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INDIAN FOREIGN EXCHANGE MARKET SCENARIO AND EXCHANGE RATE ARITHMETIC

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ABSTRACT:

The Foreign Exchange Market is global and has no central trading place. Trading takes place all over the world, though most of the trading is done in centers like New York, London and Frankfurt. The daily volume currency transaction in these markets exceed over 5 trillion dollars. International banks and some large multinational corporations are the major players in currency markets. There are two market namely Retail or Merchant market and Interbank market. Transactions can be Spot or Forward. Traditionally Indian Foreign Exchange market has been a highly regulated one. The Foreign Exchange Regulation Act (FERA) enacted in 1973, strictly controlled any activities in any remote way related to foreign exchange.

FERA was given the real power by making ‘’any violation of FERA was a criminal offense liable to imprisonment’’ (FEMA). It professed a policy of ‘’a person is guilty of forex violations unless he proves that he has not violated any norms of FERA’’. To sum up, FERA prescribed a policy – ‘’nothing (forex transactions) is permitted unless specifically mentioned in the Act.” Post liberalization, the government of India, felt the necessity to liberalize the foreign exchange policy. Hence, Foreign Exchange Management Act (FEMA) 2000 was introduced. FEMA expanded the list of activities in which a person/company can undertake transactions. Prior to 1992, Government of India strictly controlled the exchange rate after 1992, Government of India slowly started relaxing the control and the exchange rate became more and more market determined. Foreign Exchange Dealers Association of India (FEDAI), set up in 1958, helped the Government of India in farming rules and regulation to conduct forex trading and developing forex market in India.

KEYWORDS: *RBI, FEDAI, Spot, Forward, Swap, Rate, Merchant, Interbank, Currencies.*

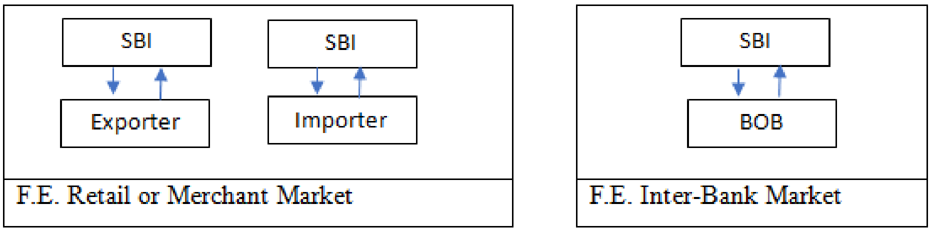
A. Indian Foreign Exchange Market Scenario:

A.1. There are three categories of Authorized Dealers (ADs) namely ‘A’ ‘B’ and ‘C’. ADs are authorized by RBI to deal in foreign exchange. A typical Forex Dealing room operation is divided into three areas, which are depicted below.

Foreign Exchange Dealing Room

A.1.a. Overseas Transactions:

When banks in India buy/sell foreign currency in the overseas Foreign Exchange market, it is called overseas transaction. (The bank in India can cover their forex position arising out of merchant transaction or interbank transactions freely in the overseas Foreign Exchange Market)



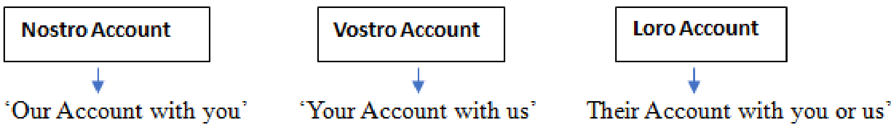
Merchant Transactions	
Merchant Transactions	**Interbank Transactions.**
Transaction relating to buy/sell Foreign Currency From/to exporter/importer and other customers are called merchant transactions.	When one bank deals with another bank (buy/sell Foreign Currency) then it is an Interbank Transactions.

A.1.b. Market makers are those banks who give Two Way quote in the interbank Foreign Exchange Market however, they are relatively less in number.

A.1.c. Market users are those banks that take quote in the interbank market and are more in numbers.

A.1.d. Types of Forex accounts maintained by the banks

(Terminology used by the banks while referring to current account maintained with one another).



Nostro Account: An account maintained by the bank with its overseas branch/correspondence bank for settlement of foreign currency.

Vostro Account: An account maintained in local currency by an overseas/correspondence bank.
Loro Account: A third banks' Nostro account with you is referred as Loro account.

A.1.e. Mirror Account: It is a reflection of the Nostro account maintained in the local currency as is foreign currency. This account is reconciled with Nostro account on continuous basis.

A.1.f. Foreign Exchange Rate: It is the rate at which one currency can be exchanged in another.
(In India w.e.f. August 2, 1993, all the exchange rates are quoted in direct method)

A.1.g. Forex Market features: (Note that there is no market called F.E. market. It does not have geographical location)-

- No organized exchange (that is not centrally located). It is an over-the-counter market. (Through Reuters money 2000 (Dealing Screen) any corner of the world can be reached within a few seconds)
- Operating virtually round the clock 24-hours. [The day begins with Tokyo, thereafter Singapore, thereafter India, followed by Bahrain, Frankfurt, Paris, London, New York, Sydney and back to Tokyo]
- 2-Tier market (merchant and Interbank). Roughly, this covers 2/3rd of the transaction between banks.
- Two-way quote.
- Most extensive and largest market in the world.
- Very high liquidity.

A.1.h. Foreign Exchange Market - Indian Scenario: The market is skewed with handful of public sector banks having a great share in interbank business.

A.2. Factor affecting F.E. Rates: Volatility of exchange rate cannot be traced to a single factor, however important factors which affects F.E. Rates are-

- Inflation
- Interest Rate
- BOP (Balance of Payments)
- GDP growth rate
- Expectation of future exchange rate
- Exchange control
- Political & Economic factors

[Remember, in a free market, only demand supply of the currency should determine the exchange rates]

A.3. Balance of Payment (BOP): It is an account statement that summarizes all the economic transactions between residents of the home currency and Rest of the World (ROW) in a specified period of time. It records flow of mind. Residence means people physically located in the country. Economic transaction means trade deals in goods & services, transfer payment, loans, investment etc.

BOP consists of

Current A/c | Capital A/c | Official Reserves

(Official Reserves consists of Gold + Foreign Assets + *SDRs (Special Drawing Rights)

Current A/c	Capital A/c (deals with assets & Liabilities)
Merchandise Trade Services Unilateral transfer (eg., Gifts etc.) Trade Balances = (Export – Import) of goods. Trade in Services = (Export – Import) of services.	Total of Long term & Short term Capital movements. eg. Purchase & Properties, Securities, Equity investment, Joint Venture, Bank Balances or deposits held by Indians in abroad.

*SDR: It is an International Reserves Asset and is defined as the value of weighted basket of five currencies.

A.4. Forex Reserves: There is no unique definition. As defined by the IMF (International Monetary Fund), forex reserves are external assets that are readily available to and controlled by the monetary authority (RBI) for direct financing of external payment imbalances and for indirectly regulating magnitude of such imbalances through intervention in F.E. Market to affect the currency exchange rate, and/or for other purposes.

How RBI has kept FOREX Reserves?
(Gold + SDR + Foreign Currency assets):
In the form of gold assets in the Banking Department of RBI and foreign security held by the Issue Department of RBI and domestic reserves in the form of bank reserves.

Why to hold F.E. reserves

↓

Motive → Transaction, Speculative, Precautionary.

A.5. International Monetary System: Different exchange rate regimes based on degree of government intervention-

Free Floating:
- Market forces determine the exchange rates
- Rates fluctuate over time

Manage Floating (Dirty Floating):
- Market forces set rates unless excess volatility
- Central bank intervenes the market quite frequently

Target zone:
- Market forces constrained to the upper and lower bounds set by the government.
- Countries adjust economic policy to maintain the exchange rate within the target zone.

Fixed rate regime:
- Exchange rates are fixed at a nominal level
- When rates are threatened, central banks buy/sell currencies to maintain the fixed rates.

A.6. Other Issues: Many currencies have nickname like STG is known as 'Cable' and New Zeeland $ is known as Kiwi. Out of more than 150 countries, around 30 currencies are traded in the world market and with these 30 currencies there could be 29 different exchange rates from each currency.

A total of 435 = $\left(\frac{n(n-1)}{2}\right) = \left(\frac{30\ (30 - 1)}{2}\right)$

Then it would be difficult to visualize the global Foreign Exchange market where each currency is directly traded against every other currency. And it would be difficult for market maker to ensure that all rates reflect all changes in all market. This is the reason why all currencies are traded against USD.

B. Exchange Rate Arithmetic

B.1. Forex Quotes Style and Types of Quotes: An exchange rate between currencies A and B is simply the price of currency in terms of another. It can be either stated as units of 'B', per unit of 'A', per unit of 'B'. In case of goods/services and money, the natural format is to state units of money per unit of goods, however, in case of two monies, either way will be equally natural.

B.1.a. How an Exchange Rate is Quoted

Direct quote, Indirect quote, American quote and European quote.
Direct quote: How currency varies against per unit of a foreign currency.

Indirect quote: Foreign currency varies against per unit of a home currency.
In case of indirect rate, 'unit' of Rupees is 100 & also for Japanese yen (JPY) it is 100

B.1.b. The mechanics of Spot Foreign Exchange

It is the simplest and most commonly used Foreign Exchange instrument. Spot transaction is dealt/transacted today (the dealing date/transaction date) for value two business days later (the settlement date/value date). Over 2/3rd of the business transacted in Foreign Exchange is for spot value. Settlement date/value date means the date on which funds must be received/paid with 'Good Value' in a nominated bank account.

Generally, Spot transactions are frequent as two days allows for different time zones and for the completion of all necessary paper work and settlement procedures.

Spot Transaction	Settlement Date (t+2nd day) where t = today

B.1.c. Two – way quoting: Buying and selling money with money seems unnatural to many people (compare with goods and services). The cost of buying or selling money is an act of exchanging one currency for another.

Foreign exchange rates are quoted two-way, that means each quote will have two prices: - one rate for buying and another for selling

EUR/USD 1.5360/66
Difference of .0006 USD (or 6 points or pip) represents spread/bid-offer margin.
Market will quote '60/66' on a big figure of 3 or 53

B.1.d. Currency pair convention

As per ACI (Association Cambist International) two currencies SWIFT codes are separated by an oblique, the first currency, being the base currency and the second is quote currency, e.g. in USD/EUR quote, USD is the base currency and EUR is the quote currency. In academic field, however, an alternative is also used where first currency would be varying and second currency would be the base currency. The quotes in the interbank market always follow ACI convention. However, we can resolve the issue of quotes in academic field in the class, which is a non-issue in practical field. Even in academic field if two quotes are given in the question then both quotes should either follow ACI or the other variant.

Based on ACI convention

Rule :1 – The base currency is the unit currency normally not shown in the quote.
Rule :2 – The market buys the base currency at the rate lowest of the quotes. In the quote, it is convention to write buy rate at the lefthand side and sell rate at the righthand side. The basic rule about the market should always be correct, that is, maker buys at lower rate and sells at higher rate. Therefore, even if quote is not given as per convention, market always buys at low and sells at high. Remember, this is true whether the quotation is direct or indirect.

B.2. SIEGEL'S PARADOX and currency appreciation/depreciation

B.2.a. Siegel's paradox: The appreciation is one currency is not exactly equal to depreciation in another currency. This mathematical oddity is known as Siegel's paradox.
B2.b. Currency appreciation: A currency appreciates with respect to another when its value rises in terms of another, e.g. USD appreciates with respect to rupee if the USD/INR exchange rate rises.
B.2.c. Currency depreciation: A currency depreciates with respect to another when its value falls in terms of another e.g. USD depreciates with respect to rupee if the USD / INR exchange rate falls.
The rate of appreciation (or depreciation) is the percentage change in the value of a currency over some time period.

% change = (New value – Old value) / Old value.
Note: The value of a currency is always given in terms of another currency.

B.3. What is Cross rate & How are Cross rate calculate?

An exchange rate between two currencies, neither of which is the USD. For example , STGR/EUR. Generally, all currencies are quoted against USD hand hence we can derive cross rate using this relationship.

Exchange rates from two distinct currency pairs are used to compute cross rates. You should divide the EUR / USD exchange rate by the STGR / USD Exchange rate to find the EUR / STGR cross rate. The figure that emerges will be the Euro – British Pound exchange rate, exclusive of the U.S. dollar.

B.4. How to Calculate Pip Values?

A ‘’pip’’ is the smallest increment in any currency pair. In EUR/USD, a movement from .8941 to .8942 is one pip, so a pip is .0001. In USD/JPY, a movement from 130.45 to 130.46 is one pip, so a pip is .01.

B.5. Merchant Rate: In Forex market, merchant rate is derived from the interbank spot rate by adjusting for exchange margin. If merchant rate is to be worked out on forward basis, then we have to adjust for forward points also.

B.5.a. Cover Rate: It is the rate at which the authorized Dealer can ‘cover’ the merchant transactions in the interbank market.

B.5.b. Base Rate: It is the rate, which forms the basis of computation of merchant spot and forward transactions. As per FEDAI Rule 11 (Para 11.A.2) base rates applied for arriving at merchant purchase sale transaction shall be derived from the ongoing SPOT market rates for each Currencies. And therefore, base rates are essentially spot rate.

B.6. The mechanics of forward Foreign Exchange Rate: Depending upon the time elapsed between the transaction date and settlement date, Forex transactions can be categorized into Spot & Forward. A third category is called F.E. Swap, which are combination of a spot, and Forward Transaction.

B.6.a. Forward merchant rate: A forward merchant rate is the Spot Rate ruling on the day plus or minus the interest differential (known as forward point) for the forward period. In forward transaction, settlement date is always more than two business day. In other words, while determining forward rate of exchange we need the following two information:

- Current Spot Rate and
- Forward Margins/Points for the relevant period.

B.7. Fund position and Forex position: Let’s understand this by way of an example. A DD (demand draft) is issued for 10 million USD at the request of a customer payable at NEW YORK account of BOB. In this case, forex position is USD 10 Million (reflected immediately in the ‘mirror account’ but fund position will be reflected only when DD is presented for payment, that is, when Nostro account is actually debited.

B.8. Approx Forward Margins/Points (for a given forward period):

$$= \frac{\text{Counter Currency interest rate} - \text{Base Currency interest rate}}{100} \times \text{Spot rate} \times \frac{\text{No. of Days}}{360}$$

Approx. forward rate = Spot rate + Forward rate

$$= \frac{\text{Spot Rate} + \text{Counter Currency interest rate} - \text{Base Currency interest rate}}{100} \times \text{Spot rate} \times \frac{\text{No. of Days}}{360}$$

The interest rate applicable for a forward price is the interest rate of an instrument maturing on forward date. To calculate forward points one has to know the SPOT Exchange Rate, the terms of forward and relevant interest rate. That is, multiply the Spot rate by interest differential and then adjust this annualized result by the actual term of forward.

B.9. Annualised Forward Premium (Discount):

$$\text{Direct Quote} = \frac{FR - SR}{SR} \times \frac{12}{n} \times 100$$

(n = number of months in the forwards contract)

$$\text{Indirect Quote} = \frac{SR - FR}{FR} \times \frac{12}{n} \times 100$$

Rule: If FR > SR, then the base currency is at the premium in relation to quoted currency. This is applicable irrespective of the type of quote. One way to judge which currency is at premium / discount is to see in which order forwarded margins are given. If only spot rate and forward rates are given, then find out forward margins and verify premium/discount.

B.10. What is F.E. SWAP Transaction?

The term 'Foreign Exchange' swap mean simultaneous purchase and sale of specified amount of a currency of different maturities:

Thus, a swap deal involves

- Simultaneous purchase of spot and sale of forward and vice versa.
- Simultaneous purchase and sale, both forward but of different maturity dates.

On the basis of the above facts, it can be said that - The Foreign exchange Market have various dealers, with the banks being the most dominant. Foreign bank is facilitated by exchange banks, which have various branches in a number of nations. The Foreign Exchange market is a worldwide market where different country's currencies are exchanged. The Indian Foreign Exchange Market is not under the Jurisdiction of single authority, such as an International Agency or a government.

The Foreign Exchange Market is not restricted to any given country or a geographical area. Thus, the foreign exchange market is the market for a national currency (foreign money) anywhere in the world, as the financial Centre's of the world are united in a single market.

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