# UNIT 19 BALANCE OF PAYMENTS (BOP) AND EXCHANGE RATE

**Structure**

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## 19.0 OBJECTIVES

After going through this unit, you will be able to:

- Describe the concept of BOP;
- Identify the components of BOP;
- Distinguish between: balance of trade and balance of payments; and current and capital accounts of BOP;
- Discuss the importance of BOP for an economy;
- Identify the state of disequilibrium in BOP and explain the methods required for correcting disequilibrium in BOP;
- State the exchange rate and its types; and
- Describe the purchasing power parity theory of exchange rate determination.

## 19.1 INTRODUCTION

Balance of payments (BOP) is an accounting statement of all international monetary transactions of a country. These transactions arise due to flow of goods,

services and capital between a nation's residents and the residents of the rest of the world during a given period of time. BOP is a key to understanding how people trade one country's money for that of another country. In addition, the transactions documented in the balance of payments have major implications for macroeconomic concerns like growth, inflation and unemployment. In this unit, you will learn various facets of BOP like its concept, type, disequilibrium, corrective measures, exchange rates, types of foreign exchange regime, its impact on BOP, and theory of purchasing power parity.

## 19.2 CONCEPT, COMPONENTS AND IMPORTANCE OF BOP

Balance of payments of a country is a systematic record of all monetary transactions during a period between residents of the reporting country and residents of other countries. It is a summary of the money-value of all exchanges and transfers of goods, services and evidences of debt or ownership between the residents, business and government and other institutions of one country and the rest of the world for a given period of time, usually a year. The International Monetary Fund (IMF) has developed a standardized BOP system and form of presentation. All transactions entering the balance of payments can be grouped into three broad accounts –current, capital and reserve account. In short, BOP:

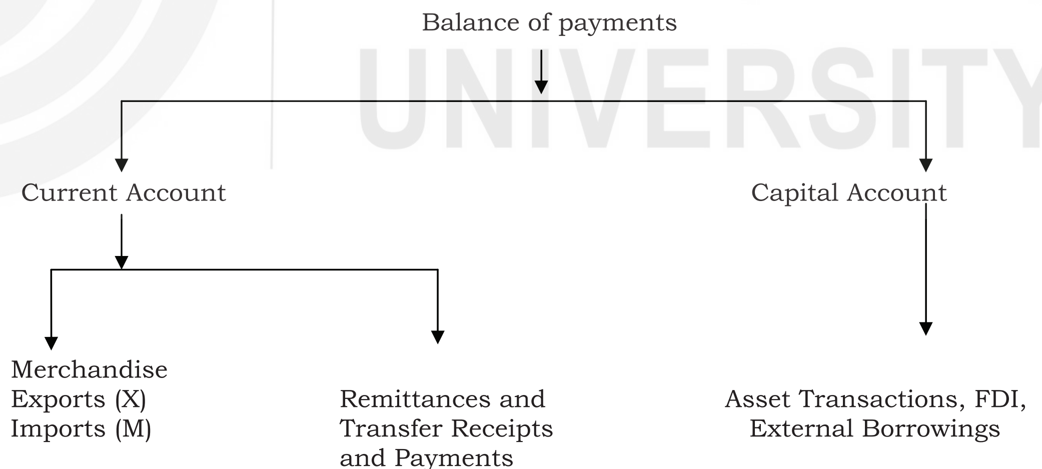
(i) records all international monetary transactions;

(ii) the type of economic transactions that dominate are: goods and services, real assets, financial assets;

(iii) it is not a balance sheet;

(iv) it is a flow statement.

In a tabular form structure of BOP transactions may be presented as under:




(Balance of Trade = X – M)

As an illustration India's BOP data is presented below in Table 19.1:

**Table 19.1: Structure of India's Overall Balance Of Payments**

(US $ million)

| Item/Year | 2019-20* | | |
|---|---|---|---|
| | Credit | Debit | Net |
| 1 | 17 | 18 | 19 |
| **A. Current account** | | | |
| **1. Merchandise** | **320431** | **477937** | **-157506** |
| **2. Invisibles (a+b+c)** | **321712** | **188862** | **132850** |
| a) Services | 213191 | 128269 | 84922 |
| b) Transfers | 83356 | 8147 | 75208 |
| c) Income | 25166 | 52446 | -27281 |
| **Total Current account (1+2)** | **642143** | **666799** | **-24656** |
| **B. Capital account** | | | |
| **1. Foreign investment** | **368534** | **324118** | **44417** |
| **2. Loans** | **94239** | **68553** | **25686** |
| **3. Banking capital** | **84716** | **90031** | **-5315** |
| **4. Rupee debt service** | **0** | **69** | **-69** |
| **5. Other capital** | **62549** | **44087** | **18462** |
| **Total capital account (1 to 5)** | **610038** | **526858** | **83180** |
| **C. Errors & omissions** | **1856** | **882** | **974** |
| **D. Overall balance (A+B+C)** | **1254037** | **1194539** | **59498** |
| **E. Monetary movements (i+ii)** | **0** | **59498** | **-59498** |
| i) I.M.F. - - | - | | |
| ii) Foreign exchange reserves | 0 | 59498 | -59498 |
| (Increase- / Decrease+) | | | |

* preliminary estimates

Look at Table 19.1 which shows India's BOP account for the financial year 2019-20. It shows the main items of transactions with some simplifications.

## 19.2.1 Components of BOP

BOP components can be grouped into three broad categories: current account, capital account, and reserves. Let us learn them in detail.

1. **Current account:** The current account consists of merchandise trade, services, and unrequited transfers. Merchandise trade is typically the first part of the current account. It receives more attention than any of the other accounts. Merchandise trade transactions, where the imports and exports of goods are reported, are often the largest single component of all international transactions. Export receipts are treated as credit entries, and imports payments as debits in current account.

   The second type of transactions in the current account is those payment and receipts for which there are no corresponding receipts or payments. These are called unrequited payments and receipts. These transactions are unilateral transfers.

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**Services:** The services category includes many payments such as freight, banking and insurance on international shipments; tourist travel; profits and income from overseas investment; personal expenditures by government, civilians, and military personnel overseas; and payments for management fees, royalties, film rental, and construction services. Purchases of these services are recorded as debits, while sales of these services are similar to exports and are recorded as credits.

The net receipts from these transactions together with the net transactions in the trade account constitute the balance of current account. Here, it is important to note that positive net receipts imply a current account surplus and negative net receipts imply a current account deficit. The balance of current account is a larger concept as it includes the balance of trade, the balance of services, and the balance of unrequited transfers. The balance of current account need not be equal but can show a surplus or a deficit.

2. **Capital account:** The capital account records all international purchases and sales of assets such as money, stocks, bonds, etc. Capital account items are transactions that involve claims in ownership. It shows net change in foreign-asset-ownership of a nation. Foreign direct investment (FDI) involves managerial participation in a foreign enterprise along with some degree of control. Foreign portfolio investment (FPI) is investment designed to obtain income or capital gains. Transactions in the capital account affect the international debtor or creditor position of the country and the distribution of wealth and debt. Capital account transactions give rise to future claims such as acquiring foreign assets or share in companies located abroad.

3. **Reserves or the monetary movements:** This refers to record of transactions with the International Monetary Fund (IMF) and foreign exchange reserves that mainly consist of holding of gold and foreign currency assets. Drawings (treated as a kind of borrowing) from IMF is a credit item, whereas repayments made to IMF are debit items. Reserves are used for bringing BOP accounts into balance. When all the components of balance of payments are taken together, the balance of payments should be in balance. Credits should equal debits.

**Net Errors and Omissions:** You must have noticed that millions of rupees in transactions are reported in BOP statements, it should come as no surprise that the amount of recorded debits are never equal to the amount of credits. This is why there is an entry in the reserve account for net errors and omissions. Net errors and omissions reflect the imbalances resulting from imperfections in source data and compilation of the balance of payments accounts.

## Importance of BOP

BOP highlights a country's international economic status. It indicates a country's position in international trade. Persistent disequilibrium in the balance of payments, particularly the deficit balance, is undesirable because it weakens the country's economic position at the international level. As a result it affects the progress of the economy adversely.

BOP indicates a country's competitive strengths and weaknesses and helps in achieving balanced economic growth. It can affect the economic policies of a government significantly and also the economy itself. Capital receipts and payments indicate the country's external debt position and changes in it. BOP data are of interest because they reveal demand for the country's currency, BOP

trend helps to predict what sort of economic environment may develop in the country and, in some cases, the likelihood of economic crisis. International crises have occurred for as long as there have been international trade and commerce. They may occur again. Each crisis has its own unique characteristics, but all follow some of the economic fundamentals.

## 19.2.2 Balance of Trade and Balance of Payments

For the sake of clarity, it is important to understand the distinction between balance of trade and balance of payments. BOP transactions, as discussed above, take the form of trade in goods and services, capital movements or financial flows. These three forms of transactions give rise to a compartmentalization of the balance of payments accounts. Balance of trade refers to the transactions in visible items only. Import or export of goods is a visible item because, it is an open trade among the countries and can be easily certified 'by the customs officials'. The net receipts from exports and imports of merchandise constitute the balance of trade (BoT). A trade deficit for a country arises in a particular year if the value of its exports is smaller than the value of its imports. It is obvious that the balance of trade need not always balance. The important point to remember is that there may be a balance of trade deficit and still a balance of payment surplus-or vice versa. BOT is just one part of balance of payments.

BOP is more comprehensive than the balance of trade. Balance of payments includes apart from balance of trade or merchandise account, the invisible account. The visible account is composed of the services sector and gifts and charities account comprising a variety of invisible items, plus transactions on capital account. In short, balance of trade is a partial picture, while balance of payments is a complete picture of the country's international economic relations. Further, in the accounting sense, balance of trade may be deficit or surplus. It may, thus, be imbalanced. But balance of payments as a whole must always balance. For that reason, there is an item called 'reserves or monetary movements' in its structure.

**Table 19.2 Balance of Payments v/s Balance of Trade**

| | BOP | BOT |
|---|---|---|
| 1 | It is a broad term. | It is a narrow term. |
| 2 | It includes all transactions related to visible, invisible and capital transfers. | It includes only visible items. |
| 3 | It is always balances itself. | It can be favourable or unfavourable. |
| 4 | BOP = Current Account + Capital Account + or - Balancing item (Errors and omissions) | BOT = Net Earning on Export - Net payment for imports. |
| 5 | Following are main factors which affect BOP<br>a) Conditions of foreign lenders.<br>b) Economic policy of Government<br>c) All the factors of BOT | Following are main factors which affect BOT<br>a) Cost of production<br>b) Availability of raw materials<br>c) Exchange rate<br>d) Prices of goods manufactured at home |

## Balance of Payments Always Balances

The balance of payments is strictly an accounting term used to describe a record of

all monetary transactions between one country and rest of the world. In practice, it is difficult to achieve a situation where receipts equal payments. In reality, total receipts may diverge from total payments because of:

(i) the difficulty of collecting accurate trade information;

(ii) the difference in the timing between the two sides of the balance; and

(iii) a change in the exchange rates.

To say that the 'balance of payments always balances' is to say that a net credit balance in one of these accounts must have a counterpart net debit balance in one of the other accounts. The algebraic sum of the net credit and debit balances of the three accounts must equal zero. It simply results from the double-entry book-keeping procedure which is used to record the transactions. Balance of payments balances only in an accounting sense and not in economic sense.

Because of measurement problems, recourse is made to 'balancing item' that in¬tends to eliminate errors in measurement. The purpose of incorporating this item in the BOP account is to adjust the difference between the sums of the credit and the sums of the debit items in the BoP accounts so that they add up to zero by construction. Hence the proposition: 'the BOP always balances'. It is a truism. It only suggests that the two sides of the accounts must always show the same total. It implies only equality. In this book-keeping sense, BOP always balances. 'Balance of payments always balances' has no economic significance.

**Check your progress A**

1) Define balance of payments.

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2) List the components of BOP.

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3) Write three differences between balance of payments and balance of trade.

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4) Distinguish between current and capital accounts of BOP.

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5) Which of the following statements are True or False?

   i) BOP is an accounting statement of all international monetary transactions of a country.

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ii) BOP is a balance sheet.

iii) BOP highlights a country's international economic status.

iv) The balance of payments always balances.

v) The balance of trade is more comprehensive than the balance of payments.

## 19.3 BOP DISEQUILIBRIUM

A disequilibrium in the balance of payment implies a state of surplus or deficit. A surplus in the BOP occurs when Total Receipts exceed Total Payments (CREDIT>DEBIT). A Deficit in the BOP occurs when Total Payments exceed Total Receipts (DEBIT>CREDIT).

In an equilibrium situation of BOP, there are neither surpluses nor deficits. When a country's current account is in a deficit or surplus, its balance of payments (BOP) is said to be in disequilibrium. A significant deficit on the current account where imports are greater than exports would result in a disequilibrium. Likewise, when exports are greater than imports, creating a current account surplus, there is a disequilibrium.

However, in general parlance, when BOP deficit or an unfavorable balance exists whereby the value of debit items exceeds the value of credit items, such imbalance is interpreted as BOP disequilibrium. Such disequilibrium is a matter of concern which needs to be corrected.

### 19.3.1 Causes of Disequilibrium

Disequilibrium is caused by economic and non-economic factors. They are as under:

a) When there is an imbalance between domestic savings and domestic investments. A deficit in the current account balance will result if domestic investments are higher than domestic savings, since the excess investments will be financed with capital from foreign sources.

b) When the trade agreement between two countries affects the level of import or export activities, a balance of payments disequilibrium will surface.

c) Changes in an exchange rate when a country's currency is revalued or devalued; it can cause disequilibrium.

d) Other factors, such as inflation or deflation, changes in the foreign exchange reserves, population growth, increase in developmental expenditure, political instability, etc. may result in disequilibrium.

### 19.3.2 Policy Measures for Correcting Disequilibrium

There are a number of policies that can be introduced to achieve an improvement in a country's BOP. The measures are:

(i) Adjustment through exchange depreciation.

(ii) Devaluation or expenditure-switching policy.

(iii) Direct controls.

(iv) Adjustment through capital movements.

(v) Adjustment through income changes.

(vi) Stimulation of exports and import substitutes.

(vii) Expenditure-reducing policies.

Some of these measures focus on changing the growth of demand, and others look to improve the supply-side competitiveness of an economy. The effective policies are those that target the underlying causes which emphasise earning more foreign exchange through additional exports or reducing imports. Quantitative changes in exports and imports require policy changes. Such policy steps are in the form of monetary, fiscal and non-monetary measures. Non-monetary methods are more effective than monetary methods and are normally applicable in correcting an adverse balance of payments.

In practice, governments generally undertake the following measures:

**1. Monetary Measures**

(a) The Central Bank by its monetary policy may expand or contract the money supply in the economy through appropriate measures which will affect the prices.

(b) Depending upon the situation government's expenditure may be increased or decreased.

(c) Exchange rate depreciation reduces the value of home currency in relation to foreign currency. As a result, imports become costlier and exports become cheaper. It also leads to inflationary trends in the country. Depreciation leads to fall in external purchasing power of home currency. Depreciation occurs in a free market system wherein demand for foreign exchange far exceeds the supply of foreign exchange market of a country. When a country devalues its currency, exports become cheaper and imports become expensive which causes a reduction in the BOP deficit. It is important to remember that devaluation is done in fixed exchange rate system.

(d) Deflation is the reduction in the quantity of money to reduce prices and incomes. In the domestic market, when the currency is deflated, there is a decrease in the income of the people. This puts curb on consumption and government can increase exports and earn more foreign exchange.

(e) Under exchange control, all exporters are directed by the monetary authority to surrender their foreign exchange earnings, and the total available foreign exchange is rationed among the licensed importers. The license-holder can import any good but amount is fixed by monetary authority.

2. **Non-monetary Measures:** A deficit country may also adopt the following non-monetary measures which will either restrict imports or promote exports.

(a) **Export Promotion:** A country may adopt measures to stimulate exports. Export duties may be reduced to boost exports. Cash assistance, subsidies can be given to exporters to increase exports. Goods meant for exports can be exempted from all types of taxes.

(b) **Import Substitution:** Steps may be taken to encourage the production of import substitutes. This will save foreign exchange in the short run by replacing the use of imports by these import substitutes.

(c) **Import Control:** Imports may be kept in check through the adoption of a wide variety of measures like quotas and tariffs. Under the quota system, the government fixes the maximum quantity of goods and services that can be imported during a particular time period. Tariffs are duties (taxes) imposed

on imports. When tariffs are imposed, the prices of imports would increase to the extent of tariff. The increased prices will reduce the demand for imported goods and at the same time induce domestic producers to produce more of import substitutes.

**Check your progress B**

1) What do you mean by disequilibrium in BOP?

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2) List any four causes of disequilibrium in BOP.

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3) What is meant by deflation?

4) How is exchange control achieved?

5) Which of the following statements are True or False?

   i) A disequilibrium in the balance of payment implies a state of surplus or deficit.

   ii) A surplus in the BOP occurs when Total Receipts are less than the Total Payments.

   iii) Devaluation is an important measure to achieve an improvement in a country's BOP.

   iv) Under exchange control, all exporters are directed by the monetary authority to surrender their foreign exchange earnings.

   v) Export duties are hiked to boost exports.

## 19.4 RATE OF EXCHANGE: CONCEPT, TYPES AND SIGNIFICANCE

'Foreign exchange' refers to money denominated in a currency other than the domestic currency. Foreign exchange can be in form of cash, funds available on credit cards and debit cards, and banks' deposits.

### Exchange Rate

The rate at which a currency of one country exchanges for a currency of another country is called the 'exchange rate' or the rate of exchange. The exchange rate can either be expressed in terms of number of units of domestic currency per unit of foreign currency (direct quotation) as in the case of most currencies such as the Indian rupee. For example, if the exchange rate between the rupee and the US dollar (USD) is quoted at Rs.74, this means that Rs.74 is required to purchase US$1.00. When the value of the domestic currency increases in terms of another currency, it is referred to as a nominal appreciation of the domestic currency. In contrast, a decrease in the value of the domestic currency in terms of a foreign currency is known as a nominal depreciation.

### Significance of Exchange Rate

The exchange rate performs the same type of functions as other prices do in a market of mixed economy. It provides information and incentives to guide decisions about what to produce and what to consume. Considered as a price, however, the exchange rate has special qualities. It is probably the single most important price in the economy. It affects numerous other prices and touches the interests of many people. This makes it the centre of controversy with major changes in the exchange rate exciting much popular attention. The exchange rate has the further quality of linking together the general level of prices in the national economy with prices in other countries.

It is worthwhile to remember that the exchange rate is a key financial variable that affects decisions made by foreign exchange investors, exporters, importers, bankers, businesses, financial institutions, policymakers and tourists in the developed as well as developing world. Exchange rate fluctuations affect the value of international investment portfolios, competitiveness of exports and imports, value of international reserves, currency value of debt payments, and the cost to tourists in terms of the value of their currency. Movements in exchange rates thus have important implications for the economy's business cycle, trade and capital flows and are therefore crucial for understanding financial developments and changes in economic policy.

## 19.5 EXCHANGE RATE SYSTEM

Exchange rate system is also called a currency system which establishes the way in which the exchange rate is determined. There are two basic systems that can be used to determine the exchange rate between one country's currency and another's. These are: a floating exchange rate system and a fixed exchange rate system. Between these there are a number of combinations of the two. The choice of an appropriate exchange rate regime—floating, managed or fixed arrangements—for individual countries is important. It is a pivotal element of the economic policy adopted by a country's government. However, it remains true that there is no single exchange rate regime that is best for all countries in all circumstances.

### 19.5.1 Fixed Exchange Rate

In a Fixed exchange rate system the price of a currency is "fixed" with respect to another currency, a pool of currencies, or a precious metal such as gold. A country's monetary authority agrees to manage its affairs so as to maintain a fixed ratio between the value of its own currency and that of other currencies. A country's currency, therefore, has a definite objective value in terms of the other currencies into which it can be freely converted. The central bank intervenes in the foreign exchange market to ensure that the exchange rate stays close to a predetermined target.

In a fixed exchange rate system, a rise in the exchange rate of the domestic currency vis-à-vis another foreign currency is called a devaluation. For example, a government's policy decision to devalue the domestic currency vis-à-vis the US dollar from Rs.65 to Rs.75. This means that in order to buy 1 unit of a given foreign currency more of the domestic currency is needed. On the other hand, when the exchange rate falls it is termed as a revaluation. These terms imply a deliberate decision on the part of the government to change the exchange rate.

It is important to realize that fixity cannot be achieved by simple government decree because there are powerful economic forces at work in the foreign exchange

markets. The fixing of an exchange rate very rarely involves the establishment of a single point away from which a currency is not permitted to move. The usual approach is to define a target zone for the currency. The authorities then respond with appropriate measures when market forces threaten to move the currency above or below the zone.

### Advantages

(i) Provides greater certainty for exporters and importers as there are no exchange rate risks. Hence, it promotes long-term capital flows.

(ii) There is no fear of adverse effect of speculation on the exchange rate.

(iii) Businesses have the knowledge that the price is fixed and therefore, not going to change, it is relatively easier for them to plan ahead.

(iv) Encourages international trade by making prices of goods involved in trade more predictable. It leads to low inflation.

(v) Imposes the discipline necessary for exchange rate stability; in particular monetary policy must be coordinated.

Keynes was a chief architect of IMF and a strong proponent of fixed rates. Many Keynesians agree that government intervention is necessary to promote exchange rate stability. However, the question remains how to attain a stable exchange rate system.

### Disadvantages

(i) Entails a high administration cost. Needs complicated exchange control mechanism which may lead to misallocation of resources.

(ii) A significant gap between the official rate and that determined by the market can promote black markets. In a black market the bulk of foreign exchange transactions are carried out outside the banking system.

(iii) This may force government to draw down on reserves to meet its obligations and cause scarcity of foreign exchange.

(iv) Restricts the ability of countries to conduct policy autonomously.

(v) Inimical to the very desirable objective of free trade.

(vi) May achieve exchange rate stability but at the expense of domestic economic stability.

Fixed exchange rates prevail around the world; the IMF regulated this system. However, since the collapse of the IMF system in 1973, floating exchange rates predominate. Nonetheless, many countries continue to use some variant of fixed exchange rates even today.

## 19.5.2 Floating Exchange Rate

Under the system of floating exchange rates the price of a currency with respect to other currencies is set by the market demand and supply forces. A flexible system is one that follows free markets principles. Exchange rate determination is left entirely to the processes of currency supply and demand, and governments do not attempt to manipulate the market in order to have particular exchange rate outcomes. In this case, the exchange rate is said to have a clean float (variability in price). All the major countries have adopted the system of floating exchange rates since 1973. Under the floating exchange rate system, there are no fixed par values of currencies. That is, exchange rates of currencies are not determined by

governments or central banks but by the market forces of supply and demand. The exchange rates can float freely, i.e., these can move up and down; and unlike the fixed exchange rate system, central banks are not obliged to intervene in the market at any particular point. In reality, central banks intervene in the exchange markets even under floating rate system to support the rate, though the points of intervention are not predetermined. This is because government and central banks are concerned about the social consequences of a decline or improvement in the exchange rate together with its effects on the prices of imports and exports. Floating rate influenced by the indirect intervention of central banks is known as managed floating.

## Advantages

A flexible exchange rate system confers a number of advantages upon economies that adopt it:

(i) Continuous changes are easier to adjust.

(ii) Any early or 'incipient' deficit or surplus that might arise will be swiftly dissipated by appropriate corrective exchange rate movements. This system automatically provides for balance of payments stability without the need for any action whatsoever by policy-makers.

(iii) Less politicized and authorities do not intervene in the foreign exchange market.

(iv) Provides fewer incentives for destabilizing speculation. Financial instruments are available to hedge the risks posed by a fluctuating exchange rate.

(v) Allows nations to pursue their own independent economic goals in respect of the other objectives of macro policy. Gives the monetary authorities' flexibility in determining interest rates. This is because interest rates do not have to be set to keep the value of the exchange rate within pre-determined bands.

(vi) Offers the most appropriate framework for the international allocation of resources through the trade process.

## Disadvantages

Market forces may fail to determine the appropriate exchange rate and hence floating exchange rate regime may not provide the desired results. It also lead to misallocation of resources.

(i) It is impossible to have an exchange rate system without official intervention. Government may not intervene. However, domestic monetary policy and fiscal policy would definitely influence the exchange rate.

(ii) Volatile exchange rate introduces considerable uncertainty in export and import prices and consequently to economic development. At the same time, abolition of exchange controls causes capital flight.

**Managed floating:** A system of managed floating exchange rate is being practiced by many countries at present. The management of a floating rate sometimes referred to as a 'dirty float'. It is unlikely that the authorities in any country could remain completely indifferent to the behavior of the exchange rate. In practice, a managed float permits the authorities to intervene in the foreign exchange markets.

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## 19.6 APPRECIATION AND DEPRECIATION OF EXCHANGE RATE

Since the exchange rate is basically determined by market forces, the upward and downward movement in the value of rupee are appreciation and depreciation respectively. Depreciation of the rupee refers to the decrease in the external value of the domestic currency caused by the operation of market forces. Appreciation of the rupee refers to the increase in the external value of the domestic currency caused by the operation of market forces. The exchange rate is determined in the open market through the pressure of buying and selling of foreign currencies.

## 19.7 FOREIGN EXCHANGE RATE AND IMPACT ON BOP

The balance of trade influences currency exchange rates through its effect on the supply and demand for foreign exchange. When a country's trade account does not net to zero—that is, when exports are not equal to imports. There is relatively more supply, or demand, for a country's currency, which influences the price of that currency on the world market. The currency exchange rate is one of the most important determinants of a country's relative level of economic health. Exchange rates play a vital role in a country's level of trade.

These relative values are influenced by the demand for currency, which is in turn influenced by trade. If a country exports more than it imports, there is a high demand for its goods, and thus, for its currency. The economics of supply and demand dictate that when demand is high, prices rise and the currency appreciates in value. In contrast, if a country imports more than it exports, there is relatively less demand for its currency, so prices should decline. In the case of currency, it depreciates or loses value.

For example, let us say that tea is the only product on the market and U.S. imports more tea from India than it exports, so it needs to buy more dollars relative to rupees sold. When India imports more than exports, India's demand for dollars outstrips U.S. demand for rupee, meaning that the value of the rupee falls.

The relative attractiveness of exports from India also grows as a currency depreciates. India might start buying fewer dollars because American goods have become quite expensive, and Americans might start buying more rupee because Indian goods are now cheaper. This, in turn, begins to affect the balance of trade. India would then start exporting more and importing less, reducing the trade deficit.

In sum, the balance of trade impacts currency exchange rates as supply and demand can lead to an appreciation or depreciation of currencies. A country with a high demand for its goods tends to export more than it imports, increasing demand for its currency. A county that imports more than it exports will have less demand for its currency. Trade balances, and as a result, currencies can swing back and forth, assuming each are floating currencies. If one or both currencies are fixed or pegged, the currencies do not move as easily in response to a trade imbalance.

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**Check your progress C**

1) Define Exchange Rate.

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2) Why do exchange rates exist?

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3) Write any three advantages of fixed exchange rate.

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4) Write three advantages of the flexible exchange rate.

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5) Which of the following statements are True or False?

   i) The exchange rate affects decisions made by foreign exchange investors.

   ii) When the exchange rate falls, it is termed as a revaluation.

   iii) Volatile exchange rate is helpful in promoting exports.

   iv) Depreciation of the rupee refers to the decrease in its external value.

   v) The balance of trade influences currency exchange rate.

## 19.8 DETERMINATION OF EXCHANGE RATE

Purchasing power parity (PPP) was created after World War I. Before then, most countries relied on the gold standard. A country's exchange rate reflected how much gold the currency was worth. Most countries abandoned the gold standard to pay for the war. They printed all the money they needed, creating inflation.

After the war, the Swedish economist Gustav Cassel suggested multiplying each currency's pre-war value by its inflation rate to get the new parity. That formed the basis for today's PPP. When making comparisons between countries which use paper currencies having no intrinsic value, it becomes necessary to convert values. Economists use a tool known as purchasing power parity (PPP) to smooth out some of the differences between currencies and countries. Purchasing power parity theory allows reasonable comparisons, even across widely variable conditions. Comparing economies and currencies based on purchasing power parity theory is an important tool for international finance.

### 19.10.1 Purchasing Power Parity Theory

Purchasing power parity (PPP) is an economic theory that allows the comparison

of the purchasing power of various world currencies to one another. It is a theoretical exchange rate that allows to buy the same amount of goods and services in every country. The theory aims to determine the adjustments needed to be made in the exchange rates of two currencies to make them at par with the purchasing power of each other. In other words, the expenditure on a similar commodity must be same in both currencies when accounted for exchange rate. The purchasing power of each currency is determined in the process. As for example, let us say that a pair of shoes costs Rs.2500 in India. Then it should cost $50 in America when the exchange rate is $1= Rs.50 between the dollar and the rupee. Another example is if the price of a Coca Cola can in India is Rs.50, and it is $2 in the US, then the Rupee/USD exchange rate should be $2 (the US price divided by the India's) according to the PPP theory. This means that goods in each country will cost the same once the currencies have been exchanged.

The purchasing power of a currency refers to the quantity of the currency needed to purchase a given unit of a good, or common basket of goods and services. It states that the price levels between two countries should be equal. Purchasing power parity means equalising the purchasing power of two currencies by taking into account cost of living and inflation differences.

The PPP theory is often broken down into two main concepts: Absolute purchasing power parity and Relative purchasing power parity.

Absolute purchasing power parity (APPP) is the basic PPP theory, which states that once two currencies have been exchanged, a basket of goods should have the same value. Usually, the theory is based on converting other world currencies into the US dollar. For example, if the price of a can of Coca Cola was $2, APPP would suggest that a can of Coca Cola in any other country should cost $2 after converting USD into the local currency. If this does not hold true, then APPP suggests that the currency exchange rate will change over time until the goods are of equal value – as without any barriers to trade, there should be an equilibrium in the price of goods. This is a completely price-level theory, which only looks at the exact same basket of goods in each country, with no other factors included. However, the theory ignores the existence of inflation and consumer spending, as well as transportation costs and tariffs, which can impact the short-term exchange rate. Without these inclusions, a currency's power is not properly represented.

Relative purchasing power parity (RPPP) is an extension of APPP and can be used in tandem with the first concept. While it maintains that the value of the same good in different countries should equal out over time. RPPP suggests that there is a correlation between price inflation and currency exchange rates. It looks at the amount of a good or service that one unit of currency can buy, which can change over time as inflation rates alter. The theory suggests that inflation will reduce the real purchasing power of a currency, so in order to properly adjust the PPP, inflation must be taken into account. For example, if India had an annual inflation rate of 5 per cent, then one unit of rupee would be able to purchase 5 per cent less per year.

Once we add this concept onto APPP, we can see that inflation rates will account for part of the change in the power of currencies. So suppose that the India has a 5 per cent inflation rate, while US has a 2 per cent inflation rate. This means that after one year, the price of a basket of goods in US has increased by 2 per cent, while the same price of the basket of goods in India has increased by 5 per cent. When a country's domestic price level is increasing (i.e., a country experiences

inflation), that country's exchange rate must depreciate in order to return to PPP. The basis for PPP is the 'law of one price'. In the absence of transportation and other transaction costs, competitive markets will equalize the price of an identical good in two countries when the prices are expressed in the same currency.

**How to calculate PPP:** The PPP formula calculation will vary depending on what we are trying to achieve and which PPP we want to use. The absolute PPP calculation is calculated by dividing the cost of a good in one currency, by the cost of a good in another currency (usually the US dollar).

$$S_t = S_0 \left[ \frac{1 + \text{inflation}_A}{1 + \text{inflation}_B} \right]^t$$

$S_0$ = initial spot rate
t = periods into the future
$S_t$ = estimate future spot rate

Then, to calculate the relative PPP rate, we would simply assume that the ratio of price levels was equal to the exchange rate from one currency to another, adjusted for the inflation rate. This would give us the rate of depreciation for one currency compared to another, and an estimate of the future exchange rate.

## A Critique of Purchasing Power Parity Theory

The purchasing power parity theory has been subject to the following criticisms.

(i) There are differences in transportation costs, taxes, and tariffs. These costs will raise prices in a country. Countries with many trade agreements will have lower prices because they have fewer tariffs.

(ii) Non-Traded Services include items as insurance, utility costs, and labor costs. These expenses are unlikely to be at parity internationally. There are things, like real estate and haircuts, can not be shipped.

(iii) Not everyone has the same access to international trade.

(iv) Goods might be deliberately priced higher in a country. In some cases, higher prices may obtain due to the fact that a company may have a competitive advantage over other sellers. The company may have a monopoly or be part of a cartel of companies that manipulate prices, keeping them artificially high.

(v) Import costs are subject to exchange rate fluctuations. The most significant driver of changing exchange rate values is the foreign exchange market. It creates wide swings in exchange rate values.

In reality, there are factors which prevent costs from equalising. The theory also assumes that the basket of goods is completely identical, or at best very similar goods. For a truly meaningful comparison, the basket would have to contain a wide variety of goods and services. The amount of data that has to be collected is huge, and it can be a complex process.

## Significance of PPP theory

It is the principal virtue of the PPP approach that computations of equilibrium exchange rates can be performed 'on the back of an envelope' without the need of sophisticated econometric or mathematical techniques. The PPP approach may also be of value in forecasting floating exchange rates.

It is the virtue of PPP theory to be simple; but the theory would have to be rejected if it were simple-minded. The theory does have limitations. PPP is used worldwide to compare the income levels in different countries. PPP thus makes it easy to understand and interpret the data of each country. PPP theory can be

corrected by a simple alteration or extension of the theory. If the PPP remains the more important explanatory variable, the PPP theory has been amended but not eclipsed. Such techniques may be used to incorporate speculation, trade restrictions, and other influences on a floating exchange rate.

Purchasing power parity is a common tool used by traders to assess when an asset is over or under-valued. It is mostly used to analyse forex pairs and stocks. Traders can use any disparity between the PPP rate and exchange rate to assess a currency's long-term forecast and valuation. It is possible to use the rates to predict the direction of a currency pair and use it to determine whether to buy or sell a currency pair. The PPP theory assumes that a decline in the purchasing power of a currency, caused by factors such as inflation, should equate to an equal fall in the exchange rate. While it is not a perfect measurement metric, purchase power parity does allow for the possibility of comparing pricing between countries that have differing currencies.

**Check your progress D**

1) What is purchasing power parity?

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2) How is PPP formula used to calculate PPP?

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3) What is the criticism of PPP theory?

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4) How is purchasing power parity useful?

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## 19.9 LET US SUM UP

Balance of payments (BOP) is a record of values of all economic transactions of a country with the rest of the world in a particular year. There are two types of transactions that dominate the balance of payments. The one is real assets like the exchange of goods and services and the other is financial assets consisting of the exchange of financial claims (for example, stock, bonds, loans, purchases or sales of companies) in exchange of other financial claims or money. The Balance of Trade deals only with export and import of merchandise or visible items. It is just one part of balance of payments.

The current account of the balance of payments refers to the monetary value of international flows associated with transactions in goods and services, income flows and unilateral transfers. Capital transactions consist of capital transfers and the acquisition and disposal of certain nonfinancial assets. Under capital account there is only inflow and outflow of capital and the difference between the two, represents a country's capital account balance. Balance of payments accounts are constructed using a double entry accounting principle such that total credits equal total debits.

Disequilibrium is used to describe a deficit or surplus in a country's balance of payments. Disequilibrium in BOP must be settled. A way to settle is by a transaction on the capital account. BOP is one of the major indicators of a country's status in international trade. The BOP accounts do not tell what is good or bad, nor do they tell what is causing what. But they do show what is happening so that one can reach one's conclusions. Disequilibrium in BOP must be rectified by taking appropriate measures. There are many methods, important among them are monetary and non- monetary measures.

Exchange rate is the process by which a country manages its currency in respect to foreign currencies. There are basically three types of exchange rate systems globally: flexible or floating exchange rate system, fixed exchange rate system and managed floating (intermediate exchange rate system).

Purchasing power parity (PPP) is based on an economic theory that states the prices of goods and services should equalize among countries over time. PPP suggests the prices of goods and services between two countries should be equal, once their currencies have been exchanged. PPP was introduced to be a more accurate and effective measure of a currency's power. It is split into two types: absolute PPP, which does not adjust for inflation, and relative PPP, which is used to compare economic productivity and living standards between countries. There are significant limitations to the theory, such as its exclusion of other transactional costs, taxes and barriers to trade.

Purchasing power is broadly determined by the relative cost of living and inflation rates in different countries.

## 19.10 KEY WORDS

**BOP account:** Follows the double-entry book keeping method, which balances both the credit and debit sides. By this accounting method, BOP of a country is always in balance.

***Counterpart items:*** Certain items in the balance of payments exist only as counterpart items, introduced to balance the inclusion of other items that do not fall naturally into the double-entry system. The allocation of Special Drawing Rights (SDRs) is an example of an artificial counterpart item introduced into the balance of payments to offset the corresponding increase in SDRs holdings within official reserves (as SDRs are no one sector's liabilities).

**Expenditure reduction policy:** Involves a reduction in the level of aggregate demand in the domestic economy in order to improve the balance of payments position on the current account.

**Expenditure-switching policy:** Switches domestic and foreign demand away from foreign goods and towards home produced goods.

## 19.11 ANSWERS TO CHECK YOUR PROGRESS

A 5 i) True, ii) False, iii) True, iv) True, v) False

B 5 i)True, ii)False, iii)True, iv)True, v)False

C 5 i) True, ii) True, iii) False, iv) True, v) True.

## 19.12 TERMINAL QUESTIONS

1. Explain the concept of BOP. Describe its components.
2. Why is it necessary for a country to be concerned about its BoP deficits? Give reasons.
3. What corrective measures are available to a country to rectify its BoP disequilibrium? Explain.
4. What do you mean by exchange rate? Explain system of exchange rate along with their merits and demerits.
5. How is exchange rate determined under purchasing power parity theory?

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