



# UNIVERSITAS PERSADA INDONESIA Y.A.I

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### SURAT TUGAS

No. 1041/D/FEB UPI Y.A.I/IX/2019

Berdasarkan hasil evaluasi dari Program Studi S1 Manajemen FEB UPI Y.A.I terhadap kebutuhan Modul Ajar, dengan ini Dekan Fakultas Ekonomi dan Bisnis Universitas Persada Indonesia Y.A.I memberikan tugas Kepada:

**Estu Mahanani, SP, MM**  
Dosen Tetap - FEB UPI Y.A.I

Untuk membuat Modul Ajar International Financial Management yang akan diberikan kepada mahasiswa Fakultas Ekonomi dan Bisnis UPI Y.A.I.

Di harapkan dapat memberikan laporannya kepada kami, paling lambat 1 (satu) Bulan terhitung sejak surat tugas ini ditanda tangani.

Demikian surat tugas ini dibuat untuk dapat dilaksanakan sebagaimana mestinya.

Jakarta, 26 September 2019  
Fakultas Ekonomi dan Bisnis UPI Y.A.I

**Dr. Mathalinda, SE, MM**  
Dekan

**Tembusan Yth.**  
Bapak Rektor UPI Y.A.I

## HALAMAN PENGESAHAN MODUL AJAR

1. Judul : ***International Financial Management***
2. Penulis Modul : Estu Mahanani, SP., MM
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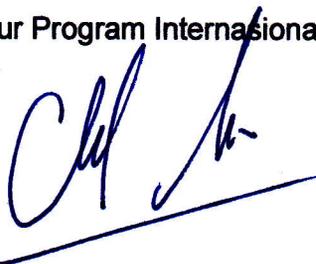
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Mengetahui,  
Sekolah Tinggi Ilmu Ekonomi Y.A.I

Direktur Program Internasional



(Dr. Choirul Anwar, Ak., MBA., MAFIS., MCIS., CPA)

# **MODUL AJAR**

## ***International Financial Management***



**ESTU MAHANANI, SP., MM**

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**UNIVERSITAS PERSADA INDONESIA Y.A.I  
JAKARTA  
2019**

## KATA PENGANTAR

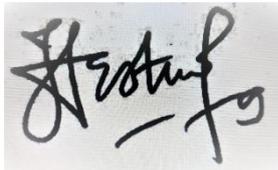
Segala puji dan syukur penulis panjatkan kehadirat ALLAH SWT, karena dengan Rahmat, Karunia serta Taufik dan Hidayah-Nya, Penulis dapat menyelesaikan Modul Ajar ***International Financial Management***.

Pembuatan Modul Ajar ini ditujukan untuk membantu proses belajar mengajar mata kuliah *International Financial Management* lebih mudah dipahami, sehingga mahasiswa dapat lebih cepat mengerti mengenai materi yang berhubungan dengan materi *International Financial Management* serta sebagai pelengkap dari buku wajib yang harus digunakan dalam proses belajar mengajar mata kuliah *International Financial Management*.

Dalam penulisan Modul Ajar ini, penulis menyadari masih banyak kekurangan dan keterbatasan, sehingga penulis mengharapkan kritik dan saran yang bersifat membangun agar pembuatan modul ajar selanjutnya menjadi lebih baik dan dapat bermanfaat bagi pihak lain. Semoga ALLAH SWT senantiasa memberikan Rahmat dan Hidayah-Nya kepada kita semua.

Jakarta, 26 September, 2019

Penulis,



**Estu Mahanani, SP., MM**  
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# CHAPTER I.

## NATURE AND SCOPE OF INTERNATIONAL FINANCIAL MANAGEMENT

### 1.1. Definition of Finance

Finance is one of the basic foundations of all kinds of economic activities. Finance is defined as "provision of money at the time when it is required". Every enterprise, whether big, medium, or small, needs finance to carry on its operations and to achieve its targets. Without adequate finance, no enterprise can possibly accomplish its objectives. So finance is regarded as the lifeblood of any business enterprise. The subject of finance has been traditionally classified into two;

- 1) **Public Finance:** deals with the requirements, receipts and disbursement of funds in the govt. Institutions like states, local self-government and central government.
- 2) **Private Finance:** concerned with requirements, receipts, and disbursement of fund in case of an individual, a profit seeking business organization and a non-profit organization. Thus, private finance can be classified into;
  - ✧ **Personal Finance:** deals with the analysis of principle and practices involved in managing one's own daily need of fund.
  - ✧ **Finance of Non-Profit Organization:** concerned with the practices, procedures and problems involved in financial management of charitable, religion, educational, social and other similar organizations.
  - ✧ **Business Finance:** The study of principle, practices, procedures and problems concerning financial management of profit making organization engaged in the field of industry, trade and commerce is undertaken under the discipline of business finance. Business finance deals with the finance of business objectives and it is concerned with the planning and controlling firm's financial resources.

According to GuthMan and Dougal business finance can be defined as the "activity concerned with planning, raising, controlling and administrating of funds used in the business".

Wheeler defines business finance as "that business activity which is concerned with the acquisition and conservation of capital funds in meeting the financial needs and overall objectives of business enterprise. "**Financial**

**management** is concerned with business finance, i.e. the finance of profit seeking organization. Business finance can further be classified into 3 categories:

- a) Sole proprietary finance
- b) Partnership firm finance
- c) Company or corporation finance

**Corporation finance** or broadly speaking business finance can be defined as the process of rising, providing and administrating of all money/funds to be used in a corporate (business) enterprises.

## **1.2. Definition of International Financial Management**

**International Financial Management** is concerned with the management of funds in a corporate enterprise or financial management is concerned with the procurement and use of funds in a business. Financial management is the managerial activity, which is concerned with the planning and controlling of the firms financial resources.

## **1.3. Objectives of International Financial Management**

Importance of Financial Management cannot be over-emphasized. It is, indeed, the key to successful business operations. Without proper administration of finance, no business enterprise can reach its full potentials for growth and success. Money is to an enterprise, what oil is to an engine.

Financial management is all about planning investment, funding the investment, monitoring expenses against budget and managing gains from the investments. Financial management means management of all matters related to an organization's finances.

The best way to demonstrate the importance of good financial management is to describe some of the tasks that it involves:-

- (i) Taking care not to over-invest in fixed assets
- (ii) Balancing cash-outflow with cash-inflows
- (iii) Ensuring that there is a sufficient level of short-term working capital
- (iv) Setting sales revenue targets that will deliver growth
- (v) Increasing gross profit by setting the correct pricing for products or services
- (vi) Controlling the level of general and administrative expenses by finding more cost-efficient ways of running the day-to-day business operations, and
- (vii) Tax planning that will minimize the taxes a business has to pay

## **1.4. A Multinational Corporation (MNC)**

**A Multinational Corporation (MNC)** consists of a parent company in the firm's originating country and the operating subsidiaries, branches, and affiliates it

controls both at home and abroad. The United Nations refers to such firms as transnational corporations to emphasize that the operation and ownership of these enterprises is spread throughout the world. **Example:** General Electric (GE) was the largest MNC by this measure, with \$401 billion in foreign assets. Exhibit 1.3 also indicates that GE employed 171,000 people in its foreign affiliates. Industries with at least three companies in the top 20 include petroleum, motor vehicles, and utilities.

Many MNCs initially start out simply as exporting or importing firms. Later, an MNC may use licensing in which the MNC gives local firms abroad the right to manufacture the company's products or provide its services in return for fees, typically called royalties. While expanding internationally through licensing doesn't require much investment, it can be difficult for licensing firms to maintain their product quality standards. Franchising involves somewhat more involvement. Here, the firm provides a specialized sales or service strategy offers support at various levels, and may even initially invest in the franchise in exchange for periodic fees. McDonald's is the best-known franchising firm. Another way to penetrate foreign markets is through a joint venture , a company that is jointly owned and operated by two or more firms. For example, Walmart, the gigantic U.S. retailer, set up a joint venture with India's Bharti Enterprises in 2007 to start a chain of wholesale cash-and-carry stores in India.

MNCs also enter foreign markets by setting up production and distribution facilities abroad either by acquiring or merging with foreign companies or by simply establishing new operations in the countries (in what are called greenfield investments ). These latter categories constitute the bulk of foreign direct investment (FDI) , which we discuss in more detail later in this chapter.

Today, there is much talk about the globally integrated corporation. As IBM chief executive officer (CEO) Samuel Palmisano put it in a 2006 speech, such a firm shapes its strategy, management, and operations as a single global entity. True to form, Mr. Palmisano's speech took place not at its corporate headquarters in Armonk, New York, but in Bangalore, India, where IBM now has more than 50,000 employees.

### **The Goals of an MNC**

The appropriate goal of the management of any corporation, including a multinational corporation, is to maximize shareholder wealth. This is the tradition in what are called the "Anglo-American" countries, including Australia, Canada, the United Kingdom, and especially the United States. The management of a corporation maximizes shareholder wealth by making investments in projects

whose returns are sufficiently large to compensate its shareholders, through dividends and capital gains, for the risk involved in the projects.

### **Globalization**

Globalization refers to the increasing connectivity and integration of countries and corporations and the people within them in terms of their economic, political, and social activities. A multinational corporation produces and sells goods or services in more than one country. Globalization proceeded through a process of trade and financial liberalization. Trade liberalizations happened through countries reducing trade barriers unilaterally, within regional arrangements such as the European Union, and through multilateral action within the context of GATT. The abolition of capital controls, occurring first in many developed countries in the 1980s and then in many emerging markets in the 1990s, led to increasingly globalized financial markets.

Financial markets also became more sophisticated, especially because of a derivatives revolution. A derivative security is an investment from which the payoff is derived from the performance of underlying assets or asset prices, such as exchange rates. Derivatives make it easy to hedge various business risks, including the risks of changes in the value of the exchange rate.

In 2007, a global financial crisis erupted, leading to bank failures and a deep recession worldwide. Multinationals enter foreign markets through exports and imports, licensing arrangements, franchising, joint ventures, or simply local production and distribution facilities. Globally integrated firms with strategy, management, and operations all streamlined in one global entity are also appearing

Both trade liberalization and financial globalization have beneficial economic effects, yet the process toward globalization is less than smooth and has many critics. One criticism is that globalization increases “real risk”—that is, it increases the chance that economies will suffer recessions and temporary slumps in employment.

The anti-globalist movement encompasses a number of social movements that are opposed to globalization because it is supposedly detrimental to poor countries and disadvantaged people in rich countries. However, the academic evidence strongly suggests that FDI typically has genuinely positive effects, both in target and in host countries. However, globalization may destroy jobs and leave some people worse off; it is not clear yet how its macroeconomic benefits have been distributed throughout society at large.

The field of international financial management addresses financial decisions facing corporate managers regarding trade and investment across national borders.

### **1.5. Definition of enterprises**

Enterprise is a business or company/ a project or understanding typically one that is difficult or requires effort who needs finance to carry on its operations and to achieve its targets.

## **CHAPTER II.**

### **Exchange Rates And Exchange Foreign Currency Spot Rate**

#### **The foreign exchange market**

#### **What is an Exchange Rate?**

Understanding Exchange Rate in general is the value or price of a country's currency that is measured or expressed in another country's currency. The definition of an exchange rate can also be interpreted as an agreement known as the exchange rate of a currency against current or future payments between two currencies of different countries.

Understanding Exchange Rate in general is the value or price of a country's currency that is measured or expressed in another country's currency. The definition of an exchange rate can also be interpreted as an agreement known as the exchange rate of a currency against current or future payments between two currencies of different countries.

An exchange rate is the value of one nation's currency versus the currency of another nation or economic zone. For example, how many U.S. dollars does it take to buy one euro? As of February 23, 2019, the exchange rate is 1.13, meaning it takes \$1.13 to buy €1.

#### **Forex Market**

is commonly known as FOREX (Foreign Exchange). The forex market is the market in which participants can buy, sell, exchange, and speculate on currencies. The forex market is made up of banks, commercial companies, central banks, investment management firms, hedge funds, and retail forex brokers and investors.

The foreign exchange market is not dominated by a single market exchange, but a global network of computers and brokers from around the world. Forex brokers act as

market makers as well, and may post bid and ask prices for a currency pair that differs from the most competitive bid in the market.

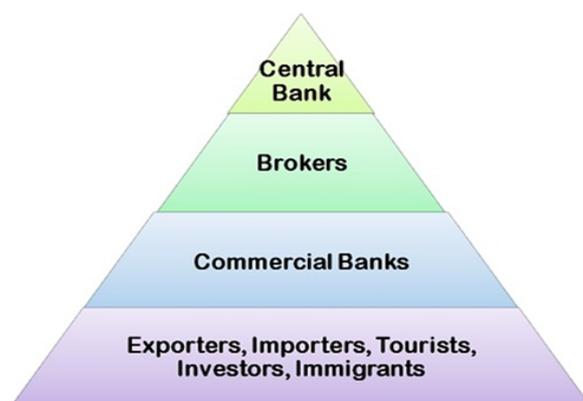
### **STRUCTURE OF FOREX MARKET**

At the bottom of a pyramid are the actual buyers and sellers of the foreign currencies- exporters, importers, tourist, investors, and immigrants. They are actual users of the currencies and approach commercial banks to buy it.

The commercial banks are the second most important organ of the foreign exchange market. The banks dealing in foreign exchange play a role of “market makers”, in the sense that they quote on a daily basis the foreign exchange rates for buying and selling of the foreign currencies. Also, they function as clearing houses, thereby helping in wiping out the difference between the demand for and the supply of currencies. These banks buy the currencies from the brokers and sell it to the buyers.

The third layer of a pyramid constitutes the foreign exchange brokers. These brokers function as a link between the central bank and the commercial banks and also between the actual buyers and commercial banks. They are the major source of market information. These are the persons who do not themselves buy the foreign currency, but rather strike a deal between the buyer and the seller on a commission basis.

The central bank of any country is the apex body in the organization of the exchange market. They work as the lender of the last resort and the custodian of foreign exchange of the country. The central bank has the power to regulate and control the foreign exchange market so as to assure that it works in the orderly fashion. One of the major functions of the central bank is to prevent the aggressive fluctuations in the foreign exchange market, if necessary, by direct intervention. Intervention in the form of selling the currency when it is overvalued and buying it when it tends to be undervalued.



## **THE FUNCTIONS OF FOREX MARKET**

### **Transfer Function:**

The basic and the most visible function of foreign exchange market is the transfer of funds (foreign currency) from one country to another for the settlement of payments. It basically includes the conversion of one currency to another, wherein the role of FOREX is to transfer the purchasing power from one country to another.

For example, If the exporter of India import goods from the USA and the payment is to be made in dollars, then the conversion of the rupee to the dollar will be facilitated by FOREX. The transfer function is performed through a use of credit instruments, such as bank drafts, bills of foreign exchange, and telephone transfers.

### **Credit Function:**

FOREX provides a short-term credit to the importers so as to facilitate the smooth flow of goods and services from country to country. An importer can use credit to finance the foreign purchases. Such as an Indian company wants to purchase the machinery from the USA, can pay for the purchase by issuing a bill of exchange in the foreign exchange market, essentially with a three-month maturity.

### **Hedging Function:**

The third function of a foreign exchange market is to hedge foreign exchange risks. The parties to the foreign exchange are often afraid of the fluctuations in the exchange rates, i.e., the price of one currency in terms of another. The change in the exchange rate may result in a gain or loss to the party concerned.

Thus, due to this reason the FOREX provides the services for hedging the anticipated or actual claims/liabilities in exchange for the forward contracts. A forward contract is usually a three month contract to buy or sell the foreign exchange for another currency at a fixed date in the future at a price agreed upon today. Thus, no money is exchanged at the time of the contract.

### **Types of forex market**

**A spot market** is the immediate delivery market, representing that segment of the foreign exchange market wherein the transactions (sale and purchase) of currency are settled within two days of the deal. That is, when the seller and buyer close their deal for currency within two days of the deal, is called as Spot Transaction.

**The forward exchange market** refers to the transactions – sale and purchase of foreign exchange at some specified date in the future, usually after 90 days of the deal. That is, when the buyer and seller enter into a contract for the sale and purchase of foreign currency after 90 days of the deal at a fixed exchange rate agreed upon now, is called a Forward Transaction.

### **A foreign Currency transaction fee**

A foreign transaction fee is a charge assessed by a financial institution to a consumer who uses an electronic payment card to make a purchase in a foreign currency. Foreign transaction fees usually apply to card purchases made in foreign countries while traveling, but they can also apply to purchases made online from your home country where the vendor is foreign and processes the transaction in its local currency. Foreign transaction fees are also called "foreign purchase transaction fees" or "foreign currency transaction fees." Foreign transaction fees are an important consideration when paying for a purchase in a foreign currency with any type of electronic payment card. Consumers will encounter foreign transaction fees from most issuers of both debit and credit cards.

### **The spot rate and The spot market**

**The spot rate** is the price quoted for immediate settlement on a commodity, a security or a currency. The spot rate, also referred to as the "spot price," is the current market value of an asset at the moment of the quote. This value is in turn based on how much buyers are willing to pay and how much sellers are willing to accept, which usually depends on a blend of factors including current market value and expected future market value. Simply put, the spot rate reflects the supply and demand for an asset in the market. As a result, spot rates change frequently and may sometimes swing dramatically, particularly if significant events occur or there is relevant headline news.

**The spot market** is a commodity or security market where goods, both perishable and non-perishable are sold for money and delivered immediately or within a short span of time. Contracts traded on a spot market are also in effect instantly. The spot market is also recognized as the cash market or physical market because trades are swapped for the asset effectively immediately. The purchases are settled in cash at the current prices fixed by the market as opposed to the price at the time of distribution. An example of a spot market commodity that is often sold is crude oil. It is sold at the existing prices, and physically supplied later.

The spot market is where financial instruments, such as commodities, currencies and securities, are traded for immediate delivery. Delivery is the exchange of cash for the financial instrument. A futures contract, on the other hand, is based on the delivery of the underlying asset at a future date. Exchanges and over-the-counter (OTC) markets may provide spot trading and/or futures trading.

## Spot rate calculation

### Example calculation

The price of a 4 year zero coupon bond is ₹ 68.30 per ₹ 100 nominal (which means the price is ₹ 0.683 per ₹ 1 nominal). Using the formula given above, the spot rate can be calculated as follows:-

$$y_t = P_t^{-\frac{1}{t}} - 1$$

$$y_4 = 0.683^{-1/4} - 1$$

$$y_4 = 10\% p. a.$$

So, the interest rate for a financial transaction due 4 years from now is 10% paar annum

The spot force of interest or continuous spot rate can be found out as follows:-

$$Y_t = \frac{-1}{t} \ln P_t$$

$$Y_4 = \frac{-1}{4} \ln 0.683$$

$$Y_4 = 9.53\% p. a.$$

## CHAPTER III.

### Exchange Rates And Exchange Currency

#### Cross Forward Rate Market

#### Chapter 1: Cross Rates

##### 1.1. Definition of Cross Rate

Cross rate is an exchange rate between two currencies computed by reference to a third currency; it is the currency exchange rate between two currencies when neither are the official currencies of the country in which the exchange rate quote is given. Foreign exchange traders often use the term to refer to currency quotes that do not involve the U.S. dollar, regardless of what country the quote is provided in.

##### 1.2. Calculating Cross Rate

For example, the Bank of England sells or purchases euros for yen. You just have to multiply the two bid prices with your **cross rate calculator** to get the **cross rate**. For example: In the case of the GBP/CHF. The bid **prices** are as follows: GBP/USD=1.5700, USD/CHF=0.9300. Thus the **cross rate** (GBP/CHF) will be  $1.5700 \times 0.9300 = 1.4601$ .

Using mid-point exchange rate quotes, the mid-point cross exchange rate can be derived using the following formula:

$$A/C = A/B \times B/C$$

Where  $A/C$  is the exchange rate between A and C expressed as units of currency A per unit of currency C and  $A/B$  and  $B/C$  are exchange rates between currency A and B and currency B and C respectively. If instead of  $B/C$  we had an exchange rate in terms of  $C/B$  (i.e. direct quote vs indirect quote), we would need to take a reciprocal of the exchange rate to get the exchange rate in  $B/C$  form.

If we have exchange rates in the form of bid-ask quote, we can derive the bid-ask cross rate by multiplying the bid rate of one currency with the ask of the other such that the common currencies cancel out and vice versa. This point is illustrated in Example 2 below.

### 1.3 Example Scenario

*Example 1:* You just have to multiply the two bid prices with your cross rate calculator to get the cross rate.

For example: In the case of the GBP/CHF. The bid prices are as follows: GBP/USD=1.5700, USD/CHF=0.9300. Thus the cross rate (GBP/CHF) will be  $1.5700 \times 0.9300 = 1.4601$ .

*Example 2 :* Cross rate with mid-point exchange rate As at 27 December 2012, the exchange rate between Euro and US dollar is €0.75 per US\$. Exchange rate between US\$ and Swiss Franc is 1.09 US\$ per Swiss Franc. Find the exchange rate between Euro and Swiss Franc in € per Swiss Franc.

Euro per Swiss Franc = €0.75 per US\$ × US\$ 1.09 per Swiss Franc = €0.8175 per Swiss Franc.

Finding the same exchange rate in Swiss Franc per Euro would involve taking a reciprocal of the exchange rate calculated above. Swiss Franc per € exchange rate would be 1.223 Swiss Francs per € ( $= 1 \div (\text{€}0.8175 \text{ per Swiss Franc})$ ).

*Example 3:* Cross rate with bid-ask quote

You are in UK and \$/£ exchange rate is 1.540- 1.560 and ¥/£ is 149.06 – 149.50. Calculate the \$/¥ exchange rate.

We need the cross exchange rate in the form of \$/¥, i.e. \$ in numerator and ¥ in denominator. The exchange rates we already have are in the form of \$/£ and ¥/£. We need to take a reciprocal of any one of the exchange rates so that the British pound cancels out when we multiply. The reciprocal exchange rate for ¥/£ is £/¥ which equals 0.006689 – 0.006709 calculated by taking reciprocal of the ¥/£ exchange rate's bid and ask legs and then switching their positions i.e.  $(1/149.50 - 1/149.06)$ . We have switched their position between the bid must be always lower than the ask.

The bid leg of the \$/¥ cross rate is 0.0103 ( $= 1.540 \times 0.006689$ ) and the ask leg is 0.0104 ( $= 1.560 \times 0.006709$ ). The cross-rate quote is 0.0103-0.0104.

## **Chapter 2: Forward Rate**

### **2.1. Definition of Forward Rate**

The forward exchange rate (also referred to as forward rate or forward price) is the exchange rate at which a bank agrees to exchange one currency for another at a future date when it enters into a forward contract with an investor.

Forward rates are calculated from the spot rate and are adjusted for the cost of carry to determine the future interest rate that equates the total return of a longer-term investment with a strategy of rolling over a shorter-term investment.

### **2.2. Difference Between Spot Rates and Forward Rates?**

A spot rate is a contracted price for a transaction that is taking place immediately (it is the price on the spot). A forward rate, on the other hand, is the settlement price of a transaction that will not take place until a predetermined date in the future; it is a forward-looking price.

The term may also refer to the rate fixed for a future financial obligation, such as the interest rate on a loan payment. Forward rates are widely used for hedging purposes in the currency markets, since currency forwards can be tailored for specific requirements, unlike futures, which have fixed contract sizes and expiry dates and therefore cannot be customized.

In the context of bonds, forward rates are calculated to determine future values. For example, an investor can purchase a one-year Treasury bill or buy a six-month bill and roll it into another six-month bill once it matures. The investor will be indifferent if both investments produce the same total return.

For example, the investor will know the spot rate for the six-month bill and will also know the rate of a one-year bond at the initiation of the investment, but he or she will not know the value of a six-month bill that is to be purchased six months from now.

### **2.3. Forward Rates in Practice**

To mitigate reinvestment risks, the investor could enter into a contractual agreement that would allow him or her to invest funds six months from now at the current forward rate. Now, fast-forward six months. If the market spot rate for a new six-month investment is lower, the investor could use the forward rate agreement to invest the funds from the matured t-bill at the more favorable forward rate. If the spot rate is high enough, the investor could cancel the forward rate agreement and invest the funds at the prevailing market rate of interest on a new six-month investment.

### **2.4. Formula of Forward Rate**

To calculate the forward rate, multiply the spot rate by the ratio of interest rates and adjust for the time until expiration. So, the forward rate is equal to the spot rate  $\times (1 + \text{foreign interest rate}) / (1 + \text{domestic interest rate})$

### **3.1. Definition of Forward Market**

A forward market is an over-the-counter marketplace that sets the price of a financial instrument or asset for future delivery. Forward markets are used for trading a range of instruments, but the term is primarily used with reference to the foreign exchange market. It can also apply to markets for securities and interest rates as well as commodities.

### **3.2. Explanation of Forward Market**

A forward market leads to the creation of forward contracts. While forward contracts, like futures contracts, may be used for both hedging and speculation, there are some notable differences between the two. Forward contracts can be customized to fit a customer's requirements, while futures contracts have standardized features in terms of their contract size and maturity. Forwards are executed between banks or between a bank and a customer; futures are done on an exchange, which is a party to the transaction. The flexibility of forwards contributes to their attractiveness in the foreign exchange market.

### **3.3. Pricing of Forward Market**

Prices in the forward market are interest-rate based. In the foreign exchange market, the forward price is derived from the interest rate differential between the two currencies, which is applied over the period from the transaction date to the settlement date of the contract. In interest rate forwards, the price is based on the yield curve to maturity.

### **3.4. Foreign Exchange Forwards**

Inter bank forward foreign exchange markets are priced and executed as swaps. This means that currency A is purchased vs. currency B for delivery on the spot date at the spot rate in the market at the time the transaction is executed. At maturity, currency A is sold vs. currency B at the original spot rate plus or minus the forward points; this price is set when the swap is initiated. The interbank market usually trades for straight dates, such as a week or a month from the spot date. Three- and six-month maturities are among the most common, while the market is less liquid beyond 12 months. Amounts are commonly \$25 million or more and can range into the billions.

Customers, both corporations and financial institutions such as hedge funds and mutual funds, can execute forwards with a bank counter-party either as a swap or an outright transaction. In an outright forward, currency A is bought vs. currency B for delivery on the maturity date, which can be any business day beyond the spot date. The price is again the spot rate plus or minus the forward points, but no money changes hands until the maturity date. Outright forwards are often for odd dates and amounts; they can be for any size. The most commonly traded currencies in the

forward market are the same as on the spot market: EUR/USD, USD/JPY and GBP/USD.

### **3.5. Non-Deliverable Forwards**

Currencies for which there is no standard forward market can be traded via a non-deliverable forward. These are executed off-shore to avoid trading restrictions, are only executed as swaps and are cash-settled in dollars or euros. The most commonly traded currencies are the Chinese renminbi, South Korean won, and Indian rupee.

### **3.6. Difference between Spot Market and Forward Market**

Foreign exchange markets are sometimes classified into spot market and forward market on the basis of the period of transaction carried out. It is explained below:

#### **(a) Spot Market:**

If the operation is of daily nature, it is called spot market or current market. It handles only spot transactions or current transactions in foreign exchange. Transactions are affected at prevailing rate of exchange at that point of time and delivery of foreign exchange is affected instantly. The exchange rate that prevails in the spot market for foreign exchange is called Spot Rate.

Expressed alternatively, spot rate of exchange refers to the rate at which foreign currency is available on the spot. For instance, if one US dollar can be purchased for Rs 40 at the point of time in the foreign exchange market, it will be called spot rate of foreign exchange. No doubt, spot rate of foreign exchange is very useful for current transactions but it is also necessary to find what the spot rate is. In addition, it is also significant to find the strength of the domestic currency with respect to all of home country's trading partners. Note that the measure of average relative strength of a given currency is called Effective Exchange Rate (EER).

#### **(b) Forward Market:**

A market in which foreign exchange is bought and sold for future delivery is known as Forward Market. It deals with transactions (sale and purchase of foreign exchange) which are contracted today but implemented sometimes in future. Exchange rate that prevails in a forward contract for purchase or sale of foreign exchange is called Forward Rate. Thus, forward rate is the rate at which a future contract for foreign currency is made. This rate is settled now but actual transaction of foreign exchange takes place in future. The forward rate is quoted at a premium or discount over the spot rate. Forward Market for foreign exchange covers transactions which occur at a future date. Forward exchange rate helps both the parties involved.

### **3.7. Reason for a Forward Contract to be Entered**

- (i) To minimise risk of loss due to adverse change in exchange rate (i.e., hedging)
  - (ii) to make a profit (i.e., speculation).
- Chapter 4: Forward Contract

#### **4.1. Definition of Forward Contract**

A **forward contract** is a private agreement between two parties giving the buyer an obligation to purchase an asset (and the seller an obligation to sell an asset) at a set price at a future point in time. The assets often traded in forward contracts include commodities like grain, precious metals, electricity, oil, beef, orange juice, and natural gas, but foreign currencies and financial instruments are also part of today's forward markets.

#### **4.2. How Forward Contract Works**

If you plan to grow 500 bushels of wheat next year, you could sell your wheat for whatever the price is when you harvest it, or you could lock in a price now by selling a forward contract that obligates you to sell 500 bushels of wheat to, say, Kellogg after the harvest for a fixed price. By locking in the price now, you eliminate the risk of falling wheat prices. On the other hand, if prices rise later, you will get only what your contract entitles you to.

If you are Kellogg, you might want to purchase a forward contract to lock in prices and control your costs. However, you might end up overpaying or (hopefully) underpaying for the wheat depending on the market price when you take delivery of the wheat.

#### **4.3 Forward Contracts Are Not Futures Contracts**

Futures and forwards both allow people to buy or sell an asset at a specific time at a given price, but forward contracts are not standardized or traded on an exchange. They are private agreements with terms that may vary from contract to contract. Also, settlement occurs at the end of a forward contract. Futures contracts settle every day, meaning that both parties must have the money to ride the fluctuations in price over the life of the contract. The parties to a forward contract tend to bear more credit risk than the parties to futures contracts because there is no clearinghouse involved that guarantees performance. Thus, there is always a chance that a party to a forward contract will default, and the harmed party's only recourse may be to sue. As a result,

forward-contract prices often include premiums for the added credit risk.

#### **4.4. Forward Contracts Versus Futures Contracts**

Both forward and futures contracts involve the agreement to buy or sell a commodity at a set price in the future. But there are slight differences between the two. While a forward contract does not trade on an exchange, a futures contract does. Settlement for the forward contract takes place at the end of the contract, while the futures

contract p&l settles on a daily basis. Most importantly, futures contracts exist as standardized contracts that are not customized between counter parties.

#### **4.4.1. Example of a Forward Contract**

Consider the following example of a forward contract. Assume that an agricultural producer has two million bushels of corn to sell six months from now and is concerned about a potential decline in the price of corn. It thus enters into a forward contract with its financial institution to sell two million bushels of corn at a price of \$4.30 per bushel in six months, with settlement on a cash basis. In six months, the spot price of corn has three possibilities:

1. **It is exactly \$4.30 per bushel.** In this case, no monies are owed by the producer or financial institution to each other and the contract is closed.
2. **It is higher than the contract price, say \$5 per bushel.** The producer owes the institution \$1.4 million, or the difference between the current spot price and the contracted rate of \$4.30.
3. **It is lower than the contract price, say \$3.50 per bushel.** The financial institution will pay the producer \$1.6 million, or the difference between the contracted rate of \$4.30 and the current spot price.

#### **4.5. Risks with Forward Contracts**

The market for forward contracts is huge since many of the world's biggest corporations use it to hedge currency and interest rate risks. However, since the details of forward contracts are restricted to the buyer and seller – and are not known to the general public – the size of this market is difficult to estimate.

The large size and unregulated nature of the forward contracts market mean that it may be susceptible to a cascading series of defaults in the worst-case scenario. While banks and financial corporations mitigate this risk by being very careful in their choice of counter party, the possibility of large-scale default does exist. Another risk that arises from the non-standard nature of forward contracts is that they are only settled on the settlement date and are not marked-to-market like futures. What if the forward rate specified in the contract diverges widely from the spot rate at the time of settlement?

In this case, the financial institution that originated the forward contract is exposed to a greater degree of risk in the event of default or non-settlement by the client than if the contract were marked-to-market regularly.

#### **4.6. Valuing Forward Contracts**

The value of a forward contract usually changes when the value of the underlying asset changes. So if the contract requires the buyer to pay \$1,000 for 500 bushels of wheat but the market price drops to \$600 for 500 bushels of wheat, the contract is

worth \$400 to the seller (because he or she would get \$400 more than the market price for his or her wheat). Forward contracts are a zero-sum game; that is, if one side makes a million dollars, the other side loses a million dollars. Forward contracts may be "cash settled," meaning that they settle with a single payment for the value of the forward contract. For example, if the price of 500 bushels of wheat is \$1,000 in the spot market (the current market price) when the forward contract expires, but the forward contract requires the buyer to pay only \$800, then the seller can just settle the contract by paying the buyer \$200 instead of actually delivering 500 bushels of wheat and collecting a below-market price. The buyer might appreciate this; the only other way he would see his \$200 profit is if he purchased the wheat for \$800 and then turned around and sold it at the market price (\$1,000). On a side note, when the spot price is higher than the forward-contract price, this is called backwardation; the opposite condition is called contango.

It is important to note that forward contracts also present a risk of price manipulation, because a small transaction completed at an above- or below-market price could affect the value of a much larger forward contract.

#### **4.7. Importance of Forward Contracts**

There are two kinds of forward-contract participants: hedgers and speculators.

Hedgers do not usually seek a profit but rather seek to stabilize the revenues or costs of their business operations. Their gains or losses are usually offset to some degree by a corresponding loss or gain in the market for the underlying asset. Speculators are usually not interested in taking possession of the underlying assets. They essentially place bets on which way prices will go.

Forward contracts tend to attract more hedgers than speculators.

## CHAPTER IV.

### Currency Futures Market

#### A. Definition of Currency Futures

Currency futures are contracts that determine the exchange of a currency in a certain volume at a certain settlement date. A futures contract is similar to a forward contract because it allows the buyer to lock in the price that must be paid for a particular currency at some time in the future. But the characteristics of futures contracts differ from forward contracts. Futures contracts are traded directly between two parties that meet each other, while forward contracts are traded by telephone. Transactions between two parties that meet directly require trading space, which in the US is provided by the CME. Futures transactions are executed by brokers. Futures contracts must be standardized, or trading space will be severely disrupted because brokers must assess contract specifications one by one. "It must be remembered that a forward contract, not the same as a futures contract, is designed in accordance with the wishes of the customer."

The volume of currency futures trading continues to increase over time, along with the continued growth of international transactions, so that the currency futures market also develops. Futures contracts involving several major world currencies are provided by CME and contracts for each currency have their own standard units. The settlement dates usually fall on the third Wednesday in March, June, September and December. (Madura, 2007: 123)

Currency futures contracts traded on the CME (Chicago Mercantile Exchange). (Madura, 2007: 123)

Currency	Units per Contract
Australian Dollar	100.000
British Pound	62.500
Canadian Dollars	100.000
German Marks	125.000
Japanese Yen	12.500.000
Swiss Francs	125.000

#### B. Currency Futures Market

Future Market is an agreement that states the standard volume of a certain currency to be exchanged on a certain maturity date. Therefore, the currency futures market is similar to a forward contract in terms of obligations, but is different from a forward in terms of trading forms. Futures contracts are generally used by MNCs to

hedge their foreign exchange positions. In addition, futures contracts are traded by speculators who hope to benefit from their predictions about future exchange rate movements.

The emergence of futures because buyers generally have different preferences for quality specifications, the amount and place of delivery of basic assets. The quantity and quality specifications of underlying assets, initial prices, and the amount of margins for both parties remain determined by the exchange's clearing house or a special exchange that trades futures in an organized manner. (Madura, 2007: 123)

The buyer of a futures contract sets the exchange rate to be paid for a foreign currency at a certain time in the future. Alternatively, a futures contract seller sets the exchange rate at which a foreign currency will be exchanged for the local currency. In the US, futures contracts are purchased to determine the amount of dollars needed to obtain a certain amount of foreign exchange in a certain amount, the contract is sold to determine the number of dollars that will be received from the sale of certain foreign currencies in a certain amount. Companies that open positions on foreign exchange may consider buying or selling futures contracts to compensate for their position. Buying futures contracts can enable companies to buy foreign exchange at certain fixed rates.

Generally only once during submission. In the futures market there are two contractual agreements namely (Futures and Forward Contracts). A futures contract is an agreement or commitment of two parties, to send or receive financial instruments or commodities at a certain date in the future, at a price determined at the time of signing the contract. The party who has agreed to send something is called the party who sold the contract or "go short". While other parties who agree to accept are called parties who buy contracts or "go long". In contrast to option contracts where the individuals involved in the contract have the right, not the obligation, to buy and sell financial assets, the futures contract stipulates that the individuals involved in the contract are obliged to send and receive. Futures or forwards transactions are also different from "spot" transactions which require the party to make an immediate delivery or "on the spot" delivery at the spot price.

Futures are long-term contracts that are binding or give obligations to both parties to buy or sell certain underlying assets (in the form of foreign exchange, interest rates, equity, or commodities) based on the current price level which settlement of transactions is carried out in cash settlements at future in accordance with the expiration date specified in the contract.

The price of underlying assets is divided into initial futures price (initial price) and terminal future price (the price when the futures contract is exercised) if the terminal futures price is lower than the initial futures when exercised, the seller will get a profit. Conversely, if at the time of exercise, the terminal future price of the underlying assets is higher than the initial futures price, then the seller will benefit.

This condition shows that both parties in this futures contract have symmetrical exposure, given the potential loss and profit function that is balanced between the seller and the buyer.

Futures contracts are not intended to have physical underlying assets, but rather are financial instruments that are used to minimize risk expectations in an effort to achieve certain profits.

Based on these considerations, so futures contracts are generally not maintained until the expiration date, but are settled by closing out the position or in a reserve before the end of the contract period. Reverse is done by taking opposite positions on the same contract, namely as a seller of futures contracts at a higher price level.

#### **Examples of futures calculations, namely:**

For example, if you want to buy a futures contract on April 1, 2008 for tomato commodities in Italy as much as 20,000 kg with an initial futures price of \$ 0.5 per kg. if the prevailing price level for its underlying assets on October 1 is \$ 0.9 per kg, then you can reserve its position at that time by selling the same futures contract. For that he will get a profit of  $20,000 \times \$ 0.4 = \$ 8,000$  (Bradhitya H.N).

Futures contracts are traded on organized exchanges, while forward contracts are carried out directly between two parties or use the services of a bank. The purpose of futures contracts on financial instruments is to transfer the risk of changes in the price of future securities from one party to another party in the contract. Therefore this futures instrument offers a way to manage the level of risk in the financial markets.

#### **C. Determination of the Futures Contract Price**

The futures contract price will usually be the same as the forward rate for the same currency and the same settlement date. To understand this, assume that the futures-pound contract price is 1.50US and the forward contract for the same currency and period is 1.48US. Companies may attempt to buy forward contracts and simultaneously sell currency futures contracts. If they can precisely match the completion date of the two contracts, they will get a profit of 0.02US per unit. This action will suppress the price of currency futures. Contract currency futures and currency forward for the same currency and the same settlement date must have the

same price, speculators will use this to generate profits and ultimately push both prices to the same level. (Madura, 2007: 123-124)

The contract price of a currency futures differs from the spot rate, for the same reasons that the forward rate differs from the spot rate. If the spot price and futures price for a currency are the same and the exchange rate is higher than the US interest rate, US speculators can lock in high profits abroad from what they receive from investments in the US. They can buy the foreign exchange at the spot rate, invest it in higher interest rates, and at the same time sell currency futures to lock the exchange rate with future dollars when they have to convert the currency into dollars. If the spot and futures rates are the same, there will be no loss or profit or from currency conversion. Thus, higher interest rates abroad will provide a higher return for this type of investment. Investors' actions to take advantage of this opportunity will reduce the increase in the spot rate and reduce the price of currency futures, which in turn pushes the price of currency futures to fall below the spot rate. (Madura, 2007: 123-124).

#### **D. CF contracts vs. Forward contracts**

Comparison of futures and forward contracts:

<b>DESCRIPTION</b>	<b>FORWARD</b>	<b>FUTURES</b>
The size of the contract	Tailored to individual needs.	Standart
Delivery / completion date	Tailored to individual needs.	Standart
Actor	Banks, brokers, and multinational companies. Public speculation is rare.	Banks, Brokers, and multinational companies. General public speculation.
The guarantor deposit	No guarantor deposits are needed, but bank balances and credit lines.	Small deposit guarantors are required.
Clearing process	Funding depends on the banks and individual brokerage banks. No separate clearing house is needed.	Handled by a clearing house formed by the exchange. The location of daily transaction settlement is determined by market prices.
Market location	long the telephone lines around the world	Central trading floor that has communication.

	throughout the world	
Regulations	<i>Self-regulating</i>	<i>Commodity futures trading. Commission. National future association.</i>
Liquidation	Most contracts are completed by actual delivery. The remainder is by other transactions.	Most by other opposite transactions, very little by actual delivery
Transaction fees	Determined by the spread between the selling price and the purchase price.	<i>Brokerage fees can be negotiated.</i>

(Madura, 2007: 124)

**Describe information about currency futures contracts.**

It is assumed that on January 15, the futures mark price for the month of March is 0.5900US. By purchasing this futures contract on January 15, you must have a mark for 0.5900US per mark on the third Wednesday in March. On the other hand, anyone who sells this futures contract on January 15 will be required to send (sell) the mark at a price of 5,900US per mark on the third Wednesday in March. Because one unit futures mark contract is worth 125,000US marks, the number of dollars that must be paid (received) at the time of purchase (sale) on the third day of March is 73,750US. (Madura, 2007)

**Credit risk from currency futures contracts**

Each currency futures contract represents an agreement between a client and a clearinghouse, even if a stock exchange that has a clearinghouse does not take any position. As an illustration, assume that you contact a broker to buy a futures mark contract whose settlement date falls in March. Meanwhile, another party that has nothing to do with you contacts the same broker to sell a similar currency futures contract. Neither the buyer nor the seller need to worry about credit risk from other parties. The clearing house of the exchange guarantees that you will receive what belongs to you as a result of currency futures positions. (Madura, 2007: 125-126)

To minimize the risk of the guarantee, the CME imposes margin requirements to cover fluctuations in the value of the contract, which means that the culprit must place deposits as collateral. Margin obligations are usually between 1000US to 2000US per currency futures contract. However, if the currency futures contract value decreases continuously, then the buyer is asked to get a margin. Margin obligations

are not always necessary for forward contracts because of the more personal nature of forward contracts. The bank already knows the company that deals with it and may trust the company. (Madura, 2007: 126)

### **Utilization of currency futures by corporations**

Corporations that have open positions in foreign exchange may consider buying or selling futures contracts to cover the positions in question. A company that has bought a futures contract has locked the purchase price of a foreign currency in the future. For example, suppose a US company orders German products and when it is sent DM 500,000 later as a payment to German exporters. So the US company can buy a futures-mark contract now, which will lock in the price to be paid when the goods are shipped by a German exporter. By holding a futures contract, the company does not need to worry about changes in the spot rate at any time. (Madura, 2007: 126)

Conversely, a company might consider selling a currency futures contract if the company plans to accept a currency that it will not need (perhaps from exports that are factored in the foreign exchange desired by the importer). By selling a futures contract, the company means that it has locked the sale price of the currency in the future (ie on the settlement date). Such an action can be justified if the company estimates the currency it receives will depreciate against its domestic currency. The way companies use futures contracts to cover or hedge (protect). (Madura, 2007: 126)

### **Transaction fees from currency futures**

Brokers who execute sell or buy orders for currency futures contracts charge transaction fees or brokerage fees in the form of bid-ask-spread. That is they buy a currency futures contract at a price (purchase price) by simultaneously selling the contract to another party at a slightly higher price (selling price). The difference between the purchase price and the selling price of a smallest futures contract can reach \$ 5.7. But even this amount is greater than the transaction fee for forward contracts. (Madura, 2007: 128)

Characteristics of Futures Contracts:

1. Daily resettlement (determination of daily price) and placement of margins (a small amount of deposits as collateral) are required.
2. The seller and buyer must meet (compare with the forward contract negotiated by telephone) so that an exchange floor is needed (called a pit).
3. The contract size and delivery date has been standardized.
4. Quality public speculation is encouraged.

5. The majority of futures contracts are closed through revarshing trades so that submission is never made.

### **The Main Purpose of Contracting Forward and Futures**

1. The main objective is to facilitate the anticipation of the risk of changes in foreign exchange rates.
2. Can also be used for speculation and price discovery.

### **Strengths and Weaknesses of Futures Contracts**

#### **A. Strengths**

1. The smaller futures contracts and the freedom to liquidate contracts at any time before maturity.
2. Futures contracts that are traded in an organized and clear market.

#### **B. Weaknesses**

1. Limitations on the number of currencies traded.
2. Limited delivery date.
3. The rigidity of the contract currency submitted.

### **Comparison Between Futures And Forwards Contracts**

Future Contract:

1. Contracts can be traded through the exchange's clearing house (futures exchange)
2. Standardized futures contracts
3. Contracts are usually reserved before maturity
4. Daily margin trading settlements
5. There are several times during surrender

Forwads Contract:

1. Contracts are traded through OTC or direct transactions
2. Forwards contracts are not standardized
3. The contract ends on the expiration date
4. Expiredly cash settlement.

The difference between forward and future contrac is:

1. In principle, forward and futures contrac can be specified for each commodity. Whereas Fitr Contrac trades various commodities, financial instruments and foreign exchange
2. Future contrac clearly defines the quantity and quality of the commodity or asset, along with the time and location of the delivery. Forward contracts generally do not define these characteristics.
3. Future contracts are traded in organized markets with strict rules, prices are determined through the cry-out method. In a forward contract, the determination of the

price is determined through transactions / negotiations between the parties involved by telephone.

4. Clearing house as a counter party that guarantees the performance of futures contracts and keeps records of all transactions.

5. In future markets, the possibility of closing permission of the parties involved to leave the market can be done as they wish.

6. Forward markets are generally wholesale markets, which can only be accessed by large banks and multinational companies (MNCs).

7. A typical flow profile also distinguishes the two contracts. Future contracts require an initial deposit and each margin call to be settled on a daily basis (mark to market), while in forward contracts no deposit or margin is paid.

## **CHAPTER V.**

### **Currency Option Market**

#### **5.1. *Currency Option Market***

Option Market is an agreement that gives the buyer the option to buy or sell a contract in the future at a specific price (Specific Price) and at or before a certain time (Expiration Date). Option is an agreement that gives the buyer the right to buy or sell a contract in the future at a specific price (Specific Price) and at or before a certain time (Expiration Date).

Option is an official contract that gives the right (without obligation) to buy or sell an asset at a certain price and in a certain period of time. Options are one of the instruments in the world of capital markets (derivatives) to minimize risk and maximize profit. From the general understanding of the options above, it can be seen several important points that describe option transactions, namely:

- 1) The option gives the holder the right not the obligation to buy or sell anything. Different from the types of sale and purchase transactions that have been known so far that bind each party with an obligation to pay or give one particular item traded, the option gives the holder the right not the obligation to sell or buy the goods promised. Option holders cannot be forced to buy or sell the goods that have been agreed.
- 2) The right to sell or buy an item can only be exercised at a certain time in the future or before. This depends on the type of option held. There are options that regulate that the right to buy or sell an item can be exercised at a certain time in

the future can not be carried out before the specified time, there are also types of options that the right to buy or sell it can be implemented before.

- 3) If the option holder exercises his right to buy or sell a particular item, the price of the item bought or sold is predetermined (usually determined at the time the option transaction is carried out) no matter what the market price of the item is when exercising the right. So the price used when exercising the rights is predetermined and not the current market price of the goods.

In the foreign exchange market, foreign exchange option transactions can be interpreted as a financial instrument that gives the holder the right to buy or sell a certain currency in a certain amount at a certain time in the future and or previously at a predetermined exchange rate (usually has been determined when the transaction is made).

When viewed from the time of exercising these rights the options are basically divided into two broad categories namely:

- a. European Type Option is an option that can only be exercised on a predetermined date. This date is commonly called the Exercise Date.
- b. American Type Option is an option that can be exercised on a predetermined date or before. So that the exercise time for American Type Option rights is from the date the option contract is signed until the Exercise Date.

#### **The function of Options is as follows:**

- 1) Protection of asset values. (Share value insurance)

One strategy commonly used with options is to protect the value of the portfolio against falling stock prices, by buying a Put option. By buying this Put option the investor has the right to sell his shares at a certain price even though in the market the price of the stock has dropped to zero though.

#### **1. Generate additional income from assets**

Investors will use a strategy known as the Covered Call to generate additional income from their shares. This is similar to an investor renting out his house, but in this case his shares are being leased.

#### **2. Investment Strategy**

Options can also function as an investment strategy. Because of the many strategies in options, options can be useful in a variety of market situations. Whether it's an uptrend, sideways or downtrend market.

These strategies, if properly understood and studied, will certainly help us get the results we want in a variety of market situations. So every time we can enter the market with a different strategy

Currency Options are alternative types of contracts that can be bought or sold by speculators or companies.

Currency options provided by:

- a. A number of exchanges
- b. Commercial banks
- c. Brokerage companies

## **2. The Types of Currency Option Market**

Currency options can be classified into 2 types, namely;

### **a. Currency Call Option**

Currency Call Option is a contract that gives the right to buy a certain currency at a certain exchange rate (price) for a certain period of time. Exercise Price or Strike Price is the price the option owner must pay when he wants to exercise his right to buy currency. Each Option has its own monthly due date.

According to Madura (2000: 131) an example of a currency call options transaction is that there is a possibility that a company's company will need foreign exchange in the future, but the company is not so sure. For example, suppose a US company is involved in tendering a project in Germany. If the project falls to the company, the company will need approximately DM62,500 to purchase raw materials and services in Germany, but the company does not know whether the offer will be accepted or not for the next three months. Assume that the exercise price for Mark is \$ 0.50 and the premium call option is \$ 0.02 per unit. The company will pay \$ 1250 per option ( $62,500 \times \$ 0.02$ ) or \$ 12,500 for 10 contracts. With this option in place, the maximum amount of US Dollar spending on Mark is \$ 312,500 ( $62,500 \times \$ 0.5$ ).

Call Options can be used if someone wants to wash the price to be paid for a currency in the future. If the spot rate of a currency rises beyond its strike price, the owner of the Call Option can exercise his rights by buying a valuat at the strike price that is lower than the spot rate.

This strategy is more or less the same as the strategy used by buyers of futures contracts, but futures contracts require the culprit to do something (that is, buy or sell), while the currency option does not require the buyer to do anything. Owners of Call Options that have matured only lose to the extent of the premium call (that is, the purchase price of the option) that they paid initially.

A Currency Call Option is classified into 3 types, namely:

1. In The Money is a term in which the exchange rate goes beyond (greater) than the strike price.

2. At The Money is a term in which the exchange rate runs the same as the strike price.
3. Out of Money is a term in which the exchange rate runs lower than the strike price.

For certain currencies and due dates, an In The Money Call Option will require a higher Premium than the At The Money or Out of Money option.

Factors Affecting Premium Call Options, namely:

### **1. Spot rates run relative to Strike Price**

The higher the spot rate goes relative to the strike price, the higher the option price. This is because the higher the probability of buying a currency at a price much lower than the sale price. This relationship can be verified by comparing premiums from currency options and certain due dates that have different strike prices.

### **2. The Length of Time Before the Due Date**

In general it is estimated that the spot rate has a greater chance of rising beyond the strike price if the maturity period is still long. This relationship can be verified by comparing the premium of certain currency options and strike prices that have different maturity dates.

### **3. Currency Variability**

The greater the variability of currencies, the higher the probability that the spot rate will surpass the strike price. So, Call Options from more volatile currencies will have higher prices. Example: The Canadian dollar is a more stable currency than other currencies. If the other factors are all the same, the price of the Canadian dollar call option will be cheaper than the price of the call option of other currencies.

Call Options can and are commonly used by companies to protect or cover open position payable from international financial transactions. For example, the USA company will bid for a project worth CHF 625,000 in the next three months, so it contracts with the CHF Call Option assuming the following:

Exercise / strike price = USD 0.50 CHF

Call Option Premium = USD 0.02 CHF

Future Spot Rate = USD 0.53 CHF

The standard contract unit for the Currency Option is  $\frac{1}{2}$  of the Future Currency for the CHF which is  $\frac{1}{2} \times 125,000 = 62,500$ , therefore 10 units of the Option Contract are needed.

Premium fee =  $10 \times 62,500 \times \text{USD } 0.02 = \text{USD } 12,500$

Exercise Price =  $\text{CHF } 625,000 \times \text{USD } 0.50 = \text{USD } 312,500$

If the Future Spot Rate assumption becomes reality, then the need for funds =  $\text{CHF } 625.00 \times \text{USD } 0.53 = \text{USD } 331,500$

By doing this Call Option, then avoid losses of USD 331,500 - 325,000 = USD 6,250

### **b. Currency Put Option**

Currency Put Option is a contract that gives the right to sell a certain currency at a certain exchange rate / strike price for a certain period of time. The owner of the Currency Put Option is given the right to sell a currency at a certain price (strike price) for a certain period of time. As with call options, put option owners are not required to exercise their option rights. Thus, the maximum potential loss for the put option owner is the amount of the premium paid when buying the option.

**A Currency Put Option is classified into 3 types, namely:**

1. In The Money is a term in which the exchange rate runs smaller than the strike price.
2. At The Money is a term in which the exchange rate runs the same as the strike price.
3. Out of Money is a term in which the exchange rate runs higher than the strike price.

For certain currencies and due dates, an In The Money Put Option will require a higher Premium than the At The Money or Out of Money option.

**Factors Affecting Premium Put Options, namely:**

#### **1. Spot rates run relative to Strike Price**

The lower the spot rate goes relative to the strike price, the more valuable the put option is, because the more likely the put option is used.

#### **2. The Length of Time Before the Due Date**

What affects the premium put option is the length of time until the due date is the same as the call option, the longer the due date, the greater the premium. A longer period creates a greater probability of currency fluctuation and the more likely the option will be used. This relationship can be tested by assessing premium put option quotes for a certain currency with different maturity dates.

#### **3. Currency Variability**

The greater the currency variability, the greater the premium put option, which again reflects what will be used.

Put Options can and are commonly used by companies to protect or cover the acceptable open positions of international financial transactions. The USA company has a bill of GBP 31,250 which will mature in the next three months, so he entered into a Put Option contract with the following assumptions:

Exercise / strike price = USD 1,400 GBP

Call Option Premium = USD 0.016 GBP

Future Spot Rate = USD 1,300 GBP

The standard contract unit for the Currency Option is  $\frac{1}{2}$  of the Currency Future for GBP, which is  $\frac{1}{2} \times 62,500 = 31,250$ , therefore only 1 Option Contract is needed.

Premium fee =  $1 \times 31,250 \times \text{USD } 0.016 = \text{USD } 500$

Exercise Price =  $\text{GBP } 31,250 \times \text{USD } 1.40 = \text{USD } 43,750$

If the Future Spot Rate assumption becomes reality then the need for funds =  $\text{GBP } 31,250 \times \text{USD } 1.30 = \text{USD } 40,625$

By placing this option, you can avoid losses of  $(\text{USD } 43,750 - \text{USD } 500) - \text{USD } 40,625 = \text{USD } 2,625$

According to Madura (2000: 67-68) explains the Currency Options market is a market that facilitates trade in currency options contracts. Currency options contracts can be classified as call or put. A currency call Options provides the right to buy a certain currency at a certain price (which is called the strike price or exercise price) within a certain time period. currency call options are used to hedge foreign currency debts that must be paid in the future. currency put options give the right to sell a foreign currency at a certain price within a certain time period. Currency put options are used to hedge foreign currency receivables that will be received in the future. Futures and Option markets are used to anticipate foreign exchange risks arising from business transactions and also for speculative purposes. Usually referred to as derivative securities (derivative securities).

Derivative securities are generally used to protect investors from financial risk, for example in food companies that depend on input from the wheat market, can protect themselves from the fluctuation of wheat prices (for example due to flooding or drought causing wheat prices to rise) by buying futures contracts.

### **3. Straddle strategy**

A straddle is a trading strategy that involves options. To use a straddle, a trader buys/sells a Call option and a Put option simultaneously for the same underlying asset at a certain point of time provided both options have the same expiry date and same strike price. A trader enters such a neutral combination of trades when the price movement is not clear.

In an ideal situation, the two opposite trades can offset losses if either of the options fails. In this strategy, one can go 'either' long (buy) on both options i.e. Call & Put, 'or' short (sell) both. The eventual outcome of the strategy depends entirely on the quantum of price movement on the security in question. In other words, the degree of price movement, rather than the direction of price movement, affects the outcome.

**A straddle strategy involves the following:**

- 1) Either buying or selling of call/put options,
- 2) The options should have the same underlying asset,
- 3) They should be traded at the same strike price,
- 4) And they must have same expiry date/expiration

**DESCRIPTION:**

A straddle option works on the neutral ground that price can move in either direction, but the movement should be volatile. To get best results from the strategy, one should go for a straddle strategy when there is enough time to expiry.

A trader should enter at-the-money options (means the strike price of the options should be equal to the price of the underlying) or close to it at the time of purchase or sale. The idea is to benefit when there are high/low price variations so that the new values of Call/Put options are far greater/lesser than the values when the strategy was started. This can offset the cost of the trade and the remainder can be profit.

**Cost for any straddle involves two points:**

- Call option – Premium (value of option)
- Put option – Premium (value of option)

**Long Straddle:** This involves buying both Call and Put options with the same expiry date, strike price and underlying security (index, commodity, currency, interest rates). The best time to buy Call/Put options is when they are undervalued or discounted irrespective of how the spot price of the security moves. The strategy involves limited risk, as the cost of both the options is the maximum value that the trader can lose in this trade.

**Breakeven points for a long straddle are:**

Upper breakeven point = Long Call option (strike price + premium paid (value of option))

Lower breakeven point = Long Put option (strike price – premium paid (value of option))

**Short Straddle:** This involves selling both call and put options with the same expiry date, strike price and underlying security (index, commodity, currency, interest rates). The best time to sell call/put options is when they are overvalued irrespective of where the spot price of security moves and by how much. This strategy involves unlimited risk, as one may lose up to entire value of the security in case of sale of both options, but profit will be limited to the premiums received on both options.

Conducted by investors who have estimates that stock price movements are not too large or the stock price is relatively unchanged

**Breakeven points for short straddle strategy are:**

Upper breakeven point = Short Call option (strike price + premium received(value of option))

Lower breakeven point = Short Put option (strike price – premium received (value of option)).

## Chapter 6.

### Currency Exchange of Inflation & Rates

**Interest Rate Parity**

Interest Rate Parity (IRP) is a theory in which the differential between the interest rates of two countries remains equal to the differential calculated by using the forward exchange rate and the spot exchange rate techniques.

Interest rate parity connects interest, spot exchange, and foreign exchange rates. It plays a crucial role in Forex markets.

IRP theory comes handy in analyzing the relationship between the spot rate and a relevant forward (future) rate of currencies

Interest rate parity is the fundamental equation that governs the relationship between interest rates and currency exchange rates.

The basic premise of interest rate parity is that hedged returns from investing in different currencies should be the same, regardless of the level of their interest rates.

If one country offers a higher risk-free rate of return in one currency than that of another, the country that offers the higher risk-free rate of return will be exchanged at a more expensive future price than the current spot price.

In other words, the interest rate parity presents an idea that there is no arbitrage in the foreign exchange markets.

Investors cannot lock in the current exchange rate in one currency for a lower price and then purchase another currency from a country offering a higher interest rate.

**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.

### **Limitations of IRP**

Interest rate parity has been criticized based on the assumptions that come with it. For instance, the covered IRP model assumes that there are infinite funds availability that can be used for currency arbitrage, which is obviously not realistic. When futures or forward contracts are not available to hedge, uncovered interest rate parity does not tend to hold in the real world.

### **Power Parity (PPP)**

PPP is an economic theory that compares different countries' currencies through a "basket of goods" approach.

According to this concept, two currencies are in equilibrium—known as the currencies being at par—when a basket of goods is priced the same in both countries, taking into account the exchange rates.

### **International Fisher Effect**

is an economic theory stating that the expected disparity between the exchange rate of two currencies is approximately equal to the difference between their countries' nominal interest rates.

The IFE is based on the analysis of interest rates associated with present and future risk-free investments, such as Treasuries, and is used to help predict currency movements.

### **The Fisher Effect and the International Fisher Effect**

The Fisher Effect and the IFE are related models but are not interchangeable. The Fisher Effect claims that the combination of the anticipated rate of inflation and the real rate of return are represented in the nominal interest rates.

The IFE expands on the Fisher Effect, suggesting that because nominal interest rates reflect anticipated inflation rates and currency exchange rate changes are driven by inflation rates, then currency changes are proportionate to the difference between the two nations' nominal interest rates.

### **Application of the International Fisher Effect**

when interest rates were adjusted by more significant magnitudes, the IFE held more validity. However, in recent years inflation expectations and nominal interest rates around the world are generally low, and the size of interest rate changes is correspondingly relatively small.

Direct indications of inflation rates, such as consumer price indexes (CPI), are more often used to estimate expected changes in currency exchange rates.

### **The International Definition of Parity Conditions**

A set of equations that link Spot Product Prices (Interest Rates) and Forward exchange rates With a market record or efficient efficiency market. Efficient market means: No transportation costs no Tariff (entry tax) no Quota no Product Differentiation

## **Chapter 7.**

### **Midtest**

## Chapter 8.

### SWAP Currency

#### SWAP CURRENCY

A currency swap is an agreement in which two parties exchange the principal amount of a loan and the interest in one currency for the principal and interest in another currency. At the inception of the swap, the equivalent principal amounts are exchanged at the spot rate. During the length of the swap each party pays the interest on the swapped principal loan amount.

At the end of the swap the principal amounts are swapped back at either the prevailing spot rate, or at a pre-agreed rate such as the rate of the original exchange of principals. Using the original rate would remove transaction risk on the swap. Currency swaps are used to obtain foreign currency loans at a better interest rate than a company could obtain by borrowing directly in a foreign market or as a method of hedging transaction risk on foreign currency loans which it has already taken out. We will consider how a fixed for fixed currency swap works by looking at an example. An American company may be able to borrow in the United States at a rate of 6%, but requires a loan in rand for an investment in South Africa, where the relevant borrowing rate is 9%. At the same time, a South African company wishes to finance a project in the United States, where its direct borrowing rate is 11%, compared to a borrowing rate of 8% in South Africa.

Each party can benefit from the other's interest rate through a fixed-for-fixed currency swap. In this case, the American company can borrow U.S. dollars for 6%, and then it can lend the funds to the South African company at 6%. The South African company can borrow South African rand at 8%, then lend the funds to the U.S. company for the same amount. Currency swaps can also involve exchanging two variable rate loans, or fixed rate borrowing for variable rate borrowing. Let's consider a case where a company exchanges fixed rate borrowing for variable rate borrowing. Barrow Co, a company based in the USA, wants to borrow €500m over five years to finance an investment in the Eurozone.

Today's spot exchange rate between the Euro and US \$ is  $\text{€}1.1200 = \$1$ .

Barrow Co's bank can arrange a currency swap with Greening Co. The swap would be for the principal amount of €500m, with a swap of principal immediately and in five years' time, with both these exchanges being at today's spot rate.

Barrow Co's bank would charge an annual fee of 0.4% in € for arranging the swap.

The benefit of the swap will be split equally between the two parties.

## **Interest Rate Swaps Explained**

Interest rate swaps are the exchange of one set of cash flows for another. Because they trade over the counter (OTC), the contracts are between two or more parties according to their desired specifications and can be customized in many different ways. Swaps are often utilized if a company can borrow money easily at one type of interest rate but prefers a different type.

There are three different types of interest rate swaps: Fixed-to-floating, floating-to-fixed, and float-to-float.

### **Fixed to Floating**

For example, consider a company named TSI that can issue a bond at a very attractive fixed interest rate to its investors. The company's management feels that it can get a better cash flow from a floating rate. In this case, TSI can enter into a swap with a counterparty bank in which the company receives a fixed rate and pays a floating rate. The swap is structured to match the maturity and cash flow of the fixed-rate bond and the two fixed-rate payment streams are netted. TSI and the bank choose the preferred floating-rate index, which is usually LIBOR for a one-, three- or six-month maturity. TSI then receives LIBOR plus or minus a spread that reflects both interest rate conditions in the market and its credit rating.

### **Floating to Fixed**

A company that does not have access to a fixed-rate loan may borrow at a floating rate and enter into a swap to achieve a fixed rate. The floating-rate tenor, reset and payment dates on the loan are mirrored on the swap and netted. The fixed-rate leg of the swap becomes the company's borrowing rate.

### **Float to Float**

Companies sometimes enter into a swap to change the type or tenor of the floating rate index that they pay; this is known as a basis swap. A company can swap from three-month LIBOR to six-month LIBOR, for example, either because the rate is more attractive or it matches other payment flows. A company can also switch to a different index, such as the federal funds rate, commercial paper or the Treasury bill rate.

### **Real World Example of an Interest Rate Swap**

Suppose that PepsiCo needs to raise \$75 million to acquire a competitor. In the U.S., they may be able to borrow the money with a 3.5% interest rate, but outside of the U.S., they may be able to borrow at just 3.2%. The catch is that they would need to issue the bond in a foreign currency, which is subject to fluctuation based on the home country's interest rates.

PepsiCo could enter into an interest rate swap for the duration of the bond. Under the terms of the agreement, PepsiCo would pay the counterpart a 3.2% interest rate over

the life of the bond. The company would then swap \$75 million for the agreed upon exchange rate when the bond matures and avoid any exposure to exchange-rate fluctuations.

## **Cross-Currency Swap Definition and Example**

### **What is a Cross-Currency Swap?**

Cross-currency swaps are an over-the-counter (OTC) derivative in a form of an agreement between two parties to exchange interest payments and principal denominated in two different currencies. In a cross-currency swap, interest payments and principal in one currency are exchanged for principal and interest payments in a different currency. Interest payments are exchanged at fixed intervals during the life of the agreement. Cross-currency swaps are highly customizable and can include variable, fixed interest rates, or both.

Since the two parties are swapping amounts of money, the cross-currency swap is not required to be shown on a company's balance sheet.

### **Currency Swap**

#### Exchange of Principal

In cross-currency, the exchange used at the beginning of the agreement is also typically used to exchange the currencies back at the end of the agreement. For example, if a swap sees company A give company B £10 million in exchange for \$13.4 million, this implies a GBP/USD exchange rate of 1.34. If the agreement is for 10 years, at the end of the 10 years these companies will exchange the same amounts back to each other, usually at the same exchange rate. The exchange rate in the market could be drastically different in 10 years, which could result in opportunity costs or gains. That said, companies typically use these products to hedge or lock in rates or amounts of money, not speculate.

The companies may also agree to mark-to-market the notional amounts of the loan. This means that as the exchange rate fluctuates small amounts of money are transferred between the parties to compensate. This keeps the loan values the same on a marked-to-market basis.

#### Exchange of Interest

A cross-currency swap can involve both parties paying a fixed rate, both parties paying a floating rate, one party paying a floating rate while the other pays a fixed rate. Since these products are over-the-counter, they can be structured in any way the two parties want. Interest payments are typically calculated quarterly.

The interest payments are usually settled in cash, and not netted out, since each payment will be in a different currency. Therefore, on payment dates, each company pays the amount it owes in the currency they owe it in.

## **The Uses of Currency Swaps**

Currency swaps are mainly used in three ways.

First, currency swaps can be used to purchase less expensive debt. This is done by getting the best rate available of any currency and then exchanging it back to the desired currency with back-to-back loans.

Second, currency swaps can be used to hedge against foreign exchange rate fluctuations. Doing so helps institutions reduce the risk of being exposed to large moves in currency prices which could dramatically affect profits/costs on the parts of their business exposed to foreign markets.

Last, currency swaps can be used by countries as a defense against a financial crisis. Currency swaps allow countries to have access to income by allowing other countries to borrow their own currency.

- Cross-currency swaps are used to lock in exchange rates for set periods of time.
- Interest rates can be fixed, variable, or a mix of both.
- These instruments trade OTC, and can thus be customized by the parties involved.
- While the exchange rate is locked in, there is still opportunity costs/gains as the exchange rate will likely change. This could result in the locked-in rate looking quite poor (or fantastic) after the transaction occurs.
- Cross-currency swaps are not typically used to speculate, but rather to lock in an exchange rate on a set amount of currency with a benchmarked (or fixed) interest rate.

**Cross-currency interest rate swap (CIRS)** is an agreement by which the Bank and the Client undertake to exchange nominals and periodically exchange interest payments in two currencies. The objective of CIRS is to hedge against FX risk with opportunity to simultaneously hedge against interest rate risk in a given currency by way of an off-balance sheet swap of liability currency (e.g. into currency in which company's revenue is generated) and a change of interest risk profile.

### **Benefits:**

Simultaneous hedge against FX risk and interest rate risk in a long-term by adjustment of loan currency to currency exposure of the company and determination of a fixed financing costs thereby improving investment return predictability.

Transaction is a flexible instrument allowing to adjust its parameters to actual company exposure resulting from its financing agreements.

CIRS does not require changes to be introduced to outstanding credit or leasing agreements.

**Risk:**

Transaction valuation during the transaction tenor may be negative relative to prevailing, current FX rates and market interest rates (spot and forward) in transaction currencies. Hence, in case of early CIRS termination such outstanding amount becomes the Client's liability due and payable to the Bank.

## CHAPTER 9. Risk and Return

### 9.1. Risk and Return Fundamentals

In most important business decisions there are two key financial considerations: risk and return. Each financial decision presents certain risk and return characteristics, and the combination of these characteristics can increase or decrease a firm's share price. Analysts use different methods to quantify risk depending on whether they are looking at a single asset or a portfolio—a collection, or group, of assets.

**Risk Defined**

**Risk** is a measure of the uncertainty surrounding the return that an investment will earn or, more formally, the variability of returns associated with a given asset.

**Return** is the total gain or loss experienced on an investment over a given period of time; calculated by dividing the asset's cash distributions during the period, plus change in value, by its beginning-of-period investment value.

For many years, investors around the world clamored to invest with Bernard Madoff. Madoff generated high returns year after year, seemingly with very little risk. On December 11, 2008, the U.S. Securities and Exchange Commission (SEC) charged Madoff with securities fraud. Madoff's hedge fund, Ascot Partners, turned out to be a giant Ponzi scheme. Bernie Madoff was sentenced to 150 years in prison on June 29, 2009. What are some hazards of allowing investors to pursue claims based their most recent accounts statements? The expression for calculating the total rate of return earned on any asset over period  $t$ ,  $r_t$ , is commonly defined as

$$r_t = \frac{C_t + P_t - P_{t-1}}{P_{t-1}}, \text{ Where}$$

$r_t$  = actual, expected, or required rate of return during period  $t$

$C_t$  = cash (flow) received from the asset investment in the time period  $t - 1$  to  $t$

$P_t$  = price (value) of asset at time  $t$

$P_{t-1}$  = price (value) of asset at time  $t - 1$

## 9.2. Risk Preferences

Economists use three categories to describe how investors respond to risk.

**Risk averse** is the attitude toward risk in which investors would require an increased return as compensation for an increase in risk.

**Risk neutral** is the attitude toward risk in which investors choose the investment with the higher return regardless of its risk.

**Risk seeking** is the attitude toward risk in which investors prefer investments with greater risk even if they have lower expected returns.

### **Risk of a Single Asset: Risk Assessment**

Scenario analysis is an approach for assessing risk that uses several possible alternative outcomes (scenarios) to obtain a sense of the variability among returns. One common method involves considering pessimistic (worst), most likely (expected), and optimistic (best) outcomes and the returns associated with them for a given asset.

**Range** is a measure of an asset's risk, which is found by subtracting the return associated with the pessimistic (worst) outcome from the return associated with the optimistic (best) outcome.

**Probability is the chance that a given outcome will occur.**

**A probability distribution** is a model that relates probabilities to the associated outcomes.

**A bar chart** is the simplest type of probability distribution; shows only a limited number of outcomes and associated probabilities for a given event.

A continuous probability distribution is a probability distribution showing all the possible outcomes and associated probabilities for a given event.

### **Risk Measurement**

Standard deviation ( $\sigma$ ) is the most common statistical indicator of an asset's risk; it measures the dispersion around the expected value.

Expected value of a return ( $r$ ) is the average return that an investment is expected to produce over time.

$$\bar{r} = \sum_{j=1}^n r_j \times Pr_j$$

where

$r_j$  = return for the  $j$ th outcome

$Pr_j$  = probability of occurrence of the  $j$ th outcome

$n$  = number of outcomes considered

### 9.3. Standard Deviation

The expression for the standard deviation of returns,  $\sigma_r$ , is

$$\sigma_r = \sqrt{\sum_{j=1}^n (r_j - \bar{r})^2 \times Pr_j}$$

In general, the higher the standard deviation, the greater the risk.

#### **All Stocks Are Not Created Equal**

Stocks are riskier than bonds, but are some stocks riskier than others?

A recent study examined the historical returns of large stocks and small stocks and found that the average annual return on large stocks from 1926-2011 was 9.8%, while small stocks earned 11.9% per year on average.

#### **The higher returns on small stocks came with a cost, however.**

The standard deviation of small stock returns was a whopping 32.8%, whereas the standard deviation on large stocks was just 20.5%.

#### **Coefficient of Variation**

The coefficient of variation, CV, is a measure of relative dispersion that is useful in comparing the risks of assets with differing expected returns.

$$CV = \frac{\sigma_r}{\bar{r}}$$

A higher coefficient of variation means that an investment has more volatility relative to its expected return.

### 9.4. Risk of a Portfolio

In real-world situations, the risk of any single investment would not be viewed independently of other assets.

New investments must be considered in light of their impact on the risk and return of an investor's portfolio of assets.

The financial manager's goal is to create an efficient portfolio, a portfolio that maximum return for a given level of risk.

#### **Risk of a Portfolio: Diversification**

To reduce overall risk, it is best to diversify by combining, or adding to the portfolio, assets that have the lowest possible correlation.

Combining assets that have a low correlation with each other can reduce the overall variability of a portfolio's returns.

Uncorrelated describes two series that lack any interaction and therefore have a correlation coefficient close to zero.

## **9.5. International Diversification**

The inclusion of assets from countries with business cycles that are not highly correlated with the U.S. business cycle reduces the portfolio's responsiveness to market movements. Over long periods, internationally diversified portfolios tend to perform better (meaning that they earn higher returns relative to the risks taken) than purely domestic portfolios. However, over shorter periods such as a year or two, internationally diversified portfolios may perform better or worse than domestic portfolios.

Currency risk and political risk are unique to international investing.

## **CHAPTER 10. Review and Exercise**

### **1. How does spot rate differ from forward rate?**

A spot rate is a contracted price for a transaction that is taking place immediately (it is the price on the spot). It is the current market value of an asset at the moment of the quote.

A forward rate on the other hand, is the settlement price of a transaction that will not take place until a predetermined date in the future; it is a forward-looking price. The term forward rate may also refer to the rate fixed for a future financial obligation, such as the interest rate on a loan payment.

### **2. What are the advantages of the currency option market compared to the forward market?**

Option market is not mandatory but is entitled to be done in the future (if the option is profitable at maturity (compared to foreign exchange prices on the market at that time) then we will realize it, but if it is detrimental then the option / right can be canceled, foreign exchange users only lost the cost of the acquisition fee, but the value of the option is not lost).

### **3. What is meant by straddle? And when should we do the action?**

Straddle is to do both call options and put options, usually done if the forex fluctuates sharply and the direction of appreciation and depression is uncertain, carried out by a speculator who does not need foreign exchange for transactions but solely for profit.

### **4. How does a currency futures contract work?**

An FX futures or currency futures contract is a type of foreign exchange derivative, where a buyer agrees to buy one currency in exchange for another currency, at a

future date and at a current agreed upon price by both buyer and seller at the moment of creating the contract.

### **5. How do you deal with currency markets?**

All currency trading is done in pairs. Unlike the stock market, where you can buy or sell a single stock, you have to buy one currency and sell another currency in the forex market. Next, nearly all currencies are priced out to the fourth decimal point. A pip or percentage in point is the smallest increment of trade.

### **6. Why central banks affect the forex market ?**

The Central Bank has the duty to regulate the economic and monetary stability of a country, one of them regulates and sets the interest rate of a country while interest rates have a great influence on the forex market.

### **7. What do we mean by the expected future spot rate and how to estimate it ?**

The currency exchange rate that is expected to be in effect in the spot market on some specified date in the future. The expected spot rate is estimated by analyzing trends in the exchange rate.

### **8. How does Forward Rates works in practice?**

To mitigate reinvestment risks, the investor could enter into a contractual agreement that would allow him or her to invest funds six months from now at the current forward rate.

Now, fast-forward six months. If the market spot rate for a new six-month investment is lower, the investor could use the forward rate agreement to invest the funds from the matured t-bill at the more favorable forward rate. If the spot rate is high enough, the investor could cancel the forward rate agreement and invest the funds at the prevailing market rate of interest on a new six-month investment.

### **9. What are the factors that affect Premium Call Options?**

#### **A. Spot rates run relative to Strike Prices**

The higher the spot rate goes relative to the strike price, the higher the option price. This is because the higher the probability of buying a currency at a price much lower than the sale price. This relationship can be verified by comparing premiums from currency options and certain due dates that have different strike prices.

#### **B. The Length of Time Before the Due Date**

In general it is estimated that the spot rate has a greater chance of rising beyond the strike price if the maturity period is still long. This relationship can be verified by comparing the premium of certain currency options and strike prices that have different maturity dates.

### **C. Currency Variability**

The greater the variability of currencies, the higher the probability that the spot rate will surpass the strike price. So, Call Options from more volatile currencies will have higher prices. Example: The Canadian dollar is a more stable currency than other currencies. If the other factors are all the same, the price of the Canadian dollar call option will be cheaper than the price of the call option of other currencies.

**10.** In the foreign exchange market, foreign exchange option transactions can be interpreted as a financial instrument that gives the holder the right to buy or sell a certain currency in a certain amount at a certain time in the future and or previously at a predetermined rate of exchange,

**11. When viewed from the time to exercise these rights divided into how many groups? Explain?**

A. European Type Option is an option that can only be exercised on a predetermined date. This date is commonly called the Exercise Date.

B. American Type Option is an option that can be exercised on a predetermined date or before. So that the exercise time for American Type Option rights is from the date the option contract is signed until the Exercise Date.

**12. Advantage of Floating Exchange Rates:**

**Floating exchange rates have the following advantages:**

**1. Automatic Stabilisation:**

Any disequilibrium in the balance of payments would be automatically corrected by a change in the exchange rate. For example, if a country suffers from a deficit in the balance of payments then, other things being equal, the country's currency should depreciate.

This would make the country's exports cheaper, thus increasing demand, while at the same time making imports expensive and decreasing demand. The balance of payments equilibrium would therefore be restored. On the contrary, a balance of payments surplus would be automatically eliminated through a change in the exchange rate.

**2. Freeing Internal Policy:**

Under the floating exchange rate system the balance of payments deficit of a country can be rectified by changing the external price of the currency. On the country if a fixed exchange rate policy is adopted, then reducing a deficit could involve a general deflationary policy for the whole economy, resulting in unpleasant consequences such as unemployment and idle capacity.

Thus, a floating exchange rate allows a government to pursue internal policy objectives such as full employment growth in the absence of demand-pull inflation without external constraints (such as debt burden or shortage of foreign exchange).

### **3. Absence of Crisis:**

The periods of fixed exchange rates were frequently characterised by crisis as too much pressure was put on central bank to devalue or revalue the country's currency. However, the central bank that devalued a currency by giving out too much of it would soon either stop or run out of it.

Similarly the central banks that revalued a currency by giving out too little of it in exchange for other currencies would soon be flooded with that currency as it would get relatively large amounts of other currencies. Under floating exchange rate system such changes occur automatically. Thus, the possibility of international monetary crisis originating from exchange rate changes is automatically eliminated.

### **4. Management:**

J. E. Meade has pointed out that under the floating exchange rates system national governments enjoy considerable discretion. To be more specific, governments are free to manipulate the external value of their currency to their own advantage.

### **5. Flexibility:**

Changes in world trade since the first oil crisis of 1973 have caused great changes in the values of currencies. How these could have been dealt with under a system of fixed exchange rate is not yet clear.

### **6. Avoiding Inflation:**

John Beardshaw has argued that, "A floating exchange rate helps to insulate a country from inflation elsewhere. In the first place, if a country were on a fixed exchange rate then it would 'import' inflation by way of higher import prices. Secondly, a country with a payments surplus and a fixed exchange rate would tend to 'import' inflation from deficit countries."

### **7. Lower Reserves:**

Finally, floating exchange rates should mean that there is hardly any need to maintain large reserves to develop the economy. These reserves can therefore be fruitfully used to import capital goods and other items in order to promote faster economic growth.

### **Disadvantages of Floating Exchange Rates:**

#### **Floating exchange rates have the following disadvantages:**

##### **1. Uncertainty:**

The very fact that currencies change in value from day to day introduces a large element of uncertainty into trade. A seller may not be quite sure of how much money

he will receive when he sells goods abroad. Some of this uncertainty may be reduced by companies buying currency ahead in forward exchange contracts.

**2. Lack of Investment:**

The uncertainty introduced by floating exchange rates may discourage direct foreign investment (i.e., investment by multinational companies).

**3. Speculation:**

The day-to-day fluctuations in exchange rates may encourage speculative movements of 'hot money' from country to country, thereby cause more and mooring exchange rate fluctuations.

**4. Lack of Discipline:**

The need to maintain an exchange rate imposes a discipline upon the national economy. It is quite possible that with a floating exchange rate such short-run problems as domestic inflation may be ignored until they have created crisis situations.

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