

## PART II

### FOREIGN EXCHANGE DETERMINATION SYSTEMS

Foreign Exchange Rate is the amount of domestic currency that must be paid in order to get a unit of foreign currency. According to Purchasing Power Parity theory, the foreign exchange rate is determined by the relative purchasing powers of the two currencies.

Example: If a Mac Donald Burger costs \$20 in the USA and Re 100 in India, then the exchange rate between India and the USA will be  $(100/20=5)$ , 1 \$ = 5 Rs.

#### Basic Concepts

In a foreign exchange market comprising commercial banks, foreign exchange brokers and authorised dealers and the monetary authority (i.e., the RBI), one currency is converted into another currency.

A (foreign) exchange rate is the rate at which one currency is exchanged for another. Thus, an exchange rate can be regarded as the price of one currency in terms of another. An exchange rate is a ratio between two monies. If 5 UK pounds or 5 US dollars buy Indian goods worth Rs. 400 and Rs. 250 then pound-rupee or dollar-rupee exchange rate becomes Rs. 80 = £1 or Rs. 50 = \$1, respectively. Exchange rate is usually quoted in terms of rupees per unit of foreign currencies. Thus, an exchange rate indicates external purchasing power of money.

A fall in the external purchasing power or external value of rupee (i.e., a fall in the exchange rate, say for Rs. 80 = £1 to Rs. 90 = £1) amounts to depreciation of the Indian rupee. Consequently, an appreciation of the Indian rupee occurs when there occurs an increase in the exchange rate from the existing level to Rs. 78 = £1. In other words, the external value of rupee rises. This indicates strengthening of the Indian rupee. Conversely, the weakening of the Indian rupee occurs if external value of rupee in terms of pound falls.

#### Forces behind Exchange Rate Determination

Foreign Exchange is a price of one country currency in relation to other country currency, which like the price of any other commodity is determined by the demand and supply factors. The demand and supply of the foreign exchange rate come from the residents of the respective countries.

##### Demand for Foreign Exchange (Foreign Money goes out)

Foreign Currency is needed to carry out transactions in foreign countries or for the purchase of foreign goods and services (IMPORTS).

Foreign currency is needed to invest in foreign country assets/shares/bonds etc.

Foreign currency is needed to make transfer payments. Example: Indian Parents sending Money to his/her son/daughter studying in the USA.

Indians holding money in overseas Banks

Indians Travelling abroad for Tourism Purpose.

##### Supply of Foreign Exchange (Foreign Money Comes in)

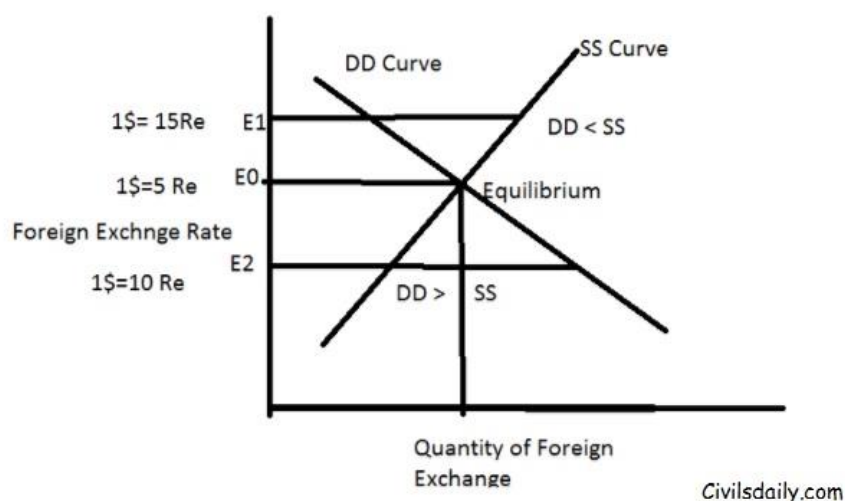
The source of foreign currency available to the domestic country are foreigners purchasing our goods and services (Exports).

Foreigners investing in Indian Stock markets, Assets, Bonds etc. (FPIs and FDIs)

Transfer payments. Example: Indian working in the USA, sending money to his/her old aged parents.

Foreigners holding assets in Indian Banks.

Foreigners travelling to India.



- The DD curve represents the demand for foreign exchange by India. The SS curve represents the supply of foreign exchange to India.
- The point where both DD and SS curves intersect is the point of equilibrium. At this point demand for foreign exchange is exactly equal to the supply of foreign exchange.
- At equilibrium point E0, the exchange rate is 1 \$ equal to 5 Re.
- In normal day to day functioning of markets, the exchange rate may fluctuate. If at any point in time, the exchange rate is at E1, then the demand for foreign exchange falls short of supply of foreign exchange, as a result at this point Indians are demanding less foreign currency due to which Re will appreciate vis-à-vis foreign currency. The appreciation mainly occurs due to a favourable balance of payment situation (Surplus).
- By the same token at point E2, demand for foreign exchange is greater than the supply of foreign exchange, at this point Indians are demanding excess foreign exchange than what the foreigners are willing to supply, as a result, at E2 Re will depreciate vis-à-vis foreign currency. The depreciation mainly occurs due to the unfavourable balance of payments situation (Deficits).

## Types of Exchange Rate Regimes

- **Fixed Exchange Rate versus Floating Exchange Rate**

| Fixed Exchange Rate  | Floating Exchange Rate  |
|--|---|
| Under this system, there is complete government intervention in the foreign exchange markets.  | Under this system, the market is allowed to determine the value of exchange rate freely.  |
| The government or central bank determines the official exchange rate by linking exchange rate to the price of gold or major currencies like US dollar. | The exchange rate is determined by the forces of demand and supply.   |
| If due to any reason, the exchange rate fluctuates, government intervenes and make sure that equilibrium pre-determined level is maintained.           | If due to any reason exchange rate fluctuates, the government never intervenes and allows the market to function and determine the true |

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|---|---|
|   | value of exchange rate.   |
| The only merit of fixed exchange rate system is that it assures the stability of exchange rate. It prevents both currency appreciation and depreciation.  | The only demerit of floating exchange rate system is that exchange rate fluctuates a lot on day to day basis.   |
| The many disadvantages of such a system are: It puts a heavy burden on governments to maintain exchange rate. This especially happens during the time of deficits, as the governments need to infuse a lot of money to maintain exchange rate. The foreign investors avoid investing in such countries as they fear to lose their investments because they believe that exchange rate does not reflect the true value of the economy. | The advantages of such a system are: the exchange rate is determined in well-functioning foreign exchange markets with no government interference. The exchange rate reflects the true value of the domestic currency which helps in establishing the trust among foreign investor. A country can easily access funds/ loans from IMF and other international institutions if the exchange rate is market determined. |

### • **Managed Floating Exchange Rate**

Managed Floating exchange rate lies in between of the two extremes of fixed and floating exchange rate. Under such a system, the exchange is allowed to move freely and determined by the forces of the market (Demand and Supply). But when a difficult situation arises, the central banks of the country can intervene to stabilise the exchange rate.

There are mainly three sub categories under managed floating exchange rate:

1. **Adjusted Peg System:** In this system, a country should try to hold on to a fixed exchange rate system for as long as it can, i.e. until the country's foreign exchange reserves got exhausted. Once the country's foreign exchange reserves got exhausted, the country should undergo devaluation of currency and move to another equilibrium exchange rate.
2. **Crawling Peg System:** In this system, a country keeps on adjusting its exchange rate to new demand and supply conditions. The system requires that instead of devaluing currency at the time of crisis, a country should follow regular checks at the exchange rate and when required must undertake small devaluations.
3. **Clean Floating:** In the clean float system, the exchange rate is determined by market forces of demand and supply. The exchange rate appreciates or depreciates as per market forces and with no government intervention. It is identical to floating exchange rate.
4. **Dirty Floating:** In the dirty float system, the exchange rate is to a very large extent is determined by the market forces of demand and supply (so far identical to clean floating), but occasionally the central banks of the countries intervene in foreign exchange markets to smoothen or remove excessive fluctuations from the foreign exchange markets.

### **Exchange Rate Management in India**

Over the last six decades since independence the exchange rate system in India has transited from fixed exchange rate regime where the Indian Rupee was pegged to the UK Pound to a basket of currencies during the 1970s and 1980s and eventually to the present form of market determined exchange rate regime since 1993.

- **Par Value System (1974-1971):** After Independence Indian followed the 'Par Value System' whereby the rupee's external par value was fixed with gold and UK pound sterling. This system was followed up to 1966 when the rupee was devalued by 36 percent.
- **Pegged Regime (1971-1992):** India pegged its currency to the US dollar (1971-1991) and to pound (1971-75). Following the breakdown of Breton Woods system, the value of pound collapsed, and India witnessed misalignment of the rupee. To overcome the pressure of devaluation India pegged its currency to a basket of currencies. During this period, the exchange rate was officially determined by the RBI within a nominal band of +/- 5 percent of the weighted average of a basket of currencies of India's major trading partners.
- **The period since 1991:** The transition to market-based exchange rate was in response to the BOP crisis of 1991. As a first step towards transition, India introduces partial convertibility of rupee in 1992-93 under LERMS.
- **Liberalised Exchange Rate Management System (LERMS):** The LERMS involved partial convertibility of rupee. Under this system, India followed a dual exchange rate policy, where 40 percent of the exchange rate were to be converted at the official exchange rate and the remaining 60 percent were to be converted at the market-based exchange rate. The exchange rate converted at the official rate were to be used for essential imports like crude, oil, fertilizers, life savings drugs etc. All other imports should be financed at the market-based exchange rate.
- **Market-Based Exchange rate Regime (1993- till present):** The LERMS was a transitional mechanism to provide stability during the crisis period. Once the stability is achieved, India transited from LERMS to a full flash market exchange rate system. As a result, since 1993, exchange rate fluctuations are market determined. In the 1994 budget, 60:40 ratio was removed, and 100 percent conversion at market-based rate was allowed for all goods and capital movements.

## Factors Affecting the Exchange Rate

Exchange rate is impacted by some factors which can be economic, political or psychological as well. The economic factors that are known to cause variation in foreign exchange rates are inflation, trade balances, government policies.

Political factors that can cause a change in the foreign exchange rate are political unrest or instability in the country and any kind of political conflict.

Psychological factors that impact the forex rate is the psychology of the participants involved in foreign exchange.

There are several factors that contribute to a foreign exchange rate. Some of the top factors that affect an exchange rate are:

### 1. Inflation

Inflation is the relative purchasing power of a currency compared to other currencies. For example, it might cost one unit of currency to buy an apple in one country but cost a thousand units of a different currency to buy the same apple in a country with higher inflation. Such differentials in inflation are the foundation of why different currencies have different purchasing powers and hence different currency rates. As such, countries with low inflation typically have stronger currencies compared to those with higher inflation rates.

### 2. Interest Rates

Interest rates are tightly tied to inflation and exchange rates. Different country's central banks use interest rates to modulate inflation within the country. For example, establishing higher interest rates

attracts foreign capital, which bolsters the local currency rates. However, if these rates remain too high for too long, inflation can start to creep up, resulting in a devalued currency. As such, central bankers must consistently adjust interest rates to balance benefits and drawbacks.

### **3. Government/Public Debt**

Most countries finance their budgets using large-scale deficit financing. In other words, they borrow to finance economic growth. If this government debt outpaces economic growth, it can drive up inflation by deterring foreign investment from entering the country, two factors that can devalue a currency. In some cases, a government might print money to finance debt, which can also drive up inflation.

### **4. Political Stability**

A politically stable country attracts more foreign investment, which helps prop up the currency rate. The opposite is also true – poor political stability devalues a country's currency exchange rate. Political stability also affects local economic drivers and financial policies, two things that can have long term effects on a currency's exchange rate. Invariably, countries with more robust political stability like Switzerland have stronger and higher valued currencies.

### **5. Economic Health**

Economic health or performance is another way exchange rates are determined. For example, a country with low unemployment rates means its citizens have more money to spend, which helps establish a more robust economy. With a stronger economy, the country attracts more foreign investment, which in turn helps lower inflation and drive up the country's currency exchange rate. It is worth noting here that economic health is more of a catch-all term that encompasses multiple other drivers like interest rates, inflation, and balance of trade.

### **6. Balance of Trade**

Balance of trade is the relative difference between a country's imports and exports. For example, if a country has a positive balance of trade, it means that its exports exceed its imports. In such a case, the inflow of foreign currency is higher than the outflow. When this happens, a country's foreign exchange reserves grow, helping it lower interest rates, which stimulates economic growth and bolsters the local currency exchange rate.

### **7. Country's Current Account/Balance of Payments**

A country's current account reflects balance of trade and earnings on foreign investment. It consists of total number of transactions including its exports, imports, debt, etc. A deficit in current account due to spending more of its currency on importing products than it is earning through sale of exports causes depreciation. Balance of payments fluctuates exchange rate of its domestic currency.

### **8. Terms of Trade**

A trade deficit also can cause exchange rates to change. Related to current accounts and balance of payments, the terms of trade is the ratio of export prices to import prices. A country's terms of trade improves if its exports prices rise at a greater rate than its imports prices. This results in higher revenue, which causes a higher demand for the country's currency and an increase in its currency's value. This results in an appreciation of exchange rate.

### **9. Recession**

When a country experiences a recession, its interest rates are likely to fall, decreasing its chances to acquire foreign capital. As a result, its currency weakens in comparison to that of other countries, therefore lowering the exchange rate.

## 10. Confidence/ Speculation

Sometimes, currencies are affected by the confidence (or lack thereof) traders have in a currency. Currency changes from speculation tend to be irrational, abrupt, and short-lived. For example, traders may devalue a currency based on an election outcome, especially if the result is perceived as unfavorable for trade or economic growth. In other cases, traders may be bullish on a currency because of economic news, which may buoy the currency, even if the economic news itself did not affect the currency fundamentals.

## 11. Government Intervention

Governments have a collection of tools at their disposal through which they can manipulate their local exchange rate. Primarily, central banks are known to adjust interest rates, buy foreign currency, influence local lending rates, print money, and use other tools to modulate currency exchange rates. The primary objective of manipulating these factors is to ensure favorable conditions for a stable currency exchange rate, cheaper credit, more jobs, and high economic growth.

## Foreign Exchange Risks

There are three types of risks associated with foreign exchange –

- **Transaction risk** – This is the risk of an exchange rate change on transaction date and the subsequent settlement date, i.e., it is the gain or loss arising on conversion.
- **Economic risk** – Transactions depend on relatively short-term cash flow effects. However, economic exposure encompasses the longer-term effects on the market value of a company. Simply put, it is a change in the present value of the future after-tax cash-flows for exchange rate changes.
- **Translation risk** – The financial statements are usually translated into the home currency to consolidate into the group's financial statements. It can pose a challenge when exchange rates change.

## Hedging Forex Risks – Internal Techniques

Internal techniques to manage/reduce forex exposure include the following –

- **Invoice in Home Currency** – An easy way is to insist that all foreign customers pay in your home currency and that your company pays for all imports in your home currency.
- **Leading and Lagging** – If an importer (payment) expects that the currency it is due to pay will depreciate, it may attempt to delay payment. This may be achieved by agreement or by exceeding credit terms. If an exporter (receipt) expects that the currency it is due to receive will depreciate over the next three months, it may try to obtain payment immediately. This may be achieved by offering a discount for immediate payment. The problem lies in guessing which way the exchange rate will move.
- **Matching** – If receipts and payments are in the same currency and are due at the same time, matching them against each other is a good policy. However, the only requirement is to deal with the forex markets for the unmatched portion of the total transactions. Also, setting up a foreign currency bank account is an extension of matching.
- **Doing Nothing** – The theory suggests that long-term gains and losses gets hedged automatically. Short-term losses may be significant in such processes. Advantage is the savings in transaction costs.

## Hedging Forex Risks – External Techniques

Transaction risks can also be hedged using a range of financial products –

- **Forward Contracts** – The forward market is used to buy and sell a currency, on a fixed date for a rate, i.e., the forward rate of exchange. This effectively fixes the future rate.
- **Money Market Hedges** – The idea is to minimize uncertainty by making the exchange at the current rate. This is done by depositing/borrowing the foreign currency till the real commercial cash flows occur.
- **Futures Contracts** – Futures contracts are standard sized, traded hedging instruments. The aim of a currency futures contract is to fix an exchange rate at some future date, subject to basis risk.
- **Options** – A currency option is a right, but not an obligation, to buy or sell a currency at an exercise price on a future date. The right will only be exercised in the worst-case scenario.
- **Forex Swaps** – In a Forex swap, the parties agree to swap equivalent amounts of currency for a period and then re-swap them at the end of the period at an agreed swap rate. The rate and amount of currency is fixed in advance. Thus, it is called a fixed rate swap.
- **Currency Swaps** – A currency swap lets the parties to swap interest rate commitments on borrowings in different currencies. The swap of interest rates could be fixed.

### REFERENCES:

1. Charles W.I. Hill and Arun Kumar Jain, International Business, 6<sup>th</sup> edition, Tata McGraw Hill, New Delhi, 2010.
2. Michael R. Czinkota, Ilkka A. Ronkainen and Michael H. Moffet, International Business, 7<sup>th</sup> Edition, Cengage Learning, New Delhi, 2010.
3. K. Aswathappa, International Business, 5<sup>th</sup> Edition, Tata Mc Graw Hill, New Delhi, 2012.
4. John D. Daniels and Lee H. Radebaugh, International Business, Pearson Education Asia, New Delhi, 12<sup>th</sup> edition.
5. Vyuptakesh Sharan, International Business, 3<sup>rd</sup> Edition, Pearson Education in South Asia, New Delhi, 2011.
6. Rakesh Mohan Joshi, International Business, Oxford University Press, New Delhi, 2009.