Module 1

1

THE HISTORY OF INTERNATIONAL MONETARY SYSTEM

Unit Structure

1.1 OBJECTIVES

After studying this lesson you are able to:

- Comprehend the history of International Trade
- Understand the stages of International Monetary System
- Understand the importance of the international monetary system.
- Describe the reason of the Gold standard and why it failed.
- Describe the Bretton Woods Agreement and why it collapsed.
- Understand current monetary system

1.2 INTRODUCTION

International monetary system refers to the system prevailing in world foreign exchange markets through which global trade and capital movement are financed and exchange rates are determined. In simple terms the rules and procedures for exchanging national currencies are collectively known as the international monetary system.

It consist of sets of conventions, supporting institutions, internationally agreed rules, instruments, and procedures, of which all are interconnected in the international transfers of money that ease out international trade, cross border investment, the allocation of capital between nation states and all other international business matters**.**

The International Monetary System is part of the institutional framework that connects national economies; such a system allows producers to specialize in those goods for which they have better advantage, and serves to achieve profitable investment opportunities on a worldwide basis.

To sum it all, the international monetary system establishes the rules by which countries value and exchange their currencies.

1.3 FEATURES THAT INTERNATIONAL MONETARY SYSTEM SHOULD POSSESS

1. Flow of international trade and investment according to comparative advantage.
2. Stability in foreign exchange and should be stable.
3. Promoting Balance of Payments adjustments to prevent disruptions associated with temporary or chronic imbalances.
4. Providing countries with abundant liquidity to finance short term balance of payments deficits.
5. Should at least try avoiding adding further uncertainty.
6. Allowing member countries to pursue independent monetary and fiscal policies

1.4 HISTORY OF INTERNATIONAL MONETARY SYSTEM

The international monetary system that we experience today has evolved over a period exceeding over 150 years. In the evolution process, many monetary system came into existance that either failed due to their weakness or were reshaped to cope with the changing international economic order.Three such systems were used all over the world for many decades and had a great impact on the way how exchange rates between curriencies were to be established. These system were called as ' Exchange Rate Regimes'. They are:

1. **The Gold Standard (1816- 1914)-** Which made valuation against Gold on a fixed basisavailable
2. **The Bretton Woods System (1945-1971)-** Which made valuation against USD on a fixed basis available

3. **Flexible Exchange Rate System- 1978 to present.-** Which made Variable valuation through market demand and supply forces.

1.5 THE GOLD STANDARD (1816- 1914)

The Gold Standard was the first universally put into use exchange rate system. It was popularised by the Bank of England and established all over the globe in 1870.The Gold standard consisted of Buying and selling of paper currency in exchange for Gold on the demand of any individual of firm.In this system Gold is hassle free transferred between countries. Participants in this system included France, UK, USA & Germany.

This is the first modern international monetary system, in this system weight of Gold was linked with each currency. Under Gold standard, each country had to publish the rate at which its currency could be converted to a weight of Gold.

The fundamental principle of the classical Gold standard was that each country should set a par value for its currency in terms of Gold and try to maintain its value. Thus, each country had to give the rate at which its currency would be converted to the weight of Gold. Also, the exchange rate between any two countries was determined by their Gold content.

THE MAIN FEATURES OF THIS SYSTEM WERE AS FOLLOWS

1. Every country was mandated to have a Central bank to act as a custodian of the country's monetary Gold reserve.
2. Every Central Bank was mandated to have exclusive rights to issue paper money under its area of working.
3. Every Central Bank was mandated to have a fixed official price for Gold .
4. Every Central Bank was mandated to have an irrevocable promise on each paper note to redeem the same on demand in terms quantity of Gold.
5. Every Central Bank was mandated to have an unconditional guarantee to buy and sell whatever quantity of Gold at a fixed price.
6. The total amount of money supply was required to be limited to the extent of monetary Gold reserve with the central monetary authority.

SPECIAL FEATURES OF GOLD STANDARD

1. MINT PAR OF EXCHANGE:

The Mechanism for presenting exchange rates between currencies under the Gold Standard was called as Mint par of Exchange. Under this the exchange rates between two currency was given by the ratio of the official Gold price for the two currencies.

Example:
If 1 ounce of Gold in USA = USD 500
And 1 ounce of Gold in Germany = DEM 600
Then 1 USD = 600/500= 1.2000
Exchange rate shown in this manner was called 'CENTRAL EXCHANGE RATES' or 'MINT PARITIES'.

2. GOLD POINTS:

The Gold Standard called for fixed exchange rates .But due to imbalance in trade between countries on daily basis resulted in two exchanges rate available to the end users, one created by the market and the other based on Mint Parity. This made settlement possible in both Gold as well as currencies since both the country's Central bank were committed to buy and sell ample amount of Gold at their respective official prices. This created great oppournity between countries for Arbitrage by transfer of Gold reserve. Arbitrage between countries resulted in exchange rate to remain close to the central exchange rate. However Arbitrage transaction incurred cost in terms of insurance, transport etc., which created a zone within which transaction would take place at a cost less than the arbitrage cost. This created two extreme point called as upper and lower Goldpoints. Eachcurrency had these two set of Gold points.

Example:

Let us assume that due to demand for US Dollar the rate in Frankfurt was USD/ DEM= 1.3000, then if a person wanted to remit USD 500 would be required to pay: 500 x 1.3000= DEM 650 instead of DEM 600 as per the Mint Parity that we found in the earlier example. Here it would be profitable to pay in terms of Gold. If the arbitrage cost is DEM 10 per ounce of Gold, then the rate would improve till: 610/500=1.2200. Similarly, on the lower end the rate in the market would be restricted to 1.1800 (1.2000 +/- 0.0200). Thus 1.2200 and 1.1800 would represent the upper and the lower Gold points within which the exchange rate would move based on demand/ supply in the Frankfurt market. At all levels beyond this range it will benefited to settle the transaction in Gold.

3. PRICE SPECIE ADJUSTMENT MECHANISM:

As per the example mentioned in the Gold point it clearly shows that the matching component of demand / supply for currencies between two countries would get settled in terms of currency while the net trade imbalance will be settled in terms of transfer of Gold.

1.6 MERITS OR ADVANTAGES OF GOLD STANDARD

1. Gold standard received positive views of the public much more easily than any other standard.
2. It was an easy system to introduce and operate.

3. Gold standard gave stable price level in the country. When the country is on Gold standard, currency cannot be over issued. So prices remain stable.

4. Gold standard provides currency which is universally acceptable

5. In international dealings Gold standard provides stability of exchange rates thereby making Gold standard very useful for the settlement of international transactions.

6. Gold standard cannot be secretly tempered with by the independent will of the government.

7. The deficit or surplus in the balance of payment is automatically brought into balance by import or export of Gold.

1.7 DEMERITS OR DISADVANTAGES OF GOLD STANDARD:-

After the world war most of the countries on Gold standard did not obey the rules of Gold standard and even all the new forms of Gold standard failed to function smoothly. Following are the main defects of this system.

1. One serious defect in this system was that it worked smoothly in the period of peace, and prosperity while in the period of war and economic crises it has always failed.

2. Gold standard is an expensive standard and a luxury which all the countries cannot afford because a lot of precious metal is wasted.

3. Gold standard sacrifices the internal stability to external stability.

4.UnderGoldstandard the automatic working of the economic system is considered as a demerit.

5. The changes in output of Gold can bring changes in the prices level.

6. In the Gold standard independent monetary policy is adopted.

1.8 DEMISE OF THE GOLD SYSTEM

In 1914 at the break of the first world war crushed the first economic order of the world.With the outbreak of war, normal commercial transactions between the Allies (United Kingdom, Russia, and the united kingdom) and the Central Powers (Germany , Ottoman Empire , and the Austria-Hungary) ceased. The economic pressures of war caused country after country to suspend their pledges to buy or sell Gold at their currencies' par values.

1.9 THE BRETTON WOODS SYSTEM (1945-1971)

The bretton Woods System was also known as IMF's Fixed Exchange Rate System. There was an agreement conference which was held by representatative of 45 major economies at Bretton Woods, USA, in July 1944 to establish a new exchange Rate System based on stability and flexibility which would be used globally after second World War. It created the formation of two international Multi- lateral institution namely,

- IMF(international monetary finance) and
- World bank to promote international financial stability.

IMF had agenda to enhance global growth and stability of the economy while the world bank had a main function of lending to nations destructed by the world war.

Brettons woods system arosed due to the impacts of world war II that created unemployment ,inflation, and an unstable political condition. Every country was struggling to rebuild their war-torn economy.

The Bretton Woods system was a dollar-based Gold exchange standard which made USD the key currency.The fixed exchange rate were regulated by intervation of central banks in the form of purchase and sales and of dollars with the IMF providing the foreign exchange rate.

THE MAIN FEATURES OF THIS SYSTEM WERE AS FOLLOWS:

1. Along with Gold, The USD was given the status of Universal reserve Asset. This meant that the along with Goldreserve, countries could issue domestic money against USD reserves. The value of USD was fixed at 1 ounce of Gold=USD 35.
2. Each country was allowed to have a 1% band around which their currency was permitted to fluctuate around the fixed rate. Except on the rare occasions when the par value was allowed to be readjusted.
3. The US Federal Reserve Bank gave a Gold Convertibility Clause which stated an unconditional guarantee to buy and sell unlimited.
4. Other countries could have their currencies exchangeable at a fixed rate against the dollar, though the rate could be readjusted at some times under certain conditions. On account of this, the system was viewed as 'The adjustable Peg System'.
5. Each member country was required to fix a Parity value for its currency against USD.
6. The USD was considered as a universal vehicle currency. Allcurrencies were pegged to USD at a fix parity rate. This made cross relationships also constant.

Example:
Parity: 1 USD = DEM 1.75
Parity: 1 USD= GBP 0.50
Therefore GBP 0.50= DEM 1.75
Therefore 1 GBP= DEM 1.75 /0.50 = DEM 3.50

This cross rate would remain fixed within the allowed variation range of(+/-) 1% from the derived rate. GBP/DEM 3.5350 and 3.4650 would be the upper and lower support level.

7.This system introduced a new concept called as Central bank Intervention with a view of ensuring protection of parity rates.

8. The IMF was established with the specific goal of being the multi-lateral body that looked after the implementation of the Bretton Woods agreement.

9. The concept of dual exchange was abolished.

10.Reserve currency country were able to use monetary policy for its own domestic policy purposes while other countries were unable to use monetary policy for domestic policy purposes. Therefore a reduction in the country's reserve would cause an increase in the reserve currency and force the other central banks to lose external reserves. So the reserve country can affect both the output in other countries as well as output in its country through changes in its monetary policy.

1.10 ADVANTAGES OF BRETTON WOODS SYSTEM:

1.Non Volatility of exchange rates removed a great deal of rigidity from international trade and investment transactions

2.It gave a great deal of discipline on the participating nations economic policies.

3.The technical aspects of the system had some realistic implications on the participating countries.

4.The main difference was that the dollar was the only currency that was backed by and convertible into Gold on Bretton Woods system while on Gold standard other currencies were also allowed to be convertible into Gold.

1.11 REASONS FOR THE FAILURE OF BRETTON WOODS SYSTEM

1. This system did not provide any revision in the price of Gold. So during inflation it became uneconomical to produce Gold. This lead to stoppage of Gold production in various countries which lead to lack of development in the Gold reserve which had a negative impact on international liquidity.

2. This system did not provide any provision for revaluation of parity due to which surplus countries like Japan and West Germany continued to enjoy export competitiveness against the US economy.
3. This system did not provide any provision for a revision in the price of Gold in terms of USD. Because of which it was not possible to devalue the US dollar despite of continues deficit in the trade. If at all the US dollar would be devalued then it would have had adverse impact on all the countries having USD reserve.
4. The prolonged trade deficit of the US create an oversupply of USD in the international financial market which reduced the acceptance of the USD. When the Gold convertibility Clause was appealed, the US authorities could not discharge their commitment to redeem its USD against Gold. This failure on the part of US leads to the collapse of the Bretton Woods System in 1971.

THE COLLAPSE OF THE BRETTON WOODS SYSTEM

On 15thof August 1971, The President Nixon expelled the system of convertibility of Gold and dollar and decided for floating exchange rate system and by March 1973, the major currencies started to float against each other in which values were determined by demand and supply in the foreign-exchange market. The world moved from a Gold standard to a dollar standard from Bretton Woods to the Smithsonian Agreement. Increase in the growth in the amount of printed dollars further faded the faith of this system and the dollars role as a reserve currency. By 1973, the world had already taken a step forward to search for a new financial system,"one that would no longer rely on a worldwide system of pegged exchange rates".

1.12 THE SMITHSONIAN AGREEMENT (1971)

Smithsonian Agreement was an agreement signed in 1971 that updated some of the rules of the 1944 Bretton Woods agreement to retain and defend the Bretton Woods System. The agreement was so named because the meeting took place at the Smithsonian Institution in Washington D.C. The US agreed to raise the official price of the Gold from $35 to $38 i.e.7.9% devaluation of USD. The agreement was supposed to help devalue the United States dollar, but upon looking back the changes appear to have only helped temporarily.

Currencies were usually valued on either a fixed rate which was set by the government or on a floating rate, where by the free market used to determine the value of the currency. Fixed rates were usually more stable while floating rates would fluctuate wildly. The Group of Ten currencies (those of the USA, United Kingdom, Canada, France, West Germany, Italy, Holland, Belgium, Sweden, and Japan) on Dec. 17 and 18, 1971, met at the Smithsonian Institution in Washington, D.C., and agreed on an agreement to re-introduce the Bretton Woods System with certain modification. The main modification of this arrangement was as follows:

1. The US dollar was devalued to 1 ounce of Gold from $35 to $38 i.e.7.9% devaluation of USD.
2. The US was released from any provision of the Gold Convertibility Clause.
3. European Economic Community (EEC) agreed to maintain their exchange rates within a range of 2.25 per cent of parity with each other.
4. Dollar was devalued by nearly 10 per cent in relation to the other G-10 countries.
5. On the whole, all other countries were required to to change and revise and fix new parities against the USD.

The main reason for these changes was to help US reduce their trade deficit and provide greater export competitiveness to the US economy and also to re-introduce fixed price for Gold convertibility. However , even with these modification US suffered a record breaking deficit in 1972 which resulted in further devaluation of the US Dollar to 1 Ounce of Gold = USD 42.22.

On the whole the Smithsonian Agreement proved only to be a temporary solution to the international currency crisis. A second devaluation of the dollar (by 10 per cent) was announced in February 1973, and with a short span the EEC countries and Japan decided to let their currencies float. During the same period the OPEC group Countries increased crude oil prices by several hundred per cent which resulted in creating of trade deficit among several economies. The Smithsonian Agreement was consequently abandoned in March 1973.

Since then various models of exchange rate system have been applied by many policy makers and academicians. Different countries have tried various varieties in different ways. All the systems tried or suggested are modifications of fixed or floating systems.

Know your Progress (Self-Assessment Questions)

1. Discuss the features and components of International monetary system
2. Write a short note on Bretton Wood System
3. Explain the concept of Exchange Rate Regime
4. Write a short note on Gold Standard
5. Write a short note on Smithsonian Agreement

2

MODERN EXCHANGE RATE MANAGEMENT SYSTEMS.

Unit Structure

2.1 LEARNING OBJECTIVES

After reading this lesson you are able to:

- Understand various types of modern exchange rate system
- Understand Fixed Exchange Rate System
- Understand Floating Exchange Rate System
- Understand Managed float exchange rate system
- Understand Present exchange rate systems:

2.2 INTRODUCTION

Namely there are two choices in exchange rate determination. One choice is fixed peg which is similar to Bretton Woods. The country has to maintain fixed peg with a reserve currency of its choice. The other choice is a pure free float. This means that the government would not decide the exchange rate of its currency but it would be determined by the market i.e. by demand and supply of their and other currencies in the market. Thus the exchange rate is market determined and would change often. In reality, the countries have not adopted only these two choices. Many countries are maintaining semi-flexible versions.

2.3 FIXED PEG EXCHANGE RATE SYSTEM

Establishing a fixed exchange rate between two nations , practically one of a small nation and th other of a powerful industrial nation is known as fixed Peg exchange. A fixed, or pegged,rate is a rate the Central bank or the government sets and maintains as the official rate

of exchange . A set price will be determined against a major world currency (usually the U.S. dollar, but also other major currencies such as the euro, the yen, or a basket of currencies). One country, "pegs" the value of its domestic currency to the value of another currency. In order to maintain the domestic exchange rate, the central bank purchases and sells its own domestic currency on the foreign exchangemarket in return for the currency to which it is pegged.

FEATURES OF FIXED EXCHANGE RATE SYSTEM:

(a) **Fixed exchange Rate:** The exchange rate is fixed by the central bank of the country in a fixed exchange rate system. Here the Central Bank stands ready to exchange local currency and foreign currency at a pre-determined rate. Usually exchange rate is fixed in a particular ratio with another currency.

Example: Nepalese Rupee maintains fixed peg with Indian Rupee.

Exchange Rates Fixed by Nepal Rastra Bank			
Currency	Unit	Buying	Selling
Indian Rupee	Rs 100 =	160 NPR	160.15 NPR

(b**) Central Bank Interference:** In the modern market, there will always be situations of excess supply and excess demand. Under a flexible exchange rate system, these changes cause appreciation of the currency or depreciation of the currency. In a fixed exchange rate system, the pre-determined rate may not match with the market equilibrium exchange rate. So, central bank has to interfere. This is known as Central Bank Intervention .i.e. “to defend its currency at fixed rate”.

In order to maintain market equilibrium, the Central Bank remains prepared to incorporate the excess demand or supply under a fixed exchange rate system. For doing this exchange the Central Bank must hold with it reserve stocks of both foreign and domestic currency. Now the central bank can print its own domestic currency, so holding stocks of domestic currency causes no problems but the difficulty comes in holding sufficient amount of stock of foreign currency which is known as “Foreign exchange reserves.”

The quantity of reserves has to be large enough to accommodate all transactions of foreign currency for domestic currency that arise.

(c) Reserve of foreign currencies: In order to carry out interventions, it is necessary for the central bank to hold a large and adequate amount of foreign currencies.

(**d) Forceful devaluation**: If the country on continues basis runs into deficits in the BOP, the central bank will eventually run out of foreign currencies, and will fail to carry out the interventions. In such a situation, the central bank will have to ultimately devalue its currency.

ADVANTAGES OF FIXED EXCHANGE RATE SYSTEM:

(i) Fixed and stable exchange rate: Since exchange rate is fixed, it is stable for a long period. It changes only when the government decides to devalue or. Change its fixed rate its currency. This creates requirement of hedging for exports and imports.

(ii) Keeps inflation Low: Since the exchange rate has to be maintained stable, the monetary policy has to be stable and tight. This controls the inflation in economy.

(iii) International Monetary is stable: Fixed peg helps in the smooth working of the international monetary system.

(iv)Reduction in economic crisis. The system prevents monetary shocks hence reducing the possibility of economic crisis.
(v) Helpful for Small Nations.
(vi) It promotes international trade.

DISADVANTAGES OF FIXED EXCHANGE RATE SYSTEM:
(i) Continuous intervention puts heavy burden on exchange reserve.
(ii) Country must have adequate reserve.
(iii) Fails to solve the balance of payment disequilibrium.
(iv)It does not reflect the true value of the currency
(v)It may lead to the emergence of Black markets.
(vi)It can be expensive or even impossible to hold.

2.4 FREE FLOAT OR INDEPENDENT FLOAT /FLEXIBLE EXCHANGE RATE SYSTEM:

Under this system, the exchange rate of any two currencies is determined purely by demand and supply of foreign currencies as compared to home currency. Central Banks does not intervene and do not try to maintain the exchange rate at a fix value or in a particular band.

Demand for a foreign currency arises because of import of Good andimports of services, proposed investments abroad and reimbursement of benefits of investment in the country.

Supply of a foreign currency is because of exports to that country that country's investment in our country and repatriation of benefits of our earlier foreign investments.

Example:US Dollar British Pound, Australian Dollar, Euro, and Canadian Dollar are examples of free float

FEATURES OF FLOATING EXCHANGE RATE SYSTEM:

(a) **Exchange Rate is market determined**: In a flexible exchange rate system, the value of the currency is determined by the market, i.e. by the interactions of thousands of banks, institutions and firms wanting to buy and sell currency for purposes of transactions clearing, hedging, arbitrage and speculation.

(b) **Market driven appreciation and depreciation of currency**: Higher demand for a currency, would lead to an appreciation of the currency. Lower demand, would lead to a depreciation of the currency. An increase in the supply of a currency will lead to a depreciation of that currency while a decrease in supply, will lead to an appreciation.

(c) **Follows Purchase Power and Interest Parities**:equilibrium exchange rate ischaracterized under a flexible exchange rate system as the value that is consistent with Purchase Power parities, and interest rate parity.

ADVANTAGES OF FLEXIBLE EXCHANGE RATE SYSTEM:

(a) Simple operation, smoother, more fluid adjustment.

(b) Brings realism in Forex transactions.

(c) Disequilibrium in balance of payment auto stabilized.

(d) No need for Forex reserve to manage exchange rate.

(e) Prevents real shocks.

DISADVANTAGES OF FLEXIBLE EXCHANGE RATE SYSTEM:

(a) Exchange rate changes every minute. So there is an exchange rate risk to exporters and importers which needs to be hedged.

(b) It is affected by speculative trade. May cause adverse effect of speculation.

(c) This may encourage inflation.

2.5 MANAGED FLOAT EXCHANGE RATE SYSTEM (DIRTY FLOAT):

Free float can drive the currency value to any extreme value depending on market conditions. This is not a comfortable situation for exports-imports and capital flows of a country. Hence many countries follow free float but do not leave it entirely to the market. They allow their central banks to intervene and adjust the currency's forex rate to a comfortable value. They do not declare any specific value of exchange rate. They may not target a very specific value as in case of fixed peg

system. They just do not want to see the exchange rate driven to some extreme values (beyond a comfortable range) because of market forces. Since central bank intervention is mostly unpredictable and ad-hoc, managed float is also called as Dirty Float.

FEATURES OF MANAGED FLOAT SYSTEM:

(a) A managed floating rate systems is a hybrid of a fixed exchange rate and a flexible exchange rate system. In a country with a managed floating exchange rate system, the central bank becomes an important participant in the foreign exchange market.

(b) Unlike in a fixed exchange rate regime, the central bank does not have andirect set value for the currency; however, unlike in a flexible exchange rate regime, it doesn't allow the market to freely determine the value of the currency.

(c) The central bank may have either an indirect target value or andirect range of target values for their currency: it intervenes in the foreign exchange market by buying and selling domestic and foreign currency to keep the exchange rate close to this desired indirect value or within the desired target values.

Under a managed floating regime, the central bank holds stocks of foreign currency which are known as foreign exchange reserves. It is important to realize that a managed float can only work when the indirect target is close to the equilibrium rate that would prevail in the absence of central bank intervention. Otherwise, the central bank will exhaust its foreign exchange reserves and the country will be in a flexible exchange rate system because they can no longer intervene.

2.6 PRESENT EXCHANGE RATE SYSTEM

(1) No Separate Legal Tender (No separate currency):

In this arrangement, the government does not issue its own currency. This has two varieties:

Currency of another country is used for all the transactions and trade within and outside the country. Geographically very small countries which are very near to a big country mostly choose this option. Ecuador, Panama, Timor have adopted US dollars as their currency. Most of the countries which do not print their own currency have adopted US Dollar. That is why 'no separate legal tender' is also referred as **'Dollarization'.**

Gulf countries were not having their own currency till late 1960s. They were using Indian Rupee till 1954. In 1954, Reserve Bank of India started printing a separate currency for exclusive use in gulf countries which was called as 'Gulf Rupee'. Later in 1960s and 1970s all of these countries started printing their own currency.

Countries form a currency union and print a common currency for all members of the union. So far the only example is European Union. 28 countries do not print their own currency. They use Euro as a common currency.

(2) Currency Board:

This is a fixed peg system. In this case, it is not just a fixed dictated rate; it is actually supported by foreign exchange money with the central bank of such country. There is adirect legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate. Foreign exchange assets of the central bank may be held in different foreign currencies.

(3) Other Conventional Fixed Peg Arrangements:

The country (formally or de facto) pegs its currency at a fixed rate to another currency or a basket of a few currencies. The basket is formed from the currencies of major trading or financial partners.

There is no commitment to actually exchange. There also no promise to keep the parity very rigid. The exchange rate may fluctuate within narrow margins of less than ±1 percent around a central rate for at least three months.

The monetary authority maintains the fixed parity through direct intervention or indirect intervention. The monetary authority can adjust the level of the exchange rate, although relatively infrequently.

(4) Pegged Exchange Rates within Horizontal Bands:

The currency's value is maintained within certain margins of fluctuation of at least ±1 percent around a fixed official central rate or the margin between the minimum andmaximum value of the exchange rate exceeds 2 per cent. It also includes arrangements of countries in the exchange rate mechanism (ERM) of the European Monetary System (EMS) that was replaced on January 1, 1999with the ERM II.

(5) Crawling Pegs:

This is an intermediate exchange rate system. The rate is fixed with another currency. However, the fixed rate itself is adjusted periodically in small amounts which is why the name 'crawling peg' is given to it. The adjustment may be at a fixed and pre-determined rate or in response to changes in inflation, etc.

The rate of crawl can be set to generate inflation-adjusted changes in the exchange rate. In crawling peg the 'fixed rate' itself crawls. No variation of ±1% or whatever is permitted.

(6) Crawling Bands:

This is a mix of crawling peg and horizontal bands. The rate is fixed with another currency or basket. However, the fixed rate itself is

adjusted periodically in small amounts. In addition variation of ±1% is permitted for real market transactions.

(7) Managed Float (Dirty Float):

The monetary authority attempts to influence the exchange rate without having a specific exchange target. Indicators for managing the rate are broadly judgmental and may not be automatic. Intervention may be direct or indirect.

(8) Free (Independent) Float:

The exchange rate is market-determined, with any official foreign exchange market intervention aimed at checking the rate of change and preventing undue volatility in the exchange rate, rather than at establishing a level for it.

2.7 EXCHANGE RATE CLASSIFICATION

Exchange Arrangement Classification	IMF Definition	Countries with this feature	Example
Exchange Rate Arrangement with no Separate Legal Tender	No own Legal Tender Use other country's currency or share the currency of currency union as a member	38	Ecuador, Panama, Timor have adopted US Dollar. EU countries do not have separate legal tender. They use Euro as a common currency.
Currency Board Arrangements	Direct Legislative commitment to a central rate.	8	Bosnia, Bulgaria, Djibouti, China- Hong Kong SAR
Conventional Pegged Arrangement	Peg central rate, narrow fluctuation margin at ± 1%	45	34 countries Peg against a single currency such as Kuwait, Bhutan, Malaysia, Maldives. Other 8 countries have pegged against composite of currencies such as Fiji, Malta, Morocco, and Latvia.
Pegged exchange rate within horizontal bands	Central Rate, wider fluctuation margin, more than ± 1 %	6	Cyprus, Tonga
Crawling Peg	The central Rate can be adjusted	5	Costa Rica, Tunisia

Crawling Band	There are fluctuation margin, the central rate can be adjusted	6	Belarus
Managed floating with no pre-determined path for the exchange rate	Active intervention to influence the movement of exchange rate; Government has an indirect target level of exchange rate.	27	Mauritius, Sudan, Thailand, India, Vietnam, Trinidad and Tobago
Independently Floating	Few interventions; no target level for exchange rate.	50	Yemen, Australia, USA, UH, Canada

Know your Progress (Self-Assessment Questions)

1. Write a short note on various types of modern exchange rate
2. Write a short note on Fixed Exchange Rate System
3. Write a short note on Floating Exchange Rate System
4. Write a short note on Managed float exchange rate system

3

EUROCURRENCY MARKETS

Unit Structure

3.1 LEARNING OBJECTIVES

After reading this lesson you are able to:

- Understand euro currency market
- To understand the features of euro currency market
- Understand Components of euro currency market
- Understand function of euro currency market
- Understand the offshore banking

3.2 INTRODUCTION

During the late 50s, the Russians were earning dollars by selling gold and other commodities and wanted to use them in buying grains and other commodities from the westward countries namely US.However they didn't want to keep dollars by way of deposits in the banks of new York, as they feared that the US government might freeze the deposits if the cold war moves to an intensified state.so they approached the banks in Britain and France who accepted their deposits in the form as dollars. since these deposits were made in Europe , it was termed as euro while the deposits were made in dollars so the term used were 'euro dollars' deposits. since the late 80s these kinds of deposits were carried out only in Europe so it was specifically given name as Euro Yen , Euro Rupee and in general it was termed as Eurocurrency deposits. However since 1990 there has been a great expansion in the market worldwide however the prefix “EURO” has remained as it is. Eurocurrency markets are now global market and it does not only refer to Europe any more. In the modern era it is clearly known as ‘offshore’ and not related to only Europe.

3.3 FACTORS RESPONSIBLE FOR ORIGINATION AND GROWTH OF EUROCURRENCY MARKETS:

Factors related to the USA:

(1) Unwillingness to hold dollars in USA reserve Banks: Countries were reluctant to keep bank deposits in the United States, so they started keeping their dollar earnings deposited in London. Eventually all other Euro dollar holders did the same, which became an obvious case when the United States ran into constant balance of payments deficits.

(2) Regulation Q in the USA: The growth of the Eurocurrency market was also regulated by certain monetary regulations in the United States called as 'Regulation Q' which had put a ceiling on the interest rates on domestic deposits. So, such depositors were naturally attracted to Euro banks that were not bound by Regulation Q. By sending off dollar deposits to their offshore branches the U.S. banks were able to avoid tying up so much of their funds in reserve requirements at a zero rate.

(3) Regulation M in the USA: Regulation M in the US stipulated reserve to be maintained against deposits accepted by banks in the US. This increased the cost on deposits for bank which broadened the gap between the lending and deposits rate. This feature was mostly exploited by European banks.

Factors related to other countries:

(4) Curtailment in UK: Constant balance of payments deficits made the United Kingdom government limit British banks' external use of sterling, so they had a powerful incentive to develop business in foreign currencies.

(5) Full Capital Account Convertibility adopted by developed countries: By 1958 most of the important industrial countries had restored full convertibility of their currencies.

(6) Growth of tax heaven concept and offshore banking : At the end of the 1960s and during the early 1970s the Eurocurrency markets, expanded to a number of other "offshore" banking centers. These were typically small territories that had, exchange control, tax and laws regulating banking which were favourable to international banks. The business was entrepots in nature, with foreign currency funds deposited by one foreign source and then lent to another.

3.4 CHARACTERISTICS OF EUROCURRENCY MARKETS:

The various characteristics of Eurocurrency Markets are:

(1) Unregulated Market: It is a market across border. Hence the government does not have full control over the transactions. Hence transacting entities escape from most of the stringent provisions and

regulations. Under euro currency government interference is minimal. Thus it is an unregulated market.

(2) Long Term Loans and Short Term Deposits: Eurocurrency loans are for longer period of time. Deposits however in Eurocurrency markets are primarily for short term. This leads to asset-liability duration mismatch problem for the banks.

(3) Massive wholesale market: Transactions in Eurocurrency markets are huge. They are mostly within Governments and Banks, Public Sector Organizations and large MNCs. This makes the market a wholesale rather than a retail market.

(4)Time Deposits: The Eurocurrency market exists for savings and fixed deposits and recurring deposits in banks. There is hardly any space in Euro market for demand deposits.

(5)Eurodollar and LIBOR based market: Eurocurrency interest rates are based on a variable rate base such as the (LIBOR).i.e. London Inter bank Offer Rate. Under this interest rate risk is reduced. This market is largely dominated by US Dollars over other currencies.

COMPONENTS (COMPOSITIONS) OF EUROCURRENCY MARKETS:

Composition is broken apart in 3 areas, viz., (I) Market Participants, (II) Euro financial- instruments and (III) transactional structure.

(I)Market Participants:

(1)Commercial Banks: The institutional core of the market is formed by the Commercial banks. Banks enter the euro currency market both as lenders and as depositors. Around 20 of the world's largest banks play a vital role in the Euromarket. They attract a disproportionate volume of primary deposits which are then re - lent to other Eurobanks. These banks connect the external with the domestic market, taking funds from one market and placing them in another market. The depth of the interbank market enables banks to adjust liquidity positions with great ease.

(2)Corporate: Eurocurrencies are mainly borrowed by Corporations whose name, size and good standing enable banks to make loans to them with little more than a superficial analysis of creditworthiness. But during recent times the range of corporate and government borrowers have widened to hold less good names. The main reason for this is the vast amount of funds available for lending.

(3) Governments and central banks: Central banks and Governments are also lenders in the Eurocurrency markets. In addition, international institutions such as the World Bank and other regional development banks, and institutions associated with the EU, have been borrowers on regular basis. In the last decade the market has also seen an enlargement in

government and government - related borrowers. This is especially true of the medium term Euro Credits market, which has become very famous for infrastructure projects and for financing balance of payments deficits.

(4)Private Individuals: Minor participants in the Eurodollar markets are known as private individual. High net worth individuals are no doubtedly been significant participants as investors in the Eurobond market, where the fact that payment of interest is without deduction of tax and securities are bearer securities gives the market anonymity and an most probable attractiveness from a tax point of view.

(II)Euro financial-instruments:

(1) Eurodeposits: Most deposits in the Eurocurrency market are Fixed deposits at fixed interest rates, whose maturity is of a short period. Around three-quarters of deposits in London Eurobanks have maturities of less than three months. Many of these deposits are on call .i.e. thus they can be withdrawn without notice. These typesof time deposits are mostly made by other bank, but many are made by governments and their central banks as well as Multi-national Corporation. A few are made by very high income individuals, often through Swiss bank. Deposits come in many forms. Other than negotiable Eurodollar certificates of deposit, there are many similar certificates of deposit.

(2) Euroloans: Many Eurodollar loans are direct on the basis of formal lines of credit. However, the technique of loan syndication has been developed for larger currencies by the market. Interest on syndicated loans is usually calculated by adding a spread to LIBOR, although the US prime rate is also used as a basis for interest pricing. Interest rates under LIBOR change continuously.

(3) Eurobonds: Eurobonds are international bonds denominated in a currency which is different from that of the country in which they were issued. Eurobonds are securities which are easily transferable, and the Eurobond market is a vital factor in international finance as the size of the Eurobond market inthe international market exceeds that of the U.S. bond market.

(4) Other Instruments: Other Euro financial instruments consist of Euro certificates of deposits, Euro commercial papers, etc.

(III) Transactional structure of Euro Markets:

The Euro currency market is completely a wholesale market. Transactions made are very rarely to be for less than $1 million while at times they are for $100 million and more. Like the foreign exchange markets, the vast bulk is operated to inter - bank operations. The largestnon-banking companies have to deal via banks. Borrowers are the very high goodwill corporate names carrying the lowest credit risks. The market is liked by telephone or telecommunication and is focused upon London, which has a share of around 1/3 of the Eurocurrency market. All

Euro currency transaction are unsecured credits in nature, hence the lenders pay a lot of attention to borrowers status and name.

FUNCTIONS OF EUROCURRENCY MARKETS:

Given below are some of the functions of the Eurocurrency markets:
(1)Cheap Source of working capital: Lesser interest rate is attracted by Euro currency loans than the loans of the domestic economy. This is due to low overhead costs. Since dealings are between good credit rating and the banks, the costs of credit checking and processing are lesser. Lending rates can thus be fixed lower than domestic market.

(2)Liquidity: Financial institutions find it highly profitable to hold their idle resources in Euromarkets. Moreover due to fewer restrictions in the markets, investors can make investments in bearer securities. With the absence of tax withholding on interest there is an advantage in this form. Most of the Euro deposits have varied maturities period ranging from less than a day to couple of months. On an average 80 per cent of these deposits have maturity of 6months.

(3)Facilitates International Trade: Eurocurrency markets make easy availability of loans which helps in smoother working of international trade. Most banks prefer this form of financing to traditional forms such as letter of credit. It's mainly for two reasons: (a) Lower interest rate and (b) easy procedural formalities.

3.5 EUROBANKING / OFFSHORE BANKING:

Euro banking offers many vital advantages to the various stakeholders. Depositors try to evade from the tax-net of their own country of domicile. Borrowers get liquid money for capital investments as well for working capital at a highly competitive interest rate.

To grab this kind of business, banks offer banking services to non-residents. Depositors would deposit their own home currency or US Dollar and thus Eurodollar deposit or Eurocurrency deposit is created. This is then lent to an appropriate borrower by the bank.

ADVANTAGES OF OFFSHORE BANKING:
(1) Access to politically and economically stable jurisdictions: Offshore banks provide easy access to politically and economically stable jurisdictions. This may turn advantageous for those residing in apolitical turmoil areas where there is a risk and fear of getting their assets frozen, seized or disappear.

(2) Higher interest on deposits: Some offshore banks may operate with a lower cost and greater interest rates than the official rate in the home country due to lower overheads and a lack of intervention by the

government. Also in most of the offshore banking centers, there is a lack of control in the interest rate. Banks are free to decide their interest rates. This is a great advantage for the banks.

(3) Evasion of Tax: Usually Interest is by offshore banks without deducting tax. This is an advantage to individuals who evade the payment tax on worldwide income. Popular Offshore banking centers also save on their own direct taxes.

(4) Non-conventional Facilities: Some offshore banks offer banking services which are non-available from domestic banks such as anonymous bank accounts.

(5) Other advantages to the banks: In most offshore banking centers; banks get exemption from reserve requirements, entry is easy to establish a branch, license fees are low, etc.

DISADVANTAGES OF OFFSHORE BANKING:

(1) Crime and illegal activities: Offshore banking has been associated with the crime economy and organized crime, through money laundering. Following September 11, 2001, tax heavens and offshore banks, along with clearing houses, have been accused of helping various organized terrorist groups, crime gangs, and other state or non-state actors.

(2) Tax loss to Governments: Tax evasion is been promoted by Offshore banking, by giving tax evaders with an attractive place to deposit their hidden income.

(3) Capital outflow and volatility: Developing countries may suffer due to the speed at which money can be transferred in and out of their economy.

(4) Widens rich-poor gap: Offshore banking is usually more accessible to those on high incomes, because of the costs of establishing and maintaining offshore accounts. Middle-income groups suffer the most on account of the tax burden in developed countries.

Know your Progress (Self-Assessment Questions

1. Write a short note on euro currency market
2. Write the Features of euro currency market
3. Explain Different components of euro currency market
4. Explain Function of euro currency market
5. Explain offshore Banking

4

THE FOREIGN EXCHANGE MANAGEMENT ACT (FEMA)

Unit Structure

4.1 LEARNING OBJECTIVES

After reading this lesson you are able to:

- Understand FEMA
- Understand objectives of FEMA
- Understand need for FEMA
- Understand features of FEMA
- Understand the offshore banking

4.2 INTRODUCTION

The **Foreign Exchange Management Act** (FEMA) is defined "to consolidate and amend the law relating to foreign exchange with the objective of facilitating external trade and payments and for maintenance of foreign exchange market and promoting the orderly development in India". It was passed in the Parliament in 1999, replacing previous Act ,the Foreign Exchange Regulation Act (FERA).

While FERA was aimed at conserving foreign exchange by restricting expenditure, FEMA is aimed at facilitating external trade and payments for promoting orderly development and maintenance of foreign exchange market in India. Violations under FEMA are considered civil offence and not criminal offence as was the case under FERA.

4.3 DEFINITION OF FEMA 2000

FEMA 2000 is known as Foreign exchange management Act 2000. This Act is very helpful law for development of foreign exchange market in India. It was passed in 1999 and came into effect from June 1, 2000 applicable in the entire country. After this foreign exchange regulation act (FERA) 1973 was closed. FEMA was most suitable for India corporate sector instead of FERA because almost all strict regulations of FERA were removed in FEMA

OBJECTIVES OF FEMA

1. The main objective of FEMA is to reduce the Strict restriction on foreign exchange. According to FEMA, any offense in foreign exchange will be considered as civil offense and not a criminal offense.

2. This law's main objective was to increase the flow of foreign exchange in India. Under FEMA, one could bring foreign currency in India without any legal barrier.

MOVE FROM FERA

FERA was in use since 1974 but it did not succeed in restricting activities such as the expansion of transnational corporations (TNCs). The acknowledgement made to FERA in 1991-1993 showed that FERA was on the verge of becoming useless. After the amendment of FERA in 1993, it was decided that the act would become the FEMA. This was done in order to ease the controls on foreign exchange in India. FEMA served to make transactions for exports and imports easier by removing many restrictions. The deals in Foreign Exchange under FEMAwere not to be 'regulated' instead 'managed' . The Move to FEMA shows the change on the part of the government in terms of foreign capital.

NEED FOR THIS MANAGEMENT

The selling and buying of foreign currency and other instruments pertaining to debt by businesses, governments and individuals happens in the foreign exchange market. This market is not only the largest and most liquid market in the world as well as in India but also very competitive. It on a continues basis undergoes innovations and changes, which can either be beneficial or expose them to greater risks from the point of view of a country. The management of such market becomes necessary in order to prevent and avoid the risks. Central banks would work towards a well-functioning transaction which can develop their foreign exchange market. Under FEMA's control, the need for this management of foreign exchange is very vital. It is necessary to keep sufficient amount of foreign exchange from Import Substitution to Export Promotion.

MAIN FEATURES

- Activities such as payments made to any person abroad or receipts from them, along with the deals in foreign exchange and foreign security is restricted. FEMA gives the central government the power to restrict the transaction.
- Restrictions are imposed on people residing in India who carry out transactions in foreign security, foreign exchange or who own or hold immovable property abroad.
- Unless and until the permission is not given by FEMA, the transactions involving foreign security or foreign exchange and payments from abroad to India the transactions are restricted and can be made only through a person authorised.

- Deals in foreign exchange under the current account by a person authorised can berestricted by the Central Government. Although drawing or selling of foreign exchange is done through an authorised person, the Act empowered RBI to subject the capital account transactions to a number of restrictions.
- People residing in India will be allowed to carry out transactions in foreign security, foreign exchange or to own or hold immovable property abroad if the property ,currency or security was owned or acquired when she/he was living outside India, or when it was inherited by her/him from someone living abroad. Exporters are needed to furnish their export details to RBI to ensure that the transactions are carried out properly.

FERA, 1973	**FEMA, 1999**
It is an old enactment It was passed in 1973. Now this Act has been repeated	It is a new enactment It was passed in the year 1999.
It wasa long enactment with 81 Sections It was very strict in nature	It is a small enactment with 49 Sections. U is liberal] in nature.
Approach towards foreign exchange transactions was very conservative and restrictive.	The approach towards foreign exchange transactions is very positive and welcoming.
Penalty provisions were very hard. In this Act Imprisonment was imparted to the person violating its provisions.	It provides only for monetary penalty for violating the provisions. Imprisonment is imparted only on non-payment of monetary penalty.
The scope of FERA was very wide. It dealt with all the transactions related to foreign exchange, i.e, anything and everything related to foreign exchange was controlled by FERA.	The scope of FEMA is narrow. It deals only with specified transactions related to foreign exchange, i.e. it checks end controls only those transactions, which are specifically mentioned in the Act. It does not deal with the transactions which are not specifically mentioned in its scope.

Know Your Progress (Self-Assessment Questions)

1. Write a short note on FEMA.
2. Write features of FEMA
3. Difference between FERA and FEMA

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MODULE - II

5

DETERMINATION OF EXCHANGE RATE

Unit Structure

5.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand various factor affecting the exchange rate determination

5.2 INTRODUCTION

Each and every currency carries a price just like any goods that are traded. This price keeps going under reasonable changes over a short period of time. For example, During the Asian financial crisis in 1997Thai baht lost 56% of its value in a short period of about six months.

Whereas at times, a country's currency may remain relatively stable to other currencies over a longer period of time. For example, the Chinese Yuan since January 1994 has not fluctuated outside a range of 8.0-8.8 Yuan/US$.

The explanations for the sudden extreme currency fluctuations or prolonged stability are not always so likely to be understood. However, an understanding of the factors influencing exchange rates daily is by far much more difficult to come by.

The determinants of prices in any market are rarely clear. Countless theories have been developed to explain variations in exchange rates, but none was considered as law. The foreign exchange market, with 193 participating countries and US$ 1.9 trillion in daily turnover, is far too complicated to be described neatly by a set of formulas or theories. Keeping in mind the ambiguous nature of the foreign exchange market, Alan Greenspan, the former U.S. Federal Reserve Board Chairman once said, "There may be more forecasting of exchange rates, with less success, than almost any other economic variable."

To sum it up is can say that foreign exchange rate can be defined as the value of a country's currency with regards to another country's currency. It therefore two aspects .i.e. 1) The domestic currency aspect and 2) the foreign currency aspect. This rate will never be constant but varies from period to period depending on the changes in the international market. These changes in the market are usually brought about by the market factors of demand and supply of currencies between countries. It is therefore very important we understands the factorsthat affect exchange rates when receiving and sending money from abroad.

In this section we analyze some of the vital factors that play a major role in determining the exchange rate of a particular country.

5.3 FATCTORS AFFECTING FOREIGN EXCHANGE RATES

Foreign Exchange rates are influenced by several factors in the global market. The net disequilibrium in the BOP represented that the single most important element affecting an exchange rate is demand-supply. These are represented by Tangible Factors noted in BOP, since their impact can be quantified. But further studies have shown that, 90% of the volume in the foreign exchange market is made of speculative transactions, which are transactions without any underlying commercial base. These transactions are undertaken in anticipation of future changes in demand or supply. Factors which influence the trading decisions of speculators are called intangible factors since their impact cannot be quantified.

Hence various factors which influence the exchange rate can be summarized as follows:

1. INFLATION

Inflation is the rate of change the price level of good and services in the economy. Inflation rates variation in the market is one of the crucial factors that affect the exchange rate of a country. Practically, a country which has a continues low inflation rate will have a stronger value of the currency compared to those countries with inflation rates high, with other factors being constant. In countries where there is low rate of inflation, the market value of goods and services in those countries will usually appreciate at a relatively slow rate compared to countries with higher inflation rates. The value of the currency appreciates steadily when the low inflation rates are experienced for a longer period of time. Whereas on the other hand, countries high on inflation rates for a prolonged period of time usually have interest rates high on goods and services offered and at the same time experiences constant depreciation in the value of their currency.

2.INTEREST RATE DIFFERENTIALS

Interest rates, inflation rates and foreign exchange rates are always co- related and play a vital role in determining the stability of the market environment. Any slight changes in the rate of interest will definitely affect the value of the currency and its exchange rate in the foreign market. Interest rate to a currency has a dual impact on the currency valuation. If increase in the interest rate suggests the strength of the economy then it would have a favorable effect on the exchange rate. However if there is increase in the interest rates due to expectations of higher inflation then it would have an adverse effect on the value of the currency. There are always two currencies involved in any exchange rate. Therefore there might be situations where the interest rates of both currencies may rise at the same time. In such situations the interest rate differential is obvious. Sometimes the smallest rates of the two currencies could move in opposite directions resulting in widening the gap between the two. In such cases the effect on the exchange rate would be more distinct.

3. BALANCE OF PAYMENTS (BOP) OR A COUNTRY'S CURRENT SAVINGS AND INVESTMENTS

A country management towards maintaining balance between trade and the earnings got from foreign investments is very crucial in determining the exchange rate. This information can be obtained in the current account of BOP which contains the sum total of all transactions done by the government including exports and imports. When the government spends more on imports as compared to the export earnings, it will create a deficit in its current account. This kind of deficit causes reduction in the value of domestic currency causing disequilibrium in the balance of payments. In such a situation volatility and unpredictability of the exchange rate of the domestic currency becomes highly noticeable.

4. GOVERNMENT DEBT

Unpaid dues created by the central government are always considered to be a liability in general and a public debt in specific. The bigger the debt the less likely the government is able to get foreign capital. This will result in increased inflation in the country. When the debts are too high most of investor will opt to trade their bonds. This will lead to a fall in the value of the current exchange rate.

5. TERMS OF TRADE

Terms of trade are the ratio of export prices to import prices of a country. This ratio affects the balance of payments (BOP). The terms of trade are favorable if the export prices are higher than the import prices or when the export price rise at a faster rate than the import price. The effect generates higher revenue for the country. The domestic currency therefore will have a higher demand and the local currency appreciates in value. All this leads to to an increase in the value of the exchange rate.

6. POLITICAL FACTOR

Politics in a country will always affect its economic performance. A country that experiences severe political unrest is always considered risky for foreign investors. This diverts the foreign investment to those countries that are politically stable. Safe and sound trade agreements between countries attract more foreign investments which lead to increased foreign capital. A country fixed with constant political unrest and political instability attracts a lot of uncertainty in the Forex market leading to depreciation of the exchange rate for its currency.

7. ECONOMIC RECESSION

Recession in economic activity of a country will lead to a decline in interest rates. This will reduce the chances of the country to get foreign capital. This will eventually lead to the domestic currency becoming weak in relation to foreign countries and therefore decreasing the value of the foreign exchange rate.

8. SPECULATION

This is more of a sit and sees approach of foreign exchange. More than 90% of the turnover in global foreign exchange market represents speculative activities. If the trader on his own instinct feels that in the near future a certain currency will increase in value, then he will buy that currency at the prevailing lower rate now. Then he will wait till the value increases so that he can sell it at more value than what he bought it for. This eventually will increase the exchange rate.

9. DEMAND - SUPPLY

In the context of floating exchange rates, foreign exchange rate should be determined by forces of supply and demand. The objective of floating exchange rates is to correctly incorporate all the factors that influence the demand for and the supply of currency. For commodities represented by foreign currencies, the spot exchange rate is influenced by expectations regarding the future changes in the price and these expectations are in turn influenced by economic events, resource discoveries, technological developments, political developments, etc. Demand for any given currency in the international markets arises from individuals and corporate entities who undertake foreign currency transactions and central banks that hold a part of their reserves in that currency. Similarly, supply of the foreign currency arises out of non-residents wishing to buy domestic country goods and services, acquire domestic currency denominated assets, etc. Exchange rate is the equilibrium price that equates these factors.

The Balance of Payment theory of Exchange Rate determination is therefore the connecting link between demand and supply of foreign exchange due to current account transaction, the assets and liabilities values represented in the capital account and Reserve and Surplus account which helps in balancing the net surplus or deficit.

In conclusion, all the above factors affect foreign exchange rates. This information is particularly important for people who often send and receive money as it will help them determine the best time to do so. It is also important to know how to cushion yourself against such fluctuations.

Know Your Progress (Self-Assessment Questions)

1. Discuss the Factors affecting exchange rate
2. Explain how inflation and interest rate differentials affects exchange rate
3. Explain how demand and supply affects exchange rate.

6

PURCHASING POWER PARITY THEORY

Unit Structure

6.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand the law of one piece
- Understand the PPP theory
- Understand the absolute version of the PPP theory.
- Understand relative version of the PPP
- Understand criticism against PPP

6.2 INTRODUCTION

PURCHASING POWER PARITY PRINCIPLE:

Gustav Cassel a Swedish economist, in 1918, put forth the principle of purchasing power parity (PPP).

According to purchasing power parity (PPP) principle, the price levels along with the changes in the price levels in various countries determine the exchange rates of these countries' currencies.

Purchase power Parity Theory is an economic theory that evaluates the amount of adjustment needed on the exchange rate between countries in order for the exchange to be equivalent to each other's currency's purchasing power. The basic objective of this principle is that the exchange rates between various countries' currencies reflect the purchasing power of these currencies. This objective is based on the Law of one Price.

6.3 THE LAW OF ONE PRICE

The Law of One Price explains that identical goods should be sold for the same price in two separate markets.

The assumptions of Law of One Price are:

Movement of Goods: The law of one price assumes that there is no restriction on the movement of goods between countries i.e. it is possible to buy goods in one market and sell them in another. This implies that there is no ban on exports or imports or in the form of quotas in international trade.

No Transportation Costs: Law of One Price would hold perfectly if there were no transportation costs involved.

No Transaction Costs: This law assumes that there are no transaction costs involved in the buying and selling of goods.

No tariffs: The existence of tariffs does not hold good for the law of One Price, which requires their absence to hold perfectly.

The law of one price is just another way of stating Purchase Power Parity (PPP). However PPP explicitly mentions about exchange rates whereas the law of one price is applicable even within two markets of the same country.

6.4 PURCHASING POWER PARITY THEORY:

As per to PPP theory, when exchange rates are of a fluctuating nature, the rate of exchange between two currencies in the long run will be fixed by their respective purchasing powers in their own nations.

There is a demand for foreign currency by the people because of its purchasing power ability in its own nation. Also domestic currency has a certain purchasing power, because it can buy some amount of goods/services in the domestic economy. Thus, when domestic currency is exchanged for any foreign currency, one can say that domestic purchasing is being exchanged for the purchasing power, as it can buy some amount of goods and services in the domestic country. This exchange of the purchasing power takes place when the purchasing power of two currencies nations gets equalized. Thus, the purchasing power of the two currencies determines the exchange rate. The exchange rate under this theory is in equilibrium when their domestic purchasing powers at that rate of exchanges are equivalent e.g, Suppose certain bundle of goods and services in U.S.A. costs U.S. $ 20 and the same bundle in India costs, Rs. 900/- then the exchange rate between U.S. Dollar and Indian Rupee is $1 = Rs. 45. Because this is the rate of exchange at which the parity between the purchasing power of two different nations is maintained. A change in

the purchasing power of any currency will also reflect in the exchange rates. Hence under this theory, domestic purchasing power determines the external value of its currency to that of another currency.

Gustav Cassel has presented the PPP theory in two versions.

ABSOLUTE VERSION OF THE PPP THEORY

The absolute version of the purchasing power parity (PPP) theory states that the exchange rates between two countries' currencies should reflect the relation between the international purchasing powers of various currencies. In other words the exchange rate would be determined, at the point where there is equilibrium in the internal purchasing power of the respective currencies. Let us take an example to understand the above mentioned point. Suppose particular basket of goods cost Rs. 2000/- in India and $ 200 in the U.S.A. That means the exchanges rate would be Rs. 10 = $1.

The exchange rate can be determined with the following equation.

$$R = \frac{P_b \times Q_o}{P_a \times Q_o}$$

Where,
R=Exchange Rate
P_a =Prices in nation a
P_b= Prices in nation b
Q_o= Corresponding weights

In this equation prices are related to the respective bundle of goods with same weights assigned in both the countries. Thus, the above equation explains that the equilibrium exchange rate is determined by the ratio of the internal purchasing power of domestic currency and foreign currency in their own countries. Thus, to sum it up the absolute version of this theory shows that the absolute purchasing power of respective currencies does play an important role in determining the equilibrium exchange rate.

RELATIVE VERSION OF THE PPP THEORY

The relative version was put forward to find the relative strength of the changes in the equilibrium foreign exchange rate. Any withdrawal from the equilibrium will lead to the disequilibrium. It can occur due to changes in the internal purchasing power of a particular currency. The changes in the purchasing power are measured by domestic price indices in the respective nation. In order to calculate we need to keep a Base Exchange rate by assuming any past rate of exchange in order to know the percentage change in the exchange rate. If we compare the price indices of the past i.e. base period with that of the present period, the new equilibrium exchange rate could be found out.

It can be simplified with the following equation.

$$Rn = Rn - 1 \times \frac{P_{b1} \times P_{bo}}{P_{a1} \times P_{ao}}$$

Where,
Rn= New equilibrium exchange rate
Rn-1= Base period exchange rate
Pbo= Price index of nation b in base period
Pb1= Price index of nation b in current period
Pao= Price index of nation a in base period
Pa1= Price index of nation a in current period

Thus, according to the equation when the price level in the concerned nation is changed, the internal purchasing power of the currency of that nation also goes on changing automatically. This leads to the change in the equilibrium exchange rate. Thus, under this theory there has been a linkage between the purchasing power of two currencies in determining the equilibrium exchange rate. However, it has been criticized on the following grounds.

6.4 CRITICISM OF PURCHASING POWER PARITY (PPP) THEORY

1. **Limitations of the Price Index**: As per the relative version the PPP theory, it uses the price index in order to measure the changes in the equilibrium rate of exchange. However, price indices suffer from numerous limitations and thus theory too.

2. **Neglect of the demand -supply approach**: The theory fails to take into consideration the demand for as well as the supply of foreign exchange. Due to such negligence the PPP theory proves to be unsatisfactory, because practically exchange rate is determined according to the market forces such as the demand for and supply of foreign currency.

3. **Unrealistic Approach**: Use of price indices for the PPP theory proves to be unrealistic. The reason for this is that the quality of services and goods included in the indices varies from nation to nation. Thus, any comparison without taking into consideration the quality proves to be unrealistic.

4. **Unrealistic Assumptions**: this is yet another important criticism that the PPP theory is based on the unrealistic assumptions such as absence of transport cost. Also it wrongly assumes that there is an absence of any barriers to the international trade which is practically impossible.

5. **Neglects Impact of International Capital Flow**: The PPP theory neglects the impact of movements of the international capital on the

foreign exchange market. Fluctuations may be caused by International capital flows in the existing exchange rate.

6. **Occurrence rare in nature**: The PPP theory is in too different to the Practical approach. Because, the rate of exchange between any two currencies based on the domestic price ratios is a very rare occurrence.

Thus, the PPP theory is criticized on the above grounds.

6.5 CONCLUSION

Despite these criticisms the theory focuses on the following major points.

1. It tries to establish relationship between domestic price level and the exchange rates.

2. The theory explains the nature of trade as well as considers the BOP (Balance of Payments) of a nation.

Thus, Gustav cassell's attempt to explain the exchange rate determination based on domestic price indices was very unique attempt.

Know Your Progress (Self-Assessment Questions)

1. Write a short note on law on one price
2. Write a short note on absolute version of the PPP theory
3. Write a short note on relative version of the PPP
4. Write a short note on criticism of PPP

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7

INTERESTRATE PARITY THEORY

Unit Structure

7.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand the Interest Rate Parity Theory
- Understand the types of Interest Rate Parity Theory
- Understand the Interest Rate Parity Theory implications.

7.2 INTRODUCTION

Interest Rate Parity theory is used to find out the relationship between at the spot exchange rate and a corresponding forward (future) exchange rate of currencies. It is a theory in which the interest rates differential between two countries remains equal to the differential calculated by using the spot exchange rate and forward exchange rate techniques. Interest rate parity connects interest, foreign exchange rates and spot exchange rates. It plays a crucial role in Forex markets.

According to this theory, the differentials in the interest rate between two different currencies will be reflected in the discount or premium for the forward exchange rate if there is no arbitrage – (arbitrage is the activity of buying shares or currency in one financial market and selling it at a profit in another.)

7.3 INTEREST RATE PARITY (IRP)

The determination of exchange rate in a forward market finds an important place in the theory of IRP. According to interest rate parity theory, equilibrium is achieved when differential in the forward exchange rate is near about equal to the differential in the interest rate. Forward rate always differs from spot rate by an amount which represents difference in interest rates. Under this theory, the currency of a country with a low

interest rate will be at a forward premium in relation to currency of a country with an interest rate higher as compared to the other.

Example: If in a spot market, 1 $ = Rs 60,return on dollar deposits is 5%, return on rupee deposits is 14%, and Rs 1000 are investible funds, Forward Rate after one year can be calculated as under:

If investor invests in rupee deposit, after one year he will get 1000(1 + 0.14) = 1140. If instead he wants to invest in dollar deposits, he has to convert his investment in dollar deposit at a spot rate, i.e. 16.667 $ (1000 / 60). After one year, dollar deposit would fetch 16.667 (1 + 0.05) = $ 17.50.

Now this has to be converted into Indian currency. Thus, forward exchange rate 1140 /17.50= 65.143, i.e. after one year forward rate = 1 $ = Rs 65.143.

In conclusion A higher interest rate in India will push down forward value of Indian rupee against US dollar.

There are two types of Interest Rate Parity

7.4 COVERED INTEREST RATE PARITY (CIRP)

Covered interest rate theory says that the interest rates difference between two countries is nullified by the spot or forward currency premiums so that the investors could not earn an arbitrage profit. If interest rate differential is not equal to forward rate differential, covered interest arbitrage will begin. It will continue till the two differentials become equal.

Positive interest rate differential in a country is equalized by annualized forward discount. Negative interest rate differential in a country is equalized by annualized forward premium. Finally, two differentials will be equal at a point and forward rate is determined.

Process of Covered Interest Arbitrage is explained with help of following example:

Spot rate is 1 $ = Rs 60 and three months (90 days) forward rate is 1 $ = Rs 60.75. Interest rates are 18% and 11% in India and USA respectively.

Borrowing a loan in USA of $ 1000 at 11% interest rate p.a. Converting US dollar into INR at spot rate to get Rs 60000/-.

Investing Rs 60000 in India at 18% interest p.a.

After three months, liquidating Rs 60000 investment in India at Rs 62700

Converting Rs 62700 into US dollar at three month forward, investor will get 62700 ¸ 60.75 = $ 1032.

Repaying loan in USA will amount to $ 1027.5 ($ 1000 + $ 27.5 interest).
Profit / Gain = $ 1032 – $ 1027.5 = $ 4.5

- Covered interest rate parity exists when,
    1. $(1+r^{Rs.}) / (1+r^{\$}) < (F/S)$ i.e. when foreign market is an investment market or
    2. $(1+r^{Rs.}) / (1+r^{\$}) > (F/S)$ i.e. when home market is an investment market

7.5 UNCOVERED INTEREST RATE PARITY (UIRP)

UIRP states that there is a relationship between expected changes in spot exchange rate differentiate between two countries and expected change in spot exchange rate is equal to two countries interest rate differential

IMPLICATIONS OF IRP THEORY

If IRP theory holds, then it can negate the possibility of arbitrage. It means that even if investors invest in domestic or foreign currency, the ROI will be the same as if the investor had originally invested in the domestic currency.

- When domestic interest rate is below foreign interest rates, the foreign currency must trade at a forward discount. This is applicable for prevention of foreign currency arbitrage.
- If a foreign currency does not have a forward discount or when the forward discount is not large enough to offset the interest rate advantage, arbitrage opportunity is available for the domestic investors. So, domestic investors can sometimes benefit from foreign investment.
- When domestic rates exceed foreign interest rates, the foreign currency must trade at a forward premium. This is again to offset prevention of domestic country arbitrage.
- When the foreign currency does not have a forward premium or when the forward premium is not large enough to nullify the domestic country advantage, an arbitrage opportunity will be available for the foreign investors. So, the foreign investors can gain profit by investing in the domestic market.

Interest Rate Parity:	Purchasing Power Parity:
It focuses on why the forward rate differs from the spot rate and on the degrees of difference that should exist. This relate to specific point of time.	It focuses on how a currency's spot rate will change over time. The theory suggests that the spot rate will change in accordance with inflation differentials
-Key Variables: Forward rate premium	-Key Variables: Percent change in spot exchange rate
-Basis: Interest rate differential	-Basis: Inflation rate differential
Summary: The forward rate of one currency will content a premium (or discount) that is determined by the differential in interest rates between the two countries. As a result, covered interest result arbitrage will provide a return that is no higher than a domestic return.	-Summary: The spot rate of one currency with respect to another will change in reaction to the differential in inflation rates between two countries. Consequently, the purchasing power for consumers when purchasing goods in their own country will be similar to their purchasing power when importing goods from foreign country

Know Your Progress (Self-Assessment Questions)

2. Write difference between PPP and IRP
4. Write a short note on IRP theory
5. Write a short note on - Covered IRP theory
6. Write a short note on - Uncovered IRP theory

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MODULE - III

8

MODERN FOREIGN EXCHANGE MARKETS

Unit Structure

8.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand modern Foreign Exchange markets
- Understand , Structure of Indian Forex Market
- Understand Authorised Dealer
- Understand Money Changer
- Understand Dealing Room operations
- Understand Role of FEDAI

8.2 INTRODUCTION

The foreign exchange market (Forex, FX, or currency market) is a global decentralized market for the trading of currencies. In terms of volume of trading, it is by far the largest market in the world. The main participants in this market are the larger international banks. Financial centres around the world function as anchors of trading between a wide range of multiple types of buyers and sellers around the clock, with the exception of weekends.

The foreign exchange market determines the relative values of different currencies. The foreign exchange market works through financial institutions, and it operates on several levels. Behind the scenes banks turn

to a smaller number of financial firms known as “dealers,” who are actively involved in large quantities of foreign exchange trading. Most foreign exchange dealers are banks, so this behind-the-scenes market is sometimes called the “interbank market”, although a few insurance companies and other kinds of financial firms are involved.

In this current chapter we will learn in details about various types of dealers and various types of deals.

8.3 FEMA AND THE INDIAN FOREIGN EXCHANGE MARKET:

Sections 41, 46 and 47 of the Foreign Exchange Management Act,1999 (FEMA) collectively provide the Reserve Bank of India with the powers ' as well as the responsibility to administer foreign exchange business in the country. However, the RBI does not transact with private entities and therefore has delegated this function as provided in the act.

AUTHORIZED PERSONS:

Although the Reserve Bank of India has the sole authority to administer foreign exchange business in India, it does not deal with individuals and : other private entities and therefore cannot undertake this function by itself.

Foreign exchange is received or required by a large number of individuals, exporters and importers in the country spread over a vast geographical area. It is not possible for the Reserve Bank of India to deal with them individually. Section 10 of the act permits the Reserve Bank of India to delegate this activity. The Reserve Bank provides licenses to three categories of persons called Authorized Dealers, Money Changers and Offshore Banking Units (OBU's) to transact with the public at different levels. All such transactions, with end-users are governed by the Exchange Control Regulations provided by the Reserve Bank of India.

Authorized persons are mandatorily required to comply with the directions or orders of the Reserve bank in all the foreign exchange dealings undertaken by them. Before undertaking any transactions in foreign exchange, necessary declarations and information should be obtained from the customer so as to ensure that the provisions of the Act are not violated.

AUTHORIZED DEALERS:

The bulk of the foreign exchange transactions undertaken in the country twelve end-users and banks. Banks and selected entities licensed by the Reserve Bank to undertake these transactions are called 'Authorised Dealers' (AD's), They are permitted to undertake all Categories of' transaction pertaining to ’both the Current and Capital accounts of the Balance of Payments.

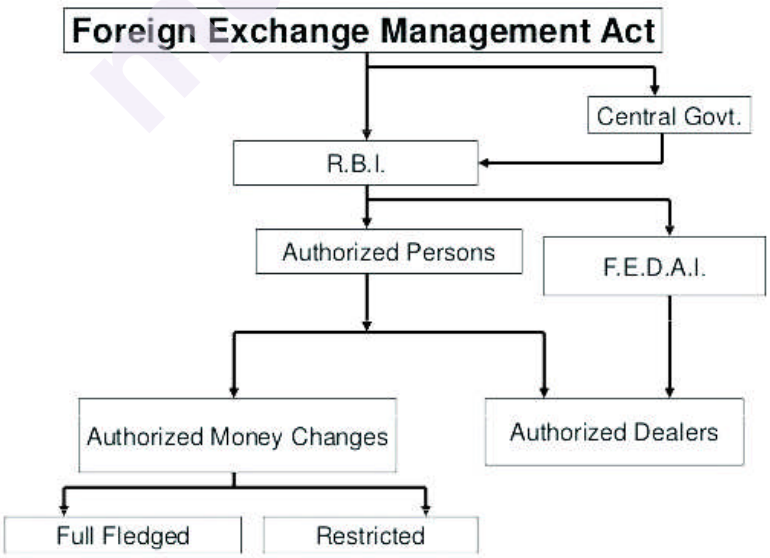
An authorized dealer is required to comply with. The directions and instructions of the Reserve Bank of India. Such instructions are collectively called 'Exchange Control Regulations' and are. Contained in the 'Exchange Control Manual'. All amendments to the Exchange Control Manual are intimated to Authorized Dealers by the Reserve Bank in the form of its AD (MA Series) circulars. Further, directions pertaining to general procedure are given in the form of its AD (GP Series) circulars.

With regard to the operational aspects of foreign exchange transactions such as charging of commission, methods of quotation of rates etc., the authorized dealer is required to comply with the rules of The Foreign Exchange Dealers Association of India (FEDAI).

AUTHORIZED MONEY CHANGERS:

Money changers are licenced entities permitted to provide facilities for encashment of foreign currency denominated travel related instruments such as foreign currency notes and traveller's cheques. Licences to operate as money changers are normally provided to hotels, travel agencies, etc. Authorised money changers are sub-classified as full-fledged money changers and restricted money changers. A full-fledged money changer is permitted to undertake both purchase and sale transactions with the public eg: Travel agencies. A restricted money changer is permitted only to purchase foreign currency notes and traveller's cheques e.g. 5 star hotels. All collections need to be surrendered to an authorized dealer in foreign exchange through a back-to-back arrangement.

8.4 STRUCTURE OF INDIAN FOREIGN EXCHANGE MARKET



DEALING ROOM OPERATIONS

TREASURY OPERATIONS:

The Treasury of a commercial bank or financial institution can be described as an independent profit centre within the organization; which deals specifically with optimizing returns on surplus resources or arranging resources at the lowest cost. In a commercial bank the treasury operations are normally divided into four activities:

Call Money Operations involve management of short term financial resources so that the bank meets its obligations as per the Cash Reserve Ratio (CRR) stipulated by the RBI at a given time.

Securities operations involve management of medium and long term financial resources and requirements, thereby ensuring compliance of the Statutory Liquidity Ratio (SLR) specified by RBI from time to time. Debt instrument values have an inverse relationship with nominal interest rates and it is the prime objective of this group to protect the bank from interest J rate risk, on investments in debt securities.

Commodity operations involve buying and selling of commodities for clients as well as on proprietary basis. Therefore this group operates as both a service delivery channel to customers and generating trading profits for the bank.

Foreign Currency operations involve buying and selling of foreign currencies and providing all international trade related services to the banks customers. This group also undertakes speculative and arbitrage transactions on behalf of the bank. All such activities are collectively called Foreign Exchange Dealing Room Operations.

FOREIGN EXCHANGE DEALING ROOM OPERATIONS:

It is a profit centre for the bank and functions as a centralized service branch to meet the needs of all other branches to buy/sell foreign currencies. It is manned by specially trained personnel called 'dealers or traders', who undertake all foreign currency treasury operations.

Card Rates - at the start of every trading day the market first establishes the vehicle currency quotation. The dealers then prepare cross rates for currencies normally used by their customers. Profit margins are loaded for different categories of transactions and tabulated under eight heads: TT Buying, Bills Buying, TC Buying, CN Buying, TT Selling, Bills Selling, TC Selling and CN Selling. These rates collectively called Card Rates are conveyed to all branches. All transactions undertaken at branches involving amounts less than USD 5000 or equivalent during the day are put through at the Card Rates. These rates generally remain constant for the given day. (TC=travellers cheque, CN=currency banknote, TT = telegraphic transfer, Bills = Documentary transactions)

Ready Rates - when branches receive transactions involving amounts in excess of USD 5000 or equivalent, a transaction specific rate is provided, by the Dealing Room in each case based on the on-going market rate. Thus, while Card Rates are standardized, Ready Rates are customized; these rates are finer than Card Rates in terms of profit margins.

Transactions reported throughout the day are segregated currency - wise and separate dealers consolidate the exposure of the bank in each currency on an on-going basis. Depending on the view of the dealer the exposures are covered in the inter-bank market. (Ref: CH 8 and 9) The Dealing Room therefore represents the point of interface between the Retail and Wholesale components of the foreign exchange market.

Currency exposures are called 'positions'. A 'position' can therefore be described as an uncovered transaction in which the bank has assumed exchange rate risk by providing a committed rate to the opposite party. A dealer has to maintain two positions- funds position and currency position The funds position reflects inflows and outflows of funds i.e. receivables and payables. A mismatch in funds position will expose the bank to interest rate risks in the form of overdraft interest in the Nostro a/c, loss of interest income on credit balances, etc. Currency position deals with overbought and oversold positions, arrived after taking various merchant and/or inter-bank transactions. The overall net currency position exposes the dealer to exchange risks from market rate movements. Transactions undertaken in the inter-bank market to eliminate merchant exposures are called 'Cover Transactions'.

Customers of the bank require derivatives for hedging their currency risks. Forward Contracts and Swaps being OTC derivatives, they are provided by banks. Providing rates for such transactions and covering the same is also the function of the dealers.

An important feature of a dealer's job is to keep abreast of market developments, international events and news items which would have an impact on exchange rates. This helps them to take informed decisions, regarding open positions to be maintained.

Dealers are required to comply with the Code of Conduct specified by RBI, and operational guidelines provided by the Foreign Exchange Dealers Association of India (FEDAI).

STRUCTURE OF THE DEALING ROOM:

A standard structure of the dealing operations in a commercial involves three compartments:

Front Office: It is manned by dealers who represent the bank in market operations at both retail and wholesale levels. They therefore fund as the

'face' of the bank in the market. All dealing operations take place this compartment.

Mid office: This section deals with the risk management function the parameters for evaluating and controlling risks are established by this section. Every transaction undertaken by a dealer is recorded in a 'Deal Slip' which provides alt particulars of the transaction. Each deal slips processed in this section to ensure adherence to all risk control limits specified by the management. These control limits include:

- Limits on intra-day open position in each currency called Daylight limits'. (Exposure control)
- Limits on overnight open positions in each currency (lower than intra-day) called 'Overnight limits'. (Exposure control)
- Limits on aggregate open position for all currencies. (Exposure control)
- Stop-loss limits. (For each currency) (Control over loss)
- A turnover limit on daily transaction volume for all currencies. (Control of overtrading)
- Deal Size limits. (Distribution of Risk)
- Country-wise exposure limits. (Control of Market Risk) Broker-wise business limits. (Control of Operational Risk)
- Counterparty limits. (Control of Credit Risk)
- Forward settlement date-wise limits. (Control of Settlement risk)
- Currency-wise Individual Gap Limits (IGL's)- (Control of Maturity Risk / Interest Rate Risk)
- Currency-wise Aggregate Gap Limits (AGL's)- (Control of Maturity Risk / Interest Rate Risk)

The Mid Office therefore represents the Risk Management hub of all dealing operations. It provides a constant flow of market information to the dealers.

Back office: Takes care of processing deals, maintaining mirror accounts for nostro accounts reconciliation, recording of utilization of forward contracts by customers, recovering overdue interest, preparing returns to be submitted to RBI, etc. It represents the administrative hub of all dealing operations.

DEALING ROOM TRANSACTIONS:

The transaction flow in the dealing room is as follows:

All transactions in the dealing room can be classified as either.

• Merchant transactions entered into with customers of the bank and

• Interbank transactions undertaken with other banks or institutions.

Merchant Transactions: Customers of the bank continuously approach the bank for rates for various types of transactions. Either Card or Ready rates are applied depending on the volume of each transaction. Every deal is reported to the dealing room where it is recorded into the respective currency position. The impact of the deal on the funds position and forward gaps is also recorded separately. The evolving open* currency position is offset through opposite transactions in the interbank market. These are called 'Cover transactions'. All merchant deals are customized in nature.

Inter bank transactions: Such transactions are undertaken either to 'Cover' merchant transactions to lock the profit margins or represent proprietary trading or speculative transactions done in keeping with the view of the dealers regarding anticipated rate movements. All such transactions are conducted at interbank rates and are standardized in nature. Interbank deals are classified in terms of their settlement maturity i.e.: Cash, Tom, Spot or Forward.

Irrespective of the nature of the transaction, they are each recorded in 'Deal Slips' providing full particulars and forwarded to the Mid - Office. This section processes each deal slip against all control parameters specified by the management. The deal slip then gets forwarded to the Back - Office.

In addition to verification of adherence to the control limits the mid-office also maintains a 'Rate Scan System'. Market rates are recorded at fixed intervals to cross check that deals have been done at reasonable rates and that there are no wide variations from the market rates at the corresponding deal timings.

Dealing Rooms in India are now required to maintain 'Voice Recording Systems'. Most deals are concluded verbally on 'Over-the-phone' (OTP) basis and are therefore subject to mis-understandings, mis-interpretations and disputes. Therefore all conversations in the dealing room between banks, bank and brokers, with customers, branches and between dealing staff are recorded and stored for minimum six months. These records are kept to verify the stand taken by market participants in the case of disputes, litigations etc.

The back-office is the administrative section where the deal is actually processed. Each deal is recorded in term of maturity, confirmed with counterparties, settled through receipt / payment of respective currencies etc. All statistical and regulatory returns are compiled by this section.

DISTINCTION BETWEEN MERCHANT AND INTERBANK TRANSACTIONS

NO.	MERCHANT TRANSACTIONS	INTERBANK TRANSACTIONS
1	Represent transactions between the bank and its customers.	Represent transactions between the bank and other banks or institutions.
2.	Transactions are initiated by the customers (end-users).	Transactions are initiated by the bank to cover merchant deeds or acquire speculative positions. 7
3:	Customised deeds.	Standardised deeds.
4.	Do not involve brokers.	May or may not involve brokers.
5.	Conducted at merchant rates which are quoted to nearest 0.0025 paisa.	Conducted at interbank rates which cure quoted"to nearest 0.0005 paisa.
6,	Transactions classified as per rate types: ,TT, Bills,TC and CN.	Transactions classified in terms of settlement types: Cash, Tom, Spot and Forward.
7.	Represent the retail segment of the market and are governed by Exchange Control Regulations of RBI.	Represent the wholesale segment of the market and are subject to RBI rules and guidelines of the Foreign Exchange Dealers Association of India.

8.5 FOREIGN EXCHANGE DEALERS ASSOCIATION OF INDIA (FEDAI)

The FEDAI was set up in 1958 as an association of banks dealing in foreign exchange in India (called Authorized Dealers - AD's). It is a self-regulatory body and is incorporated under Section 25 of The Companies Act, 1956. The major activities include framing of rules governing the conduct of foreign exchange business between banks, transactions between banks and the public and liaison with RBI for reforms and development of the foreign exchange market.

Presently their main functions are as follows:

- Frame guidelines and rules for Foreign exchange Business.
- Training of Bank Personnel in the areas of Foreign Exchange Business.
- Accreditation of Foreign exchange Brokers and periodic review of their operations. They also advise the RBI regarding licensing of new brokers.
- Advising/Assisting member banks in settling issues/matters in their dealings.
- They provide a standardized dispute settlement process for all market participants.
- Represent member banks in discussions with Government/ Reserve Bank of India/Other Bodies and provide a common platform for AD's to interact with the Government and RBI.
- Announcement of daily and periodical rates to member banks. At the end of each calendar month they provide a schedule of forward rates to be used by AD's for revaluing foreign currency denominated assets and liabilities.
- Announcement of 'spot date' at the start of each trading day to ensure uniformity in settlement between different market participants.
- Circulate guidelines for quotation of rates, charging of commissions etc. by AD's to their customers and by brokers for interbank transactions.

Due to continuing integration of the global financial markets and increased speed of de-regulation, the role of self-regulatory organizations like FEDAI has also changed. In such an environment, FEDAI plays a catalytic role for smooth functioning of the markets through closer co-ordination with the RBI, organizations like FIMMDA (Fixed Income Money Market and Derivatives Association), the Forex Association of India and various market participants. FEDAI also helps to maximize the benefits derived from synergies of member banks by way of innovation in areas like new customized products, bench marking against international standards on accounting, market practices, risk management systems, etc.

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Explain modern Foreign Exchange markets
2. Write a note on the Structure of Indian Forex Market
3. Write a note on Authorised Dealer
4. Write a note on Money Changer
5. Write a note on Dealing Room operations
6. Write a note on the Role of FEDAI

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9

FOREX MARKET DEALS

Unit Structure

9.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand various Deals in Forex Markets
- Understand Quotes
- Understand Ask/ Bid rates

9.2 INTRODUCTION

FOREIGN EXCHANGE TRANSACTIONS

Foreign Exchange Transactions (FETs) A FET is a binding agreement between you and WUBS in which one currency is sold or bought against another currency at an agreed Exchange Rate on the current date or at a specified future date.

9.3 TYPES OF FOREIGN EXCHANGE TRANSACTION

1. SPOT
2. FORWARD
3. FUTURE
4. OPTION
5. SWAPS
6. ARBITRAGE

1. SPOT MARKET:

- The term spot exchange refers to the class of foreign exchange transaction which requires the immediate delivery or exchange of currencies on the spot.

- In practice the settlement takes place within two days in most markets.
- The rate of exchange effective for the spot transaction is known as the spot rate and the market for such transactions is known as the spot market.

2. FORWARD MARKET:

- The forward transactions is an agreement between two parties, requiring the delivery at some specified future date of a specified amount of foreign currency by one of the parties, against payment in domestic currency be the other party, at the price agreed upon in the contract.
- The rate of exchange applicable to the forward contract is called the forward exchange rate and the market for forward transactions is known as the forward market.
- The foreign exchange regulations of various countries generally regulate the forward exchange transactions with a view to curbing speculation in the foreign exchanges market.
- In India, for example, commercial banks are permitted to offer forward cover only with respect to genuine export and import transactions.
- Forward exchange facilities, obviously, are of immense help to exporters and importers as they can cover the risks arising out of exchange rate fluctuations be entering into an appropriate forward exchange contract.
- With reference to its relationship with spot rate, the forward rate may be at **par, discount or premium.** If the forward exchange rate quoted is exact equivalent to the spot rate at the time of making the contract the forward exchange rate is said to be **at par.**
- The forward rate for a currency, say the dollar, is said to be **at premium** with respect to the spot rate when one dollar buys more units of another currency, say rupee, in the forward than in the spot rate on a per annum basis.
- The forward rate for a currency, say the dollar, is said to be **at discount** with respect to the spot rate when one dollar buys fewer rupees in the forward than in the spot market. The discount is also usually expressed as a percentage deviation from the spot rate on a per annum basis.
- The forward exchange rate is determined mostly be the demand for and supply of forward exchange. Naturally when the demand for forward exchange exceeds its supply, the forward rate will be quoted at a premium and conversely, when the supply of forward exchange exceeds the demand for it, the rate will be quoted at discount. When the supply is equivalent to the demand for forward exchange, the forward rate will tend to be at par.

3. FUTURES

- While a focus contract is similar to a forward contract, there are several differences between them.
- While a forward contract is tailor made for the client be his international bank, a future contract has standardized features the contract size and maturity dates are standardized. Futures can be traded only on an organized exchange and they are traded competitively.
- Margins are not required in respect of a forward contract but margins are required of all participants in the futures market an initial margin must be deposited into a collateral account to establish a futures position.

4. OPTIONS

- While the forward or futures contract protects the purchaser of the contract from the adverse exchange rate movements, it eliminates the possibility of gaining a windfall profit from favorable exchange rate movement.
- An option is a contract or financial instrument that gives holder the right, but not the obligation, to sell or buy a given quantity of an asset as a specified price at a specified future date.
- An option to buy the underlying asset is known as a call option and an option to sell the underlying asset is known as a put option.
- Buying or selling the underlying asset via the option is known as exercising the option. The stated price paid (or received) is known as the exercise or striking price.
- The buyer of an option is known as the long and the seller of an option is known as the writer of the option, or the short. The price for the option is known as premium.
- **Types of options:** With reference to their exercise characteristics, there are two types of options, American and European. A European option cab is exercised only at the maturity or expiration date of the contract, whereas an American option can be exercised at any time during the contract.

5. SWAP

- Commercial banks who conduct forward exchange business may resort to a swap operation to adjust their fund position.
- The term swap means simultaneous sale of spot currency for the forward purchase of the same currency or the purchase of spot for the forward sale of the same currency.
- The spot is swapped against forward.
- Operations consisting of a simultaneous sale or purchase of spot currency accompanies by a purchase or sale, respectively of the same

currency for forward delivery are technically known as swaps or double deals as the spot currency is swapped against forward.

6. ARBITRAGE

Arbitrage is the simultaneous buying and selling of foreign currencies with intention of making profits from the difference between the exchange rate prevailing at the same time in different markets.

9. 4 FOREIGN EXCHANGE QUOTES

Currency pairs and the rate of exchange Every foreign exchange transaction is an exchange between a pair of currencies. Each currency is denoted by a unique three-character International Standardization Organization (ISO) code(e.g. GBP represents sterling and USD the US dollar). Currency pairings are expressed as two ISO codes separated by a division symbol (e.g. GBP/USD), the first representing the "base currency" and the other the "secondary currency“or “quoted currency”. The rate of exchange is simply the price of one currency in terms of another. Base currency is the one you are buying or selling.

For example GBP/USD = 1.5545 denotes that one unit of sterling (the base currency) can be exchanged for1.5545 US dollars (the secondary currency).Exchange rates are usually written to four decimal places, with the exception of Japanese yen which is written to two decimal places. The rate to two (out of four) decimal places is known as the "big figure" while the third and fourth decimal places together measure the "points" or "pips". For instance, in GBP/USD = 1.5545 the "big figure" is1.55 while the 45 (i.e. the third and fourth decimal places) represents the points.

COMMON CURRENCY SYMBOL

I. USD : US Dollar
II. HKD : Hong Kong Dollar
III. EUR: Euro
IV. JPY: Japanese Yen
V. GBP: British Pound
VI. CHF: Swiss Franc
VII. CAD: Canadian Dollar
VIII. SGD: Singapore Dollar
IX. AUD: Australian Dollar
X. RMB: Chinese Rimini
XI. INR: Indian Rupee

Exchange Rates are quoted in following format: -
USD/INR = 46.8000(Bid Rate) /46.9000(Ask Rate)

Above represents amount of currency in denominator (here INR) to be paid for each unit of currency in numerator (here USD). Quotation is always in double numbers with minor difference between the two. First

number is called the Bid Rate and second number is called Ask Rate. Bid rate is always lower than the Ask Rate.

DIRECT AND INDIRECT QUOTES:

DIRECT QUOTES Gives the units of currency of domestic country per unit of a foreign currency◦ Price of foreign currency is quoted in terms of home currency.◦ In this system variable units of home currency equivalent to affixed unit of foreign currency are quoted. Domestic currency is quoted currency For Eg – USD/INR = 45.30 Rs. / $.

INDIRECT QUOTES Gives the units of currency of foreign country per unit of the domestic currency. Price of home currency is quoted in terms of foreign currency. In this system variable units of foreign currency equivalent to affixed unit of home currency are quoted. Foreign currency is the quoted currencyFor Eg – INR/USD = 0.0220 $ / Rs.

AMERICAN TERMS / EUROPEAN TERMS / CROSS RATE

Exchange rate quoted in American Terms

- USD becomes the quoted currency.
- **For Eg – INR/USD = 0.0220 $ / Rs.**

Exchange rate quoted in European Terms

- USD becomes the base currency
- **For Eg – USD/INR = 45.30 Rs. / $. Or USD/CHF = 1.4550 CHF/$.**

Cross Rate

- Quotation between two non-dollar currencies
- **For Eg – GBP/INR = 90.4587 Rs. /pound**

CROSS RATES

USD is the most widely traded currency and is often used as the vehicle currency. This helps in reduction of no. of quotes in the market, as exchange rate between two currencies can be determined through their quotes against the USD. Any quote not against the USD is a Cross Quote. Availability of USD quote for all currencies can help in determining the exchange rate for any pair of currencies by using the cross rate. For eg. Cross quote for EUR-GBP = EUR/USD * USD/GBP.

9.5 BID AND ASK RATE

Bid rate

◦ Price at which the Forex dealer is willing to buy a unit of the base currency

◦ As a customer this will be the price at which you will sell the currency.

Ask rate/offer rate

◦ Price at which the Forex dealer is willing to sell a unit of the base currency
◦ As a customer this will be the price at which the currency is offered to you or at which you buy. Eg – USD/CHF = 1.4550/1.4560}

Spread - As stated earlier, there is always a positive difference between Ask Rate and Bid rate. This difference is called Spread and it is the profit margin that the dealer earns by trade.

Spread = Ask Rate - Bid Rate
Spread % =$\frac{\text{AR – BR}}{\text{BR}}$ x 100

Forex market behaves like any other commodity market. Here too, there is whole sale and retail market.

Whole sale market consists of Authorised Dealers and Big Corporate Houses like TCS, Infosys and Wipro who have high forex exposures. But spreads in whole sale market are lower.

Retail Market is populated by money changers, ordinary citizens, small exporters and importers and small corporates.

Positions
In any financial market, two positions can be taken
(a) Long or overbought position and
(b) Short or oversold position.

Positions are taken in anticipation of currency exchange rate movement in one direction.

If a position is taken and the trend appears to be reversing (currency depreciates against expectation of appreciation or vice-versa), the positions are liquidated by manipulating the

Bid and Ask rates. Example - If it is a long/overbought position, both Ask and Bid rates will be lowered. Similarly, if there is an oversold position, both Ask rate and Bid Rate will be hiked.

The quotations are normally in four decimal places. If a dollar is being quoted against Rupee, it will be quoted as follows: -

46.5230/46.5250

First figure of quote is Bid Rate and second figure is Ask Rate. Third and fourth decimal places are called PIPS. Thus, in the above case, 30 and 50 are pips.

In most cases, quotations are abbreviated to give only two or three digit pips in place of Ask Rate. Thus, above quote could also be represented as: -

46.5230/50

Inter dealer quotes are further abbreviated to only three digit pips on both sides since base rate of up to first decimal place is common across all dealers and therefore assumed to be known.

PROBLEM

Identify the names of respective countries where the following is a direct quote. For each find indirect quote in that country.

Rs.75.31	= GBP 1
USD 1	= Rs. 48.30
Re 1	= Sw. Kr. 0.2055
Rs. 126.26	= Omani Riyal 1
GBP 1	= $ 0.639

Solution:

	Quote		**Country in which this is a Direct Quote**	**indirect Quote**
(0	**Rs. 75.31**	**= GBP 1**	**India**	**£ 1.3278/100 Rs.**
(ii)	**USD 1**	**= Rs. 48.30**	**India**	**$2.0704/100 Rs**
(iii)	**Re. 1**	**= Sw. Kr. 0.2055**	**Sweden**	**Rs. 4.8662/Sw. Kr.**
(iv)	**Rs. 126.26**	**=Omani Riyal 1**	**India**	**Omani Riyal 0.7920/100 Rs.**
(v)	**GBP 1**	**= $0,639**	**USA**	**£1.5649/$**

PROBLEM

Quotation for Pound Sterling in Indian Rupees is GBP INR 68.87/70.24. Calculate percentage spread.

Solution:

The quote is 68.87 bid and 70.24 ask.

Hence,

$$\text{Spread} = \frac{70.24 - 68.87}{70.24} \times 100$$

$$= 0.01950$$

i.e.1.950%

PROBLEM
The following quote is given.
USD 1 = CAD 1.1630/50.
Identify the country in which this is a direct quote.
Find the mid-rate, spread and the spread percentage.
Calculate the inverse quote.
Solution:
Given value is 1.1630/50 in CAD.
Hence this is a direct quote in CAD i.e. in Canada.

$$\text{Mid-Rate} = \frac{(Ask + Bid)}{2} = \frac{(1.1650 + 1.1630)}{2}$$
$$= 1.1640$$

So, Mid-Rate is USD1= CAD 1.1640
Spread = Ask- Bid = 1.1650-1.1630 = 0.0020

$$\% \text{ Spread} = \frac{Spread}{Ask} \times 100 = 0.17\%$$

To calculate inverse quote:

$$\text{Bid} = \frac{1}{Ask} = \frac{1}{1.1650} = 0.8584$$

$$\text{Ask} = \frac{1}{Bid} = \frac{1}{1.1630} = 0.8598$$

Hence, inverse quote is CAD 1 = USD 0.8584 / 0.8598

PROBLEM
The following quote is given in New York:
EUR 1 = USD 1.2596 / 1.2620
Is it a direct or indirect quote?
Find the midrate, spread and the % spread. Calculate inverse quote.

PROBLEM
The following quote is given in Mumbai.
1 USD = Rs. 44.7250 - Rs. 44.7300 Is it a direct or indirect quote?
Find the mid-rate, spread and the spread percentage. Calculate the inverse quote.

Spreads on Forward Currency Quotations

The spread on a forward currency quotation is calculated in the same manner as the spread for a spot currency quotation.

The reasons that spreads vary with forward foreign currency quotations are similar to the reasons for the variability of spreads with spot foreign currency quotations. The unique factor associated with spreads for forward foreign currency quotations is that spreads will widen as the length of time until settlement increases. Currency exchange rates would be expected to have a higher range of fluctuations over longer periods of time, which increases dealer risk. Also, as time increases, fewer dealers are willing to provide quotes, which will also tend to increase the spread.

Calculating a Forward Discount or Premium, Expressed as an Annualized Rate.

Forward currency exchange rates often differ from the spot exchange rate. If the forward exchange rate for a currency is higher than the spot rate, there is a premium on that currency. A discount exists when the forward exchange rate is lower than the spot rate. A negative premium is equivalent to a discount.

PROBLEM

If the ninety day ¥ / $ forward exchange rate is 109.50 and the spot rate is ¥ / $ = 109.38, then the dollar is considered to be "strong" relative to the yen, as the dollar's forward value exceeds the spot value. The dollar has a premium of 0.12 yen per dollar. The yen would trade at a discount because its forward value in terms of dollars is less than its spot rate.

The annualized rate can be calculated by using the following formula:

Formula

Annualized Forward Premium = Forward Price - Spot Price x ___
12 x 100% Spot Price # of months

Answer:

So in the case listed above, the premium would be calculated as:

Annualized forward premium=

((109.50 - 109.38 ÷ 109.38) × (12 ÷ 3) × 100% = 0.44%

Similarly, to calculate the discount for the Japanese yen, we first want to calculate the forward and spot rates for the Japanese yen in terms of dollars per yen. Those numbers would be (1/109.50 = 0.0091324) and (1/109.38 = 0.0091424), respectively.

So the annualized forward discount for the Japanese yen, in terms of U.S. dollars, would be:

((0.0091324 - 0.0091424) ÷ 0.0091424) × (12 ÷ 3) × 100% = -0.44%

PROBLEM

1. An Arbitrage between two Currencies.

Suppose two traders A and B are quoting the following rates:

Trader A (Paris) Trader B (New York)
FFr 5.5012/US$ US $ 0.1817/FFr

We assume that the buying and selling rates for these traders are the same. We find out the reciprocal rate of the quote given by the trader B, which is FFr 5.5036 / US $ (= 1/0.1817) .A combiste buys, say, US $ 10,000 from the trader A by paying FFr 55,012. Then he sells these US $ to trader B and receives FFr 55,036. in the process he gains FFr 24 (=55,036 - 55,012).

Since, in practice buying and selling rates are likely to be different, so the quotation is likely to be as follows:

Trader A Trader B
FFr 5.4500/US $ - FFr 5.5012 US $ US $ 0.1785/FFr - US $ 0.1817/ FFr

These rates mean that trader A would be willing to buy one unit of US dollar by paying FFr 5.45 while he would sell one US dollar for FFr 5.501. The same holds true for the corresponding figures of trader B.

But this process would tend to increase the selling rate at the trader A because of the increase in demand of US dollars and the reverse would happen at the trader B because of increased supply of US dollars. This would lead to equilibrium after some time.

Problem

2.An Arbitrage between three currencies

Suppose two traders, both located at New York are quoting as follows:

Trader A Trader B
$ 0.60/SF $ 0.60/SFr
$ 0.51 DM $ 0.52 DM

Since three currencies are involved here, we find the cross rates between SFr and DM as well. These are:

SFr 0.85/DM (= 0.51/0.60) at the trader A and SFr 0.867/DM (= 0.52/0.60) at the trader B. Thus, the situation looks like as follows:

Trader A Trader B
$ 0.60/SFr $ 0.60/SFr
$ 0.51/DM $ 0.52/DM
SFr 0.85/DM SFr 0.867/ DM

Hence what are the arbitrage possibilities?

There is no arbitrage gain possible between the US $ and the Swiss franc.

The following two arbitrages are, however possible.

- Deutschmarks against the US $ is being quoted at the trader B. So buy DM's from the trader A and sell them to trader B.
- Buy DM's against SFr's from the trader A and sell them to the trader B.

PROBLEM

Find Spot 1-month 3-months 6-months
(FFr/US$) 5.2321/2340 25/20 40/32 20/26

Solution

In outright terms these quotes would be expressed as below:
Maturity Bid/Buy Sell/Offer/Ask Spread
Spot FFr 5.2321 per US $ FFr 5.2340 per US $ 0.0019
1-month FFr 5.2296 per US $ FFr 5.2320 per US $ 0.0024
3-months FFr 5.2281 per US $ FFr 5.2308 per US $ 0.0027
6-months FFr 5.2341 per US $ FFr 5.2366 per US $ 0.0025

It may be noted that in the forward deals of one month and 3 months, US $ is at discount against the French franc while 6 months forward is at a premium. The first figure is greater than the second both in one month and three months forward quotes. Therefore, these quotes are at a discount and accordingly these points have been subtracted from the spot rates to arrive at outright rates. The reverse is the case for 6 months forward.

PROBLEM

Spot USD/INR Spot = 46.8000/46.9000
1 month FP = 50/80
3 months FP = 100/200
6 months FP = 200/300

Find forward rates for 1 month 15 days and also for 3 months 25 days.

Solution

For 1 month 15 days = $\left(\frac{100-50}{60\ days}\times 15\ days \Big/ \frac{200-80}{60\ days}\times 15\ days\right)$

("60" because 3 months minus 1 month = 60 days)

= (13/30)

=

46.8050 + .0013 / 46.9080 + 0.0030

= $\left(\frac{200-100}{90\ days}\times 25\ days \Big/ \frac{300-200}{90\ days}\times 25\ days\right)$

46.8063 / 46.9110

For 3 month 25 days =

= (27.7 / 27.70)
(28/ 28)
= 46.8100 + .0028 / 46.9200 + 0.0028
= 46.8128 / 46.9228

PROBLEM

Exchange rate for USD in India is

Spot: 45.0020

6 month forward: 45.9010

Interest rate (annual) in the money market is as follows:

USA: 7%

India: 12%

Work out the arbitrage opportunity.

Solution:

Given Spot USD/INR = 45.0020
6 Months Forward = 45.9010
Interest Rate USA = 7% and India = 12%

Forward Rate =

$$= 45.0020\left(\frac{1+\left[\left(\frac{12}{100}\right)\times\frac{6}{12}\right]}{1+\left[\left(\frac{7}{100}\right)\times\frac{6}{12}\right]}\right) \qquad SpotRate\left(\frac{1+I_{RD}}{1+I_{RF}}\right)$$

= 45.0020 x (1.0241)
= 46.0890

& the Forward Market Rate = 45.9010. Thus, there is an opportunity for arbitrage.

Annualised Forward Premium
USD is going at a premium of 3.995%.
As per the interest rate differential, USD should be quoted at INR 46.0890. Also, Interest Rate Differential between two countries = 12 – 7 = 5%, where as, USD is being quoted at a forward premium of only 3.995%. Thus, there is an opportunity to borrow USD from USA @ 7%, convert to INR and invest in treasury bond at 12% while simultaneously buying USD 6 months Forward @ 45.9010 and earn an arbitrage of 1.005% on investment.

$$= \frac{FR_{MR} - SR_{MR}}{SR_{MR}} \times \frac{12}{n} \times 100$$

$$= \frac{45.9010 - 45.0020}{45.0020} \times \frac{12}{6} \times 100$$

$$= 3.995\%$$

Scenario II
If forward rate was 46.9010

$$= \frac{46.9010 - 45.0020}{45.0020} \times \frac{12}{6} \times 100$$

$$= 8.44\%$$

Then premium
Thus, if you invest in INR, you would make a loss of 8.44% in forward deal where as your earning from interest would be 12 – 7 = 5%. Thus, you be in net loss of 8.44 – 5 = 3.44%.

This kind of transaction is possible only when Govt gives freedom to buy and sell INR or USD in both countries.
Now in this case, borrow INR 45.0020 in India @ 12% and convert to 1 USD at spot rate.

Invest this USD in money market in USD at 7% for six months. Simultaneously, sell USD
1.035 in 6 months forward for INR 48.5425. Your liability against borrowing in India =

$$45.0020\left(1+\left(1\times\frac{12}{100}\times\frac{6}{12}\right)\right)$$

$= 47.702$

Thus, there would be gain of INR 48.5425 - 47.702 = INR 0.8405 per INR 45.0020 invested or 3.44%.

PROBLEM
In April 2005, USD/ INR quotes were 43.70/44.05.
6 months Swap points were 40/70
Annual Interest Rate in USA and Indian were 2% and 8% respectively.
Work out the scope for arbitrage, if any
Solution
Spot Rate USD/INR : 43.70/44.05
Fwd Rate (Six Months) : 43.70+0.40/44.05+0.70
= 44.10/44.75
Annual Interest Rates in USA and India are 2% and 8%.

For buying USD fwd., Premium

$$= \frac{\text{Ask Rate}_{\text{Fwd}} - \text{Bid Rate}_{\text{Spot}}}{\text{Bid Rate}_{\text{Spot}}}\times\frac{12}{6}\times 100$$

$$= \frac{44.75 - 43.70}{43.70}\times\frac{12}{6}\times 100$$

$$= 4.80\%$$

(Method for deriving above formula : Proceed as per following logic. Start with buying forward for currency of country where interest rate is low. You want to buy forward because you need to pay in future in that currency. You need to pay in future in that currency because you borrowed today in that currency. Once you have borrowed that currency, you will sell that currency in spot market and buy other currency. That gives the base, either Bid Rate spot or Ask Ratespot. Put this at

denominator. Put same figure as "value to be subtracted" in numerator. Put complementary value of subtracted value as first figure, like, for Bid Rate Fwd -Ask RateFwd and for Ask RateFwd - Bid RateFwd. That completes the formula. In case you want to work out formula for forward of other currency, simply inverse all the Ask for Bid and Bid for Ask).

So, Formula for buying INRFwd, Premium

$$= \frac{Bid\ Rate_{Fwd} - Ask\ Rate_{Spot}}{Ask\ Rate_{Spot}} \times \frac{12}{6} \times 100$$

Interest Rate Differential = 8 – 2 = 6% Thus, while we lose 4.8% in forward market, we earn 6% in money market. Thus, net gain is 6 – 4.8 = 1.2%. Start with USD 100 borrowed from US market @ 2% and convert to INR @ 43.70 to INR 4370. Invest this money in Indian market @ 8% and get 4370 x 1.04 = INR 4544.80. Buy USD forward @ 44.7 for INR 4544.80 and get USD 101.56. Pay USD 101 to US market

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Write a note on various deals in Forex market
2. Write a note on quotes
3. Write a note on ask/ bid rates
4. Write a note on foreign exchange quotes
5. Write a note on direct and indirect quotes:

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MODULE - IV

10

INTERNATIONAL DEBT MARKET

Unit Structure

10.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand International Bond Market
- Understand the difference between Euro Bond And Foreign Bonds
- Understand the various types of Bonds
- Understand the procedure for issue of bonds
- Understand External Commercial Borrowing

10.2 INTRODUCTION:

The following chapter gives an in depth view on international bond market but predominantly from Indian companies' point of view. International bond market has a long history but India's entry to this market is not very old. Since liberalization of Indian capital market many Indian companies have tapped international market and have raised both debt i.e., foreign bonds, Eurobonds, as well as quasi debt instruments like Foreign Currency Convertible Bonds (FCCBs). Many of these bonds and international debts are also issued with differentiating features like Floating Rate Notes (FRNs). These aspects are extensively discussed.

Along with this the chapter also covers in detail the various aspect of International Equity Market and its Instruments, also an introduction the derivatives market.

10.3 INTERNATIONAL BOND MARKET:

International Bond market can be categorized into basic types:

1) Foreign Bond and
2) Euro Bond.

EURO BOND: In Euro bond, a foreign company issues a bond denominated in a currency which is not the home currency of the investors. For example, an US company issues bond and raises capital in Japan denominated in US Dollar. This will be an example Euro Bond. If the US company issues bond in Pound sterling in Japan, it will also be considered as Euro Bond. In the earlier case, it would be considered as a **Euro Dollar** Bond while in the latter case, it would be known as **Euro Sterling** Bond. Historical development of Eurobond market is attributed to the unfavourable tax regime in USA during 1960s. This forced companies to issue USD denominated bond outside USA. The First Eurobond was done in 1963.

FOREIGN BOND : Foreign Bondis a bond where foreign company issues bond denominated in the currency denomination of the foreign country. For example, an US company issues bond and raises capital in Japan denominated in Japanese Yen. In other words, the Japanese investors are not exposed to foreign exchange risk while investing in a foreign bond. At this junction it is important to understand that a Japanese company may also issue bond and raise capital in Japan denominated in Japanese Yen. But bonds issued by the Japanese company are termed as **Domestic Bonds**. In case of a foreign bond, the bond issuer is from a foreign country. An Indian company issuing USD bond in any country belonging to Middle East region is an example of foreign bond.

10.4 DIFFERENCE AMONG DOMESTIC, FOREIGN AND EURO BOND

Issuer Company Nationality	**Currency Denomination of the Bond**	**Bond Category**
Domestic	Domestic	Domestic Bond
Foreign	Domestic	Foreign Bond
Foreign	Foreign	Eurobond
Domestic	Foreign	Eurobond

Besides **Foreign Bonds** and **Euro Bonds,** some companies also issue Global Bonds though very few companies have issued these bonds. In a global bond issue, the issuer offers the bonds to investors of many countries at one go. Normally these bonds are denominated in multiple currencies. Global bonds are normally issued by large multinational or transnational companies or as sovereign bonds. **Sovereign bonds** are

issued by the government of a country representing bonds issued by a country

FOREIGN BONDS

Bonds which are floated in the local currency of the country of floatation by a foreign company are called Foreign Bonds. Thus, if an Indian company floats USD denominated bonds in USA, they will be called Foreign Bonds.

10.5 TYPES OF FOREIGN BONDS

(a) **Yankee Bonds** – These are foreign bonds floated in USA
(b) **Bulldog Bonds** – These are foreign bonds floated in UK
(c) **Samurai and Shibosai Bonds** –

(i) **Samurai** – These are Yen bonds floated in Japan in open market.

(ii) **Shibosai**– Yen bonds floated on Pvt Placement basis in Japan.

(d) **Dragon Bonds**– These are foreign bonds issued in local currencies of the South Asian countries.

(e) **Maple Bond** -Foreign Bonds sold in Canada.

(f) **Kangaroo Bond** -Foreign Bonds sold in Australia.

However it is to be noted here that all foreign bonds do not any country specific name associated with these. Many companies have issued foreign bonds in Hong Kong, but there is no specific name associated with foreign bonds issued in Hong Kong. All foreign bonds have to be registered and have to abide by the rules and regulation of the foreign country where these bonds are issued. For example Yankee bonds (foreign bonds issued in U.S.) have to be registered with SEC of US and have to follow the same accounting and disclosure requirement of domestic bonds. In fact, these foreign bonds have to be like domestic bonds in all aspects. All foreign bonds are also rated by credit rating organizations. Though many-a-times, countries have done away with the rating requirement. Among the foreign bond market, the Yankee bond and Samurai bond marketattracts the maximum number of issuance. In early part of 2010, there has been lots of activity in the Samurai bond market. In February 2010, the Philippines Government raised Yen 100 Billion of **Samurai** Bond. In June 2010, the state-owned Korea Development Bank has sold Samurai bonds worth 27 billion yen.

OTHER TYPES OF BONDS

To make a bond attractive to issuers of these bonds have issued bonds with wide variety of features. Some of these bonds are:

1. Straight Bonds – These are plain vanilla bonds with fixed rate of interest and fixed date of maturity.

2. Floating Rate Bonds – These are LIBOR linked variable interest rate bonds wherein interest rate is adjusted every 6 months.

3. Convertible Bonds – These bonds convert into equity share after the specified period of time. In this category, there could be fully convertible or partly convertible bonds.

4. Floating Rate Bond with Collars – These floating rate bonds have upper and lower limits of interest rate variation. Thus, the max and min interest payable are capped irrespective of movement of interest rate in the market.

5. Bonds with Warrants – These are the bonds which are accompanied by an option to the buyer to buy specified number of equity shares for a specified price at some specified time in future, often prior to expiry of the bonds. He may or may not exercise this option depending on the market price of the share Vis a vis offer price at the time of buy. He may even sell this option to some one else at a premium. These are not same as Convertible Bonds. There is a minor variation from convertible bonds. In case of convertible bonds, the money which was paid as bond price is not paid back and shares are issued in lieu. In case of warrants, additional money is paid for exercise of option while bond money is paid back on maturity. Warrant option is used as a sweetener to float bonds with lower interest rate. In case the probability of share price appreciation is very high, they could be even at Zero interest rate.

6. Zero Coupon Bonds – These are also called Deep Discount Bonds. These bonds are issued as zero per cent interest rate bonds but at a discount to the face value. Bonds are paid back at face value on maturity. Thus, the discount on the face value actually represents the interest component. However, this trick is played to beat the tax system of the countries where interest income is charged to tax.

7. Callable Bonds – These are the bonds wherein the company reserves the option to call back the bonds prior to maturity but after the lock-in period. Such bonds are issued when

(a) It is a fixed rate bond and there is strong probability of softening of interest rates in future.

(b) It is a floating rate bond and there is strong probability of hardening of the interest rate in future.

8. **Puttable Bonds** – These are bonds wherein the buyer has option to sell back to company any time after the lock-in period. Such bonds are issued if the company does not enjoy very good credit rating in the market to give some confidence to the investors.

9. **Dual Currency Bonds or Hybrid Bonds** – These are bonds which are sold in one currency and payment of interest or principal or both is done in

another currency. Eg. An Indian company may float a USD bond in US and pay the interest and principal back in INR

10.6 BOND ISSUE PROCEDURE

1. Issuing company takes the approval of the Board of Directors.
2. Issuing company appoints Lead Manager.
3. In consultation with the issue manager, the company appoints Co-Managers, under writers, Brokers to the issue.
4. The Lead manager prepares the draft document for the bond issue and the bond rate is decided.
5. The draft prospectus is discussed and is given the final shape.
6. Listing formalities are completed by the company and the Issue Manager.
7. Announcement of the issue is made.
8. Investor response is monitored.
9. Final bond issue is made.
10. Tombstone advertisement is published – It is in the form of Thanks advertisement detailing the response and money collected.

10.7 EXTERNAL COMMERCIAL BORROWINGS

There are two routes for raising ECB:

(a) **Automatic Route**
   (i) Corporates – up to USD 20 million for 3 years and up to USD 750 million for 5 years and above.
   (ii) NGOs – Allowed micro credit of up to USD 5 million.

(b) **Approval Route**– Even though limit are same but banks and financial institutions have to take prior approval.

However, ECB cannot be raised from just anybody. Like the banks have to follow KYC (Know your customer) norms, ECB borrowers have to follow KYL (Know your lender) norms. The borrower needs to get a due diligence certificate from an approved overseas bank that the lender has held a satisfactory account with it for at least 2 years.

FORMS OF EXTERNAL COMMERCIAL BORROWING

Following credits are deemed to be ECB

(a) **Buyers' Credit**– The advances received from a buyer are deemed ECB.

(b) **Suppliers' Credit**– The credit period allowed by supplier is deemed ECB

.(c) **Short Term Borrowings**– Loans raised for one year or less. Commercial papers, issue of Certificates of Deposits.

(d) Fixed rate and Floating rate bonds.

(e) **Loans from International Financial Institutions**– Various international financial institutions like Asian Development Bank, The International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA) and including World Bank (But not IMF) lend for various projects.

(f) **Syndicate Loans**– These are large loans for which no single bank wants to take full exposure. Thus, a group of banks join together and lend as a group.

Thus, the risk is spread out. Loan to Enron Corporation for Dabhol Power

Project is one example of syndicated loan.

PROCEDURE OF SYNDICATE LOANS

1. Borrower prepares Information Memorandum (IM).
2. IM carries details of the borrower, the amount of loan needed, proposed maturity period of the loan, purpose of the loan etc.
3. Borrowers send invitations to the international banks along with the IM.
4. Borrower receives credit proposals and analyses them.
5. It enters into agreement with lead syndicate bank which deals with other banks in the syndicate.
6. Information of the deal is submitted to the Ministry of Finance and to the Reserve Bank of India.

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Write a short note on International Bond Market
2. Explain the difference between Euro Bond And Foreign Bonds
3. Write a short note on the various types of Bonds
4. Explain the procedure for issue of bonds
5. Write a short note on External Commercial Borrowing

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11

INTERNATIONAL EQUITY MARKET AND INSTRUMENTS

Unit Structure

11.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand International Equity Market and various instrument
- Understand Various Depository Receipts
- Understand in detail about GDR, ADR, IDR

11.2 INTRODUCTION

Companies all over the world like to raise capital abroad. The objectives of raising capital in foreign countries are:

(1) **For cross border acquisitions**: Firms acquire other firms in foreign countries for global expansion. Funding required is raised in the currency of the target company, as it is more economical.

(2) **New Projects**: Multinational companies undertake new projects abroad. These are funded using foreign capital.

(3) **Expansion and Modernization**: Existing projects abroad need funding for expansion and modernization.

(4) **Funding JVs and subsidiaries**: To fund joint venture and subsidiaries abroad, the firms need foreign currency funding at attractive cost of fund.

11.3 DEPOSITORY RECEIPTS

Depository receipt also known as DR is negotiable certificate of share in a foreign corporate institutions held by an investor stating its ownership

from a country outside the market in which the shares are traded. It is denominated in a convertible currency. The shares issued by the company are held by Depository Bank which is international bank which issues receipts to investors and distributes corporate benefits such as dividends, bonus, and right issues etc. which are receivable on those shares. Thus DR can be describing as derivatives that gives the holder specific number of underlying shares of a foreign company.

Depository receipt therefore represents integration of the international equity markets. The popular types of Depository receipts are:

1. **Global Depository receipt (GDR)** – Which can be issued to investors I two or more countries simultaneously.
2. **American Depository receipt (ADR)** - which are issued only to investors in America.
3. **Indian Depository receipt (IDR)** - which are issued only to investors in India.

11.4 GLOBAL DEPOSITORY RECEIPT (GDR)

GDR can be defined as a foreign currency denominated derivative instrument in the form of depository receipt created outside India and issued to non-resident investors entitling them to the benefits of specific number of ordinary equity shares or fully convertible bonds of a domestic company.

The Characteristic features are as follow:- . ,

1. GDR's are issued to investors in more than one country and may be denominated in any acceptable freely convertible currency.
2. GDR's are issued to investors by the depository bank and not the issuing company. This means that in the books of issuing company, the depository bank appears as the shareholder. GDR holder therefore does hot acquire any voting rights. The voting rights accrue only to the depository bank.
3. Although the GDR is quoted and traded in a foreign currency the underlying shares are denominated in 1NR. Thus the GDR derives its value through the price of the underlying shares and the current exchange rate. It is therefore exposed to exchange rate risk.
4. GDR holders have the option of cancelling GDR's and arranging sale of the underlying shares in the domestic market if the international price is less than the corresponding domestic price. This provision can however be used only after a "Cooling off" period of 45 days from the date of the issue.
5. GDR holders are entitled to all corporate benefits available to equity holders such as dividend, bonus and rights in the same proportion as their entitlement.

6. The foreign currency funds acquired by the company through a GDR issue are permitted to be used for any normal business activity, but cannot be used for trading in international securities or real estate.

The advantages of a GDR issue are:

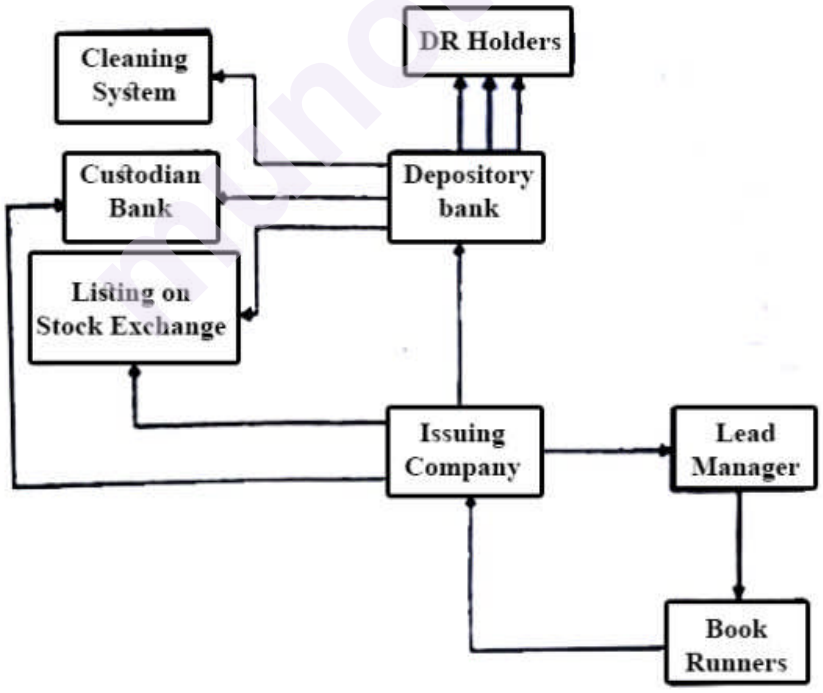
1. It eliminates the equity funding risk. This is because GDR holders do not acquire voting rights, and therefore the promoters are not in danger of losing management control.

2. Companies having international operations are able to build a brand image which helps in their marketing efforts.

3. Investors have the benefit of having access to good quality companies in other countries without political risk, operational risk and excessive regulatory control.

4. Through a GDR issue the company is able to create a potential demand for its shares at the international level which results in a higher valuation for its shares in the domestic market. This results in a higher PE ratio which reduces the cost of capital.Indian companies with a good financial track record of three years are readily allowed access to international markets though such issues. Clearances are required from the Foreign Investment Promotion Board (FIPB) and the Ministry of Finance.

11.5 MECHANISM OF ADR/GDR ISSUE:



1. The domestic company wishing to issue equity shares favouring international investors is called The Issuing Company. It enters into an agreement with an international investment bank to act as the depository bank. The agreement generally called the depository agreement specifies the rights and obligations of the parties and the terms of the GDR issue.

Normally through this agreement, the depository bank waives its voting rights in favour of the management. This mitigates the risk of losing management control.

2. The issuing company appoints an international merchant bank to act as lead manager. The lead manager is required to market the issue to international investors by conducting 'Road shows'. These road shows are seminars or work - shops held for educating investors about the background, financial status and future prospectus of the issuing company.

3.After such road shows the lead manager arranges 'book runners' who are specialized agencies for establishing and analyzing investor response to the issue. The purpose of this analysis is to help the issuing company to price the issue at an appropriate level.

4. After the issue price is decided, the lead manager collects subscription money from potential investors and after deducting their fees transfers the collected amount to the depository bank.

5.The proceeds of the GDR issues are held by the depository bank on behalf of the issuing company.

6.The issuing company now issues physical shares in favour of the depository bank and submits them to a domestic bank in the country of the issuing company which acts as an agent of the depository bank.

7.On receiving confirmation from the custodian bank regarding receipt of the underlying equity shares, the depository bank issues GDR's to I the successful applicants to the issue.

8. This domestic bank keeping custody of the underlying shares pertaining to the GDR issue is called 'Custodian bank'. This bank is appointed by the depository bank which pays all the fees of the custodian bank.

9.The issuing company now helps the depository bank to arrange listingof the GDR's. Most Indian companies list the GDR's on the international I stock exchanges in London and Luxembourg. This helps investors to freely trade in GDR's. The depository bank now also appoints an international clearing system which operates like a registrar and transfer agent cum depository. The clearing system maintains up-to date H information data base of GDR holders. Distribution of all corporate p benefits is done by the custodian bank on behalf of the depository bank in coordination with the clearing system.

10.In the case of over - subscribed issues the lead manager is normally entitled to a 'green shoe' option which means they are allowed to place additional GDR's beyond the specified GDR issue size. (Normally 15%)

11.6 AMERICAN DEPOSITORY RECEIPT (ADR):

An ADR can be described as a negotiable derivative instrument, traded on a US exchange, issued by a US bank, representing specified number of shares of a foreign company. ADR's are always denominated in US dollars and are normally issued only to US residents. Thus an American Depositary Receipt (or ADR) represents ownership of shares of a foreign company. The underlying shares of the foreign company represented by an ADR are called American Depositary Shares (ADS). The shares of many non-US companies trade on US exchanges through the use of ADRs which enables US investors to buy an entitlement to the shares of foreign companies without undertaking cross-border transactions. The relationship between the ADR and underlying shares is referred to as ADR Ratio. This ratio denotes the amount of shares represented by one unit of ADR. Thus an ADR could cover entitlement to a fraction of a share of a foreign company. This is because American stock exchanges prefer initial listing price of securities at a level which would maximise retail participation, (say USD 10)

Unsponsored s ADR:

These AD Rs are issued by one or more depository banks based on market demand without any formal agreement with the issuing company. Such issues cannot be controlled and the price discovery mechanism lacks transparency due to which, they are discouraged by regulatory authorities. Unsponsored ADR's are issued without the cooperation of the foreign company but it has to be a reporting company as per the US Exchange Act of 1934. Un-sponsored ADRs cannot co-exist with a sponsored program since it may result in arbitrage situations.

Sponsored Level 1 ADR program:

Sponsored level 1 ADR program is the simplest method for a company to access the US capital market. Such ADR's are traded on OTC basis. Establishment of level 1 program does not require SEC (Securities and Exchange Commission) registration and the company need not report its accounts under GAAP (Generally Accepted Accounting Principles). This program does not require detailed disclosures and reporting to the SEC. Level program can be upgraded to level 2 and level 3 programs. All 'Sponsored ADR' issues involve only one designated depository bank.

Sponsored Level 2 ADR program: .

This issue requires full registration of the issuing company with the SEC and operates under its regulation. Annual Report on form 20 (F) is | required to be filed and company is required to follow GAAP standards. The j advantage of level two programs is that such an ADR issue can be listed on stock exchanges in the US for example N.Y.S.E (New York Stock Exchange), AMEX (American Stock Exchange) or NASDAQ. The issuing company is also required to fulfil the listing requirements of the concerned stock exchange. Level 2 programs do not permit the issuing company to issue fresh capital.

Sponsored Level 3 ADR program:

This program is the highest level for foreign companies. It requires complete adherence (fulfillment) to SEC regulations and GAAP standards. It is required to file form FI when offering prospectus for new shares. Anannual return in form 20F is also mandatory. Level 3 programs permit the issuing company to issue fresh capital.

Restricted ADR:

In addition to the sponsored ADR issues a company can also access the US and other capital markets through ADR program falling under rule 144A or regulation 'S' of the SEC. These issues have certain limitations in terms of target investors, etc.

Rule 144A:

This rule provide for raising capital through private placement of ADR's with large institutional investors called qualified institutional bodies (QIB's). Such Issues operate at level 1 status and do not require disclosures or fulfillment of GAAP standards. The ADR's are sold on private placement basis. They cannot be listed on stock exchanges and they are traded only on OTC basis. The institutions qualifying under this rule are expected to have adequate expertise in assessing international investment risks. They do not require any detailed disclosures or clearances.

Regulation 'S':

Regulation 'S' provides for raising capital through the placement of ADR's to off shore non US investors. Section 'S' of the SEC regulations permits ADR's to be issued to individuals and corporate entities without any restrictions outside the U.S.

This program also operates at level 1. It is also possible for the company to have a simultaneous GDR issue. Current regulations of the SEC do not permit fungibility between ADR's and GDR's which means that no transfer or trading of such securities is allowed within the U.S.

COMPARISION OF DIFFERENT LEVELS OF ADR

PARTICULARS	LEVEL 1	LEVEL 2	LEVEL 3
Trading pattern	Only on OTC market.	Listing allowed on Stock exchanges in USA.	Listing allowed on stock exchanges in USA.
Registration with SEC.	ADR's are registered but underlying shares are not registered	Both ADR's and underlying shares are registered.	Both ADR's and underlying shares are registered.

Adherence to GAAP norms.	Only nominal fulfilment.	Partied compliance.	Full Compliance
Disclosure norms.	Limited	Stringent.	Very stringent.
Capital raising.	No public issue. Only private placement.	Public issue without fresh capital.	1 Public issue with Fresh capital.

Advantages of ADRs/ GDRs Advantages to the issuing companies

- Provides access to more liquid markets.
- Provides funds at lower costs and better terms.
- It expands the investor base for the issuing company.
- Establishes name recognition for the company in new capital markets.
- Provides marketing advantages due to improved brand image.
- Reduces the possibility of hostile takeovers. (No dilution of voting power)
- There is no exchange risk since dividends are paid by the issuer in their home currency.
- Helps to exploit international demand for shares of the company.
- Source for foreign currency resources for overseas acquisitions, joint ventures, import financing, project funding, etc.

Advantages to the investors

- Access to the best investment possibilities across the world.
- It is an easy and cost effective way for individuals to hold and own shares in a foreign company.
- The mechanism helps investors to avoid foreign procedural hurdles and clearances.
- Means of wealth protection and investment diversification.
- Hedge against adverse developments in domestic economy.

Risks of ADR/GDR:

The price of the ADR/GDR is connected to the local price of the underlying shares. The local price and/or the overseas price may be adversely affected due to localised factors. The share as well as ADR/GDR prices therefore face greater uncertainties.

The investors bear the exchange risks and all other risks borne by an equity holder (dividend uncertainty, capital loss).

DISTINCTION BETWEEN GDR AND ADR:

	GLOBAL DEPOSITORY RECEIPT	AMERICAN DEPOSITORY RECEIPT
1	Can be denominated in any freely convertible currency.	Can be denominated only in US Dollars.
2	Can be issued to investors in one or more markets simultaneously.	Can be issued only to investors resident in the US.
3	Depository bank can be any international investment bank.	Depository bank needs to be located in the US.
4	Issue does not require foreign regulatory clearances.	Issue requires approval from the Securities and Exchange Commission (SEC) of the US.
5	There is no sub-classification in this instrument.	They are sub-classified in terms of the level of clearance of the SEC.
6	GDR's are normally co-related to equity shares of the issuing company expressed in whole numbers.	In many cases ADR's are co-related to equity shares of the company expressed as a fraction

INDIAN DEPOSITORY RECEIPT (IDR) :

Indian Depository Receipts are financial instruments that allow foreign companies to mobilize funds from Indian markets by offering entitlement to foreign equity and getting listed on Indian stock exchanges. This instrument is similar to the GDR and the ADR. The Indian Depository Receipts need to be registered with SEBI. The Government opened this avenue for the foreign companies to raise funds from the country, as a step towards globalising the Indian capital market and to provide local investors exposure in global companies.

The Company issuing IDRs should have a pre-issue paid-up capital and free reserves of at least US Dollars 100 million and an average turnover of US Dollars 500 million during the three financial years preceding the issue. IDRs cannot be redeemed into underlying equity shares before the expiry of 1 year from the issue date. Only Qualified Institutional Investors and Indian companies are allowed to invest in IDRs. NRIs and Fils cannot purchase or possess IDRs without specific permission of the RBI. (Ref: Standard Chartered pic, UK - first IDR issue)

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Write a short note on International Equity Market and various instrument
2. Explain Various Depository Receipts
3. Write a short note on GDR, ADR, IDR
4. Distinction between GDR and ADR:

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12

PARTICIPATORY NOTES

Unit Structure

12.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand Participatory notes
- Understand the role of FII's In P-Note Mechanism
- Understand the Issuance process
- Understand Role of Sub Accounts in P-Note Mechanism

12.2 INTRODUCTION

PARTICIPATORY NOTES

Participatory notes are international derivative financial instruments used by hedge funds, private institutions and investors to invest in Indian securities without registration with the Securities and Exchange Board of India (SEB1).

Participatory notes are also referred to as PN's or P-Notes. Participatory notes are essentially derivative instruments. They derive their value from the existing price of the underlying asset.

There are two essential risk elements of a participatory note:

1. Asset value risk: This refers to the risk borne by the holders of the PN's with regard to the price or value of the underlying asset. If the price of the underlying asset depreciates, then the price of the P-Note will also reduce.

2. Exchange Rate Risk: When an international hedge fund or an investor purchases a P-Note, they also incur exchange rate risk. The possible benefit or loss in the exchange rate between the two currencies between the time the PN is bought and sold is borne by the buyer of the PN.

International hedge funds usually purchase these notes to gain the dual benefits of appreciation in the value of the underlying asset and the increase in the value of the domestic currency. These participatory notes are unregulated and the hedge funds buying these notes are not registered with Indian authorities. This means that there is no way to know the identity of the buyers of these notes. This effectively means that these notes can be misused and pose a problem of hot money for the capital markets in India.

12.3 ISSUANCE PROCESS:

The process of issuance of P-notes is similar to that of international equity instruments such as ADR's and GDR's. Participatory notes represent an anonymous form of investment channel and the issuance process also ensures privacy. A registered entity in the Indian stock market, usually a big brokerage firm or a foreign institutional investor, buys a defined quantity of a security from the market. This entity then issues participatory notes to the contributors against the underlying security in their possession. All risks and benefits apart from voting rights are transferred to the buyer of the P-note. Thus in the Register of Members of the company, the shares are listed in the name of the entity that has issued the P-Notes. In order to maintain secrecy, P-Note investors route their funds through an OFC (Offshore Financial Centre) or a Tax Haven. This allows them to manage their investment through secure channels without revealing their identity.

12.4 ROLE OF FII'S IN P-NOTE MECHANISM:

1. FIIs (Foreign Institutional Investors) are international mutual fundsor institutions who invest money in the Indian securities markets.

   These institutions are required to be registered with SEBI. The contributors of the funds being invested by the FII also participate in the registration process. Such entities are called 'Sub Accounts'. Entities who do not register with SEBI but channel their investments through Sub-Accounts receive P-Notes as evidence of their contribution to the corpus being invested through the Sub-Accounts. Such investors are not known to SEBI.

2. FII's participate directly in the securities market and their investment activities can be monitored effectively. The shares which they purchase are listed in their own names in the Register .of Members of a company. On the other hand, when a hedge fund purchases a P-Note, the shares are listed in the name of the issuing entity. This; means that the identity of the actual investor is not known to the market regulator – SEBI.

3. The P-Notes are traded on OTQ basis through the issuing entity. The P-Note holders do not incur capital gains tax as the P-Note issuing entity has still not sold -the underlying security. This effectively

creates a secondary market in P-N6tes over which there is' no control besides which the quality of money involved in such transactions also cannot be ascertained.

4. Effectively the market for P-Notes is unregulated whereas investments by FH's are regulated.

HEDGE FUNDS:

A hedge fund can be described as an investment fund open to a limited number of high net worth investors. Such funds normaly exhibit the following characteristics.

- They undertake a wider range of investment/trading activities covering shares, debt instruments and commodities.
- The investment manager is paid a performance fee.
- They use hedging as a trading strategy.

Sub-Accounts: Sub accounts can be described as individuals, firms and other entities for whom registered foreign institutional investors manage investments for a fee. They are identifiable entities who participate in the process of registration with SEBI.

12.5 ROLE OF SUB ACCOUNTS IN P-NOTE MECHANISM:

P-Notes can be described as offshore derivative instruments issued and used outside India for making investments in Indian securities. Contributions received from Sub Accounts by the Registered FII are evidenced by P-notes. The sub-accounts, in, turn, receive contributions from offshore entities. The P-notes are transferred to them through endorsement, and delivery. The identities of such ultimate P-note holders remain unknown to regulators.

Since the entities investing in the P-Notes are not known, it poses a problem of speculative inflows and outflows in the Indian exchanges. The Capital Market regulator SEBI is not comfortable with the existing situation because of national security concerns, that international organizations may use this mechanism to destabilize the Indian economy through untimely redemptions. In terms of current guidelines the use of P-Notes is not banned but the proportion of such investments in relation to the gross investment portfolio of Foreign Institutional Investors is controlled by SEBI. The proportion of funds covered by P-Notes has progressively reduced from 48% (2007) to 16% (2010).

12.6 DISTINCTION BETWEEN DEPOSITORY RECEIPTS AND PAR-TICIPATORY NOTES:

NO.	DEPOSITORY RECEIPTS	PARTICIPATORY NOTES
01	They represent derivative instruments entitling the holder to a specific number of shares of a foreign company.	They represent derivative instruments entitling the holder to a basket of specific securities in a foreign market.
02	They are issued by a depository bank.	They are issued by a registered HI
03	They are issued to contributors to a DR issue.	They are issued to contributors to the investible corpus of the FII
04	They are traded on established stock exchanges.	They are traded on OTC basis.
05	Price discovery is on the exchange.	Price discovery through the issuing FII.
06	Identity of holder available to the regulator.	Identity of holder not known to regulator.

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Write a short note on Participatory notes
2. Explain the role of FII's In P-Note Mechanism
3. Write a short note on the Issuance process
4. Explain Role of Sub Accounts in P-Note Mechanism

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13

CONCEPT OF FOREX DERIVATIVES

Unit Structure

13.1 LEARNING OBJECTIVES

After studying this lesson you are able to:

- Understand concept of Forex Derivatives Market
- Understand Forward Contract
- Understand Futures Contract
- Understand Options Contract
- Understand Interest Rate Swap and Currency Swap Contract

13.2 INTRODUCTION

The objective of an investment decision is to get required rate of return with minimum risk. To achieve this objective, various instruments, practices and strategies have been devised and developed in the recent past. With the opening of boundaries for international trade and business, the world trade gained momentum in the last decade, the world has entered into a new phase of global integration and liberalization. The integration of capital markets world-wide has given rise to increased financial risk with the frequent changes in the interest rates, currency exchange rate and stock prices. To overcome the risk arising out of these fluctuating variables and increased dependence of capital markets of one set of countries to the others, risk management practices have also been reshaped by inventing such instruments as can mitigate the risk element. These new popular instruments are known as financial derivatives which, not only reduce financial risk but also open us new opportunity for high risk takers.

A Derivative can be defined as "a transaction or a financial instrument which derives its value through some other asset or security."

Foreign Currency derivatives derive their values from the value of the underlying currency. Derivatives can be used for,

a. hedging exchange rate risk
b. speculation
c. maximization of profits
d. adjusting liquidity and hedging mismatched maturity risk (interest rate risk)

The commonly used foreign currency derivatives are:

i. Foreign currency Forward contracts.
ii. Foreign currency swaps.
iii. Foreign currency Futures contracts.
iv. Foreign currency Option contracts.

13.3 USES OF DERIVATIVES

Derivatives are supposed to provide the following services:

Risk aversion tools:

One of the most important services provided by the derivatives is to control, avoid, shift and manage efficiently different types of risks through various strategies like hedging, arbitraging, spreading, etc. Derivatives assist the holders to shift or modify suitably the risk characteristics of their portfolios. These are specifically useful in highly volatile financial market conditions like erratic trading, highly flexible interest rates, volatile exchange rates and monetary chaos.

Prediction of future prices:

Derivatives serve as barometers of the future trends in prices which result in the discovery of new prices both on the spot and futures markets. Further, they help in disseminating different information regarding the futures markets trading of various commodities and securities to the society which enable to discover or form suitable or correct or true equilibrium prices in the markets. As a result, they assist in appropriate and superior allocation of resources in the society.

Enhance liquidity:

As we see that in derivatives trading no immediate full amount of the transaction is required since most of them are based on margin trading. As a result, large number of traders, speculators arbitrageurs operates in such markets. So, derivatives trading enhance liquidity and reduce transaction costs in the markets for underlying assets.

Assist investors:

The derivatives assist the investors, traders and managers of large pools of funds to devise such strategies so that they may make proper asset allocation increase their yields and achieve other investment goals.

Integration of price structure:

It has been observed from the derivatives trading in the market that the derivatives have smoothen out

Price fluctuations, squeeze the price spread, integrate price structure at different points of time and remove gluts and shortages in the markets.

Catalyze growth of financial markets:

The derivatives trading encourage the competitive trading in the markets, different risk taking preference of the market operators like speculators, hedgers, traders, arbitrageurs, etc. resulting in increase in trading volume in the country. Theyalso attract young investors, professionals and other experts who will act as catalysts to the growth of financial markets.

Brings perfection in market:

Lastly, it is observed that derivatives trading develop the market towards 'complete markets'. Complete market concept refers to that situation where no particular investors can be better off than others, or patterns of returns of all additional securities are spanned by the already existing securities in it, or there is no further scope of additional security.

FUNCTIONS OF DERIVATIVES MARKETS

The following functions are performed by derivative markets:

Discovery of price:

Prices in an organized derivatives market reflect the perception of market participants about the future and lead the prices of underlying assets to the perceived future level. The prices of derivatives converge with the prices of the underlying at the expiration of the derivative contract. Thus derivatives help in discovery of future as well as current prices.

Risk transfer:

The derivatives market helps to transfer risks from those who have them but may not like them to those who have an appetite for them.

Linked to cash markets:

Derivatives, due to their inherent nature, are linked to the underlying cash markets. With the introduction of derivatives, the underlying market witnesses higher trading volumes because of participation by more players who would not otherwise participate for lack of an arrangement to transfer risk.

Check on speculation:

Speculation traders shift to a more controlled environment of the derivatives market. In the absence of an organized derivatives market, speculators trade in the underlying cash markets. Managing, monitoring and surveillance of the activities of various participants become extremely difficult in these kinds of mixed markets.

Encourages entrepreneurship:

An important incidental benefit that flows from derivatives trading is that it acts as a catalyst for new entrepreneurial activity. Derivatives have a history of attracting many bright, creative, well- educated people with an entrepreneurial attitude. They often energize others to create new businesses, new products and new employment opportunities, the benefit of which are immense.

Increases savings and investments:

Derivatives markets help increase savings and investment in the long run. The transfer of risk enables market participants to expand their volume of activity.

FUTURES CONTRACTS

Suppose a farmer produces rice and he expects to have an excellent yield on rice; but he is worried about the future price fall of that commodity How can he protect himself from falling price of rice in future? He may enter into a contract on today with some party who wants to buy rice at a specified future date on a price determined today itself. In the whole process the Farmer will deliver rice to the party and receive the agreed price and the other party will take delivery of rice and pay to the farmer. In this illustration there is no exchange of money and the contract is binding on both the parties.

Hence future contracts are forward contracts traded only on organized exchanges and are in standardized contract-size. The farmer has protected

himself against the risk by selling rice futures and this action is called short hedge while on the other hand, the other party also protects against-risk by buying rice futures is called long hedge.

FEATURES OF FINANCIAL FUTURES CONTRACT

Financial futures, like commodity futures are contracts to buy or sell financial aspects at a future date at a specified price. The following features are there for future contracts:

- Future contracts are traded on organized future exchanges. These are forward contracts traded on organized futures exchanges
- Future contracts are standardized contracts in terms of quantity, quality and amount
- Margin money is required to be deposited by the buyer or sellers in form of cash or securities. This practice ensures honour of the deal.
- In case of future contracts, there is a dairy of opening and closing of position, known as marked to market. The price differences every day are settled through the exchange clearing house. The clearing house pays to the buyer if the price of a futures contract increases on a particular day and similarly seller pays the money to the clearing house. The reverse may happen in case of decrease in price.

TYPES OF FINANCIAL FUTURE CONTRACTS

Financial futures contracts can be categorized into following types:

Interest rate futures:

In this type the futures securities traded are interest bearing instruments like T-bills, bonds, debentures, euro dollar deposits and municipal bonds, notional gilt-contracts, short term deposit futures and Treasury note futures. **Stock index futures**: Here in this type contracts are based on stock market indices.

Foreign currency futures:

These future contracts trade in foreign currency generating used by exporters, importers, bankers, FIs and large companies.

Bond index futures: These contracts are based on particular bond indices i.e. indices of bond prices. Municipal Bond Index futures based on Municipal Bonds are traded on CBOT (Chicago Board of Trade).

Cost of living index future:

These are based on inflation measured by CPI and WPI etc. These can be used to hedge against unanticipated inflationary pressure.

A FORWARD CONTRACT

A forward contract is a simple customized contract between two parties to buy or sell an asset at a certain time in the future for a certain price. Unlike future contracts, they are not traded on an exchange, rather traded in the over-the-counter market, usually between two financial institutions or between a financial institution and one of its clients. In brief, a forward contract is an agreement between the counter parties to buy or sell a specified quantity of an asset at a specified price, with delivery at a specified time (future) and place. These contracts are not standardized; each one is usually customized to its owner's specifications.

FEATURES OF FORWARD CONTRACT

The basic features of a forward contract are given in brief here as under:

Bilateral:

Forward contracts are bilateral contracts, and hence, they are exposed to counter-party risk.

More risky than futures:

There is risk of non-performance of obligation by either of the parties, so these are riskier than futures contracts.

Customized contracts:

Each contract is custom designed, and hence, is unique in terms of contract size, expiration date, the asset type, quality, etc.

Long and short positions:

In forward contract, one of the parties takes a long position by agreeing to buy the asset at a certain specified future date. The other party assumes a short position by agreeing to sell the same asset at the same date for the same specified price. A party with no obligation offsetting the forward contract is said to have an open position. A party with a closed position is, sometimes, called a hedger.

Delivery price:

The specified price in a forward contract is referred to as the delivery price. The forward price for a particular forward contract at a particular time is the delivery price that would apply if the contract were entered into at that time. It is important to differentiate between the forward price and the delivery price. Both are equal at the time the contract is entered into. However, as time passes, the forward price is likely to change whereas the delivery price remains the same.

Synthetic assets:

In the forward contract, derivative assets can often be contracted from the combination of underlying assets, such assets are often known as synthetic assets in the forward market. The forward contract has to be settled by delivery of the asset on expiration date. In case the party wishes to reverse the contract, it has to compulsorily go to the same counter party, which may dominate and command the price it wants as being in a monopoly situation.

Pricing of arbitrage based forward prices:

In the forward contract, covered parity or cost-of-carry relations are relation between the prices of forward and underlying assets. Such relations further assist in determining the arbitrage-based forward asset prices.

Popular in forex market:

Forward contracts are very popular in foreign exchange market as well as interest rate bearing instruments. Most of the large and international banks quote the forward rate through their 'forward desk' lying within their foreign exchange trading room. Forward foreign exchange quotes by these banks are displayed with the spot rates.

13.4 DIFFERENT TYPES OF FORWARD:

As per the Indian Forward Contract Act- 1952, different kinds of forward contracts can be done like hedge contracts, transferable specific delivery (TSD) contracts and non-transferable specific delivery (NTSD) contracts. Hedge contracts are freely transferable and do not specify, any particular lot, consignment or variety for delivery. Transferable specific delivery contracts are though freely transferable from one party to another, but are concerned with a specific and predetermined consignment. Delivery is mandatory. Non-transferable specific delivery contracts, as the name indicates, are not transferable at all, and as such, they are highly specific.

Distinction between futures and forwards contracts

Forward contracts are often confused with futures contracts. The confusion is primarily because both serve essentially the same economic functions of allocating risk in the presence of future price uncertainty.

However futures are a significant improvement over the forward contracts as they eliminate counterparty risk and offer more liquidity. Table 1.1 lists the distinction between the two.

Futures Forwards

Trade on an organized exchange OTC in nature Standardized contract terms Customized contract terms hence more liquid Hence less liquid Requires margin payments No margin payment Follows daily settlement happens at end of period.

PARTICIPANTS OF FUTURES MARKETS

Usually financial derivatives attract three types of traders which are discussed here as under:

I. HEDGERS:

Generally there is a tendency to transfer the risk from one party to another in investment decisions. Put differently, a hedge is a position taken in futures or other markets for the purpose of reducing exposure to one or more types of risk. A person who undertakes such position is called as 'hedger'. In other words, a hedger uses futures markets to reduce risk caused by the movements in prices of securities, commodities, exchange rates, interest rates, indices, etc. As such, a hedger will take a position in futures market that is opposite a risk to which he or she is exposed. By taking an opposite position to a perceived risk is called 'hedging strategy in futures markets'. The essence of hedging strategy is the adoption of a futures position that, on average, generates profits when the market value of the commitment is higher than the expected value.

For example, a treasurer of a company knows the foreign currency amounts to be received at certain futures time may hedge the foreign exchange risk by taking a short position (selling the foreign currency at a particular rate) in the futures markets. Similarly, he can take a long position (buying the foreign currency at a particular rate) in case of futures foreign exchange payments at a specified futures date. Hedgers are exposed to risk of a price change. They may be initiating long or short position for a good and would therefore experience losses in case of unfavourable prices.

Suppose an oil company in Britain purchases oil to export to India but during transportation period, oil prices fall thereby creating risk of lower prices. To avoid this loss, this firm can sell oil futures contracts to hedge. If the oil price declines, the trading company will lose money on the inventory of oil (spot position) but will make money in the futures contracts that were sold. This is an example of short hedge. Another company may enter into a contract fearing rise in prices which is known as

long hedge. Another example of hedging can be illustrated by taking two parties: one is manufacturer of gold ornaments and the other one is retailer. n this case supposing the manufacturer of ornaments signs a deal in June 2006 agreeing to deliver gold ornaments in November 2006 at a fixed price. Its interesting to note that the manufacturer does not have enough store or cash to buy gold today and does not wish to buy gold till Sept. 2006. The manufacturer is exposed to risk that the gold prices will rise between June to Sept. Hence to counter this risk, he should hedge by buying gold futures contracts. The hedging strategy can be undertaken in all the markets like Futures, forwards, options, swap, etc. but their *modus operandi* will be different. Forward agreements are designed to offset risk by fixing the price that the hedger will pay or receive for the underlying asset. In case of option strategy, it provides insurance and protects the investor against adverse price movements. Similarly, in the futures market, the investors may be benefited from favourable price movements.

There are three types of hedges:

(a) Long Hedge/Anticipatory Hedge - Investor does not own the asset but wants to purchase the same in foreseeable future. He protects against adverse price movement of the large escalation in prices of that asset by long hedge.

(b) Short Hedge - An investor already owns an asset which he wants to sell in future. He wants protection against steep fall in its prices. He hedges the risk by selling its future.

(c) Cross Hedge - The act of hedging ones position by taking an offsetting position in another good with similar price movements. Although the two goods are not identical, they are correlated enough to create a hedged position. A good example is cross hedging a long position in crude oil futures contract with a short position in natural gas. Even though these two products are not identical, their price movements are similar enough to use for hedging purposes. In currency matters, USD and Canadian Dollars can be used for cross hedging.

II. SPECULATORS:

A speculator is a person who is willing to take a risk by taking futures position it the expectation to earn profits. Speculator aims to profit from price fluctuations. The peculator forecasts the future economic conditions and decides which position (long or short) to be taken that will yield a profit if the forecast is realized. For example, suppose a speculator forecasts that price of silver will be Rs 3000 per 100 grams after one month. If the current silver price is Rs 900 per 100 grams, he can take a long position silver and expects to make a profit of Rs 100 per 100 grams.

This expected profit is associated with risk because the silver price after one usually trade in the futures markets to earn profit on the basis of Difference in spot and futures prices of the underlying assets. Hedgers use the Futures markets for avoiding exposure to verse movements in the price

of an asset, whereas the speculators wish to take position in the market based upon such expected movements in the price of that asset. It is pertinent to mention here that there is difference in speculating trading between spot market and forward market. In spot market a speculator has to make initial cash payment equal to the total value of the asset rchased whereas initial cash payment except the margin money, if any, is made to enter into forward market.

Therefore, speculative trading provides the investor with a much higher level of leverage than speculating using spot markets. That is why, futures markets being highly verged market, minimums are set to ensure that the speculator can afford any potential Posses Speculators are of two types: day traders and position traders. Position speculator uses fundamental analysis of economic conditions of the market and is known as fundamental analyst, whereas the one who predicts futures prices on the basis of past movements in the prices of the asset is known as technical analyst.

A speculator who owns a seat on a particular exchange and trades in his own name is called a local speculator. These, local speculators can further be classified into three categories, namely, scalpers, pit traders and floor traders. Scalpers usually try to make profits from holding positions for short period of time. They bridge the gap between outside orders by filling orders that come into the brokers in return for slight price concessions. Pit speculators like scalpers take bigger positions and hold them longer.

They usually do not move quickly by changing positions overnights. They most likely use outside news. Floor traders usually consider inter commodity price relationship. They are full members and often watch outside news carefully and can hold positions both short and long. Day traders speculate only about price movements during one trading day.

Speculators are categorised based on the length of positions they hold.

(a) Scalpers - They have the shortest holding horizons, typically closing a position within minutes of initiation.

(b) Day Traders - They hold futures positions for a few hours but never longer than one trading session. They open and close positions within the same day. Their net holding at the end of any day is always zero. They play on the scheduled announcements and news related to money supply, trade deficit etc.

(c) Position Traders - They have longer holding horizons, often a few months.

There are two types of position traders:

(i) Outright Position Holders - He takes position based on his belief on the underlying potential. He stands to make large gains or losses.

(ii) Spread Position Holders - He does not have belief on a particular currency or commodity, but he speculates on relative movement of two commodities. So he holds simultaneous position in two commodities, long in commodity which is likely to appreciate and short in commodity which is likely to depreciate. The two commodities could be from same basket, like wheat and rice or could be from different baskets like wheat and Steel. If the spread between them widens, he gains else he loses. Such positions are less risky than Outright Positions.

III. ARBITRAGEURS:

Arbitrageurs are other important group participants in futures markets. They take advantage of price differential of two markets. An arbitrageur is a trader who attempts to make profits by locking in a riskless trading by simultaneously entering into transactions in two or more markets. In other words, an arbitrageur tries to earn riskless profits from discrepancies between futures and spot prices and among different futures prices. For example, suppose that at the expiration of the gold futures contract, the futures price is Rs 9200 per 10 grams, but the spot price is Rs 9000 per 10 grams.

In this situation, an arbitrageur could purchase the gold for Rs 9000 and go short a futures contract that expires immediately, and in this way making a profit of Rs 200 per 10 grams by delivering the gold for Rs 9200 in the absence of transaction costs. The arbitrage opportunities available in the different markets usually do not last long because of heavy transactions by the arbitrageurs where such opportunity arises. Thus, arbitrage keeps the futures and cash prices in line with one another.

This relationship is also expressed by the simple cost of carry pricing which shows that fair futures prices, is the set of buying the cash asset now and financing the same till delivery in futures market. It is generalized that the active trading of arbitrageurs will leave small arbitrage Opportunities in the financial markets. In brief, arbitrage trading helps to make market liquid, ensure accurate pricing and enhance price stability.

OPTION MARKETS STRUCTURE

The options are important financial derivatives where the instruments have additional features of exercising an option which is a right and not the obligation. Hence, options provide better scope for risk coverage and making profit at any time within the expiration date. The price of the underlying is derived from the underlying asset. Options are of different types. Some are related to stock index, some with currency and interest rates. During the last three decades the option trading gained momentum though the first option in commodity was launched in 1860in USA. Based on the sale and purchase there are two types of options: put and call. The exercise-time of adoption makes it in American or European. The other category of option includes- over the counter (OTC) or exchange traded. Options can be valued either with the help of intrinsic value or with time value. There are two positions in option trading- long and short position.

Option may be defined as a contract between two parties where one gives the other the right (not the obligation) to buy or sell an underlying asset as a specified price within or on a specific time. The underlying may be commodity, index, currency or any other asset. As an example, party has 1000 shares of Satyam Computer whose current price is Rs. 4000per share and other party agrees to buy these 1000 shares on or before a fixed date (i.e. suppose after4month) at a particular price say it is become Rs.4100 per share. In future within that specific time period he will definitely purchase the shares because by exercising the option, he gets Rs. 100 profit from purchase of a single share.

In the reverse case suppose that the price goes below Rs. 4000 and declines to Rs. 3900 per share, he will not exercise at all the option to purchase a share already available at a lower rate. Thus option gives the holder the right to exercise or not to exercise a particular deal. In present time options are of different varieties like- foreign exchange, bank term deposits, treasury securities, stock indices, commodity, metal etc. Similarly the example can be explained in case of selling right of an underlying asset.

13.5 FEATURES OF OPTIONS

The following features are common in all types of options.

- **Contract:**

Option is an agreement to buy or sell an asset obligatory on the parties.

- **Premium:**

In case of option a premium in cash is to be paid by one party (buyer) to the other party (seller).

- **Payoff:**

From an option in case of buyer is the loss in option price and the maximum profit a seller can have in the options price.

- **Holder and writer**

Holder of an option is the buyer while the writer is known as seller of the option. The writer grants the holder a right to buy or sell a particular underlying asset in exchange for a certain money for the obligation taken by him in the option contract.

- **Exercise price**

There is call strike price or exercise price at which the option holder buys (call) or sells (put) an underlying asset.

- **Variety of underlying asset**

The underlying asset traded as option may be variety of instruments such as commodities, metals, stocks, stock indices, currencies etc.

- **Tool for risk management**

Options are a versatile and flexible risk management tools which can mitigate the risk arising from interest rate, hedging of commodity price risk. Hence options provide custom-tailored strategies to fight against risks.

TYPES OF OPTIONS

There are various types of options depending upon the time, nature and exchange of trading. The following is a brief description of different types of options:

- Put and call option
- American and European option
- Exchange traded and OTC options.

Put option

It is an option which confers the buyer the right to sell an underlying asset against another underlying at a specified time on or before predetermined date. The writer of a put must take delivery if this option is exercised. In other words put is an option contract where the buyer has the right to sell the underlying to the writer of the option at a specified time on or before the option's maturity date.

Call option

It is an option which grants the buyer (holder) the right to buy an underlying asset at a specific date from the writer (seller) a particular quantity of underlying asset on a specified price within a specified expiration/maturity date. The call option holder pays premium to the writer for the right taken in the option.

American option provides the holder or writer to buy or sell an expiry of the option. On the other hand a **European option** can be exercised only on the date of expiry or maturity. is clear that American options are more popular because there is timing flexibility to exercise the same. But in India, European options are prevalent and permitted.

Exchange traded options can be traded on recognized exchanges like the futures contracts. Over the counter options are custom tailored agreement traded directly by the dealer without the involvement of any organized exchange. Generally large commercial bankers and investment banks trade in OTC options. Exchange traded options have specific expiration date, quantity of underlying asset but in OTC traded option trading there is no such parties. Hence OTC traded options are not bound by strict expiration date, specific limited strike price and uniform underlying asset. Since exchange traded options are guaranteed by the exchanges, hence they have less risk of default because the deals are cleared by clearing houses.

On the other side **OTC options** have higher risk element of default due to non-involvement of any third party like clearing houses. Offsetting

the position by buyer or seller in exchange traded option is quite possible because the buyer sells or the seller buys another option with identical terms and conditions., the rights are transferred to another option holder. But due to unstandardized money is required by the writer of option but there are no such requirement formargin funds in OTC optioning. In exchange traded option contracts, there is low cost of transactions because the creditworthiness of the buyer of options is influencing factor in OTC-traded options.

SWAPS

The dictionary meaning of 'swap' is to exchange something for another. Like other financial derivatives, swap is also agreement between two parties to exchange cash flows. The cash flows may arise due to change in interest Rate or currency or equity etc. In other words, swap denotes an agreement to exchange payments of two different kinds in the future. The parties that agree to exchange cash flows are called 'counter parties'.

In case of interest rate swap, the exchange may be of cash flows arising from fixed or floating interest rates, equity swaps involve the exchange of cash flows from returns of stocks index portfolio. Currency swaps have basis cash flow exchange of foreign currencies and their fluctuating prices, because of varying rates of interest, pricing of currencies and stock return among different markets of the world.

FEATURES OF SWAPS

The following are features of financial swaps:

Counter parties: Financial swaps involve the agreement between two or more parties to exchange cash flows or the parties interested in exchanging the liabilities.

Facilitators: The amount of cash flow exchange between parties is huge and also the process is complex. Therefore, to facilitate the transaction, an intermediary comes into picture which brings different parties together for big deal. These may be brokers whose objective is to initiate the counterparties to finalize the swap deal. While swap dealers are themselves counter partied who bear risk and provide portfolio management service.

Cash flows: The present values of future cash flows are estimated by the counterparties before entering into a contract. Both the parties want to get assurance of exchanging same financial liabilities before the swap deal.

Less documentation: is required in case of swap deals because the deals are based on the needs of parties, therefore, fewer complexes and less risk consuming.

Transaction costs: Generating very less percentage is involved in swap agreement.

Benefit to both parties: The swap agreement will be attractive only when parties get benefits of these agreements.

Default-risk: is higher in swaps than the option and futures because the parties may default the payment.

TYPES OF FINANCIAL SWAPS

The swaps agreement provides a mechanism to hedge the risk of the counter parties. The risk can be- interest rate, currency or equity etc.

13.6 INTEREST RATE SWAPS

It is a financial agreement to exchange interest payments or receipts for a predetermined period of time traded in the OTC market. The swap may be on the basis of fixed interest rate for floating interest rate. This is the most common swap also called 'plain vanilla coupon swap' which is simply in agreement between two parties in which one party payments agrees to the other on a particular date a fixed amount of money in the future till a specified termination date. This is a standard fixed-to-floating interest rate swap in which the party (fixed interest payer) makes fixed payments and the other (floating rate payer) will make payments which depend on the future evolution of a specified interest rate index.

The fixed payments are expressed as percentage of the notional principal according to which fixed or floating rates are calculated supposing the interest payments on a specified amount borrowed or lent. The principal is notional because the parties do not exchange this amount at any time but is used for computing the sequence of periodic payments. The rate used for computing the size of the fixed payment, which the financial institution or bank are willing to pay if they are fixed ratepayers (bid) and interested to receive if they are floating rate payers in a swap (ask) is called fixed rate.

A US dollar floating to fixed 9-year swap rate will be quoted as:8 years Treasury (5.95%) + 55/68.It means that the dealer is willing to make fixed payments at a rate equal to the current yield on 8-years T-note plus 55 basic points (0.55%) above the current yield on T-note (i.e. 5.95 + 0.45 = 6.40%) and willing to receive4fixed rate at 68 basis points above (i.e. 5.95 + 0.68 = 6.63%) the Treasury yield.

Another example to understand the concept: Suppose a bank quotes a US dollar floating to a fixed 6-years swap rate as: Treasury + 30 BP/Treasury + 60 BP vs. six months LIBOR Here this quote indicates that the bank is willing to pay fixed amount at a rate equal to the current yield on 6-years T-note plus 30 basis point (0.30%) in return for receiving floating payments say at 9 six months LIBOR.

The bank has offered to accept at a rate equal to 6-year T-note plus 60 BP (0.60%) in return for payment of six-month LIBOR. Similarly floating rate is one of the market indices such as LIBOR, MIBOR, prime rate, T-bill rate etc. and the maturity of the underlying index equal the time period/interval between payment dates. The fixed rate payments are normally paid semiannually or annually

E.g. example March 1 and Sept. 1. On trade date the swap deal is concluded and the date from which the first fixed and floating payments start accruing is known as Effective Date. For example, a 5-year swap is traded on Aug 30, 2006, the effective date may be Sept 1, 2006 and ten payments dated from2007 to Sept 1, 2011. Floating rate payments in a standard swap are October in advance paid in arrears, i.e. the floating rate applicable to any period is fixed at the start of the period but the payments occur at the end of the period.

There are three dates relevant to the swap floating payments' (s) in the setting date at which the floating rate applicable for the next payment is set. D (1) is the date from which the next floating payment starts to accrue and D (2) is the date on which payment is due. Fixed and floatingrate payments are calculated as: Fixed payment = P ^{x}Rfx^{x}Ffx= P ^{x}Rfl^{x} Ffl5Where P = Notional principal, Rfx is the fixed rate Rfl is the float ingrate set onreset date. Ffx is fixed rate day count fraction" and Ffl is "floating day count fraction". No calculate interest, the last two time periods are. For floating payments in is (D2 - D1)/360. Hence in a swap only are exchanged and not the notional principal.

Illustration:

Suppose a financial institution gives 50 BP higher on floating interest rate (LIBOR) on its deposits and pays floating interest rate to housing society at a fixed rate of 14%. To hedge against the risk involved due to non-payment of interest to the depositor, it enters in to a swap agreement with a dealer and makes that it will receive from the dealer Floating rate (LIBOR) + 100 BP and will pay 14% fixed interest on the same notional amount. In this process the financial institution gets a profits of(0.5%) on notional amount. The dealer enters into another swap contract with a bank with whom it agrees to pay a (LIBOR + 125 BP) and receives 14%interest on notional principal. In this way, every participant gets profit due to this swap transaction which can be shown by the following diagram:

CURRENCY SWAPS

In these types of swaps, currencies are exchanged at specific exchange rates and at specified intervals. The two payments streams being exchange dare dominated in two different currencies. There is an exchange of principal amount at the beginning and a re-exchange at termination in a currency swap. Basic purpose of currency swaps is to lock in the rates (exchange rates).As intermediaries large banks agree to take position in currency suppose 'pounds' and the other party raises the funds at fixed rate in currency suppose US dollars.

The principal amount is equivalent at the spot market exchange rate. In the beginning of the swap contract, the principal amount is exchanged with the first party handing over British Pound to the second, and subsequently receives US dollars as return. The first party pays periodic dollar payment to the second and the interest is calculated on the dollar principal while it receives from the second party payment in pound again computed as interest on the pound principal. At maturity the British pound and dollar principals are re-exchanged on a fixed-to-floating currency swaps or cross-currency-coupon swaps, the following possibilities may occur:

One payment is calculated at a fixed interest rate while the other in floating rate.

Both payments on floating rates but in different currencies.

There may be contracts without and with exchange and exchange of principals.

The deals of currency swaps are structured by a bank which also routes the payments from one party to another. Currency swaps involve exchange of assets and liabilities. The structure of a currency swap agreement can be understood with the help of the following illustration. Suppose a company 'A 'operating in US dollar wants to invest in EUR and the company 'B' operating in EUR wants to invest in US dollars. Since company 'A' having revenue in EUR and both have opposite investment plans. To achieve this objective, both the companies can enter into a currency swap agreement. The following structure describes the investment plans of the company A and B Operations

Fixed to fixed currency swaps:

In this swap agreement the currencies are exchanged at a fixed rate. A fixed to floating currency swap involves the combinations of a fixed-to-fixed currency swap and floating swap. One party pays to the another at a fixed rate in currency say 'A' and the other party makes the payment at a floating rate in currency say 'B'. In a floating to-floating swap the counter parties will have payment at floating rate indifferent currencies.

KNOW YOUR PROGRESS (Self-Assessment Questions)

1. Explain the concept of Forex Derivatives
2. Write a short note on Forward Contract
3. Write a short note on Futures Contract
4. Write a short note on Options Contract
5. Write a short note on Interest Rate Swap and Currency Swap

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