Foreign Exchange Rate

Introduction

This chapter defines the meaning of foreign exchange and related terms, how foreign exchange rate is determined, study of foreign exchange rate regimes (fixed and flexible exchange rate) and their differences; thereafter hybrid systems of exchange rate and operation of foreign exchange market.

Foreign Exchange And Its Related Concepts

1. **Foreign exchange** refers to all the currencies of the rest of the world other than the domestic currency of the country. For example, in India, US dollar is the foreign exchange.

2. **The rate** at which one currency is exchanged for another is called Foreign Exchange Rate.
In other words, the foreign exchange rate is the price of one currency stated in terms of another currency. For example, if one U.S dollar exchanges for 60 Indian rupees, then the rate of exchange is 1$ = Rs. 60 or 1 Rs = 1/60 or 0.0166 U.S. dollar.

3. **Foreign exchange market** is the market where the national currencies are converted, exchanged or traded for one another.

4. **Functions of a Foreign Exchange Market**

(a) **Transfer Function**: Transfer function refers to transferring of purchasing power among countries.
(b) **Credit Function**: It implies provision of credit in terms of foreign exchange for the export and import of goods and services across different countries of the world.
(c) **Hedging Function**: Hedging function pertains to protecting against foreign exchange risks Where Hedging is an activity which is designed to minimize the risk of loss.

5. **Sources of demand of foreign exchange:**
The demand (or outflow) of foreign exchange comes from the people who need it to make payments in foreign currencies. It is demanded by the domestic residents for the following reasons:
(a) Imports of Goods and Services: When India imports goods and services, foreign exchange is demanded to make the payment for imports of goods and services.
(b) Tourism: Foreign exchange is demanded to meet expenditure incurred in foreign tours.
(c) Unilateral Transfers Sent Abroad: Foreign exchange is required for making unilateral transfers like sending gifts to other countries.
(d) Purchase of Assets in Foreign Countries: It is demanded to make payment for purchase of assets, like land, shares, bonds, etc. in foreign countries.
(e) Repayment of loans to Foreigners: As and when we have to pay interest and repay the loans to foreign lenders, we require foreign exchange.
(f) Speculation: Demand for foreign exchange arises when people want to make gains from appreciation of currency.

6. Reasons for 'Rise in Demand' for Foreign Currency:

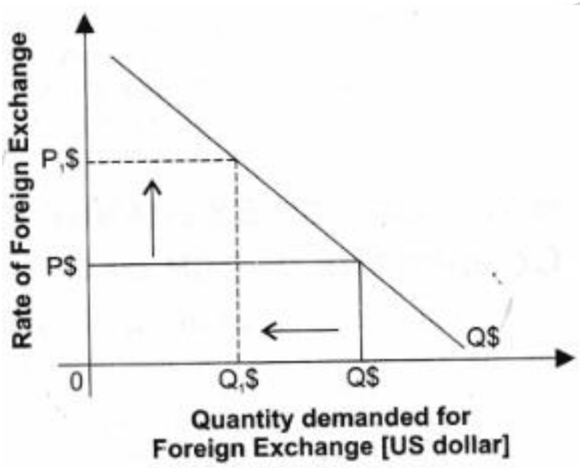
The demand for foreign currency rises in the following situations:

(a) When price of a foreign currency falls, imports from that foreign country become cheaper. So, imports increase and hence, the demand for foreign currency rises. For example, if price of 1 US dollar falls from Rs. 60 to Rs. 55, then imports from the USA will increase as American goods will become relatively cheaper. It will raise the demand for US dollar.

(b) When a foreign currency becomes cheaper in terms of the domestic currency, it promotes tourism to that country. As a result, demand for foreign currency rises.

(c) When price of a foreign currency falls, its demand rises as more people want to make gains from speculative activities.

7. Demand curve of foreign exchange is downward sloping:



(a)Demand curve of foreign exchange slopes downwards due to inverse relationship between demand for foreign exchange and foreign exchange rate.

(b) In figure, demand for foreign exchange (US dollar) and rate of foreign exchange are shown on the horizontal axis and vertical axis respectively.

(c) The demand curve [US$] is downward sloping. It means that less foreign exchange is demanded as the exchange rate increase

(d) This is due to the fact that rise in the price of foreign exchange increases the rupee cost of foreign goods, which make them more expensive. As a result, imports decline. Thus, the demand for foreign exchange also decreases.

8. **Sources of supply of foreign exchange:** The supply (inflow) of foreign exchange comes from the people who receive it due to the following reasons.

(a) Exports of Goods and Services: Supply of foreign exchange comes through exports of goods and services.

(b) Tourism: The amount, which foreigners spend in the home country, increases the supply of foreign exchange.

(c) Remittances (unilateral transfers) from Abroad: Supply of foreign exchange increases in the form of gifts and other remittances from abroad.

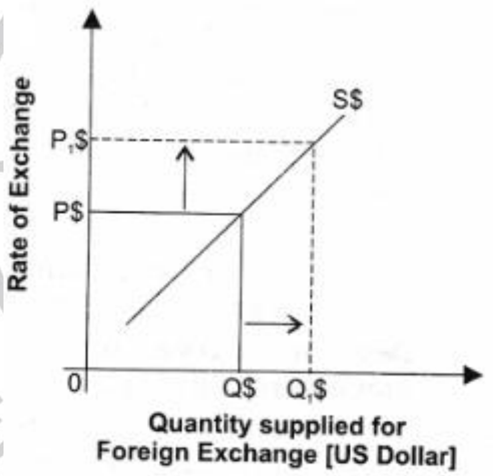
(d) Loan from Rest of the world: It refers to borrowing from abroad. A loan from U.S. means flow of U.S. $ from U.S. to India, which will increase supply of Foreign exchange.

(e) Foreign Investment: The amount, which foreigners invest in our home country, increases the supply

of foreign exchange.
(f) Speculation: Supply of foreign exchange comes from those who want to speculate on the value of foreign exchange.

9. **<u>Reasons of 'rise in supply' of foreign currency:</u>** The supply of foreign currency rises in the following situations:
(a) When price of a foreign currency rises, domestic goods become relatively cheaper. It induces the foreign country to increase their imports from the domestic country. As a result, supply of foreign currency rises. For example, if price of 1 US dollar rises from Rs. 60 to Rs. 65, then exports to USA will increase as Indian goods will become relatively cheaper. It will raise the supply of US dollars.
(b) When price of a foreign currency rises, foreign direct investment (FDI). from rest of the world increases, which will increase the supply for foreign exchange.
(c) When price of a foreign currency rises, supply of foreign currency also rises as people want to make gains from speculative activities.

10. **<u>Supply curve of foreign exchange is upward sloping:</u>**



(a)Supply curve of foreign exchange slopes upwards due to positive relationship between supply for foreign exchange and foreign exchange rate, which means that supply of foreign exchange increases as the exchange rate increases.
(b) This makes home country's goods become cheaper to foreigners since rupee is depreciating in value. The demand for our exports should therefore increase as the exchange rate increases.
(c) The increased demand for our exports will translate into greater supply of foreign exchange.
Thus, the supply of foreign exchange increases as the exchange rate increases.

<u>HOW FOREIGN EXCHANGE IS DETERMINE?</u>

Disequilibrium Conditions Under Exchange Rate

1. Determination of foreign exchange rate:

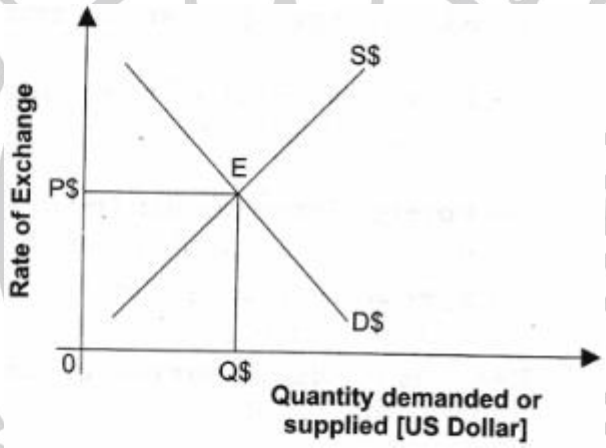
(a) Exchange rate in a free exchange market is determined at a point, where demand for foreign exchange is equal to the supply of foreign exchange.

(b) Let us assume that there are two countries – India and U.S.A – and the exchange rate of their currencies i.e., rupee and dollar is to be determined. Presently, there is floating or flexible exchange regime in both India and U.S.A. Therefore, the value of currency of each country in terms of the other currency depends upon the demand for and supply of their currencies.

(c) In the above diagram, the price on the vertical axis is stated in terms of domestic currency (that is, how many rupees for one US dollar). The horizontal axis measures the quantity demanded or supplied.

(d) In the above diagram, the demand curve [D$] is downward sloping. This means that less foreign exchange is demanded as the exchange rate increases. This is due to the fact that the rise in price of foreign exchange increases the rupee cost of foreign goods, which make them more expensive. As a result, imports decline. Thus, the demand for foreign exchange also decreases.

(e) The supply curve [S$] is upward sloping which means that supply of foreign exchange increases as the exchange rate increases.



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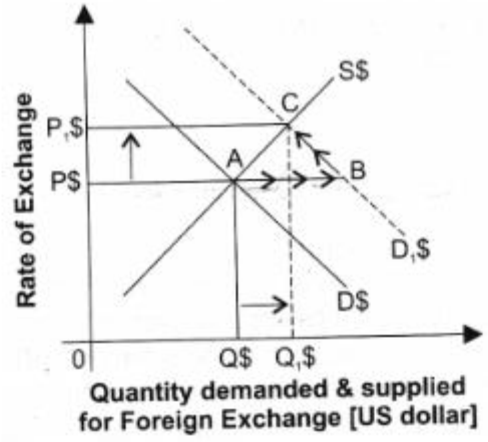
The increased demand for our exports translates into greater supply of foreign exchange. Thus, the supply of foreign exchange increases as the exchange rate increases.

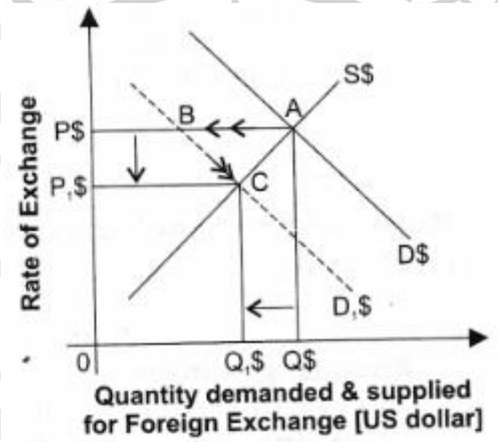
<u>2. Disequilibrium conditions under equilibrium exchange rate:</u>

<u>(a)Change in demand:</u>

(i) **Increase in demand for dollar**: An increase in the demand for US dollar in India will cause the demand curve to shift to D_1\$ and the exchange rate rises to P_1\$. Note that increase in the exchange rate means that more rupees are required to buy one US dollar. When this occurs, Indian rupee is said to be depreciating.

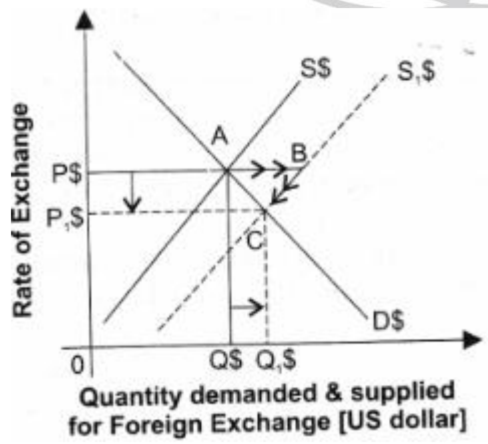


(ii) **Decrease in demand for dollar:** A decrease in the demand for US dollar in India will cause the demand curve to shift to $D_1\$$ and the exchange rate falls to $P_1\$$. Note that decrease in the exchange rate means that less rupees are required to buy one US dollar. When this occurs, Indian rupee is said to be appreciating.

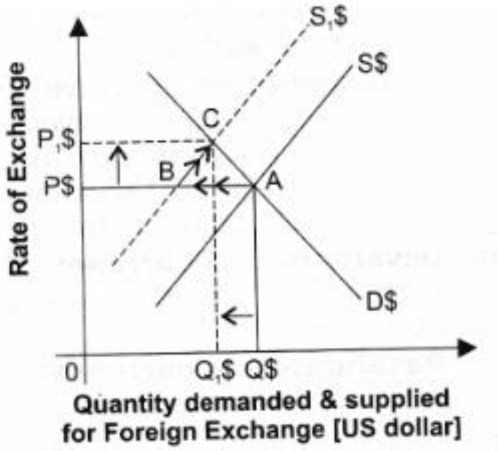


(b) Change in Supply

(i) **Increase in supply for dollar**: An increase in the supply of US dollar causes the supply curve to shift to $S_1\$$ and exchange rate falls to $P_1\$$. In this case, rupee cost of US dollar is decreasing and the Indian rupee is said to be appreciating.



(ii) **Decrease in supply of dollar:** A decrease in the supply of US dollar causes the supply curve to shift to $S_1\$$ and exchange rate rises to $P_1\$$. In this case, rupee cost of US dollar is increasing and the Indian rupee is said to be depreciating.



TYPES OF EXCHANGE RATE REGIMES

1. Fixed exchange rate system (Pegged exchange rate system):

(a) Meaning:

(i) The system of exchange rate in which exchange rate is officially declared and fixed by the government is called fixed exchange rate system.

(ii) When domestic currency is tied to the value of foreign currency, it is known as pegging.

(iii) To maintain stability in fixed exchange rate system, government buy foreign currency when exchange rate appreciates and sell foreign currency when exchange rate depreciate. This process is called Pegging operation, i.e., all efforts made by the central bank to keep the rate of exchange stable.

Note:

(i) Fixed exchange rate is not determined by the forces of demand and supply in the market. Such a rate of exchange has been associated with Gold Standard System during 1880-1914.

(ii) According to this system, value of every currency is determined in terms of gold. Accordingly, ratio between gold value of the two countries was fixed as exchange rate between those currencies.

(iii) For example, Value of one dollar = 100 gms of gold.

Value of a rupee = 5 gms of gold

Then, 1 dollar = 100/5 = Rs. 20

(b) Merits of fixed exchange rate system:

(i) Stability: It ensures stability, in the international money market/exchange market. Day to day fluctuations are avoided. It helps formulation of long term economic policies, particularly relating to exports and imports.

(ii) Encourages international trade: Fixed exchange rate system implies low risk and low uncertainty of future payments. It encourages international trade.

(iii) Co-ordination of macro policies: Fixed exchange rate helps co-ordination of macro policies across different countries of the world. Long term economic policies can be drawn in the area of international trade and bilateral trade agreements.

(c) Demerits of fixed exchange rate system:
(i) Huge international reserves: Fixed exchange rate system is often supported with huge international reserves of gold. This is because different currencies are directly or indirectly convertible into gold.
(ii) Restricted movement of capital: Fixed exchange rate restricts the movement of capital across different parts of the world. Accordingly, international growth process suffers.
(iii) Discourages venture capital: Venture capital in the international money market refers to investments in the purchase of foreign exchange in the international money market with a view to earn profits. Fixed exchange rate system discourages such investments. Fixed exchange rate discourages venture capital in the international money market.

(d) Devaluation of currency: Devaluation refers to decrease in the value of domestic currency in terms of foreign currency by the government. It is a part of fixed exchange rate.

(e) Revaluation of currency: Revaluation refers to increase in the value of domestic currency by the central government. It is a part of fixed exchange rate.

2. Flexible exchange rate (floating exchange rate system):

(a) Meaning:
(i) The system of exchange rate in which value of a currency is allowed to float freely as determined by demand for and supply of foreign exchange is called flexible exchange rate system.
(ii) Under this system, the central banks, without intervention, allow the exchange rate to adjust to equate the supply and demand for foreign currency.
(iii) The foreign exchange market is busy at all times by changes in the exchange rates.

(b) Merits of flexible exchange rate system:
(i) No need for international reserves: Flexible exchange rate system is not to be supported with international reserves.
(ii) International capital movements: Flexible exchange rate system enhances movement of capital across different countries of the world. This is due to the fact that member countries are no longer required to keep huge international reserves.
(iii) Venture capital: Flexible exchange rate promotes venture capital in foreign exchange market. Trading in international currencies itself becomes an important economic activity.

(c) Demerits of flexible exchange rate system:
(i) Instability: It causes instability in the international money market. Exchange rate tends to fluctuate like price of goods in the commodity market.
(ii) International trade: Instability in foreign exchange market causes instability in the area of international trade. It becomes difficult to draw long period policies of exports and imports.
(iii) Macro policies: While fixed exchange rate helps coordination of macro policies, flexible exchange rate makes it a difficult proposition. Day to day fluctuations in exchange rate makes bilateral trade agreements a difficult exercise.

(d) Currency depreciation:
(i) Currency depreciation refers to decrease in the value of domestic currency in terms of foreign currency. It makes the domestic currency less valuable and more of it is required to buy a foreign currency. It is a part of flexible exchange rate.
(ii) For example, rupee is said to be depreciating if price of $1 rises from ? 60 to Rs. 65.

(iii) Effect of depreciation of domestic currency on exports: Depreciation of domestic currency means a fall in the price of domestic currency (say, rupee) in terms of a foreign currency (say, $). It means, with the same amount of dollars, more goods can be purchased from India, i.e., exports to USA will increase as they will become relatively cheaper.

(e) Currency appreciation:
(i) Currency appreciation refers to increase in the value of domestic currency in terms of foreign currency. The domestic currency becomes more valuable and less of it is required to buy a-foreign currency. It is a part of flexible exchange rate.
(ii) For example, Indian rupee appreciates when price of $1 falls from Rs. 60 to Rs. 55.
(iii) Effect of appreciation of domestic currency on imports: Appreciation of domestic currency means a rise in the price of domestic currency (say, rupee) in terms of a foreign currency (say, $). Now, one rupee can be exchanged for more $, i.e., with the same amount of money, more goods can be purchased from the USA. It leads to increase in imports from the USA as American goods will become relatively cheaper.

3. Managed floating rate system:

(a) Managed floating exchange rate is a mixture of a flexible exchange rate (the float part) and a fixed exchange rate (the Managed part).
(b) In other words, it refers to a system in which foreign exchange is determined by free market forces (demand and supply forces), which can be influenced by the intervention of the central bank in foreign exchange market.
(c) Under this system, also called Dirty floating, central banks intervene to buy or sell foreign currencies in an attempt to stabilize exchange rate movements in case of extreme appreciation or depreciation.

Kinds Of Foreign Exchange Rate (Spot And Forward Market)

1. Spot market for foreign exchange:
(a) If the operation is of daily nature, it is called spot market or current market.
(b) The exchange rate that prevails in the spots market for foreign exchange is called spot rate.
(c) In other words, spot rate of exchange refers to the rate at which foreign currency is available on the spot.
2. Forward market for foreign exchange:
(a) A market for foreign exchange for future delivery is known as forward market.
(b) Exchange rate that prevails in a forward contract for purchase or sale of foreign exchange is called forward rate.
(c) Thus, forward rate is the rate at which a future contract for foreign currency is bought and sold.

Other Types Of Exchange Rate System

1. Wider band System:

(a) It is a system that allows wider adjustment in the fixed exchange rate system.
(b) It allows adjustment up to 10% around the "parity" between any two currencies in the international money market.
(c) For example, if one US dollar is fixed as equal to fifty Indian rupees, 10% revision (upward or downward) is to be allowed in this exchange rate of 1: 50. Exchange rate may be revised as,
1: 60 + 10% = 1: 66 or as 1: 60 – 10% = 1 : 54

2. Crawling peg system:
(a) It allows "small" but regular adjustments in the exchange rate for different currencies.
(b) Not more than (+) 1% adjustment is allowed at a time. Indeed, it is a small adjustment.
(c) But it can crawl, i.e., it can be repeated at regular intervals.

<u>**Some Important Terms**</u>
1. Nominal exchange rate (NER): The number of units of domestic currency required to purchase a unit of foreign currency is called nominal exchange rate. Thus, $1 = Rs. 60. It may move to $1 = Rs. 65, and so on.
2. Nominal effective exchange rate (NEER):
(a) The concept is useful for an aggregative analysis. A nation has to deal with a number of countries, and hence a number of currencies.
(b) For example, during a period Indian rupee may be losing value against the American dollar, but it may be gaining value against Euro.
(c) Therefore, we would be interested in knowing what is happening in aggregate to our rupee i.e., is it gaining or losing.
(d) For this purpose, we prepare a basket of all the currencies which we are interested in, and find out the average of the changes in these currencies in a given period. This gives us the nominal effective exchange rate (NEER).
(e) So, finally NEER is the measure of average relative strength of a given currency with respect to other currencies without eliminating the effect of change in price.

3. Real exchange rate (RER): RER is the exchange rate which is calculated after eliminating the effects of price change. Therefore, RER is based on constant prices.

4. Real effective exchange rate (REER): REER is the measure of average relative strength of a given currency with respect to other currencies after eliminating the effects of price change.

5. Parity value: In the context of exchange rate in foreign exchange market, parity value refers to the value of one currency in terms of the other for a given basket of goods and services. If a U.S. dollar buys 50 times the goods and services in India, compared to a rupee, the parity value of a US dollar should be 50 : 1. Accordingly, the exchange rate between rupee and a US dollar ought to be Rs. 50 : 1$. Any change in the parity value would imply a corresponding change in exchange rate.

<u>GLOSSARY</u>

1. Foreign exchange: It refers to all the currencies of the rest of the world other than the domestic currency of the country. For example, in India, US dollar is the foreign exchange.

2. Foreign Exchange Rate: The rate at which one currency is exchanged for another is called Foreign Exchange Rate.

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14. Managed floating exchange rate: It is a mixture of a flexible exchange rate (the float part) and a fixed exchange rate) the Managed part).

15.Spot Rate: If the operation is of daily nature, it is called spot market or current market.

16. Forward Rate: A market for foreign exchange for future delivery is known as forward market.

17. Nominal Exchange Rate (NER): The number of units of domestic currency required to purchase a unit of foreign currency is called nominal exchange rate.

18. Nominal Effective Exchange Rate (NEER): It is the measure of average relative strength of a given currency with respect to other currencies without eliminating the effect of change in price.

19. Real Exchange Rate (RER): It is the exchange rate which is calculated after eliminating the effects of price change. Therefore, RER is based on constant prices.

20. Real Effective Exchange Rate (REER): It is the measure of average relative strength of a given currency with respect to other currencies after eliminating the effects of price changes.

21. Parity value: It refers to the value of one currency in terms of the other for a given basket of goods and services.