

Chapter 3: Financial Futures

3.1 Derivatives Products

A derivative instrument is an instrument whose value depends on the value of some other more basic underlying instrument, such as

- Commodity prices;
- Exchange rates;
- Interest rates; and
- Share prices

These prices and rates are derived from traded commodity such as oil, metal, foreign currency etc. **Derivative instruments can be traded in an organised exchange or over-the-counter (OTC).** Exchange traded derivative instruments will often have standardised features whereby everyone trades similar contracts, whereas OTC derivative instruments are often customised for specific investors. There is also usually a clearing house for exchange traded derivatives which guarantees the performance of all contracts. Therefore, the counter party risk for exchange traded derivatives is often minimal. In the case of OTC derivatives, the counter party risk is significant because the derivative contract is a private agreement between two parties. One of which is usually a financial institution.

A futures contract is like a forward contract except that it is traded in an organised exchange. As a result, the exchange specifies certain standardised features of the contract.

Some of the standardised features include:-

- The underlying instruments;
- The contract size; and
- The delivery months.

Futures main advantages over forward contracts are flexibility and liquidity.

Futures positions can be closed at any time before expiration without affecting the other party of the transaction. Thus giving flexibility to the buyer or seller of the futures contract. Liquidity in the futures market ensures that price discovery process is competitive making the price in which hedgers can hedge their position fair compared to forward contracts which prices are often negotiated between the parties.

The initiative for financial futures was provided by the collapse of the fixed-exchange rate in the early 1970s. The Chicago Mercantile Exchange then anticipated that the demand for an efficient way to hedge financial risk would grow. The adoption of floating exchange rates was to lead to increased volatility in short-term and long-term interest rates.

The first financial futures contracts were the foreign currency futures contracts that began trading on 16 May 1972 on the International Monetary Market (IMM), a division of the CME. This was followed by the introduction of the first interest rate futures contract

based on the US Government National Mortgage Association (GNMA) securities launched by the Chicago Board of Trade (CBOT) on 20 October 1975. The first cash settled futures contract was the Eurodollar Time Deposit futures contract, which began trading on the IMM on 9 December 1981. Since then, financial futures trading has experienced tremendous growth with may futures exchange volume now dominated by financial futures. History of Futures Markets per Appendix A and Most Popular Futures Contracts per Appendix B

In 1980s saw the expansion of futures trading in other asset classes. The first stock index futures contract, the Value Line Index Futures Contract was introduced by the Kansas City board of Trade in 1982. The late 1980s to early 1990s also saw a proliferation of new futures exchanges world wide. Almost every sophisticated financial capital established a financial derivatives exchange while most aspiring financial centres announced plans to launch a new exchange specialising in financial derivatives. Growth in World-wide Derivatives per Appendix C and Volume of top ten Futures and Options per Appendix D. This development is no doubt due to the recognised usefulness of financial futures and options in today's volatile capital markets. Today, the advent of financial derivatives is often acknowledged as the most important financial innovation of the twentieth century.

Financial futures contracts are used directly by those exposed to risk and, more significantly, by financial institutions needing to hedge their books of over-the-counter (OTC) products. Trading in financial futures has become so significant that in a number of

important markets the volume of futures traded exceeds that in the original market upon which the contract was based. For example, the value of the shares represented by trading in the S&P stock-index futures each day normally exceeds that of the actual shares traded on the New York Stock Exchange.

From its beginning in the mid-1800s, formalised futures trading has grown to encompass a large family of commodities and financial instruments. Today's futures industry encompasses major U.S exchanges that provide the setting for active trading in futures contracts on approximately 80 different commodities and financial instruments. There are new contracts being added constantly and some being dropped for lack of activity. In recent years trading on these exchanges has exceeded 100 million contracts annually, with a still growing value of more than \$10 trillion. Futures trading takes place in exchanges located in a variety of cities including London, Hong Kong, Tokyo, Paris, Singapore, Sydney, Sao Paulo, and Winnipeg, to mention the more important ones.

3.1.1 Trading System

Open Outcry trading

Malaysia is operating under this open outcry trading system. The most visible and exciting part of an exchange is the trading floor which is the scene of the open outcry through which futures contracts are traded. While the size, arrangement, and facilities of the trading floor vary among the exchanges, certain features are common to all.

The central points of the trading floor are the trading pits or rings-specified areas in which the floor brokers and floor traders do their buying and selling. The pits are raised octagonal platforms with descending steps on the inside, which permits all the buyers and sellers to see each other. All futures trades will be executed in the trading pit on the Exchange trading floor during specified trading hours. The bids and offers are made audibly in the designated area/pit and instantly displayed on screen. A system of hand signals is used to speed up trading and information flow. In the trading area there are Floor Traders and Locals. Orders may only be executed by authorised floor representatives of a member who are clearly recognised by their coloured trading jacket and identity badges.

Automated Trading System

On the other hand, options are often traded in an automated environment, that is, screen based trading like most stock exchanges now. In an automated trading system, the futures brokers will key in the bids and offers into the system. The bids and offers will be raked accordingly to the best bids and offers followed by the timing in which these quotes are entered into the system. A match will occur when the bid price is equal to or greater than the ask price. A fully automated system will ensure transparency and fairness in that all traders will have access to the same information set. It will also help minimise manual efforts which in turn reduces cost in the long run.

List of Exchange on Open outcry or Screen-Based Trading is provided per Appendix E.

3.1.2 Market Institutions and Roles

a. Market Overview

The market frame work of the futures and options in Malaysia and MME Membership Clearing Structure are given in Appendix F.

From these diagrams there are essentially six groups of people having interest in the futures industry:

- The Regulators
- The Exchange
- The Clearing House
- The Futures Brokers
- The Futures Trading Adviser; and
- Investors and Speculators

3.2 Stock Index Futures

Most people are familiar with basic concept of a stock Index as a mathematically derived number representing the level of the stock market at any moment in time. The best known are the Dow-Jones Industrial Average (DJIA), the Nikkei and the FTSE 100.

The KLCI was first published by KLSE in 1986. To date, it has established itself as the benchmark of market performance for the Malaysian equities market, and is perhaps the most widely followed in the financial community.

The KLSE is one of the most liquid markets in Asia. Liquidity is helped by an active domestic retail market, which often accounts for more than 50% of market turnover. Foreigners are able to buy shares on the exchange and, like locals, do not pay any capital gains tax on their profits. Unlike relatively closed markets (Korea and Taiwan) and

markets with restrictions on foreign holdings (Thailand), the Malaysian market is open to direct foreign portfolio investment, with the exception of a maximum foreign ownership limit for some banks and strategic companies.

The companies that make up the KLSE CI are some of the Malaysia's largest publicly listed corporations and are among the most heavily traded issues on the KLSE (per Appendix G). The index serves to reflect the performance of the stock market as a whole, i.e., the combined experience of most investors in stocks.

The KLSE CI is a capitalisation-weighted index. This means the impact on the index of a price change in any given stock will depend on the size of that company's capitalisation. Capitalisation is determined by the price of the stock multiplied by the number of shares outstanding. Higher capitalised stocks will have a greater impact on the level of the index than lower capitalised stocks. **A capitalisation-weighted index is generally a more instructive economic indicator** as the aggregate valuation of component companies is reflected in the index value.

On the 18th of April 1995, the KLSE CI was substantially restructured with particular emphasis on the liquidity of the component stocks, sectoral representation; and was capped at 100 stocks.

Some of the criteria drawn up for inclusion and exclusion of components are:-

Companies whose annual volume and/or market capitalisation fall within the first three quartiles of the Main Board companies' volume and market capitalisation will be considered for inclusion.

- Companies whose annual volume and /or market capitalisation fall within the last quartile of the Main Board companies; volume and market capitalisation will be considered for exclusion
- Companies that are more than 50 percent owned by any KLSE CI component company and which in fact are defined as subsidiaries by the Malaysian Companies Act are excluded.

The KLCI index is presently calculated and disseminated on a minute-to-minute basis. With the new emphasis on sectoral representation and capping of the KLCI at 100 stocks, the combined weightage of the ten components with the highest weightages was reduced from 55.64 percent to 49.31 percent. This was a significant change and the index, now more than before, effectively reflects the broad spectrum of the Malaysian economy.

3.2.1. Contract Value

The value of a stock index futures contract is calculated by taking the product of the futures price and a contract multiplier (specified as a currency denomination). For the FKLI contract, the contract multiplier is RM100 (Appendix H). Suppose the market price

of a June FKL1 contract is 1028.87; the contract value would then be RM102,880 ($1028.8 \times \text{RM}100$).

Although stock indices are mathematically derived from the share prices and capitalisation of quoted companies, they only convey information about relative movements in share prices over time and say nothing about the absolute level of the market. This is because the initial value for the index is an arbitrary number chosen when the index is first established or rebased.

Although the absolute level of a stock index is therefore arbitrary, it can be turned into something more meaningful by assigning a monetary value for each level of the index. For example, each full point of the KLCI could be assigned RM100 in value, so that an index level of 1200 would be “worth” RM120,000.

It may seem that we are getting further and further from reality by assigning an arbitrary monetary value to an index whose absolute level is also arbitrary. However, the device makes it possible to equate the “value” of a stock index with that of a specific basket of shares having the following specifications

- The total value of the shares must match the monetary value of the index
- The shares selected must correspond to the set of shares used to create the index.
- The amount of each holding must be in proportion to the market capitalisation of each of the companies

If the KLCI stood at 1280, the specific basket could be created by butting a portfolio of shares worth RM128,000.

The shares selected would be those of the companies comprising the KLCI index , and the relative value of each individual holding would correspond to the relative market capitalisation of each company within the index. The behaviour of this basket would then replicate the index exactly.

If the index went from 1280 to 1285, the arbitrary value of the index would increase from RM128,000 to RM128,500, and the value of the basket of shares would also increase to RM128,500.

The definition of stock index futures takes advantage of this feature. A stock index futures is a contract to buy or sell the face value of the underlying stock index, where the face value is defined as being the value of the index multiplied by a specified monetary amount.

Stock Index Futures Contract Unit Face Values on January 11 1996				
Stock Index	Value	Futures Multiplier	Face Value	Ringgit Equivalent
KLCI	1,046.79	RM100	RM104,679	104,679
S&P 500	598.48	US\$500	US\$299,240	757,077

Stock Index Futures Contract Unit Face Values on January 11 1996

Nikkei 225	20,377.92	¥1,000	¥20,377,920	499,259
FTSE 100	3,654.90	£25	£91,373	362,750
Hang Seng	10,429.82	HK\$50	HK\$521,491	176,263
DAX	2,329.51	DEM100	DEM232,951	419,312

3.2.2 Cash Settlement at Delivery

Unlike most other commodity or financial futures, deliveries against maturing stock index contracts are made by cash settlement. The primary reason for this is that the physical delivery of securities is not practical. The costs and the difficulties of delivering all the component securities of any broad-based index are too great. Also, the potential for manipulation at delivery time by those holding large blocks of the component stocks makes cash settlement a more viable method than that of traditional physical delivery.

Generally, there are two ways in which a stock index futures contract may be settled. A trader with an existing open position (whether long or short) may choose to :-

- ‘close-out’ his position by entering into an opposite trade or
- Perform the contract by ‘final cash settlement’ when the contract matures.

3.2.3 Contract Months & Maturity

All futures contracts have a pre-determined date when the contract matures and the underlying asset or instrument is deliverable. Please refer summary of FKLI contract specification in Appendix H/1.

For the FKLII contract, there will be four contract months available for trading at any point in time; and they are defined as the spot month, the next month, and the nearest next two quarters.

The contract quarterly months are specified to be March, June, September, and December. For example: in January, the available contracts months are January (Spot month), February (The next month), March (the nearest quarterly month), and June (the second nearest quarterly month).

At the end of January, the January contract expires; the February contract month becomes the spot month, the March contract become the next month, the June contract becomes the nearest quarterly month, and a new September contract month (being the second nearest quarterly month) becomes available for trading.

Stock index futures (SIF) have become a popular means of achieving short run adjustment in asset allocations for pension funds and other institutional investors. Differences between stocks and futures influence their relative prices and the degree to which they are employed in reallocating positions. Direct stock investments differ from futures contracts in ways that may be well suited for some investor's objectives. First, for exogenous hedging reasons, individual investors may prefer to hold tailored portfolio (et. Inflation sensitive or interest rate sensitive stocks) rather than a stock index. Of course, in aggregate, investors must hold the market index. Second, based on private information,

investors may believe they can distinguish between stocks of positive or negative value (relative to the index). Third, tax considerations may generate a preference for a tailored portfolio. Taxable investors who have accrued gains and losses on certain segments of their stock portfolio may prefer to tailor their trading by taking losses and deferring the realisation of gain. Therefore, stocks have certain advantage relative to futures. In contrast to stock positions, futures contracts offer the advantage of better market liquidity. This advantage of futures over stocks creates a trade-off for investors. For a given investor, a stock position may have advantages that exceed those of a futures position.

3.3 Interest Rate Futures

Since the introduction of GNMA futures on the Chicago Board of Trade in 1975, the role of interest rate futures in speculation, hedging, and portfolio management has expanded a great deal. The Eurodollar futures contract traded at Chicago Mercantile Exchange, is the most actively traded futures contract in the world and has by far the greatest open interest of any futures. The rapid growth in the volume of these markets stemmed from the increase risk and opportunity that greater interest rate volatility created for both borrowers and lenders since the early 1970s. The significant profit opportunities that are available to speculators played an equally important role in the expansion of these markets.

Established interest -rate futures contracts are used by a wide spectrum of financial market participants. Short-term interest rate futures, in particular, such as the Eurodollar contract at the CME, are used by bank treasurers for asset/liability management, swaps traders,

issuers of commercial paper and other interest-bearing securities, treasurers at international corporations with dollar-based assets, and others.

Three-month Kuala Lumpur Interbank Offered Rate (KLIBOR) futures contract is offered by MME as a hedging instrument on Ringgit interest rates. KLIBOR can be used to cover interest rate risk at the short end of the yield curve. It is a means of hedging the entire range of Ringgit-denominated money market instrument and other forms of Ringgit exposures. A summary of the 3-month KLIBOR futures contract specifications is attached per Appendix H/3.

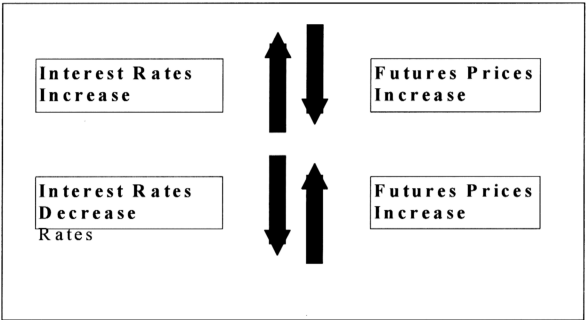
Advantages of KLIBOR Futures Contract

- Price transparency, as all bids, offers and transaction prices are immediately made public
- Cash Settlement at maturity
- Ability to net long and short position
- Minimal counterparty risk as open positions are marked to market every day. The resulting profits and losses are paid through variation margin via the Clearing House.

Similar to the other short-term interest rate futures contracts, the KLIBOR Futures will be priced on an index basis:-

$$KLIBOR\ Futures\ Price = 100.00 - Annual\ Interest\ Rate$$

Thus, the index must move inversely to the interest rate. If rates increases, the index declines and vice versa. For example, a three-month deposit rate of 6.00% shall be quoted as 94.00 in futures (100.00 minus 6.00)



Settlement

All open contracts at the end of each day shall be settled by the Clearing house at the settlement price. On the Last Trading Day(LTD), the Clearing House will obtain the KLIBOR Three-month Rate from Reuters reference page “KLIBOR”. The cash settlement rate on Reuters is determined by getting quotes from 20 major players. The 5 highest and 5 lowest quotes are then eliminated to arrive at the arithmetic mean, rounded off to two decimal places, and hence the settlement rate. On this day, BNM will ensure that all the rates on the Reuters “KLIBOR” screen page are updated by 11.00am.

3.3.1 The KLIBOR Cash Market

The KLIBOR is an interest rate determined by the borrowing and lending of funds in the Malaysian wholesale interbank market. Market participants consist of commercial and merchant banks, discount houses, finance companies and Cagamas (housing mortgage corporations). Thus, it is a wholesale, or institutional market. It is an offer rate at which professional participants in the interbank market are willing to lend funds to other approved institutions for various tenors, such as one, two three, six, nine and twelve months along the yield curve. The players bid for funds or offer to lend from or to each other in the interbank market. Most of the transactions are brokered by money brokers, but some transactions are also done directly.

MME launched a three-month Kuala Lumpur Interbank Offer Rate (KLIBOR) Futures Contract based on interbank interest rate on 3-month time deposit on RM1,000 in the Kuala Lumpur Wholesale Money Market. KLIBOR is an interest rate derived from the activities of borrowing and lending funds in the professional interbank market. The market players comprising of commercial and merchant banks, discount houses, finance companies and Cagamas, bid for funds or offer to lend from or to each other in the interbank market through money brokers and at times directly. As the rate is arrived at objectively, the KLIBOR is used by some banks as a benchmark for pricing loans to corporate bodies as well as for the pricing of other money market instruments.

The KLIBOR rate is used by some banks as a benchmark for pricing loans to corporate bodies because the rate is objectively arrived at through the process of borrowing and lending among a large number of major market participants. In addition, the various tenors along the yield curve serve as benchmark rates for the pricing of other money market instruments and commercial deposits such as repurchase agreements and fixed deposits. The yield curve also serves as a barometer of the direction of interest rates in the future.

The underlying financial instrument for interest rate futures in the case of the 3-month KLIBOR futures contract is defined as follow in the BNM guideline for principals and brokers in the wholesale money and foreign exchange markets ("the Malaysian Code of Conduct):

Ringgit Interbank Deposits

- i) A Ringgit interbank deposit is defined as a placement of money by an approved interbank institution on terms that the principal would be repaid with interest quoted in percent per annum on the maturity date of the deposit.
- ii) The market in Ringgit interbank deposits is a wholesale time deposit market with the following features:-
 - Only approved interbank institutions are involved;
 - A money broker may act as intermediary or arranger of the transaction;
 - The transaction amount is large, typically at the standard amount of RM5 million, and in any case not less than RM50,000;

- Tenors which are fixed at the time of dealing range from overnight to 5 years
- No deposit certificate or book is issued, and no collateral would be pledged as security;
- Documentation is in terms of written or SPEEDS confirmation; and
- Oral agreement by the dealing principals done through the telephone are deemed binding and irrevocable.

The key reason for success and explosive growth of interest futures since its debut in 1975 is interest rate volatility, Financial deregulation, ease of capital inflows across international boundaries and the pursuit for higher returns on assets have also led to economies being more vulnerable to interest rates fluctuations.

3.3.2 Application of Interest Rate Futures

Interest Rate futures are generally used for three purpose:

- Hedging
- Arbitraging
- Spreading

Hedging

Managing price risk or hedging is taking an opposite and equivalent futures positions to the positions that one have in the cash market to protect against any adverse movement.

For instance, a bank with a short-funded book (liability sensitive) may choose to sell interest futures contracts to hedge its portfolio.

Expected Transaction in the cash market	Transaction in Futures Market(Now)
Borrow short-term funds	Sell/ Short KLIBOR Futures
Lend Short-term funds	Buy / Long KLIBOR Futures

Spreading

Spread trading is a speculating method for trader who anticipate potential change in the relative value of two different contracts. There are two types of spread:

- Intra-commodity spread
- Inter-commodity spread

An intra-commodity spread is a simultaneous purchase and sale of two different contract months with the same underlying instrument. For example, a MAR-SEP spread is the price difference between the price of a contract maturing in March and that of a contract maturing in September. This spread reflects yield curve changes.

An inter-commodity spread is a simultaneous purchase and sale of two different futures contracts at the same exchange or different exchange. For example, Eurodollar in SIMEX and KLIBOR futures in MME spread.

3.3.3 Price Relationships and Interest Rates.

Now that we have examined the instruments that make up the financial futures markets, we will discuss how the prices of these instruments relate to one another and their

underlying cash article. The first important step in this process is an understanding of the yield curve.

a. The Yield Curve

In the *normal yield curve*, yields increase as the maturity is extended. This is because the longer-term maturity is subject to more uncertainty from inflation and security factors. Also the longer term securities command higher yields because price volatility tends to increase with longer maturities. Therefore, less risk is associated with short-term maturities, and the returns are less.

The normal yield curve also tends to flatten at extended maturities. This is because liquidity preference is a more significant issue for nearby maturities than for distant maturities. Differences between 20 years and 30 years forward are much more difficult to project than between 2 and 3 months forward.

b. Implied Forward Yields

To understand the nature of interest rate futures prices, it is necessary to look at this concept. The *implied forward yield* is what interest are expected to be for a specified period in the future.

To understand implied forward yield, you should understand the yield curve. The yield curve is a graphical representation of the rates that are associated with instruments of different maturities at a given time.

Another example might depict the yields on government notes and bonds out to the year 2000. In any case, the curve is the net result of all the buying and selling that has taken place. It represents the willingness of investors to hold securities of varying maturities.

The yield curve has two characteristics of particular importance:

- Yields increase with maturity
- The rate of increase tends to be steepest between the early maturities and flatter between the later ones.

This is the way yield curves are shaped under normal circumstances. It is therefore known as a normal yield curve.

The normal yield curve takes its shape largely because of a concept known as *liquidity preference*. The liquidity preference theory argues that shorter-term securities have relatively greater value (lower yields) because they entail less risk. This is true because longer maturity instruments have greater uncertainty associated with them. As an extreme example, take the case of a 20-year Treasury bond versus a 90-day Treasury bill. The bond is subject to greater risks from such factors as inflation or even default than the shorter-term bill. Investors, therefore, will normally require higher yields to compensate for the higher risks that are attendant to owning long-term securities. Another reason that longer-term securities command higher yields is that price volatility tends to increase with term to maturity. An example will help illustrate this point: a 1% increase in the annual

yield of a one-year security that has a face value of \$1 million would result in a \$10,000 decline in the value of the security. The same 1% increase in the yield of a two-year security would produce a decline in value of about \$20,000. This is true because yields are expressed on an annual basis. Thus, the \$10,000 price decline equates to a 1% increase in yield for the one-year instrument. But for the two-year instrument, a \$20,000 decline (\$10,000 in each of two years) is necessary to achieve a 1% annual change in yield. For these reasons, the normal yield curve shows rates that increase with maturities.

The normal yield curve also tends to become flatter at the extended maturities. This phenomenon occurs because liquidity preference is a more significant issue for two nearby maturities than for two distant ones. The risks that are associated with owning a two-year versus a one-year security are fairly significant. However, the risk difference between a 30-year instrument and a 29-year one is difficult to imagine. Therefore, investors will ordinarily require a much greater yield premium for the two-year over the one-year instrument than they will for the 30-year over the 29-year instrument.

At times when short-term funds are unusually tight, short-term interest rates can be higher than long-term interest rates. This situation is reflected in a *inverted yield curve*. This situation tends to be less common than the normal yield relationship.

The upward slope of the normal yield curve tells us quite clearly that rates increase with maturity. It also reveals something about interest rate expectations. To illustrate, assume that the yield of a one-year instrument is 8% and that of a two-year instrument is 9%.

What does this imply about the market's expectation of interest rates during the second year? In other words, interest rates are 8% for year one and 9% for years one and two together. Does this reveal anything about expected rates during year two ? indeed it does. It tells us that rates during year two are expected to be about 10% because 8% in year one and 10% in year two average out to 9% for years one and two together. This derivation of the expected interest rate for a future time period from the rates on two existing instruments is known as the implied forward rate.

c. Spreads

To spread interest rate futures, a trader looks at the yield curve of the underlying security and compares it to the yield curve of the futures, which should be equal to the implied forward rates.

The principles to remember are :-

- when the yield curve is normal and the trader expects it to flatten, he sells the nearby and buy deferred maturities (bull spread);
- Should a trader expect a steepening of the curve, he would do the opposite -buy the nearby and sell the deferred (bear spread).

d. Hedging

Many financial institutions and other businesses attempt to protect themselves from interest rate volatility by hedging with interest rate futures

3.4 Currency Futures

The foreign exchange (FX) market is a vast global activity encompassing all transactions in which the currency of one country is exchanged for that of another. Players in the market include exporters and importers, multinational corporations, central banks, and all financial and non-financial institutions that, in the course of their activities, receive or disburse a variety of currencies. Each day more than \$300 billion flow between the major bank and non-bank dealers of Europe, the Far East, and the United States.

Historically, most foreign exchange transactions were trade related. For example, if a Malaysian Exporter sells semiconductor chips to an American buyer, the American's dollars must be changed into Ringgit Malaysia, because this is the currency sought by the suppliers in Malaysia. Traditionally, therefore, the growth of foreign exchange activity was tied to the growth of international trade.

Major participants in this exchange include commercial and investment banks, central banks, the trade sector, and the capital sector.

The commercial and investment banks are equipped to buy or to sell foreign currencies for their commercial customers and correspondent banks; as well as for the international banking activities of their own institutions. They also trade foreign exchange as a profit-making activity. The activities of these major dealers help even out the temporary

excesses of supply and demand that inevitably emerge from thousands upon thousands of individual transactions each day.

Central bank operations encompass government transactions, transactions with other central banks and various international organisations, and intervention that is intended to influence exchange rates. The latter is one of the most important factors in determining both short-term and, arguably, long-term currency exchange rates.

Transactions made by the trade sector are, usually, made in connection with the purchase or sale of a product, service, or financial asset across country lines.

The capital sector includes investors and speculators. These transactions differ from those of the trade sector in one major way : They relate to investment rather than to the purchase or sale of a product or service.

3.4.1 Fundamentals of Price Determinants.

Since money is the most important commodity, exchange rates between the currencies of different countries are determined by the interaction of supply and demand. Increase the supply of a currency, and its price will drop; decrease the supply, and its price will rise. Here, we will discuss the major factors that determine the supply and demand of currencies in the foreign exchange market.

3.4.2 Balance of Payments

Basic to a country's exchange rate are all the commercial and financial transactions between it, its people, and the rest of the world. The sum of these transactions is the country's *balance of payments*. These transactions include such things as exports and imports of goods and services, foreign investments, and foreign aid transactions.

A country's balance of payments includes all payments made to or received from other countries. Another term, *balance of trade*, refers to just the purchases and sales of goods and services between individuals and businesses in different countries -imports and exports. Also included in the balance of trade are agricultural commodities, computers, and tourist spending.

The main determinants of balance of payments include :-

a.. Economic conditions.

This refers primarily to income in the private sector. Individuals and businesses with money to spend are a source of demand for foreign products and foreign investment. This demand creates a flow of money out of the country and can weaken the currency by stimulating demand for other currencies. This weakening influence is often offset by incoming investment flows that are attracted by the strong economy.

b. Prices and inflation.

A nation's price level is an important determinant of its export/ import balance. Countries whose products and services are highly priced will export less of them than will countries with similar products and services that are priced lower. Also, the country that has higher prices will be a good market for less expensive foreign imports. The more that imports exceed exports, the weaker a country's currency becomes, because there is less foreign demand for its currency to pay for the products that it exports.

c. Interest rates

These are an equally important element in balance of payments swings. If a country's interest rates are high, foreigners will be more inclined to invest money there than if interest rates are low. This results in an inflow of capital and has a positive effect on balance of payments and on that country's currency. Eventually - provided the economy is otherwise in balance -the inflow of funds tends to bring down interest rates and stems foreign-driven investment.

d. Government and Central Bank Influence

Government influence on foreign exchange can be significant. Fiscal and monetary policy shape the course of interest rates. Trade policies -including treaties, quotas, tariffs, and embargoes -can produce important changes in the export/import balance.

A government's attitude toward the value of its own currency is all very important. A central bank, sometimes acting in concert with other central banks, will often buy or sell

large amounts of its own currency on foreign exchange markets in an attempt to raise or to lower the currency's value. This type of intervention can have both short-run and long-run effects on currency relationships.

e. Seasonal Factors

Exchange rates are also influenced by seasonal considerations. Demand for a country's currency will be high during a season of heavy exports, as foreigners need the currency to pay for goods. Likewise, periods of peak imports are negative for a country's exchange rate. Countries that have important tourist industries often have weather-related currency flows.

3.4.3 Spot and Forward price Relationships

There are two types of foreign exchange transactions, spot and forward. Spot transactions are used to meet immediate demand and are for two-day settlement among major banks. They include everything from tourist purchases of currency to the purchase of a foreign currency by a multinational corporation to pay for imported machinery.

Forward transactions are for deferred delivery. Most banks that deal in foreign exchange will enter into a contract with an established customer to buy or sell almost any amount of a currency at any date in the future that suits the customer. This forward market is a part of the interbank market, which also includes spot transactions among banks and their large customers. Forward market is a part of the interbank market, which also includes spot transactions among banks and their large customers. Forward transactions in the

exchange market are similar to those of most physical commodities. They are tailor-made transactions that call for the delivery of a specific amount of a currency, at a specific exchange rate on a specific date or range of dates.

3.4.4 Foreign Currency Futures Market

Trading in currency futures at the International Monetary Market (IMM) of the Chicago Mercantile Exchange began in May 1972. It was developed as a supplement to the established forward market in much the same way that grain futures developed as a supplement to their forward markets. Other exchanges have since attempted to develop currency futures contracts, but as of mid-1987 only the IMM and the New York Cotton Exchange contracts had trading activity, with the IMM contracts accounting for more than 90% of the total volume. There is no currency futures traded on the exchange in Malaysia as yet, but this project paper attempt to find out the general public perception on having one in Malaysia.