

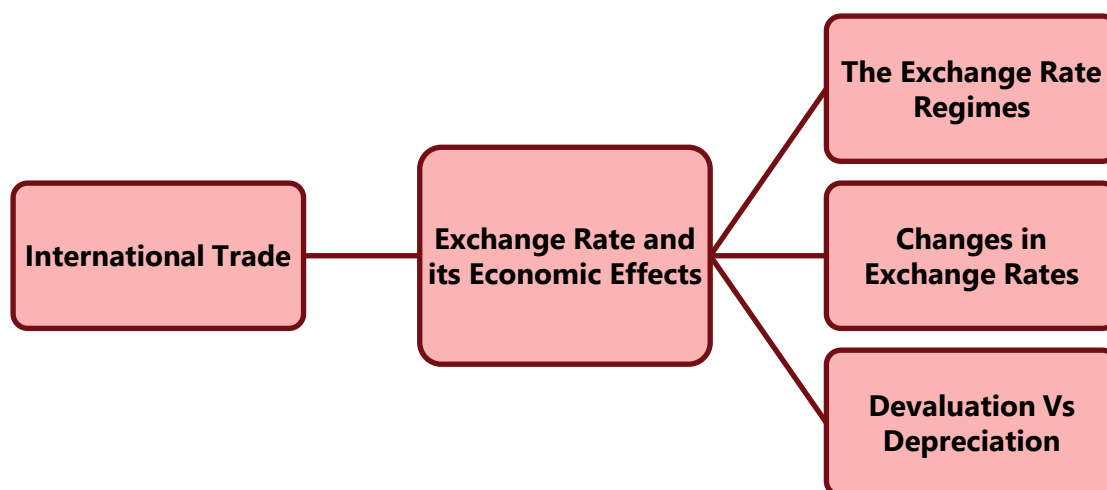
# UNIT - 4: EXCHANGE RATE AND ITS ECONOMIC EFFECTS

## LEARNING OUTCOMES

After studying this Unit, you will be able to –

- ♦ Define exchange rate and describe how it is determined
- ♦ Appraise different types of exchange rate regimes
- ♦ Describe the functioning of the foreign exchange market
- ♦ Explain changes in exchange rates and their impact on the real economy

## UNIT OVERVIEW





## 4.1 INTRODUCTION

Each day we get fascinating news about the currency which fuel our curiosity, such as Rupee gains 12 paise against US dollar, Dollar Spot/Forward Rates plummet, Rupee down, Euro holds steady, Pound strengthens etc. Ever wondered what this jargon mean? We shall try to understand a few fundamentals related to currency transactions in this unit.

In chapter 3, we examined the demand for and supply of domestic currency. It is not domestic currency alone that we need. Households, businesses and governments in India, for example, buy different types of goods and services produced in other countries. Similarly, residents of the rest of the world buy goods and services from residents in India. Foreign investors, businesses, and governments invest in our country, just as our nationals invest in other countries. In the same way, lending, and borrowing also take place internationally. These and similar other transactions give rise to an international dimension of money, which involves exchange of one currency for another. Obviously, this entails market transactions involving the determination of price of one currency in terms of another.



## 4.2 THE EXCHANGE RATE

A foreign currency transaction is a transaction that is denominated in or requires settlement in a foreign currency, including transactions arising when an enterprise either:

- (a) buys or sells goods or services whose price is denominated in a foreign currency.
- (b) borrows or lends funds when the amounts payable or receivable are denominated in a foreign currency.
- (c) becomes a party to an unperformed forward exchange contract; or
- (d) otherwise acquires or disposes of assets, or incurs or settles liabilities, denominated in a foreign currency.



## 4.3 THE EXCHANGE RATE REGIMES

Exchange rates are determined by demand and supply. But governments can influence those exchange rates in various ways. The extent and nature of government involvement in currency markets define alternative systems of exchange rates. In this section, we will examine some common systems and explore some of their macroeconomic implications.

There are three broad categories of exchange rate systems. In one system, exchange rates are set purely by private market forces with no government involvement. Values change constantly as the demand for and supply of currencies fluctuate. In another system, currency

values are allowed to change, but governments participate in currency markets in an effort to influence those values. Finally, governments may seek to fix the values of their currencies, either through participation in the market or through regulatory policy.

An exchange rate regime is the system by which a country manages its currency with respect to foreign currencies. It refers to the method by which the value of the domestic currency in terms of foreign currencies is determined. There are two major types of exchange rate regimes at the extreme ends; namely:

- (i) floating exchange rate regime (also called a flexible exchange rate), and
- (ii) fixed exchange rate regime

**In a free-floating exchange rate system,** governments and central banks do not participate in the market for foreign exchange. The relationship between governments and central banks on the one hand and currency markets on the other is much the same as the typical relationship between these institutions and stock markets. Governments may regulate stock markets to prevent fraud, but stock values themselves are left to float in the market.

A free-floating system has the advantage of being self-regulating. There is no need for government intervention if the exchange rate is left to the market. Market forces also restrain large swings in demand or supply. Suppose, for example, that a dramatic shift in world preferences led to a sharply increased demand for goods and services produced in Canada. This would increase the demand for Canadian dollars, raise Canada's exchange rate, and make Canadian goods and services more expensive for foreigners to buy. Some of the impact of the swing in foreign demand would thus be absorbed in a rising exchange rate. In effect, a free-floating exchange rate acts as a buffer to insulate an economy from the impact of international events.

The primary difficulty with free-floating exchange rates lies in their unpredictability. Contracts between buyers and sellers in different countries must not only reckon with possible changes in prices and other factors during the lives of those contracts, they must also consider the possibility of exchange rate changes. An agreement by an Indian distributor to purchase a certain quantity of US goods each year, for example, will be affected by the possibility that the exchange rate between the Indian rupee and the U.S. dollar will change while the contract is in effect. Fluctuating exchange rates make international transactions riskier and thus increase the cost of doing business with other countries.

### **Managed Float Systems**

Governments and central banks often seek to increase or decrease their exchange rates by buying or selling their own currencies. Exchange rates are still free to float, but governments try to influence their values. Government or central bank participation in a floating exchange rate system is called a managed float.

Countries that have a floating exchange rate system intervene from time to time in the currency market in an effort to raise or lower the price of their own currency. Typically, the purpose of such intervention is to prevent sudden large swings in the value of a nation's currency. Such intervention is likely to have only a small impact, if any, on exchange rates.

Still, governments or central banks can sometimes influence their exchange rates. Suppose the price of a country's currency is rising very rapidly. The country's government or central bank might seek to hold off further increases in order to prevent a major reduction in net exports. An announcement that a further increase in its exchange rate is unacceptable, followed by sales of that country's currency by the central bank in order to bring its exchange rate down, can sometimes convince other participants in the currency market that the exchange rate will not rise further. That change in expectations could reduce demand for and increase the supply of the currency, thus achieving the goal of holding the exchange rate down.

### **Fixed Exchange Rates**

In a fixed exchange rate system, the exchange rate between two currencies is set by government policy. There are several mechanisms through which fixed exchange rates may be maintained. Whatever the system for maintaining these rates, however, all fixed exchange rate systems share some important features.

In an open economy, the main advantages of a fixed rate regime are:

- (i) A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs that can impede international flow of trade and investments. International trade and investment are less risky under fixed rate regime as profits are not affected by the exchange rate fluctuations.
- (ii) A fixed exchange rate can thus, greatly enhance international trade and investment.
- (iii) A reduction in speculation on exchange rate movements if everyone believes that exchange rates will not change.
- (iv) A fixed exchange rate system imposes discipline on a country's monetary authority and therefore is more likely to generate lower levels of inflation.
- (v) The government can encourage greater trade and investment as stability encourages investment.
- (vi) Exchange rate peg can also enhance the credibility of the country's monetary-policy.
- (vii) However, in the fixed or managed floating exchange rate regimes (where the market forces are allowed to determine the exchange rate within a band), the central bank is required to stand ready to intervene in the foreign exchange market and, also to maintain an adequate amount of foreign exchange reserves for this purpose.

Basically, the free floating or flexible exchange rate regime is argued to be efficient and highly transparent as the exchange rate is free to fluctuate in response to the supply of and demand for foreign exchange in the market and clears the imbalances in the foreign exchange market without any control of the central bank or the monetary authority. A floating exchange rate has many advantages:

- (i) A floating exchange rate has the greatest advantage of allowing a Central bank and/or government to pursue its own independent monetary policy.
- (ii) Floating exchange rate regime allows exchange rate to be used as a policy tool: for example, policy-makers can adjust the nominal exchange rate to influence the competitiveness of the tradable goods sector.
- (iii) As there is no obligation or necessity to intervene in the currency markets, the central bank is not required to maintain a huge foreign exchange reserves.

However, the greatest disadvantage of a flexible exchange rate regime is that volatile exchange rates generate a lot of uncertainties in relation to international transactions and add a risk premium to the costs of goods and assets traded across borders. In short, a fixed rate brings in more currency and monetary stability and credibility; but it lacks flexibility. On the contrary, a floating rate has greater policy flexibility; but less stability.



## 4.4 NOMINAL VERSUS REAL EXCHANGE RATES

We have been discussing so far about nominal exchange rate which refers to the rate at which a person can trade the currency of one country for the currency of another country. For any country, there are many nominal exchange rates because its currency can be used to purchase many foreign currencies. While studying exchange rate changes, economists make use of indexes that average these many exchange rates. An exchange rate index turns these many exchange rates into a single measure of the international value of currency.

Nominal Exchange Rates can be used to find the domestic price of foreign goods. However, trade flows are affected not by nominal exchange rates, but instead, by real exchange rates. The person or firm buying another currency is interested in what can be bought with it.

The real exchange rate is the rate at which a person can trade the goods and services of one country for the goods and services of another. It describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country. A country's real exchange rate is a key determinant of its net exports of goods and services.

For calculating real exchange rate, in the case of trade in a single good, we must first use the nominal exchange rate to convert the prices into a common currency. The real exchange rate

(RER) between two currencies is the product of the nominal exchange rate and the ratio of prices between the two countries. It is calculated as:

$$\text{Real exchange Rate} = \frac{(\text{Nominal exchange Rate}) \times \text{Domestic price}}{\text{Foreign price}}$$

Or

$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \frac{\text{Domestic Price}}{\text{Foreign price}}$$

Thus, real exchange rate depends on the nominal exchange rate and the prices of the good in two countries measured in the local currencies.

When studying the economy as a whole, we use price indices which measure the price of a basket of goods and services. Real exchange rate will then be:

$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \frac{\text{Domestic Price Index}}{\text{Foreign price Index}}$$

Another exchange rate concept, the Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a domestic currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs. An increase in REER implies that exports become more expensive and imports become cheaper; therefore, an increase in REER indicates a loss in trade competitiveness.



## 4.5 THE FOREIGN EXCHANGE MARKET

Forex market participants mainly are commercial banks executing orders from exporters, importers, investment institutions, insurance and retirement funds, hedgers, and private investors. Commercial banks also perform trading operations in their own interests and at their own expense. Daily turnover of the largest banks often exceeds several billions of U.S. Dollars and many make their main profit by speculative operations with currency.

Brokerage houses are also playing an important role as contractors between large numbers of banks, funds, commission houses, dealing centers, etc. Commercial Banks and Brokerage Houses do not only execute currency exchange operations at prices set by other active players but come out with their own prices as well, actively influencing the price formation process and the market life. That is why they are called market makers.

In contrast to the above, passive players cannot set their own quotations and make trades at quotations offered by active market players. Passive market players normally pursue the following aims: payment of export-import contracts, foreign industrial investments, the opening of branches abroad or the creation of joint ventures, tourism, speculation on rate

difference, hedging of currency risks (insurance against losses in case of unfavorable price changes), etc.

In the foreign exchange market, there are two types of transactions:

- (i) current transactions which are carried out in the spot market and the exchange involves immediate delivery, and
- (ii) future transactions wherein contracts are agreed upon to buy or sell currencies for future delivery which are carried out in forward and/or futures markets

Exchange rates prevailing for spot trading (for which settlement by and large takes two days) are called spot exchange rates. The exchange rates quoted in foreign exchange transactions that specify a future date are called forward exchange rates. The currency forward contracts are quoted just like spot rate; however, the actual delivery of currencies takes place at the specified time in future. When a party agrees to sell euro for dollars on a future date at a forward rate agreed upon, he has 'sold euros forward' and 'bought dollars forward'. A forward premium is said to occur when the forward exchange rate is more than a spot exchange rates. On the contrary, if the forward trade is quoted at a lower rate than the spot rate, then there is a forward discount. Currency futures, though conceptually similar to currency forward and perform the same function, they are distinct in their nature and details concerning settlement and delivery.

While a foreign exchange transaction can involve any two currencies, most transactions involve exchanges of foreign currencies for the U.S. dollars even when it is not the national currency of either the importer or the exporter. On account of its critical role in the forex markets, the dollar is often called a 'vehicle currency'.



## 4.6 DETERMINATION OF NOMINAL EXCHANGE RATE

As you already know, the key framework for analysing prices is the operation of forces of supply and demand in markets. Usually, the supply of and demand for foreign exchange in the domestic foreign exchange market determine the external value of the domestic currency, or in other words, a country's exchange rate.

Individuals, institutions and governments participate in the foreign exchange market for a number of reasons. On the demand side, people desire foreign currency to:

- purchase goods and services from another country
- for unilateral transfers such as gifts, awards, grants, donations or endowments
- to make investment income payments abroad
- to purchase financial assets, stocks or bonds abroad

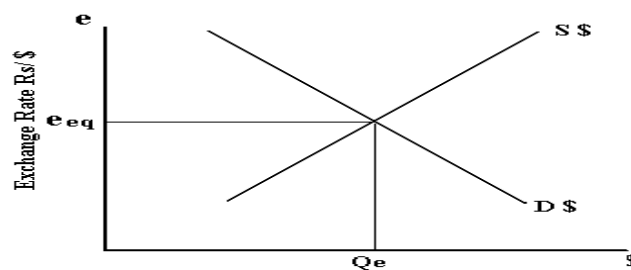
- to open a foreign bank account
- to acquire direct ownership of real capital, and
- for speculation and hedging activities related to risk-taking or risk-avoidance activity

The participants on the supply side operate for similar reasons. Thus, the supply of foreign currency to the home country results from purchases of home exports, unilateral transfers to home country, investment income payments, foreign direct investments and portfolio investments, placement of bank deposits and speculation.

We shall now look into how the foreign exchange markets work. Similar to any standard market, the exchange market also faces a downward-sloping demand curve and an upward-sloping supply curve.

**Figure 4.4.1**

#### **Determination of Nominal Exchange Rate**



The equilibrium rate of exchange is determined by the interaction of the supply and demand for a particular foreign currency. In figure 4.4.1, the demand curve ( $D\$$ ) and supply curve ( $S\$$ ) of dollars intersect to determine equilibrium exchange rate  $e_{eq}$  with  $Q_e$  as the equilibrium quantity of dollars exchanged.



## **4.7 CHANGES IN EXCHANGE RATES**

Changes in exchange rates portray depreciation or appreciation of one currency. The terms, 'currency appreciation' and 'currency depreciation' describe the movements of the exchange rate. Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies. We shall try to understand this with the help of an example.

For example, the Rupee dollar exchange rate in the month of January is  $\$1 = ₹ 70$ . and, we find that in the month of April it is  $\$1 = ₹ 75$ . What does this indicate? In April, you will have to exchange a greater amount of Indian Rupees ( $₹75$ ) to get the same 1 unit of US dollar. As such, the value of the Indian Rupee has gone down or Indian Rupee has



depreciated in its value. Rupee depreciation here means that the rupee has become less valuable with respect to the U.S. dollar. Simultaneously, if you look at the value of dollar in terms of Rupees, you find that the value of the US dollar has increased in terms of the Indian Rupee. One dollar will now fetch ₹75 instead of ₹70 earlier. This is called appreciation of the US dollar. You might have observed that when one currency depreciates against another, the second currency must simultaneously appreciate against the first.

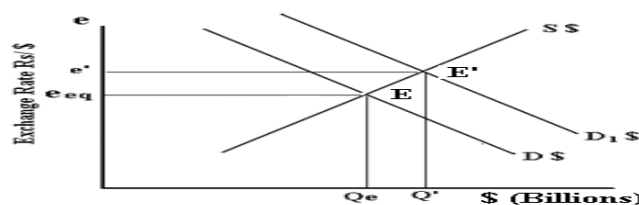
To put it more clearly:

- Home-currency depreciation (which is the same as foreign-currency appreciation) takes place when there is an increase in the home currency price of the foreign currency (or, alternatively, a decrease in the foreign currency price of the home currency). The home currency thus becomes relatively less valuable.
- Home-currency appreciation (or foreign-currency depreciation) takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency). The home currency thus becomes relatively more valuable.

Under a floating rate system, if for any reason, the demand curve for foreign currency shifts to the right representing increased demand for foreign currency, and supply curve remains unchanged, then the exchange value of foreign currency rises and the domestic currency depreciates in value. This is illustrated in figure 4.4.2.

**Figure 4.4.2**

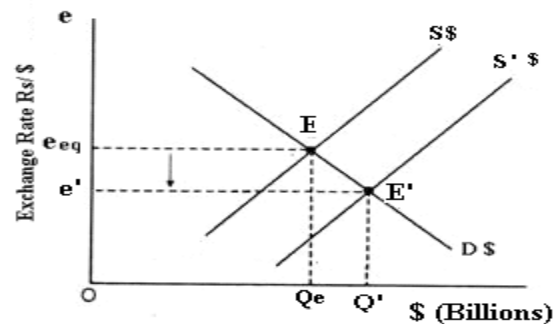
### Home-Currency Depreciation under Floating Exchange Rates



The market initially is in equilibrium at point E with equilibrium exchange rate  $e_{eq}$ . An increase in domestic demand for the foreign currency, with supply of dollars remaining constant, is represented by a rightward shift of the demand curve to  $D_1\$$ . The equilibrium exchange rate rises to  $e^1$ . This indicates that more units of domestic currency (here Indian Rupees) are required to buy one unit of foreign currency (here dollar) and that the domestic currency (the Rupee) has depreciated.

We shall now examine what happens when there is an increase in the supply of dollars in the Indian market. This is illustrated in figure 4.4.3.

Figure 4.4.3

**Home-Currency Appreciation under Floating Exchange Rates**

An increase in the supply of foreign exchange shifts the supply curve to the right to  $S^1 \$$  and as a consequence, the exchange rate declines to  $e^1$ . It means, that lesser units of domestic currency (here Indian Rupees) are required to buy one unit of foreign currency (dollar), and that the domestic currency (the Rupee) has appreciated.

As we are aware, in an open economy, firms and households use exchange rates to translate foreign prices in terms of domestic currency. Exchange rates also permit us to compare the prices of goods and services produced in different countries. Furthermore, import or export prices could be expressed in terms of the same currency in the trading contract. This is the reason why exchange rate movements can affect intentional trade flows.



## **4.8 DEVALUATION (REVALUATION) VS DEPRECIATION (APPRECIATION)**

Devaluation is a deliberate downward adjustment in the value of a country's currency relative to another country's currency or group of currencies or standard. It is a monetary policy tool used by countries that have a fixed exchange rate or nearly fixed exchange rate regime and involves a discrete official reduction in the otherwise fixed par value of a currency. The monetary authority formally sets a new fixed rate with respect to a foreign reference currency or currency basket. In contrast, depreciation is a decrease in a currency's value (relative to other major currency benchmarks) due to market forces of demand and supply under a floating exchange rate and not due to any government or central bank policy actions.

Revaluation is the opposite of devaluation and the term refers to a discrete official increase of the otherwise fixed par value of a nation's currency. Appreciation, on the other hand, is an increase in a currency's value (relative to other major currencies) due to market forces of

demand and supply under a floating exchange rate and not due to any government or central bank policy interventions.



## 4.9 IMPACTS OF EXCHANGE RATE FLUCTUATIONS ON DOMESTIC ECONOMY

The fact that among the macroeconomic variables, exchange rates are perhaps the most closely monitored, analysed and manipulated economic measure, highlights the overwhelming importance of exchange rates in an economy. The unpredictability of the markets caused by exchange rate fluctuations can profoundly determine a country's economic performance. Knowledge about the possible effects of exchange rate fluctuations enables us to have an understanding of the appropriateness of exchange rate policy, especially in developing countries. In the discussion that follows, we shall examine the impact of exchange rate fluctuations on the real economy.

The developments in the foreign exchange markets affect the domestic economy both directly and indirectly. The direct impact of fluctuations in rates is initially felt by economic agents who are directly involved in international trade or international finance.

- (i) Fluctuations in the exchange rate have a significant role in determining the nature and extent of a country's trade.
- (ii) Fluctuations in the exchange rate affect the economy by changing the relative prices of domestically-produced and foreign-produced goods and services. All else equal (or other things remaining the same), an appreciation of a country's currency raises the relative price of its exports and lowers the relative price of its imports. Conversely, depreciation lowers the relative price of a country's exports and raises the relative price of its imports. When a country's currency depreciates, foreigners find that its exports are cheaper and domestic residents find that imports from abroad are more expensive. An appreciation has opposite effects i.e foreigners pay more for the country's products and domestic consumers pay less for foreign products. For example; assume that there is devaluation or depreciation of Indian Rupee from  $\$1 = ₹ 65/$  to  $\$1 = ₹ 70/$ . A foreigner who spends ten dollars on buying Indian goods will, post devaluation, get goods worth ₹ 700/ instead of ₹ 650/ prior to depreciation. An importer has to pay for his purchases in foreign currency, and, therefore, a resident of India, who wants to import goods worth \$1 will have to pay ₹ 70/ instead of ₹ 65/ prior to depreciation. Importers will be affected most as they will have to pay more rupees on importing products. On the contrary, exporters will be benefitted as goods exported abroad will fetch dollars which can now be converted to more rupees.

- (iii) Exchange rate changes affect economic activity in the domestic economy. A depreciation of domestic currency primarily increases the price of foreign goods relative to goods produced in the home country and diverts spending from foreign goods to domestic goods. Increased demand, both for domestic import-competing goods and for exports, encourages economic activity and creates output expansion. Overall, the outcome of exchange rate depreciation is an expansionary impact on the economy at an aggregate level. The positive effect of currency depreciation, however, largely depends on whether the switching of demand has taken place in the right direction and in the right amount, as well as on the capacity of the home economy to meet that increased demand by supplying more goods.
- (iv) For an economy where exports are significantly high, a depreciated currency would mean a lot of gain. In addition, if exports originate from labour-intensive industries, increased export prices will have positive effect on employment and potentially on wages.
- (v) Depreciation is also likely to add to consumer price inflation in the short run, directly through its effect on prices of imported consumer goods and also due to increased demand for domestic goods. The impact will be greater if the composition of domestic consumption baskets consists more of imported goods. Indirectly, cost push inflation may result through possible escalation in the cost of imported inputs. In such an inflationary situation, the central bank of the country will have no incentive to cut policy rates as this is likely to increase the burden of all types of borrowers including businesses.
- (vi) The fiscal health of a country whose currency depreciates is likely to be affected with rising export earnings and import payments and consequent impact on current account balance. A widening current account deficit is a danger signal as far as growth prospects of the overall economy is concerned. If export earnings rise faster than the imports spending then current account balance will improve.
- (vii) Companies that have borrowed in foreign exchange through external commercial borrowings (ECBs) but have been careless and did not sufficiently hedge these loans against foreign exchange risks, would also be negatively impacted as they would require more domestic currency to repay their loans. A depreciated domestic currency would also increase their debt burden and lower their profits and impact their balance sheets adversely. These would signal investors who will be discouraged from investing in such companies.
- (viii) Countries with foreign currency denominated government debts, currency depreciation will increase the interest burden and cause strain to the exchequer for

repaying and servicing foreign debt. Fortunately, India's has small proportion of public debt in foreign currency.

- (ix) Exchange rate fluctuations make financial forecasting more difficult for firms and larger amounts will have to be earmarked for insuring against exchange rate risks through hedging.
- (x) With growth of investments across international boundaries, exchange rates have assumed special significance. Investors who have purchased a foreign asset, or the corporation which floats a foreign debt, will find themselves facing foreign exchange risk. Exchange rate movements have become the single most important factor affecting the value of investments at international level. They are critical to business volumes, profit forecasts, investment plans and investment outcomes. Depreciating currency hits investor sentiments and has radical impact on patterns of international capital flows.
- (xi) Foreign investors are likely to be indecisive or highly cautious before investing in a country that has high exchange rate volatility. Foreign capital inflows are characteristically vulnerable when local currency weakens. Therefore, foreign portfolio investment flows into debt and equity as well as foreign direct investment flows are likely to shrink. This shoots up capital account deficits affecting the country's fiscal health.

To reduce the fiscal deficit at the end of 2022, Russia and India agreed to switch to trade settlements in their national currencies. Over the past year, trade turnover between Moscow and New Delhi has grown significantly and both intend to increase these volumes during 2023. Meanwhile, Russian exports to India significantly exceed Indian imports from this country, when the Indian Rupee has significantly dipped against the US Dollar and the Russian Ruble. We look at how such variations can be overcome, setting in motion mechanisms for additional mutual settlement schemes with countries whose currencies may not be as strong as the Ruble, and look at the 2023 prospects for Russia-India bilateral trade.

In mid-November last year, India announced plans to double the volume of trade with Russia, noting that the transition to settlements in national currencies would only be an additional incentive for this. In late autumn, the Indian authorities allowed the use of Rupees in international trade settlements.

An appreciation of currency or a strong currency (or possibly an overvalued currency) makes the domestic currency more valuable and, therefore, can be exchanged for a larger amount of foreign currency. An appreciation will have the following consequences on real economy:

- (i) An appreciation of currency raises the price of exports and, therefore, the quantity of exports would fall. Since imports become cheaper, we may expect an increase in the quantity of imports. Combining these two effects together, the domestic aggregate demand falls and, therefore, economic growth is likely to be negatively impacted.
- (ii) The outcome of appreciation also depends on the stage of the business cycle as well. If appreciation sets in during the recessionary phase, the result would be a further fall in aggregate demand and higher levels of unemployment. If the economy is facing a boom, an appreciation of domestic currency would trim down inflationary pressures and soften the rate of growth of the economy.
- (iii) An appreciation may cause reduction in the levels of inflation because imports are cheaper. Lower price of imported capital goods, components and raw materials lead to decrease in cost of production which reflects on decrease in prices. Additionally, decrease in aggregate demand tends to lower demand pull inflation. Living standards of people are likely to improve due to availability of cheaper consumer goods.
- (iv) With increasing export prices, the competitiveness of domestic industry is adversely affected and therefore, firms have greater incentives to introduce technological innovations and capital-intensive production to cut costs to remain competitive.
- (v) Increasing imports and declining exports are liable to cause larger deficits and worsen the current account. However, the impact of appreciation on current account depends upon the elasticity of demand for exports and imports. Relatively inelastic demand for imports and exports may lead to an improvement in the current account position. Higher the price elasticity of demand for exports, greater would be the fall in demand and higher will be the fall in the aggregate value of exports. This will adversely affect the current account balance.
- (vi) Loss of competitiveness will be insignificant if currency appreciation is because of strong fundamentals of the economy.

From the discussions in this unit, we understand that all countries would desire to have steady exchange rates to eliminate the risks and uncertainties associated with international trade and investments. However, nations may sometimes go for trade-offs with weaker exchange rate to stimulate exports and aggregate demand, or a stronger exchange rate to fight inflation. Learners may keep themselves well-informed on contemporary exchange rate developments and their implications on the economic welfare of countries.

## SUMMARY

- ◆ Exchange rate is the rate at which the currency of one country exchanges for the currency of another country.
- ◆ A direct quote (European Currency Quotation) is the number of units of a local currency exchangeable for one unit of a foreign currency. For example, ₹ 65/US\$.
- ◆ An indirect quote (American Currency Quotation) is the number of units of a foreign currency exchangeable for one unit of local currency; for example: \$ 0.0151 per rupee.
- ◆ In a direct quotation, the foreign currency is the base currency and the domestic currency is the counter currency. In an indirect quotation, the domestic currency is the base currency and the foreign currency is the counter currency.
- ◆ The rate between Y and Z which is derived from the given rates of another set of two pairs of currency (say, X and Y, and, X and Z) is called cross rate.
- ◆ An exchange rate regime is the system by which a country manages its currency with respect to foreign currencies.
- ◆ There are two major types of exchange rate regimes at the extreme ends; namely floating exchange rate regime, (also called a flexible exchange rate) and fixed exchange rate regime.
- ◆ Under floating exchange rate regime, the equilibrium value of the exchange rate of a country's currency is market determined i.e. the demand for and supply of currency relative to other currencies determines the exchange rate.
- ◆ A fixed exchange rate, also referred to as pegged exchange rate, is an exchange rate regime under which a country's government announces, or decrees, what its currency will be worth in terms of either another country's currency or a basket of currencies or another measure of value, such as gold.
- ◆ A central bank may implement soft peg policy under which the exchange rate is generally determined by the market or a hard peg where the central bank sets a fixed and unchanging value for the exchange rate.
- ◆ A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs, enhances international trade and investment and lowers the levels of inflation. But the central bank has to maintain an adequate amount of reserves and be always ready to intervene in the foreign exchange market.

- ◆ A floating exchange rate allows a government to pursue its own independent monetary policy and there is no need for market intervention or maintenance of reserves. However, volatile exchange rates generate a lot of uncertainties with regard to international transactions.
- ◆ The 'real exchange rate' incorporates changes in prices and describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country.
- ◆ 
$$\text{Real exchange rate} = \text{Nominal exchange rate} \times \frac{\text{Domestic price Index}}{\text{Foreign price Index}}$$
- ◆ Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs.
- ◆ The wide-reaching collection of markets and institutions that handle the exchange of foreign currencies is known as the foreign exchange market. Being an over-the-counter market, it is not a physical place; rather, it is an electronically linked network bringing buyers and sellers together and has only very narrow spreads.
- ◆ On account of arbitrage, regardless of physical location, at any given moment, all markets tend to have the same exchange rate for a given currency. Arbitrage refers to the practice of making risk-less profits by intelligently exploiting price differences of an asset at different dealing places.
- ◆ There are two types of transactions in a forex market: current transactions which are carried out in the spot market and future transactions involving contracts to buy or sell currencies for future delivery which are carried out in forward and futures markets.
- ◆ Generally, the supply of and demand for foreign exchange in the domestic foreign exchange market determine the external value of the domestic currency, or in other words, a country's exchange rate.
- ◆ Changes in exchange rates portray depreciation or appreciation of one currency. The terms, 'currency appreciation' and 'currency depreciation' describe the movements of the exchange rate.
- ◆ Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies.



- ◆ Devaluation is a deliberate downward adjustment by central bank in the value of a country's currency relative to another currency, group of currencies or standard.
- ◆ An appreciation of a country's currency cause changes in import and export prices will lead to changes in import and export volumes, causing resulting in import spending and export earnings.
- ◆ Exchange rate depreciation lowers the relative price of a country's exports, raises the relative price of its imports, increases demand both for domestic import-competing goods and for exports, leads to output expansion, encourages economic activity, increases the international competitiveness of domestic industries, increases the volume of exports and improves trade balance.
- ◆ Currency appreciation raises the price of exports, decrease exports; increase imports, adversely affect the competitiveness of domestic industry, cause larger deficits and worsens the trade balance.

## TEST YOUR KNOWLEDGE

### Multiple Choice Type Questions

1. *Based on the supply and demand model of determination of exchange rate, which of the following ought to cause the domestic currency of Country X to appreciate against dollar?*
  - (a) *The US decides not to import from Country X*
  - (b) *An increase in remittances from the employees who are employed abroad to their families in the home country*
  - (c) *Increased imports by consumers of Country X*
  - (d) *Repayment of foreign debts by Country X*
2. *All else equal, which of the following is true if consumers of India develop taste for imported commodities and decide to buy more from the US?*
  - (a) *The demand curve for dollars shifts to the right and Indian Rupee appreciates*
  - (b) *The supply of US dollars shrinks and, therefore, import prices decrease*
  - (c) *The demand curve for dollars shifts to the right and Indian Rupee depreciates*
  - (d) *The demand curve for dollars shifts to the left and leads to an increase in exchange rate*

3. 'The nominal exchange rate is expressed in units of one currency per unit of the other currency. A real exchange rate adjusts this for changes in price levels'. The statements are
- (a) wholly correct
  - (b) partially correct
  - (c) wholly incorrect
  - (d) None of the above
4. Match the following by choosing the term which has the same meaning
- |                                  |                                |
|----------------------------------|--------------------------------|
| i) <b>floating exchange rate</b> | ii) <b>fixed exchange rate</b> |
| iii) pegged exchange rate        | a. depreciation                |
| iv) devaluation                  | b. revaluation                 |
| v) appreciation                  | c. flexible exchange rate      |
- (a) (i c); (ii d); (iii b); (iv a)
  - (b) (i b); (ii a); (iii d); (iv c)
  - (c) (i a); (ii d); (iii b); (iv c)
  - (d) (i d); (ii a); (iii b); (iv c)
5. Choose the correct statement
- (a) An indirect quote is the number of units of a local currency exchangeable for one unit of a foreign currency
  - (b) the fixed exchange rate regime is said to be efficient and highly transparent.
  - (c) A direct quote is the number of units of a local currency exchangeable for one unit of a foreign currency
  - (d) Exchange rates are generally fixed by the central bank of the country
6. Which of the following statements is true?
- (a) Home-currency appreciation or foreign-currency depreciation takes place when there is a decrease in the home currency price of foreign currency

- (b) *Home-currency depreciation takes place when there is an increase in the home currency price of the foreign currency*
  - (c) *Home-currency depreciation is the same as foreign-currency appreciation and implies that the home currency has become relatively less valuable.*
  - (d) *All the above*
7. *An increase in the supply of foreign exchange*
- (a) *shifts the supply curve to the right and as a consequence, the exchange rate declines*
  - (b) *shifts the supply curve to the right and as a consequence, the exchange rate increases*
  - (c) *more units of domestic currency are required to buy a unit of foreign exchange*
  - (d) *the domestic currency depreciates and the foreign currency appreciates*
8. *Currency devaluation*
- (a) *may increase the price of imported commodities and, therefore, reduce the international competitiveness of domestic industries*
  - (b) *may reduce export prices and increase the international competitiveness of domestic industries*
  - (c) *may cause a fall in the volume of exports and promote consumer welfare through increased availability of goods and services*
  - (d) *(a) and (c) above*
9. *At any point of time, all markets tend to have the same exchange rate for a given currency due to*
- (a) *Hedging*
  - (b) *Speculation*
  - (c) *Arbitrage*
  - (d) *Currency futures*

10. 'Vehicle Currency' refers to

- (a) a currency that is widely used to denominate international contracts made by parties because it is the national currency of either of the parties
- (b) a currency that is traded internationally and, therefore, is in high demand
- (c) a type of currency used in euro area for synchronization of exchange rates
- (d) a currency that is widely used to denominate international contracts made by parties even when it is not the national currency of either of the parties

## ANSWERS

1.	(b)	2.	(c)	3.	(a)	4.	(d)	5.	(c)	6	(d)
7.	(a)	8.	(b)	9.	(c)	10.	(d)				