adopted to maintain exchange rates at an arbitrarily chosen fixed point.

5. **Protecting the Interest of Home Producers:** Exchange control may be used for giving protection to domestic producers by restricting the competition from foreign traders through import control.

8. **Redemption of External Debt:** The Government may use the exchange control device to obtain foreign exchange needed for repaying or servicing of its foreign loans.

7. **Effective Economic Planning:** For successful economic planning, foreign trade has to be coordinated with planned programmes and the outflow of capital should be restricted in order to make it available to domestic industries. Thus, for mitigating the economic repercussions of foreign trade endangering economic plans, exchange control becomes inevitable.

8. **Maintaining Over-value of Home Currency:** Sometimes exchange control is used in order to maintain the external value of the country's currency at an overvalued level. For this purpose, the available foreign exchange resources are rationed for use of specific and important purposes only and the government thereby, seeks to adjust total demand with total supply of foreign currencies.

9. **Generating Public Revenue:** Under exchange control, by adopting multiple exchange rates system, the Government can yield revenue income through difference of average buying and selling rates, less costs of administration.<sup>3</sup>

10. **To prevent Spread of Depression:** Depression in a big country may spread from country to country via international economic relations. Exchange control may work as a preventive against such spread of depression by controlling the main doors-imports and exports.

**Working of Exchange Controls**

For purposes of exchange control, Government designates a central control agency, usually the central bank to function as the actual buyer and seller of foreign exchange on government accounts. Under the most comprehensive form of exchange control, exporters and other recipients of foreign exchange are not free to dispose of their foreign exchange earning in any manner they like. They are required to surrender all their foreign exchange for local currency. To ensure against evasion, export licences, which certify the delivery of foreign exchange to the exporters, must be presented to customs officials before shipment is permitted. This is how the government secures its supply of foreign exchange. The central bank or control agency is in a position to ration its supply of foreign exchange for any uses that may be found desirable. In allocating foreign exchange to various buyers (importers), the central bank takes into account the needs of the country. Relatively liberal rations of exchange will be allowed for the import of only those goods which are essential to the functioning of the economy, such as basic foodstuffs, raw materials, capital goods *etc.* while the control agency can flatly refuse to release exchange for luxury goods or non-essential commodities.

It should be noted that all systems of exchange controls are not necessarily so rigorous. If the balance of payments pressure is not severe, controls may involve no more than general supervision of applications received for foreign exchange. There are two ways of regulating exchange rates: (i) The monetary authorities undertake to buy and sell foreign exchange in unlimited amounts at the official exchange rates. People are free to buy any amount of foreign exchange for any purpose. The purpose of such type of exchange control is to avoid fluctuations in the exchange rate and stabilise it. The difference between the demand for and the supply of foreign exchange at fixed exchange rates at different times is adjusted by variations in the foreign exchange reserves of the central bank. The Exchange Equalisation Account established in April 1932 in the U.K., and the Exchange Stabilisation Fund instituted in January 1934 in U.S.A. provide examples of this method of exchange control,

(ii) Another method of exchange control restricts the freedom of the people to buy foreign exchange. Under this type of control, there is a rationing of foreign exchange, and allocation is made among the importers for specific purposes only. It is the most drastic method usually employed for achieving various purposes as we have seen above.

**Free Exchange Market**

When exchange control is not very rigid, together with exchange restrictions adopted by the government, a free exchange market is also allowed to operate to a limited extent. Often the central bank releases, in addition to the official exchange in the country, a certain amount of exchange to maintain a free exchange market. All exchange earnings drawn from certain exports may be allowed to go into the free market, where they are sold to the highest bidder. Exchange rates in the free market are invariably higher than the official rate, for the obvious reason that foreign exchange supply is less than the demand in the free market. Moreover, the exchange control agency may desire the free market rate to be higher than the official exchange rate by a certain percentage, so that importers disqualified for official exchange have to pay a premium.

It is obvious that, when exchange control exists, there is generally a black market in foreign exchange and various methods of evading the control. Foreign currencies or drafts payable in foreign currencies may be smuggled into the country.

**Methods of Exchange Controls**

The various methods of exchange control may broadly be classified into two types, direct and indirect. Direct methods of exchange control include those devices which are adopted by governments to have an effective control over the exchange rate, while indirect methods are designed to regulate international movements of goods.

There are many ways to introduce exchange control in an economy. These are usually classified into two groups:

- (i) Direct Exchange Controls and
- (ii) Indirect Exchange Controls.

**Direct Methods of Exchange Controls**

In direct exchange controls, certain measures are adopted which effectuate immediate direct restriction on foreign exchange from all sides — its quantum, use and allocation.

In general, direct exchange control includes measures like:

**1 Intervention:** It refers to the government's intervention or interference in the free working of the exchange market with a view to overvalue or under value the country's currency in terms of foreign money. The government or its agency - the central bank - can intervene in the free market by

resorting to buying and selling the home currency against foreign currency in the foreign exchange market to support or depress the exchange rate of its currency.

**Pegging Operations:** Government intervention in the foreign exchange market takes the form of 'pegging up' or 'pegging down' of the currency of the country to a chosen rate of exchange. Since undervaluation or overvaluation is not the equilibrium rate, it has to be pegged. Thus, pegging means keeping a fixed exchange value of a currency; however, intervention may be practised by a government without resorting to pegging as such.

Pegging operations take the form of buying and selling of the local currency by the central bank of a country in exchange for the foreign currency in the foreign exchange market, in order to maintain an exchange rate whether, it is overvalued or undervalued. Thus, pegging may be "pegging up" or "pegging down." *Pegging up* means holding fixed overvaluation, *i.e.*, to maintain the exchange rate at a higher level. *Pegging down* means holding fixed undervaluation, *i.e.*, to maintain the exchange rate at a lower (depressed) level. In the case of pegging up, the central bank shall have to keep itself ready to buy unlimited amount of local currency in exchange for foreign currencies at a fixed rate, because overvaluation tends to increase the demand for foreign currencies by creating import surplus. In the case of pegging down, the central bank or central agency shall have to keep itself ready to sell any amount to local currency by creating export surplus. Similarly, pegging up involves holding of sufficient amount of foreign currencies while pegging down involves holding of sufficient amount of local currency by the central bank. It goes without saying that pegging up, is more difficult to maintain as it requires huge amounts of foreign currencies which is difficult to obtain. As such pegging up can be adopted only as a temporary expedient. It should be noted that -intervention by a government in the foreign exchange market has the effect of neutralising the forces of demand and supply of foreign exchange. However, it is generally assumed that government intervention or pegging up and pegging down operations should be used as temporary expedients to remove fluctuations in the exchange rate.

**2 Exchange Restrictions:** Exchange restrictions refer to the policy or measures adopted by a government which restrict or compulsorily reduce the flow of home currency in the foreign exchange market. Exchange restrictions may be of three types:

(i) The government may centralise all trading in foreign exchange with itself or a central authority, usually the central bank; (ii) the government may prevent the exchange of local currency against foreign currencies without its permission; (iii) the government may order all foreign exchange transactions to be made through its agency.

Exchange restrictions may take various forms, the most common of them being: (1) Blocked accounts, (2) Multiple exchange rates.

**Blocked Accounts:** Under the condition of severe financial crisis, a debtor country may adopt the scheme of blocking the accounts of its creditors. In 1931, Germany, for instance, had done so in order to have exchange restrictions. Blocked accounts refer to bank deposits, securities and other assets held by foreigners in a country which denies them conversion of these into their home currency. Blocked accounts, thus, cannot be converted into the creditor country's currency. Under the blocked accounts scheme, all those who have to make payments to any foreign country will have to make them not to the foreign creditor directly but to the central bank of the country which will keep the amount in the name of the foreign creditor. This amount will not be available to the foreigners in their own currency, but can be used by them for purchase in the controlling country.

Blocked accounts system has two drawbacks: (i) It reduces international trade to a minimum, and (ii) it leads to black-marketing in foreign exchange.

**3 Multiple Exchange Rates:** In the early thirties, Germany had initiated the device of multiple rates, as a weapon to improve her balance of payments position. Under this system, different exchange rates are set for different classes and categories of exports and imports. Generally a low rate, *i.e.*, low prices of foreign money in terms of domestic currency, is confined to imports of necessary items having an inelastic demand, while a high penalty rate is fixed for the imports of luxury items. In short, the multiple exchange rates system implies official price discriminatory policy in foreign exchange transactions.

By simply fixing a high exchange rate for a commodity, the government can check its imports (when its elasticity of demand for import is greater than unity). Similarly, its imports can be encouraged by fixing a low exchange rate. Likewise, the export of a commodity can be encouraged by setting a high rate of exchange. Thus, the device of multiple exchange rates can be effectively used by the

government for making short-term adjustments in the balance of payments, without resorting to quantitative restrictions and licensing. Indeed, multiple exchange rates amount to discriminatory export taxation and varying rates of tariffs on imports.<sup>4</sup> In other words, the system of multiple exchange rates in essence is a form of discriminatory partial devaluation, because instead of devaluing the currency for the whole of foreign trade, under this system, the currency is devalued for imports and exports of goods with an elasticity greater than unity and appreciating the currency for goods with an elasticity less than unity. It is thus more effective in bringing about the desired effect on the level of trade and thereby, improves the balance of payments.

Thus, the main merit of the system of multiple exchange rates is that it allows more effective control of the balance of payments. Secondly, it also contains disguised subsidies and tariffs, which may encourage or discourage trade in certain goods and affect the level of foreign trade. Whereas, Buying foreign exchange at a rate above the equilibrium rate amounts to subsidization of exports while selling foreign exchange at a rate above the equilibrium rate amounts to a tariff on imports.

Another merit of the system is that it enables the government to yield revenue by buying foreign exchange at low prices in domestic money from exporters and then selling it at higher prices to importers.

However, the system has the following drawbacks:

(i) Instead of correcting the balance of payments, it adversely affects the growth of international trade and the maximisation of world output and welfare.

(ii) It puts too much arbitrary powers into the hands of the government to influence foreign trade,

(iii) It creates undue complexities in calculation, due to different exchange rates for different imports and exports which may be changed from time to time, resulting in uncertainty in foreign trade.

(iv) The system has a formidable administrative problem of effective control. Utmost vigilance has to be maintained against, the undervaluation of export invoices and over valuation of import invoices and care should be taken to see that exporters do not sell their proceeds of foreign exchange

in the black-market and importers do make specific and proper use of the allotted foreign exchange. Further, the system is also likely to breed corruption.

We may thus, conclude with Ellsworth that exchange control by the system of multiple exchange rates is only a partial solution to devaluation, and introduces uncertainties and distortions of its own.<sup>7</sup>

**4 Exchange Clearing Agreements:** European countries had adopted this form of exchange control in the Thirties. It was a system for the direct bilateral bartering of goods on a small scale. Under this device, two countries engaged in trade pay to their respective central banks the amounts payable to their respective foreign creditors. These central-banks then use the money in offsetting the corresponding claims after fixing the value of the currencies by mutual agreement. And, importers have to deposit their payment with the central bank can use such money to pay the domestic exporters. This economises exchange needs for trade. Therefore, exchange clearing device is helpful to a country which has little or no foreign exchange reserves and which, is more interested in selling than buying. However, this system is essentially one of offsetting each other's payments, and the basic assumption is that countries entering into such an agreement should try to equalise their imports and exports so that, there will be no necessity for either making or receiving payments from the other countries.

Following are the drawbacks of exchange clearing agreements:

- (i) There is a possibility of exploitation of an economically weaker country by a stronger country.
- (ii) The exchange clearing agreements involve bilateral transactions in foreign trade, which cause a diversion of normal trade pattern and endanger the promotion of world trade.
- (iii) This device also reduces the volume of international trade. Besides, it attempts to do away with the foreign exchange market.
- (iv) The scheme requires that all payments have to be centralised.

**5 Payment Agreements:** To overcome the difficulties of the problems of waiting and centralisation of payments observed in clearing agreements, the device is formed as payment agreements. Under this

scheme, a creditor is paid as soon as informants. Under this scheme, a creditor is paid as soon as information is received by the central bank of the debtor country from the creditor country's central bank that its debtor has discharged his obligation and *vice versa*. By designing the arrangement for mutual credit facilities, thus, possibilities of delay are ruled out. Payment Agreements have the advantage that direct relation between exporters and importers are maintained.

However, payment agreements suffer from two defects:

- (i) The agreement accounts could only be debited or credited for licensed payments.
- (ii) The balances in the accounts could only be used for payment from one partner to another.

**6 Gold Policy:** Through a suitable gold policy, the country can bring the desired exchange control. For this, the country may resort to the manipulation of the buying and selling prices of gold which affect the exchange rate of the country's currency. In 1936, for instance, the U.K., France and U.S.A. signed the Tripartite Agreement in this regard for fixing a suitable purchase and sale price of gold.

### **Indirect Methods of Exchange Controls**

Apart, from the direct methods, there are several indirect methods also regulating the rates of exchange, important ones are briefly discussed below.

1. **Changes in Interest Rates:** Changes in interest rate tend to influence indirectly the foreign exchange rate. A rise in the interest rate of a country attracts liquid capital and banking funds of foreigners. It will tend to keep their funds in their own country. All this tends to increase the demand for local currency and consequently the exchange rate move in its favour. It goes without saying that, a lowering of the rate of interest will have the opposite effect.
2. **Tariffs Duties and Import Quotas:** The most important indirect method is the use of tariffs and import quotas and other such quantitative restrictions on the volume of foreign trade. Import duty reduces imports and with it rise the value of home currency relative to foreign currency. Similarly, export duty restricts exports; as a result, the value of home currency falls relative to foreign currencies. In short, when import duties and quotas are imposed, the rate of exchange tends to go up in favour of the controlling country.

3. **Export Bounties:** Export bounties of subsidies increase exports. As such the external value of the currency of the subsidy-giving country rises. It should be noted that import duties and export bounties are treated as indirect instruments of exchange control only if they are imposed with the object of conserving the foreign exchange. Otherwise, the fundamental aim of import duty is merely to check imports and that of export bounty is to encourage exports. In fine, interest rates, import duty or export subsidy, each has its limitations. For instance, import duty cannot go so far as to completely restrict imports. There is also the fear of retaliation in regard to tariff policy. Similarly, the volume of subsidy depends upon the support of public fund. Likewise, manipulation of exchange rate through changes in interest rate may not be always effective. Moreover, rates of interest cannot be raised to any limit without engendering depression.

### **Merits and Demerits of Exchange Controls**

Both developed and developing countries have been making use of different types of exchange control policies. **The merits of exchange controls are as follows:**

1 Adjustment of balance of payments disequilibrium, 2 Prevention of Flight of capital, 3 Over-valuation of currency, 4 Under –valuation of currency, 5 Rapid income growth, 6 Servicing of foreign debts, 7 Stability of exchange rates, 8 Conservation of foreign exchange, 9 Effective economic planning, 10 Prevention of revenue and retaliation

### **Demerits of exchange control policy are listed below:**

1. **Industrial inefficiency:** The protection afforded to the domestic industries through exchange controls breeds industrial inefficiency, technological stagnation, deterioration in quality and escalation of costs.
2. **Reduction in the Volume of international trade:** If one country enforces restrictions upon imports, the exports of foreign countries are affected. That makes the foreign countries to adopt retaliatory exchange restrictions and due to this there is reduction in the volume of foreign trade.
3. **Red-tapism and corruption:** The exchange controls have to be administered by the government officials. Thus the controls create vested interests among the administrative machinery.

4. Black marketing of foreign exchange: If the exchange control policy is not operated efficiently then the evils like black-marketing in hard currencies, under-invoicing and retention of concealed amounts in foreign banks exists.
5. Arbitrariness: The exchange control policy involves the fixation of certain priorities for the allocation of foreign exchange. Sometimes these priorities are altogether arbitrary.
6. Inequitable distribution of income and wealth: The restriction on imports through exchange controls offer opportunities for certain groups of producers to secure abnormally large profits and due to this the distribution of income and wealth becomes inequitable.

There are various forms in which the exchange control system may be devised. Each form has its own merits and demerits and each one serves a specific purpose. Therefore, the whole economic situation of foreign trade of a country must be carefully viewed while resorting to exchange control and more than one methods must be combined together. In so far as the correction of disequilibrium is concerned, it should be noted that exchange control does not basically solve the problem, it only prevents the situation from becoming worse. Moreover, exchange control is always an inhibiting factor to an expanding world trade. With its adoption the gains from international trade are reduced and channels of trade are distorted. It also checks the flow of international investments which are very essential for the planned development of world's economic resources. In normal peace times, therefore, it has hardly anything to commend. That is why; International Monetary Fund also has mentioned the removal of exchange controls as one of its major objectives.

### **8.5 Summary**

The monetary approach is superior to the traditional price specie flow. That theory had stressed upon the BOP adjustments through the gold flows and consequent effects upon prices, international trade and payments. Monetary theory suggest that the policies like devaluation can have effectiveness in the short period only if the monetary authority does not increase the supply of money to match exactly the increase in the demand for money resulting from devaluation or other adjustment policies. The exchange controls, like the other expenditure-switching policies, divert the domestic spending from the foreign produced goods and services to the home produced goods and services.

**1.8.6 Short answer type questions**

- a. Explain the direct methods of exchange controls?
- b. what are the indirect methods of exchange controls?
- c. Explain the merits of Exchange controls?
- d. Define monetary approach to BOP adjustment?

**1.8.7 Long answer type questions**

- a. Discuss in detail the monetary approach to BOP adjustment?
- b. What is meant by exchange controls? Define its direct and indirect methods?
- c. Define the meaning of exchange controls and explain how it is helpful in correcting balance of payment disequilibrium problem?

**1.8.8 Suggested readings**

1. C. P. kindleberger: International Economics
2. Bo, Soderston & Geoffrey Reed: International Economics
3. D. K. Salvatore: International Economics
4. K. C. Rana & Verma, K. N: International Economics